REPUBLIC OF KENYA

REVIEW OF THE WATER AND SANITATION SECTOR

PRIVATE SECTOR PARTICIPATION IN THE PROVISION OF URBAN WATER SUPPLY AND SANITATION SERVICES

A paper supporting the aide memoire of 19th December 2000

18/12/00
PRIVATE SECTOR PARTICIPATION IN THE PROVISION OF URBAN WATER SUPPLY AND SANITATION SERVICES

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PRIVATE SECTOR PARTICIPATION IN THE PROVISION OF URBAN WATER SUPPLY AND SANITATION SERVICES

INTRODUCTION

This paper supports the "Review of the Water Supply and Sanitation Sector" prepared in Kenya by a World Bank led team during November and December 2000.

This document has three objectives that are dealt with in the three main sections:

- **The Context**: Describe private sector participation (PSP), the benefits it can bring, and the challenges of introducing PSP in water and sanitation services in Kenya.

- **The Current Situation**: Reviewing the (limited) experience of PSP in water and sanitation services in Kenya.

- **The Way Forward**: Sketch out a road map for the introduction of PSP in cities and secondary towns in Kenya.

This document was prepared within the time constraints of the mission and draws extensively on existing documents and information received from third parties (which could not always be verified). Although this document has been written as a stand-alone report, its findings and recommendations are closely linked with those made in the other supporting papers, particularly the report on decentralization.
THE CONTEXT

THE FAILURE OF PUBLIC INFRASTRUCTURE SERVICES IN SUB-SAHARAN AFRICA

Sub-Saharan Africa's infrastructure services – electricity, gas, telecommunications, water supply and transport – trail the world in both extent and quality. Poor infrastructure services are a major obstacle to the region’s economic growth and adversely affect the living standards of its peoples. They have detrimental effect on health, education, and the ability of industries to compete on international markets.

Despite the importance of these sectors, investments have too often been squandered. Service provision has typically been entrusted to state-owned monopolies that have multiple, poorly defined, and often conflicting, objectives. Investment decisions are often influenced by political considerations and the potential for misappropriation of funds. Tariff policies, despite ostensibly laudable objectives, typically benefit the more affluent with the less well off often suffering from poor or no access to services.

Failure to cover costs through inappropriate tariffs, poor billing and ineffective collection has led to under-investment. Over-burdened and poorly managed central budgets bring little succor. Utilities are failing to meet the growing demand for their services. There are many examples of the extent and levels of services declining.

Political and economic instability, low per capita incomes and difficult environments are undeniably a challenge to the provision of infrastructure services in Africa. However, inappropriate institutional arrangements and poor governance are the main causes of poor performance. Management appointments are often influenced more by political loyalty and considerations of personal gain than by technical competence. Excessive staff are employed to benefit favored groups and individuals. Bloated, self-serving bureaucracies lacking commercial imperatives, accountability and transparency are, regrettably, common.

Water and wastewater services

Less than half of sub-Saharan Africa’s population has ready access to reasonable quality water. This is substantially lower than the average for World Bank client countries in East Asia and the Pacific (68 percent) and in Latin America (76 percent)1. The poor suffer the most; they must bear the high cost of seeking alternative supplies through self-provision or the informal sector.

<table>
<thead>
<tr>
<th></th>
<th>1990 (population in millions)</th>
<th>1994 (population in millions)</th>
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<tr>
<td></td>
<td>Total pop served % Pop unserved Coverage</td>
<td>Total pop served % Pop unserved Coverage</td>
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<tr>
<td>Urban water</td>
<td>20</td>
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<td>Rural water</td>
<td>432</td>
<td>153</td>
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<td>Total water</td>
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PRIVATE SECTOR PARTICIPATION IN AFRICA'S INFRASTRUCTURE SERVICES

Infrastructure privatization promises increased efficiency in investment, management, and operation as well as access to private finance for investment. It can reduce government over-stretch; generate government revenues; develop local capital markets; and stimulate foreign investment. It can also signal to international investors, capital markets and the local population that a government is committed to sound fiscal management, efficiency, and a substantial role for the private sector.

No region in the world could benefit more from infrastructure privatization than Sub-Saharan Africa. But progress to date has been slow, with the region accounting for only a tiny share of the more than 1,100 private infrastructure projects undertaken around the world since 1984.

Four Main Challenges

Realizing the potential of infrastructure privatization is not easy in any country. In Sub-Saharan Africa, four main challenges must be addressed.

Concerns over market size, affordability and payment risks.

Low per capita income and low economic growth may make infrastructure markets in Africa appear small and unattractive to potential private investors, and may raise concerns over whether privately financed services would be affordable to low-income consumers. In addition, a long tradition of non-payment by private and public customers in most countries seems to create unacceptable payment risks for private investors.

Closer analysis suggests that these concerns are exaggerated. Private investment for water treatment plants or independent power projects is generally forthcoming, even in small and poor countries. With regard to retail supply, there is ample evidence that significant demand and willingness to pay for reliable telecommunication services exist in Africa, with revenues per main line currently almost twice as high as the world average. In other sectors, such as electricity or water distribution, a substantial proportion of users already pay high prices to

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Table transcribed from Black, M., 1998.

<table>
<thead>
<tr>
<th>Urban sanitation</th>
<th>201</th>
<th>130</th>
<th>71</th>
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<td>Total Sanitation</td>
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<td>229</td>
<td>404</td>
<td>36</td>
<td>707</td>
<td>243</td>
<td>464</td>
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</table>

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3 Kerl M and Smith W., 1996, Privatizing Africa’s Infrastructure—Promise and Challenge, World Bank Technical Paper No.337. (This section is transcribed almost directly from this publication)
obtain services from informal providers or self provision\(^4\), and countries such as Côte d'Ivoire and Guinea have been successful in implementing cost-covering tariffs.

Concerns regarding the affordability of cost covering tariffs are often misplaced. Traditional approaches of subsidizing tariffs usually benefit the relatively affluent members of the society more than the poor, and become non-sustainable when budgets are constrained. As noted above, many of the poorest already pay very high prices through self provision or supply from the informal sector. International experience shows that in some cases the inefficiency of the public provider can be such that better services can be obtained from a private operator at the same or even lower prices\(^5\). There are also many ways to design tariff and subsidy schemes which are not only consistent with private provision, but also more likely to teach the intended beneficiaries than traditional approaches.

While payment risks are real, experience in Africa and elsewhere illustrates a number of ways of tackling this problem to enable private provision. The threat of disconnection for non-payment, coupled with measures aimed at combating fraud, have helped to substantially increase the collection ratio from private consumers in many cases. Non-payment by public entities is generally more difficult to solve because disconnection is often considered politically unacceptable. However, a range of alternative strategies have worked, even in this area.

**Establishing adequate legal and regulatory frameworks.**

Private investors require clear "rules of the game" dealing with such matters as the scope and conditions of market entry, the exclusivity of any rights conferred, and the extent and form of any ongoing price and/or quality regulation. In most countries in Sub-Saharan Africa, the relevant legal and regulatory frameworks remain at an early stage of development. Moreover, many governments have weak regulatory capacity, reflecting a limited tradition of adhering to the rule of law, a scarcity of skilled resources and, in many cases, widespread corruption.

The first step should be to eliminate unnecessary restrictions on private sector participation in infrastructure and to specify clear rules and procedures for awarding contracts or concessions. A growing number of countries are adopting laws that deal with these issues in a consistent way across the infrastructure sectors, and a similar approach would seem appropriate for many countries in Sub-Saharan Africa, including Kenya.

The balance between monopoly and competition in particular sectors is often hotly debated, with investors often requesting long monopoly periods. However, international experience confirms that the benefits of tapping competitive disciplines to the maximum extent feasible, and this view has special force in countries where the priority is to expand investment and to reduce demands on economic regulation.

Where there is concern over the misuse of market power by monopolistic service providers, demands for some form of price regulation may prove irresistible. In responding to this issue in the African context, the priority will usually be to maximize incentives for expanding

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\(^4\) The "Williness to Pay" survey undertaken as part of the World Bank mission confirms this to be the case in Kenya.

\(^5\) Competitively let concessions in for water supply in East and West Manila, Philippines led to tariffs of US$0.09 and US$0.20 respectively compared with US$0.35 previously charged by the loss-making public utility.

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investment, rather than to tame monopolies, which is an objective better suited to countries with more mature infrastructure industries. This suggests relatively loose controls over prices and profits, implemented in a way that reduces risks for investors. Clear rules may also be required on quality standards, environments, safety, and health requirements as well as on any investment obligations.

Implementing regulatory frameworks in countries with limited regulatory capacity and experience poses special challenges, particularly when investors are concerned over the possibility of discretion being misused. Strategy in this area focuses on the use of relatively simple, fully-specified, and self-enforcing rules. Although establishing autonomous regulatory agencies may be difficult in many country-settings, there are a number of advantages. Regulations can be given a degree of insulation from short-term political pressures, restrictive civil service salary rules that make it difficult to recruit and retain well-qualified staff can be bypassed, and ear-marked funding through industry levies can help to sustain reforms. Creating such agencies on a multi-sectoral basis allows scarce regulatory personnel to work across sectors and facilitates learning between sectors. There is also scope to augment local resources by contrasting-out certain regulatory tasks, and to support newly appointed regulators through cooperative arrangements with regulators from other jurisdictions.

Dealing with non-commercial risks

Investments in infrastructure tend to be large and immobile, and infrastructure prices tend to be politically sensitive. This makes infrastructure investments especially vulnerable to political risks, including the risk of government reneging on its regulatory commitments on tariffs or other matters; convertibility of transfer risk; war and civil disturbance; and expropriation. While there are important differences across the region, many countries in Sub-Saharan Africa are considered to be among the riskiest in the world in these areas. Unless risks can be mitigated, investors will shun the country or require much higher prices to reflect the risks involved.

Investors and governments can choose from a broad range of risk mitigation strategies. Investors may seek to protect themselves by targeting lower-risk activities (e.g., those that are less politically sensitive, those that earn hard-currency, and/or those where service can be provided through mobile technologies); by targeting activities and/or structuring transactions in a way that gives the investor some countervailing bargaining power by entering partnerships with the government and/or the local private sector; by transferring technologies and hiring local personnel; and/or by building comfort through gradually increased forms of private participation.

Mobilizing local finance

Given the under-developed nature of local capital markets in most of the region, in the short- to medium-term most private investment will most likely be financed from retained earnings, owners’ equity and/or foreign borrowings. While this pattern of financing has advantages, there are also drawbacks, including exposure to convertibility, transfer and exchange rate risks, and greater risks of political backlash against projects with limited local ownership and financing. For these reasons, mobilizing local finance is an important element in any infrastructure privatization strategy.
There is unexploited potential for mobilizing local capital for private infrastructure projects in Africa. Before significant progress can be made, however, several preconditions must be met. Economic and political uncertainty must be reduced. Governments running significant budget deficits need to increase fiscal discipline to free up part of the existing savings for private investment. And financial intermediation needs to be improved.

The recent expansion of local stock markets in Sub-Saharan Africa can assist in mobilizing local equity for infrastructure projects. Private pension funds and other institutional investors usually find the long terms and relatively stable returns of infrastructure investments attractive, and facilitating the emergence of these entities can also help to mobilize local finance. However, while levels of uncertainty remain high, mobilization of long-term local debt is likely to remain difficult. In the interim, local leasing companies may provide financing for smaller infrastructure investments.

While development of local financial markets facilities infrastructure privatization, infrastructure privatization can itself play a powerful role in developing local capital markets. The return profile of infrastructure projects can attract new investors to the market, and the often large volumes of securities involved can make local stock markets significantly more liquid. International experience also demonstrates that infrastructure privatization, coupled with credible macro-economic reforms, can constitute a powerful catalyst for repatriating flight capital, which was estimated to amount to 85 percent of Sub-Saharan African’s GDP in 1991.

**Potential benefits of infrastructure privatization**

The principal source of benefits from privatizing infrastructure is the establishment of an arm’s length relationship between the infrastructure provider and short-term political pressures. While commercialization and corporatization initiatives promise this under public ownership, in practice it has proven virtually impossible to keep policy at bay while the government is the owner, regulator, and operator, however, these roles are allocated administratively within the government. Managers of public enterprises have limited leverage to negotiate binding government commitments to tariff or other policies, in contrast, private operators will have the ability to withhold investment until they are satisfied that the government’s commitments are credible. Similarly, public enterprise managers are typically in a weak position to insist that governments comply with their undertakings; in contrast, private operators may sue or withdraw service or capital. A corollary is the capacity of government to insist that the operator comply with agreed undertakings - private firms may be sued or elected and replaced by rival firms; in contrast, public enterprise management is often insulated from such actions by political relationships.

The many specific benefits of infrastructure privatization follow from this fundamental change in institutional relationship. These benefits include:

**Increased efficiency in investment, management and operation**

Superior efficiency in investment, management, and operation flows from several distinct but complementary factors.

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5 In Kenya’s water services, the UWASAM initiative bears testament to this problem.

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Commitment to cost-covering tariffs

This is the key to allocative efficiency and to the provision of adequate funds for infrastructure maintenance and expansion. Private firms exposed to commercial or investment risk will require a credible commitment to cost-covering tariffs, and will withhold participation without this assurance. They will also be more diligent in recovery and collection practices, as illustrated by the major turnaround in billing and collection practices in countries like Guinea-Bissau, Cote d’Ivoire and Guinea.

Improved incentives for operational efficiency

With profitability on the line, private firms under appropriate tariff regulation will face strong incentives to contain costs and increase productivity. This is evident in lower cost over-runs for new projects, lower staffing levels, more rapid adaptation of new technologies and processes, and enhanced efforts to improve billing and collection practices.

Opportunities to tap competitive discipline

It is typically more difficult to draw on competitive discipline in infrastructure than in other activities, as some element have natural monopoly characteristics. However, competition is feasible in many activities, with examples including cellular and long-distance telephony, trucking, and power generation. Moreover, even when competition in the market is not feasible, it is possible to obtain benefits by promoting competition for the market, such as by awarding time-bound franchises through a competitive process. Competitive mechanisms of this kind are not feasible if the state retains a monopoly over infrastructure provision, and it is difficult to sustain effective competition between two or more state-owned enterprises.

Access to management expertise and technology

Private infrastructure arrangements allow countries to access modern technology and skills and expertise in running complex enterprises in a commercial manner. Considerations of this kind will be particularly important in Sub-Saharan Africa, where skilled resources are limited and have a high opportunity cost.

Access to private finance

When assured of predictable revenue flows and sound management, private firms are prepared to commit owner’s equity and to borrow on their own account, without the need for full sovereign guarantees. For example, a US$70 million independent power project (IPP) in Cote d’Ivoire is being financed from private sources, without burdening taxpayers. The need for private infrastructure finance in Africa is acute. In the power sector alone, it has recently been estimated that some US$18 billion needs to be mobilized over the next decade in just 21 countries.

Reducing government over-stretch

Infrastructure privatization permits governments to focus on the principal policy challenges of economic and social development, without distraction by day-to-day operational concerns of

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7 In the water services sector, competition in the market can be vigorous amongst small independent service providers (tankers, handcart vendors, etc.) but is more difficult for piped water systems where PPP usually tips competition by the market.

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infrastructure enterprises. This benefit can be particularly important where government capacity is weak and skilled human resources are already over-stretched.

**Government revenues**

A corollary of access to private finance is reduced public expenditure and indebtedness. In addition, where privatization is accomplished through the divestiture of existing enterprises the revenues generated may be used to pay down public debt. When an infrastructure enterprise is operating efficiently, it may also be the source of ongoing taxation revenues, in contrast to the large budget-drains typically represented by public enterprises in many countries.

**Opportunities for capital market development**

The large scale and predictable cash flows associated with appropriately regulated infrastructure projects allow them to issue debt and equity instruments which are often highly valued by institutional investors. Infrastructure privatization can thus be used to deepen local capital markets and sometimes to induce the return of flight capital.

In a divestiture of infrastructure enterprises, privatization may also be used to broaden participation in local capital markets and, hence, promote "popular capitalism," (e.g. UK and Hungarian privatization programs). Allocating a portion of shares to the local population may have several concrete benefits. As many countries have discovered, this strategy may help defuse domestic opposition to privatization. No less important, this strategy changes the political economy of infrastructure regulation, as it creates a broader domestic constituency having an interest in the government upholding its commitments to cost-covering tariffs and other elements of sound infrastructure policies. Côte d'Ivoire provides an example. Even though SODECI, the private water company, has limited capital (about US$4 million) and does not have to raise money to invest in the infrastructure, the sale of a majority of its shares to domestic investors helped increase the liquidity of the local capital market. It has also helped create a domestic constituency in favor of the private operation of the water system.

**Potential to stimulate foreign direct investment**

Experience in reforming economies in Latin America and Eastern Europe confirms the potential of infrastructure privatization to catalyze large inflows of foreign direct investment (FDI). This is particularly important in Sub-Saharan Africa, when FDI is very low.

**Potential signaling device to international investors and populace**

Infrastructure privatization is not easy. It requires governments to enter a number of commitments related to sound infrastructure policies, including commitments to cost-covering tariffs, and adoption of a "hands-off" approach to managerial and operational decisions in a large sector of the economy. There may also be transitional issues similar to those associated with privatization of other large enterprises, including possible labor redundancies. Overcoming these challenges in the face of short-term political pressure not only promises benefits of the kind outlined above, but can also send a clear signal to international investors, capital markets, and the local population that the government is committed to sound financial management, efficient policies, and a substantial role for the private sector. Infrastructure privatization can thus have strategic significance well beyond a
single enterprise or industry, and can play an especially important role for governments intent on restoring a country’s tarnished reputation and credibility.

PRIVATE SECTOR PARTICIPATION IN WATER

The development of water and sanitation services is capital intensive and returns are long to materialize. In Africa, sovereign risk and poor governance of the water sector have severely limited funding through private equity and commercial debt. Private sector participation in the water and wastewater sectors has so far primarily been sought for improving efficiency, through “lease”, “management” or “service” contracts. Long term “concession” contracts are likely to be feasible only when most of the future capital expenditure programs can be financed from retained earnings or where donors provide co-financing.

There are several examples of successful PSP in the urban water and wastewater services in Africa (Cote d’Ivoire, Guinea, Senegal, Gabon, Mozambique), and in countries actively seeking PSP options (Tanzania, Nigeria, Zambia, Niger, Ghana). These schemes typically involve a local private operating company, with majority shares held by an international professional operator. Local operating companies operate (or will operate) either on the entire national territory (Cote d’Ivoire, Guinea, Senegal, Niger…), large geographical areas (Ghana) or in a limited number of large cities (Mozambique, Tanzania, Nigeria…). They are (or will be) under medium or long term contracts with the central governments (Cote d’Ivoire) or “lease” holding authorities (Guinea, Senegal, Mozambique, Tanzania, Ghana).

Where PSP schemes are implemented for the entire national territory, a uniform tariff typically applies to all centers, thus allowing for cross subsidies between geographical operations. A successful subsidy scheme to support the customer tariff was implemented in Guinea in parallel to the privatization of the water and wastewater operations, to “jump start” implementation of the government’s cost recovery policy.

There are limited examples in Africa (Cameria, South Africa, Namibia) of PSP schemes implemented in a decentralized environment with operators contracted by local authorities or autonomous water boards. There are also few examples of efficient and independent regulation with significant discretionary power. Most regulatory needs are built into the PSP contracts. However, the governments of Uganda, Ghana, Tanzania are moving towards multi-utility regulatory bodies.

PSP models

Private sector participation (PSP) refers to the formation of private sector partnerships through the structured opening to the private sector of activities formerly reserved for government departments or other public sector organizations. PSP is not “a model” but a whole range of possible arrangements from the outsourcing of specific activities such as meter reading through to the private development and operation of an entire city water system under a concession.

Private sector partnerships offer opportunities for the mobilization of private sector skills, know-how and incentives to improve the efficiency with which services are delivered, and to access and mobilize finance for new investments. The evidence from countries that have

* In this report, we use the term “private sector partnership” to describe the outcome of private sector participation. In many circumstances, the terms are interchangeable and the abbreviation PSP refers to both.

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already involved the private sector in water and sanitation provision is that a well-designed PSP arrangement can yield substantial improvements in the quality, availability and cost-effectiveness of services to consumers. To achieve these benefits, however, PSP arrangements need to be carefully designed to meet local circumstances and procured through transparent, competitive processes.

Overview

Private sector partnership options can be located on a spectrum, with full public water utility responsibility for operations, maintenance, capital works, financing and commercial risk-bearing at one end, and largely private responsibility for all of these functions at the other. Each option is really a different kind of partnership between the public and the private sectors. Even where the private sector takes on full operational and financing responsibilities, as in the concession and asset sales options, it does so within a framework created by the water authority or government. This framework consists, most importantly, of regulatory arrangements designed to protect consumers from monopolistic behaviour, such as over-pricing, and to ensure that health and environmental standards are maintained, and subsidy regimes to ensure access to services by the disadvantaged.

PSP is not a panacea for problems in the water sector. For PSP to be effective, it is necessary to recognize from the outset that it requires a partnership between the water utility and its private sector partner. The nature of this partnership, and the rights, responsibilities of each partner, and the benefits and risks to each party, depend on the PSP option chosen.

In order to choose the PSP option that is best suited to local circumstances, a water utility must clearly identify the problem that currently besets the provision of water and sanitation services, evaluate the extent to which different PSP options address these problems, and analyse the capacity of the water utility and the private sector to accept the roles, duties and risks implied for them by these solutions.

The following section (which is largely based on the World Bank and United Nations documents cited in the References) briefly reviews the main PSP options which could be considered by a typical water utility in Kenya.

For simplicity, the term “water utility” has been used to refer to the organisation ultimately responsible for proving water services, be it central government (MeNFR, NW/CPC), local government (councils) or a water company (e.g. Nyeri).

Key features of the PSP options that will be discussed in this section are tabulated on the following page.
## Key Features of Private Sector Participation Options

<table>
<thead>
<tr>
<th>PSP Arrangement</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
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</table>
| Service contracts and Management Contract | • access to technology  
• access to expertise and knowledge  
• short-term commitment | • no private sector investment in new works  
• prescriptive contract as commercial incentives limited  
• limited term may mean limited commitment |
| Leasing (afermage)                     | • access to technology  
• access to expertise and knowledge  
• access to some capital (limited)  
• transfer of commercial risk of operations to private sector | • no private sector investment in new works but can facilitate investment from development partners |
| Build-operate-transfer (BOT) Design-Build-Operate (DBO) RIO T | • access to technology  
• access to expertise and knowledge  
• access to capital  
• transfer of commercial risk of design, construction and operations to private sector  
• private sector provides funding through to successful commissioning | • not well suited to system developments comprising a number of separate projects  
• water utility required to take over investment after commissioning  
• does not address institutional issues |
| Build-own-operate-transfer (BOOT)      | • private sector technology, expertise and knowledge  
• full funding of new infrastructure provided by private sector  
• transfer of all commercial risk of infrastructure development, operation and financing to private sector  
• water utility monitors only plant outputs (i.e. essentially water quality and availability) and not design, construction or operations | • the legal and financial on-costs of contract development may be high  
• does not address institutional issues |
| Concession                             | • can cover entire system of water and wastewater plants and networks  
• private sector technology  
• access to expertise & knowledge  
• access to capital; all funding of system improvements/expansion provided by private sector  
• addresses many institutional issues  
• transfer of almost all commercial risk of system development (planning, design, construction, operation and financing) to private sector / development partners  
• water utility monitors only system outputs (i.e. adequacy of supply) and not means of service delivery | • it is unlikely that a private sector concessionaire will be prepared to invest significant amounts in Kenya  
• could facilitate investment from development partners  
• considerable stakeholder education may be required.  
• the legal and financial on-costs of project development may be high |
| Diversification and Joint Venture      | • can cover entire system of water and wastewater plants and networks  
• private sector technology  
• access to expertise & knowledge  
• access to capital; all funding of system improvements/expansion provided by private sector  
• transfer of all commercial risk of system development (planning, design, construction, operation and financing) to private sector (full diversification) | • Complete diversification essentially limited to England & Wales  
• Chile and Germany have chosen partial diversification and joint venture models  
• Requires a strong & independent regulatory system or other mechanisms (eg contracts) to assure transparency  
• Likely to meet strong political and public opposition |
Descriptive framework

The main categories of private sector participation can be distinguished by the way in which they allocate responsibility for controlling components of the water system or performing activities. They can also be differentiated by the level of risk transferred to the private sector, by their duration, and by their need for institutional changes. In the following sections we present a description of the main options.

Service contracts

Service contracts transfer responsibility for discrete operations and maintenance activities to the private sector. These contracts generally have a term of three to five years.

The simplest form of service contract involves the payment of a fee for the performance of specified tasks such as meter installation. Service contracts such as meter installation will specify where and when meters must be replaced. Provided there is genuine competitive bidding for the contract, even this limited form of PPP can yield cost benefits. Although service contracts will typically allow tasks to be performed at a lower cost, they do not question the necessity of these tasks. For instance, a contractor responsible for replacing meters is unlikely to suggest reducing meter replacement frequency even if this is to the benefit of the water utility.

Management contracts

The term “management contract” is loosely used and can refer to a range of arrangements from the involvement of technical experts to the management team of a utility through to the outsourcing of the management (and execution) of a significant part of the operations and maintenance operations of a water utility.

Although management contracts generally involve a transfer of managerial responsibility to the private sector, the contractor does not typically bear much of the associated commercial risk associated with investment or revenue collection. For management contracts to improve efficiency and reduce costs, contractual arrangements need to define performance targets and make at least a part of the contractor’s remuneration on the degree to which these targets are achieved. Potential efficiency gains accruing from such contractual arrangements must be large enough to offset the additional costs involved in establishing and targets and monitoring contractor performance.

Management contracts are most likely to be useful where the primary objective is to rapidly enhance the technical capacity and, efficiency of a utility to perform specific tasks.

Management contracts leave all responsibility for investment with the water utility. They are thus, for example, not a very good option if one of the primary objectives is to access private sector finance for new investments.

Given that management contracts represent a low risk option for the private sector, they have been used in other countries as a transitional mechanism until a more stable and effective regulatory framework is established. Once the regulatory framework is defined and the

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6 Examples of institutional changes are the establishment of a regulatory framework, and/or the corporatisation of a government owned enterprise.
7 E.g. Trinidad and Tobago
8 E.g. Hadoud, Adelaide (Australia)
efficiency and level of information of the utility are improvements, options involving greater private sector participation, such as a concession, can be implemented. The Malindi management contract fits this scenario.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>• access to technology</td>
<td>• no private sector investment in new</td>
<td>• this model does not address the issue of designing, implementing and</td>
</tr>
<tr>
<td>• access to expertise &amp; knowledge</td>
<td>works</td>
<td>financing rehabilitation and new works</td>
</tr>
<tr>
<td>• short-term commitment</td>
<td>• prescriptive contract as commercial incentives</td>
<td>requires attention to specification of outcomes</td>
</tr>
<tr>
<td></td>
<td>limited</td>
<td>limited terms may mean limited</td>
</tr>
<tr>
<td></td>
<td>terms</td>
<td>commitment</td>
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**Leasing (afermage)**

Afermage contracts are popular in France. In appearance, an afermage is similar to a management contract covering operations and maintenance except that the afermage contractor provides the working capital, and undertakes the billing on behalf of the residual water utility. However, a fundamental difference is that the afermage contractor obtains its revenue through appropriation of revenue from the water bills paid by consumers. This difference effectively transfers the risk of divergence between revenue and operating costs from the water utility to the afermage contractor.

The consumers are the clients of the afermage contractor who has responsibility for providing the agreed level and standard of service using the technical means that he selects. At the end of an afermage contract, all system assets and non-system assets required to deliver the services are handed back to the water utility in good repair. The water utility would then assume responsibility for arranging continuing operation, perhaps by retaining operations, or by entering into a new private sector participation arrangement.

The afermage contractor is not responsible for financing any infrastructure expansion, reinforcements and rehabilitation; that responsibility remains with the water utility. However, the afermage contractor would be responsible for providing working capital and funds for routine repair and replacement of components with short lives.

The water utility may also require the afermage contractor to deliver (design and construct) new infrastructure but this would be under a separate arrangement. Clearly, close liaison must be maintained between the water utility and the afermage contractor in the case of major expansions, to ensure that the proposed new work is the most appropriate for both water utility (as asset owner) and the afermage contractor (as asset operator). Such an arrangement could be appropriate to secondary towns in Kenya where most capital funding is likely to come from central funds/donor.

The afermage contractor collects revenues from the customer based on the tariffs set by the "regulator". The afermage contractor forwards a pre-agreed franchise fee to the water utility. This franchise fee would typically cover part or all of the following:

- lease / rent on managed assets (cf. system assets)
- the cost of financing new capital works including depreciation and any outstanding debt on existing works (this assumes that network assets remain on the water utility's books but this needs to be reviewed on a case-by-case basis depending on the tax system)
- regulatory costs

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• other miscellaneous costs incurred by the residual water utility such as contract management costs, strategic planning, public relations, and any residual customer services and administration costs.

The affermage contractor should also pay compensation for failure to perform to both its end customers (customer rebates) and to water utility provided such failures to perform are manageable by the affermage contractor (and not, for example, because the water utility is failing on its responsibility to invest in new assets).

One of the advantages of an affermage arrangement over a concession is that regulation can be achieved through the contract. It is the financial implications of capital investment that typically require an independent regulator, whereas, in an affermage, capital investment remains with the water utility.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>access to technology</td>
<td>no private sector investment in new works (but could facilitate securing multi-lateral finance)</td>
<td>in its traditional form, this model does not address the issue of designing, implementing and financing rehabilitation and new works</td>
</tr>
<tr>
<td>access to expertise &amp; knowledge</td>
<td></td>
<td>requires attention to contractual definition of outcomes</td>
</tr>
<tr>
<td>access to limited finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>transfer of commercial risk of operations to private sector</td>
<td></td>
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<tr>
<td>regulation by contract</td>
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</table>

**Build-operate-transfer (BOT)**

Under a contractual arrangement of a BOT type, the contractor builds (and usually designs) the facility, operates it for a specified period and then hands it over to the water utility in good condition. The contractor may not provide finance, in which case he does not own the facility as he does in the case of a build-operate-transfer (BOT) scheme (see below). In Build-Transfer-Operate (BTO) arrangements, the contractor hands over the facility when it becomes operational rather than at the end of the contracted operation period, but would continue to operate it for a specified period under a lease arrangement. Such arrangements have proved popular in Australia where utilities do not have a financing problem.

These approaches are most appropriate where the performance of the facility is assessed by the quality of the end-product. In the case of water treatment, the water quality criteria are specified and the operational procedures, rates of flow and chemical dosing would be adjusted by the operator to respond to changes in raw water quality. Success, in terms of quality and efficiency, depends on establishing good operational procedures over a few seasons.

BOT/DBO type arrangements are suited to the provision of a discrete pieces of a system or new infrastructure. For example, such models could be used for developing the Mzima Springs source and transmission to Mombasa. These models, however, are not well suited to multiple and diverse developments including networks such as required in most water utilities in Kenya. Furthermore, this type of arrangement requires water utility finance, albeit following commissioning.

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<tr>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Comments</th>
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<tbody>
<tr>
<td>access to technology</td>
<td>non well suited to system</td>
<td>this model could be used to</td>
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18
Build-own-operate-transfer (BOOT)

BOOT is similar to a BOT and its variants, except that the BOOT contractor also provides finance. An alternative term for BOOT is design-build-finance-operate (DBFO).

BOOT contracts are used for the provision of capital works where finance comes entirely or mainly from the contractor, who then earns its return through operation over a period of years. Generally, this mechanism is used where a large new facility is to be purpose-built, such as a water or sewage-treatment works. Residual value is of little relevance in such cases as the operation period is long enough for the capital costs, debt repayments, equity earnings and profit to be recovered from income.

The income earned can be based on a variety of arrangements, ranging from a fixed annual fee (i.e., flat rate) to the measured quantity supplied (i.e. unit rate). However, as demand may be uncertain, the fairest, most equitable and cheapest arrangement could be a two part tariff with the fixed water utility paying a fixed amount per month (say) for the "availability" of the plant and a volumetric rate per cubic meter for the amount of water delivered. "Take-or-pay" arrangements are effectively two part tariffs expressed in a different manner.

In a conventional BOOT contract, income would be earned by selling water to one bulk buyer (the water utility) or a limited number of large consumers (industrial supply). A concession would be used where the intention is to serve numerous individual consumers (urban supply).

BOOT contracts (or BOT with finance) are the main means of providing infrastructure components that can be built and operated relatively easily as separate entities, and where financial constraints prevent a government from carrying out the work itself. The cost of the facility is repaid over a period of years, thereby avoiding temporary cash shortages for the government. The mechanism is attractive politically as it provides a facility at little or no direct cost to the government and with deferred payment terms.

Alternatively, a build-own-operate (BOO) contract can be used. The BOO contract has a specified duration but the assets are not transferred to government when it expires. At that time, either the current arrangement could be renewed or the responsibility could be passed to a new operator. In a BOO concession, the facility would remain in the private sector although the ownership could change.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Comments</th>
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<tbody>
<tr>
<td>• private sector technology</td>
<td>• the legal and financial on-costs of contract</td>
<td>• can provide larger, discrete plants or</td>
</tr>
<tr>
<td>• access to expertise &amp; knowledge</td>
<td>development may be high</td>
<td>groups of plants</td>
</tr>
<tr>
<td>• access to capital: all funding of new</td>
<td></td>
<td>• requires attention to</td>
</tr>
<tr>
<td>infrastructure provided by private</td>
<td></td>
<td>regulation of outcomes</td>
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<table>
<thead>
<tr>
<th>sector and/or development partners</th>
<th>does not address institutional issues</th>
<th>regulation of outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>transfer of almost all commercial risk of infrastructure development, operation and financing to private sector</td>
<td>water utility monitors only plain outputs (i.e. essentially water quality and availability) and not design, construction or operations</td>
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</table>

**Concessions**

Concessions usually involve whole systems (plants and networks) much of which may already exist. Concessions involve the private sector financing all, or most, of the investment costs of the system. For this reason, water utilities seeking to reduce the burden on their own budget find this type of private sector involvement particularly attractive. Furthermore, investment from the private sector releases public funds for other activities, including many social programs that are required but which would not attract private funds themselves.

Concessions are most beneficial where government budgets are severely limited and where the private sector is able and willing to raise its own capital and invest. In a low risk environment, substantial funding can be provided by the private sector and its financiers. Kneite certainly has public sector investment constraints but it is not clear how much capital the private sector would be able to raise and invest. It is unlikely that the private sector will invest significant amounts although co-financing arrangements with development partners could be explored. The duration of a concession depends on the speed with which the concessionaire can obtain his return on investment; 20 to 30 years is typical.

The concessionaire finances the investment costs including replacement costs, agreed expansion costs and working capital. The concessionaire’s revenue from consumers could be based on a pre-defined tariff formula to allow for agreed costs of running the system (price cap) or on a return on investment (rate of return), or a combination of these methods. The water utility may still provide a subsidy in kind (by providing the existing works free of charge) or in cash to the concessionaire or through subsidies to consumer groups. It may or may not seek to recover those costs through tariffs.

At the end of a contract of 20 or 30 years, the concessionaire must hand over the system in good order. The concessionaire should either have been paid in full for the infrastructure provided or compensated for the residual value of the facilities. This aspect can be particularly important for any items constructed within the final few years of a concession. The concessionaire will need to be compensated through tariff levels for the difference between the original construction cost and financing costs, and any residual value paid by the government at hand-over.

The potential problems that can arise on hand-over, at the end of a long concession, are not usually addressed thoroughly when the concession is set up. This may be reasonable, as conditions are likely to change drastically over the duration of the project. However, in a competitive bid for a concession, some firm guidance should be given on the procedures that will be employed. This is particularly critical as a significant part of the concessionaire’s return on investment may be made during the later years of the concession.

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<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>- can cover entire system of water and wastewater plans and networks</td>
<td>- insurmountable stakeholder education may be required.</td>
<td>- can cover all water and wastewater development needs in one arrangement</td>
</tr>
<tr>
<td>- private sector technology</td>
<td>- the legal and financial re- costs of project development may be high</td>
<td>- requires attention to regulation of outcomes to assure results</td>
</tr>
<tr>
<td>- access to expertise &amp; knowledge</td>
<td>- private sector unlikely to provide significant investment in Kenya, at least initially</td>
<td>- co-financing arrangements with development partners could provide investment</td>
</tr>
<tr>
<td>- access to capital; funding of system improvements/ expansion provided by private sector (where risk acceptable)</td>
<td></td>
<td></td>
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<tr>
<td>- addresses many institutional issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- transfer of almost all commercial risk of system development (planning, design, construction, operation and financing) to private sector</td>
<td></td>
<td></td>
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<tr>
<td>- water utility monitors only system outputs (i.e. adequacy of supply) and not means of service delivery</td>
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</table>

**Divestiture and joint ventures**

Divestiture involves the selling of all or part of the water utility to the private sector. Complete divestiture of assets or shares gives the private sector full responsibility for operations, maintenance, and investment, as well as the ownership of the assets. A divestiture leaves the government the task of regulation only, in order to ensure that the services provided by the private sector meet the expectations of the government and the customers.

Divestitures have been generally used by governments that are seeking efficiency improvements and that are undergoing mass privatization programmes. This was the case of England and Wales where the government was privatizing state-owned enterprises to reduce the size of the public sector, extend share of ownership, and improve efficiency. An additional consideration of the divestiture of water assets in England and Wales was the increasing need to finance large investment programs resulting from the directives of the European community regarding the quality of bathing and drinking water.

Of all the options available for PSP, partial or complete divestitures require the highest degree of regulation. Considering that a divestiture transfers the ownership of the assets - essentially a natural monopoly - to a private firm for an indefinite period, regulation of service and environmental standards, economic efficiency, and levels of privatization become extremely important. In the case of England and Wales, three different agencies have the power to regulate water and sewage services. OFWAT, the Government Economic Regulator, regulates the amount that companies may charge for their services. The Secretary of State regulates the quality of water supplied by the companies, and the Environmental Agency regulates discharges of wastewater and abstraction of water.

Divestitures vary mainly by the percentage of shares sold to private investors. Complete divestitures transfer the private sector the ownership of all the shares and assets. Partial divestitures (sometimes described as joint ventures) limit the sale to a percentage, providing the private sector limited ownership and control over the assets. This model has been used in Germany and Chile. Partial divestiture is an option that is politically attractive, but
regulation and the allocation of risks between the private and public sectors can be problematic and must be carefully designed.

<table>
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<tr>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• can’t cover entire system of water and wastewater plants and networks</td>
<td>• Strong regulatory structure required</td>
<td>• Complete divesture essentially limited to England &amp; Wales</td>
</tr>
<tr>
<td>• private sector technology</td>
<td>• Difficult to reverse</td>
<td>• Chile and Germany have chosen partial divesture and joint venture models</td>
</tr>
<tr>
<td>• access to expertise &amp; knowledge</td>
<td>• May meet strong political and public opposition</td>
<td>• Requires a strong &amp; independent regulatory system or other mechanisms (e.g contracts) to assure outcomes</td>
</tr>
<tr>
<td>• access to capital; all funding of system improvements/ expansion provided by private sector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• transfer of all commercial risk of system development (planning, design, construction, operation and financing) to private sector (full divestiture)</td>
<td></td>
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</table>
THE CURRENT SITUATION

PUBLIC PROVISION OF WATER AND WASTEWATER SERVICES IN KENYA

Kenya's water and wastewater services are in a sorry state. Urban water services are better than those in the rural areas but this is purely relative. In its Draft Strategy on the Water Sector\(^2\), the Ministry of Environment and Natural Resources Department of Water Development includes the following candid description of the urban water services for which it is largely responsible:

"Government policy requires that urban consumers should meet operation and maintenance costs together with capital amortization outlays to ensure regular replacement of major components over the life-span of the water systems. None of the urban public water service providers has even come close to achieving this policy objective.

So far the performance of urban water supplies has been dismal. Revenue collection is poor, and does not exceed an average of 50\% to 70\% of billed revenue. In any case, collections tend to lag behind by several months leading to mismanagement of earned revenue and unnecessarily high operational costs. Staffing levels and patterns are often inappropriate, and personnel-related costs consume between 50\% and 75\% of recurrent expenditure. Leakage rates are high and as much as between 40\% to 60\% of the piped water is "unaccounted for" due to illegal connections, burst pipes and inefficient operations.

The problems facing urban water supplies arise also from the unique characteristics of local authorities which influence their performance as water undertakers and sanitation providers.

Typically local authorities develop their water and sanitation schemes with the financial backing of central government. Many of them therefore rarely perceive these investments as loans which must be repaid, and rarely repay them. Most local authorities perceive water revenue as a source of money for financing the general activities of the council. Consequently, water revenues are usually siphoned off from the water and sewerage account to the general fund, leaving hardly any money for even loan repayments or reinvestment. In many instances, even funds meant for regular maintenance of water and sewerage services are not available, resulting in a deterioration of the facilities.

Employment of staff is often not based on the requirements of the organization, but rather is dictated by political expediency and the need to provide jobs to people. Pay is also low. The result is overstaffing, low morale and poor performance. This is exacerbated by a lack of public accountability within the water department of local authorities as shown by poorly maintained accounts and a lack of systems for responding to public complaints.

Many urban water supplies have a low service ration of individual connections and standpoints leading to shortfalls in revenue collection against water sold. They suffer from poor billing procedures. For instance, the average age of water bills in Nairobi is 770 days (2 years and 1 month) while that of the schemes under the National Water Conservation and Pipeline Corporation (NWCPC) is 455 days (1 year and 3 months). These overly long periods make it difficult to guarantee enough financial resources for operating and maintaining the water service.


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utilities: a well run urban water utilities register should have an average water bill age of 45 days.

Other problems affecting the sector include poor maintenance of records, leakages, misappropriation of revenue collected, lack of technically qualified personnel and poor revenue collection especially from government departments, parastatals and educational and health institutions all of whom have over the years accumulated huge arrears.

As a result of these problems urban water and sanitation provision is facing a major crisis. Water shortages have become a common feature in urban areas creating a health hazard to urban dwellers. The shortages have also affected urban based industries which in the course of the year 2000 were operating below capacity on account of water and power shortages. These shortages affected other sectors including the hotel and tourism industry.

Faced with a water scarcity crisis many enterprises and even individual urban dwellers have resorted to sinking their own boreholes in search of a more reliable alternative source of water. In many cases, water which is licensed for abstraction for domestic consumption on the premises of the licensee is sold commercially as there is a large unsatisfied demand for water, particularly in major urban areas like Nairobi. This leads to over abstraction and depletion of aquifers with serious long term implications for the sustainability of the water resource.

The sanitation sub-sector suffers similar afflictions. Sewerage systems perform poorly due to decay of infrastructure, uncoordinated urban development and expanding urban population. Further, inadequate repairs and maintenance of entire sewerage systems lead to overflows from treatment works, sewerage pipes and manholes, and contaminate water rationation systems.”

PRIVATE SECTOR PARTICIPATION

Historically, urban water and wastewater services in Kenya have been dominated by the public sector. To date, formal involvement of the private sector has been essentially limited to consultants and contractors (civil, electrical, and mechanical) and the management contract in Malindi. However, the failure of the public services to provide adequate water and wastewater services to a significant proportion of the urban population has encouraged “informal” private service providers to step in to meet demand, particularly in informal areas.

Malindi management contract

To date, the management contract in Malindi (4200 connections; 66,000 people) remains the only example of formal private sector participation in the provision of water and wastewater service.

The Malindi Water Supply Area is currently under the National Water Conservation and Pipeline Corporation (NWCP) as part of the Sabaki Water Project. The system is operated and maintained for the Corporation by a private contractor under a management contract. This arrangement was introduced as a requirement of donor (KWF) funding for network rehabilitation and expansion. The contract was signed in February 2000 and has a term of 4.5 years.

The Manager, who is under contract for 4.5 years from February 2000, is responsible for “the complete technical and commercial management of the Malindi Area of the Client, including 18/12/01 24
its operation and maintenance, meter reading, billing, accounting and reporting.”

Remuneration comprises two components:

<table>
<thead>
<tr>
<th>Fee components and amount</th>
<th>To cover expenditure related to</th>
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<tbody>
<tr>
<td><strong>Sub-area expenditure</strong></td>
<td>• Staff costs (NWPC seconded staff and staff employed by the contractor) except “professional staff”</td>
</tr>
<tr>
<td>approximately KSh 3 million per month paid against actual expenditure</td>
<td>• operations and maintenance costs including transportation</td>
</tr>
<tr>
<td>• minor works improvements</td>
<td></td>
</tr>
<tr>
<td>• sub-area office running costs</td>
<td></td>
</tr>
<tr>
<td><strong>Agent’s Professional Staff</strong></td>
<td>• agent’s professional staff (including expatriate support)</td>
</tr>
<tr>
<td>approximately KSh 1.5 million per month lump sum</td>
<td>• discretionary investment of the Agent</td>
</tr>
<tr>
<td></td>
<td>• Agent’s margin</td>
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</tbody>
</table>

These fees are adjusted for inflation and performance based on financial collection efficiency and unaccounted for water efficiency (target based bonuses/penalties). The final amounts are paid to the contractor out of the revenue collected. The contractor suffers from any shortfall and excess amounts are transferred to the NWPC, ostensibly as a contribution to the running costs and depreciation of the Sabaki Waterworks (NWPC operated headworks providing treated water in built to the contractor).

Tariffs were increased substantially in November 1999 and at the time of the World Bank team visit, monthly collection was of the order of KSh 6 million. At taketeer, the contractor inherited KSh 18.5 million in payment arrears. In that collection rates remain below 100%, these arrears had increased to approximately KSh 20 million by December 2000. Revenues generated in Malindi are sufficient to cover the cost of operations and maintenance, the fees of the management contractor and an increasing plan of depreciation.

As a management contract, all large capital investments remain the responsibility of NWPC and this limits the impact that the management contractor can have on network efficiency. However, the management contract was designed to complement current efforts of NWPC (supported by KFW) in network improvement and expansion. It is expected that these coordinated initiatives will eventually lead to the current tariffs being sufficient to cover the full costs (O&M, capital investment and depreciation) of the water system.

**Achievements**

It is too early to evaluate the performance of the current management contract however, the achievements and limitations of its predecessor, the “Improvement in Billing and Revenue Collection” service contract, are probably indicative of what can be achieved by this type of arrangement.

The “Improvement in Billing and Revenue Collection” contract from 1995 to December 1997 and was financed by the World Bank from residual funds from the Second Mombasa and Coastal Water Supply Project. This contract was introduced on the instance of various funding agencies that revenue collection had to be improved before further development.
funding could be considered. Funding included KSh 30 million on setting up the office, developing the billing program, casual staff, training, rent, support staff, sic and a further KSh 35 million to cover the service contractor's fees.

The contractor took over billing from the NWCP/C's regional office in Mombasa and reconciled 2137 accounts out of approximately 4,000. After one year, in February/March 1966, the service contractor also took over responsibility for revenue collection.

Over the period, the number of estimated billings (blocked meters) was reduced from 75% to 10% and billings were increased by a factor of 2.3. Collection rates also increased from an average of KSh 1.4 million per month prior to the contract to an average of KSh 3.8 million (with a maximum of KSh 6.2 million). The collection rate over the period during which the contractor undertook collections averaged 97.85% (including arrears). Average turnover increased by 133.8%.

In December 1997, the activities under the service contract reverted to the NWCP/C and many of the performance levels also declined towards their previous levels.

Service reliability improved although the increase in distribution pressure limited the reduction in network losses from 52% to 45%.

The original service contract collapsed due to unclear terms of reference.

Preliminary indications are that the new management contract is also producing benefits, particularly with respect to reliability of supply and collection. Nevertheless, the private manager has come under criticism for increasing staff numbers from 27 to 77 (19 per thousand connections). In fact, this management decision is a rationale consequence of the commercial provisions of the contract and illustrates the importance of careful preparation of even relatively simple PSP arrangements.

Limitations

The following limitations apply to both original service contract and the on-going management contract:

- Neither the initial service contract nor its current successor, the management contract were competitively bid and they may be over-priced.
- All large capital investments remain the responsibility of NWCP/C limiting the improvements in network efficiency that can be brought about by the contractor.
- Where the contractor is required to work with NWCP/C (e.g. network rehabilitation, legal cases, writing off debt), NWCP/C's slow response hinders performance.
- The obligation to follow government procurement (NWCP/C) guidelines slows procurement and makes quality control difficult.
- The contractual arrangements transfer only limited commercial risks and incentives to the private sector. Nevertheless, the potential of gaining further projects based on the successful outcome of these pilot projects appears to have provided sufficient incentive for the contractor to perform well.


Conclusions

The Malindi contracts have demonstrated that:

- The bureaucratic processes of the NWPC are greatly hinder performance.
- Even limited private sector participation can significantly improve technical performance (reliability of supply) and financial performance (billing and collection). These gains are largely attributable to commercial incentives, managerial freedom and the streamlining of administrative processes.
- Such contracts can be self-financing through improvements in financial performance for systems of a similar size or larger than Malindi.

Management contracts are an “entry level” PSP arrangements. They do not (directly) provide capital investment, and they only partially address the fundamental institutional issues underlying the poor performance of urban water services in Kenya. Nevertheless, the Malindi experience has demonstrated that they can provide significant improvements in levels of service and revenue generation. Management contracts can provide a useful first step in preparing the way for more comprehensive PSP arrangements and should be designed with this in mind.

Contractual arrangements should clearly specify outputs and link the management contractor’s remuneration to achievement of these outputs. The pricing of contracts should be subject to competitive pressure, either through open tendering or a structured process for dealing with unsolicited proposals.

The informal sector

The failure of public water utilities to provide adequate water and wastewater services to a significant proportion of the urban population, particularly in informal settlements, has led to the development of a vibrant private sub-sector of “informal” private service providers.

Informal settlements are a feature of Kenyan towns. Of the estimated 2 million inhabitants of Nairobi, more than half live in informal settlements. The populations of informal settlements are increasing at a rate of 7% - 12% per year compared with 3% per year for Kenya as a whole.15

Since 1988, the government has advocated upgrading informal settlements as part of its housing policy although this is not carried out in practice. Nairobi City Council now provides water connections to those who apply and pays the connection charge. However the network is poorly developed and the majority of inhabitants in informal settlements obtain their water and sanitation services through the informal sector.

Privately developed sources (boreholes and wells), distribution systems (tankers, hand carts) and private kiosks are an integral part of Kenya’s water services. These informal providers respond to the needs and preferences of a clientele composed primarily of low-income families. Although the presence of such providers is often an ironic reminder to the public water utilities of their shortcomings, informal providers are likely to remain a useful and, indeed, essential element of the urban water sector in Kenya for the foreseeable future. They must be part of the solution and, at least in the short-term, will play an increasingly important role in providing water services to the urban poor.

Small-scale independent providers

The informal sector comprises small scale independent providers (SSIPs) which can be grouped into two main categories: secondary and independent primary operators. Secondary SSIPs operate mainly as vendors and are mostly dependent on municipal or utility primary services. Secondary SSIPs serve mainly medium to low income areas which do not receive regular water supplies. Two main types of service offered are static services, which commonly rely on supplies from water kiosks and standpipes and area-mobile services, which employ water tankers and handcarts. An operator could provide both services. In many instances, area-mobile service operators depend on point sources e.g. handcarts operators collect and sell water from private wells/boreholes (Mombasa town). Earnings from SSIP operators are mainly for subsistence support and so self-employment and family-based enterprise, which depend on moderate to low level of investment, are key features.

Independent Primary operators provide individual operations such as from boreholes, wells and also operate as small water companies. They are independent of municipal or utility primary services, have higher level management skills, moderate to high level of investment and serve high to medium income and urban poor communities.

SSIPs are a good example of the private sector meeting a demand for water services which large, public organizations are poorly adapted to meet. Although small, the SSIPs exhibit many of the benefits of involving the private sector in the provision of water services. SSIPs:

- invest their own capital
- provide a range of services to suit customer preferences and willingness to pay
- respond quickly to changes in demand
- achieve very high billing and collection rates
- self-regulate through competition.

Recommendations

The legal and institutional reform of the water sector should encourage SSIPs by:

- repealing bylaws which discriminate against SSIPs
- preventing harassment and unfair (subsidized) competition from tanker drivers of the large metropolitan water authorities
- requiring metropolitan water authorities to provide facilities and tariffs for the wholesale provision of water to SSIPs
- exploring ways of providing technical and business support and micro-finance to SSIPs
- only where necessary, progressively introduce light weight regulation (e.g. licensing) to ensure competitive pricing, customer protection and protection of the environment (e.g. inappropriate dumping of septic tank sludge)

UNDP-World Bank Water and Sanitation Program, undated, Water and Sanitation Services to the Poor, Small Service Providers Make a Big Difference in East Africa

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THE WAY FORWARD

OBJECTIVES OF THE REFORM PROCESS AND PRIVATE SECTOR PARTICIPATION

The proposed reform of the Kenyan water and wastewater sector is based on achieving reliability, sustainability, and affordability. These objectives are to be achieved by applying six key principles17. These principles and their implications for private sector participation are set out below:

Principle 1 Development of methods of assessing proper demand in relation to consumers’ willingness and ability to pay

Private sector participation can relieve the public sector of the responsibility for estimating demand and willingness to pay. Arrangements that assign the financial risk of system development to the private sector will focus the developer’s attention on optimizing levels of service, demand, and willingness to pay. The private sector will ensure that it assesses demand properly and the role of the public sector will be limited to verification/benchmarking. “White elephants” are less likely to occur, as these will be at the expense of the private sector and its financiers.

Arrangements such as concessions and BOO where the private sector’s return on investment is based on accurate estimation of demand and willingness to pay are an effective way of respecting this principle and often lead to innovative solutions and the staging of projects.

Principle 2 Development of appropriate capacity to operate and maintain water supply and sanitation services including the level of decision making and effective participation of the private sector

Performance based private sector participation arrangements encourage the private sector to develop appropriate capacity. Where advanced capacity is required, arrangements should be structured to attract international operators and ensure knowledge transfer. (Eg. introduction of private management of the wastewater reclamation plant in Windhoek, Namibia which treats wastewater for direct potable reuse.)

Principle 3 Establishment of an appropriate financing policy and mechanism and achievement of full cost recovery

Given the declining investment capacity of the government, financing policy should seek to maximize private sector investment. Appropriately structured PSP arrangements for Nairobi and Mombasa may be able to attract significant private investment. In smaller projects, private investment may be limited to working capital and transferable assets. Many schemes will require both public

17 Refer to Support Paper on Decentralization
(GoK / donor) and private finance. Private investment can be maximized by making it a key criterion in competitive tendering processes.

**Principle 4** Creation of a robust and flexible framework for the sector which separates water resources management from water supply and sanitation service delivery, and separates regulatory and implementation functions

The robustness of the water sector framework determines the "sector risk" and the attractiveness of investment to the private sector. For arrangements which require a third party regulator (where tariffs and levels of service cannot be "regulated" by competition or contract), the extent to which the regulator is independent, competent and rational will determine the amount and cost of private investment. The establishment of effective regulation is one of the greatest challenges for sector reform. (Experience in other African countries has been disappointing.)

**Principle 5** Establishment of a pricing policy which balances financial viability, recovery of true economic cost, and equity objectives for all consumers

Establishment of pricing policies is the responsibility of the government and the regulator. Care needs to be taken to avoid sending inappropriate economic signals to consumers and service providers (e.g. in another sub-Saharan country, artificially low connection fees meant that the private operator lost money on connections in low-income areas. Not surprisingly, the rate of new connections in such areas was low).

**Principle 6** Creation of an enabling environment and framework which encourages competition in order to minimize costs

Vigorous competition is the most effective form of regulation. The private sector will compete vigorously when returns are commensurate with risks. Ensuring this balance requires the careful development of industry reform and private sector participation arrangements.

**PROVIDING AN ENABLING ENVIRONMENT**

The framework for reform suggested in the aide memoire has been derived to facilitate private sector participation and competition.

**Strategy and legal framework**

The Draft Strategy on the Water Sector (December 2000), recommends implementation of "reforms in the water sector to facilitate better service delivery by making room for the private sector providers to supply water to consumers, among them the industrial sector" (section 2.5, Water and Industry). The Strategy Paper also supports the development of private sector participation by:

- recognizing the need to remove the conflict of interest inherent in the current arrangements whereby from the Ministry of Environment and Natural Resources is developer, operator and regulator of water schemes (section 3.1 Organizational Arrangements) and recommending the establishment of an independent regulator to
regulate all water utility operators, set performance standards and approve tariff structures

- Keep tariff structures under constant review with a view to ensuring a reasonable return on investment in order to attract private sector participation

- Arranging for the syndication of smaller water supplies to ensure that they are financially viable (4.4 Handing over of Rural Water Supplies and 5.4 Implications for the Strategy)

- Examining ways to encourage small scale private sector participation in rural water supplies (4.5 Poverty Levels and Revenue Collection)

The Draft Strategy also notes that “The Government is currently carrying out studies on financing and private sector participation in rural water schemes. In addition, a study will shortly be undertaken on PSP options for Nairobi water utilities. The recommendations of these studies will have a far reaching effect on the financing and PSP in the water sector as a whole. These studies will carry forward the recommendations made at recently held water policy workshops which concluded that there is need for a clear strategy on how PSP could be enhanced in the water sector particularly in the management of urban water utilities.”

At present there is substantial PSP in project contracting and consultancy services in the sector. The Government therefore proposes to implement a strategy of involving the private sector in water utilities and, eventually, where appropriate, the takeover of water facilities (8.1 Private Sector Involvement)

Unfortunately, the proposed Draft Water Bill 2000 (July 2000) does not reflect the recommendations of the strategy document on the key issue of an independent regulator. On the contrary, the proposed “Water and Sanitation Regulatory Board” advises the Minister (MENR) how to regulate with the Minister enjoying full discretionary powers. This needs to be changed to provide reassurance to private sector investors.

The Draft Water Bill also provides too many opportunities for the Ministry to interfere in and slow down private projects and operations. Many clauses resemble internal management procedures of a government department. For example, Part VII Procedure on Issue of Permits, requires applications for permits for the right to construct work across a road, etc. Such issues should already be covered by local planning requirements, etc. Part VIII Execution and Maintenance of Works, requires that any works under construction can be inspected by officers of the Board and specific in detail how road crossings should be constructed. This level of (potential) interference in projects and operations will be considered as a risk by the private sector. The necessity of following certain NWCP procedures is seen as a major source of inefficiency by the private management contractor in Malindi.

Attracting the private sector

To attract the private sector the Draft Water Bill should be redrafted to:

- Reflect the Draft Strategy on the Water Sector

- Be elevated to a higher level. The Water Bill should set out a clear framework (the institutional requirements of the current draft are confusing) with details transferred into subsidiary regulations

- Provide for an independent regulator (not attached to either the Ministry of Environment and Natural Resources or the Ministry of Local Government).

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• Provide for and, indeed, facilitate all private sector participation arrangements (except, perhaps, full divestiture)

The Draft Strategy and the Draft Water Bill are dealt with in greater detail in section???

The institutional model, regulation and PSP

In the proposed institutional model (section ??), local authorities hold the inalienable responsibility of providing water and sanitation services. The local authorities, however, will be required to deliver these services through “Water Supply and Sanitation Companies”. These companies have the option of delivering the services themselves or entering into performance contracts with private operators, NGOs or community organizations.

The Water Supply and Sanitation Companies must obtain an “undertakingship” from the Water Supply and Sanitation Regulatory Board. The undertaking is based on the the WSSC providing a business plan which meets the requirements of the Regulatory Board. To encourage private sector participation, the Regulatory Board should require the WSSCs to address the following issues in their business plans:

• Syndication - the feasibility of achieving economies of scale by extending the WSSC’s area to include other (not necessarily contiguous) local authorities. Where there is potential to achieve significant economies of scale, issuance of the undertakingship should be made conditional on syndication unless there are demonstrable, over-riding reasons why not.

• Private Sector participation - the feasibility of involving the private sector in providing the services including the availability of private finance. Should the WSSC wish to deliver the services directly, it should demonstrate that this will deliver significant benefits compared with private sector delivery.

The Regulatory Board should facilitate the above by:

• providing implementation guidelines and pro-forma agency agreements supporting the establishment of WSSCs serving multiple local authorities (pro-forma agency agreements would deal with issues such as the composition of the board, limitation of interference by council, performance obligations, etc.)

• provide guidelines on different private sector participation arrangements and pro-forma contracts

The success of the suggested model resides largely on the effectiveness of the Regulatory Board and the professionalism of the WSSCs. Development partners can contribute by:

• Supporting the Regulatory Board (undertaking a study of syndication potential, development of operational procedures and documentation, evaluation of applications for undertakingship, analysis of requests for tariff adjustments, auditing of undertakingships, etc.)

• Supporting the establishment of WSSCs (development of business plans and applications for tariff adjustment, development and introduction of PSP arrangements, etc.)

PRIVATE SECTOR PARTNERS AND CAPACITY

Private sector participation in water services in Kenya will come from both local companies and international water service companies. Only international water companies can provide the technical, financial and managerial capacity required to take-over and improve water services in large cities such as Nairobi and Mombasa although arrangements can be

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structured in a way to involve local players. International operators are of high caliber, however they focus their business on large urban centers and will evaluate opportunities in Kenya against opportunities elsewhere in the world. This is why it is so important to develop legal and institutional arrangements that provide these companies with confidence, particularly in Kenya where the market perceives sovereign risk to be high.

Given the current domination of water services by the public sector, it is not surprising that there are few companies with experience in water system operations in Kenya. Nevertheless, there is a good understanding of water technology (consultants and contractors), and, perhaps more importantly, management in the private sector. Furthermore, experience elsewhere in the world has demonstrated that many competent operators in the public sector who would doubtless be attracted to work for private companies should these be given the opportunity to provide water services. The management team of the recently established (council owned) company providing water services in Nyeri is evidence of this. The ability of this company to offer salaries in line with the private sector (typically five times the remuneration offered by the public water providers), has attracted a competent management team drawing upon management expertise from the private sector and technical expertise with a public sector background.

The advantage of well-designed private sector participation arrangements is that it provides the private sector with incentives to develop capacity. This capacity will be focussed and the required investment will not be wasted (as has been the case of much of the training of public sector water personnel under the UWASAM project). Private sector capability building should provide revenues to the public purse (through KEW) rather than be a further cost.

Capacity building within the Kenyan private sector may be accelerated by encouraging arrangements which bring together international water companies with local companies, e.g. joint ventures, consortia, sub-contracting and even franchising.

To obtain the benefits of private sector participation in the secondary urban areas, a range of smaller, national contractors or privately owned private companies have to be empowered. This requires a process which will accept occasional private sector failure within the development of the enabling environment.

THE DEVELOPMENT OF PSP KENYA

Creating an enabling environment

Private sector participation in Kenya's water and sanitation services should be both an end objective and a motor for reform. The creation of an enabling environment conducive to private sector participation involves:

1. Review and finalize policies and strategies to encourage PSP (in this respect, the Draft Country Strategy Paper for the Water Sector, December 2000, is acceptable although more emphasis on achieving economies of scale through syndication would be helpful)

2. Redraft the Water Act to reflect the strategy. From the point of view of encouraging private sector participation, the Act needs to provide adequate checks and balances and create an independent regulator

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18 MENR, November 2000, Commercialization and Private Sector Participation, Water and Sanitation Sector Programmes Coordination Committee, The Urban Water Group
3. Set up an “Independent Water and Sanitation Transitional Commission” (representing key government stakeholders: MFP, MenR, MLG, MH, Public Sector Reform, consumers, NGOs and professional organizations) to drive reform including decentralization. The Commission would also function as a regulator during transition.

4. Ensure support from the highest decision makers and implement reform purposefully. This will provide confidence to the private sector, encourage private investment and reduce its cost (by reducing the perception of risk).

Private sector participation should not be delayed until reform is complete. On the contrary, PSP should be used to help drive reform and should be pursued immediately provided arrangements are consistent with the long-term reform objectives. (Care should be taken to avoid PSP arrangements which strengthen the status quo.)

**PSP – the long-term objectives**

The following table summarizes the type of private sector participation arrangements which are likely to provide options for water and sanitation services in Kenya in the long-term.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Issues to be Addressed</th>
<th>PSP Arrangements to be Considered</th>
</tr>
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<tbody>
<tr>
<td>Large cities (Nairobi, Mombasa, possibly Nakuru, Kisumu)</td>
<td>Large technical, managerial, financial resource requirements; Large-scale capital investment requirements for water distribution and sewerage; as well as production (Mombasa and Coast)</td>
<td>Concession with international partner as majority shareholder in local operating company; mostly private financing of capital investment to complement cash generation; Affirmage with international partner as majority shareholder in local operating company; mostly public financing of capital investment to complement cash generation; Support to SSOs by main operator in informal settlements; BOOT for bulk water supply (Mombasa and Coast)</td>
</tr>
<tr>
<td>Secondary cities (Nakuru, Kisumu, Eldoret, Kericho, Eldoret, Nyeri, Thika, etc.)</td>
<td>Significant technical, managerial, financial resource requirements; Increased attractiveness if economies of scale achieved through “syndication”; Minimization of potential council interference; Limited attractiveness to international operators; Potential for developing local operators; Address limited success to date of UWAJU-M</td>
<td>Affirmage with mostly local operators; mostly public financing of capital program to complement cash generation; Performance based Management contracts with mostly local operators; Franchising arrangements between International franchisor and local franchisee;</td>
</tr>
</tbody>
</table>
Smaller towns and piped rural schemes

- Significant technical, managerial, financial resource requirements;
- Increased attractiveness if economies of scale achieved through "syndication";
- Minimization of potential council interference;
- No attractiveness to international operators;
- Multiple of point sources and piped systems;
- Low ability to pay;
- Low local capability; and
- Local "ownership" of supply driven projects.

Aftermath with mostly local companies; mostly public financing of capital program to complement cash generation;
- Performance based Management contracts
- Franchising arrangements between international or local franchisor and local franchisee.

These options should, preferably be delivered through an open, competitive bidding process, however, unsolicited proposals should also be encouraged. The case of Nairobi is dealt with in greater detail below.

PSP as a driver of reform

Private sector participation should also be used to drive reform. Both local and international companies have expressed a strong desire to work in water and sanitation services in Kenya. This interest should be encouraged and channeled to help drive forward reform because:

- The limited experience of private sector participation to date (Malindi) has demonstrated that significant gains can be made quickly. Gains in levels of service and reliability are a worthwhile objective in their right. Gains in financial sustainability on a limited scale provide greater confidence to the private sector that similar outcomes can be achieved on larger scale initiatives.

- Successful PSP arrangements, even on a limited scale, provide confidence to the private sector and reduce the perception of risk (and hence price) of more comprehensive private sector participation arrangements.

- The private sector is prepared to invest money and effort in developing potential private sector participation initiatives. The private sector is likely to develop potential PSP initiatives far more quickly and cost-effectively than the public sector. Such proposals are also likely to be more innovative and commercially viable. There is no reason to believe that the public sector actors will be any more effective in promoting PSP initiatives than they are in their core business of providing water services. Indeed, public servants usually lack the commercial skills required to develop PSP arrangements. Finally, there is likely to be a slight resistance against such initiatives based on public sector conservatism, and the threats that such arrangements may pose to existing interests.

- Short-term and limited PSP arrangements can be used to prepare the ground for more comprehensive, longer-term PSP arrangements. For example, short-term management contracts can be used to develop customer databases, network maps, and collect information on assets. Such information allows for finer tuning of subsequent arrangements and provides useful information to bidders, reducing uncertainty, and cost.
Low level PSP arrangements can also help overcome community, and political hesitancy and prepare the way for stakeholder consensus on more comprehensive arrangements which may otherwise appear to be a daunting leap in the dark.

- Short-term PSP arrangements will provide opportunities for Kenyan companies to enter the market and develop capacity. This will enhance the degree to which they can participate in subsequent, larger PSP arrangements.

- Experience gained on short-term PSP arrangements will provide insight into the issues that will be encountered on more comprehensive arrangements and how these should be dealt with. Failure on a limited, short-term initiative is preferable to a similar failure on a larger scale initiative, the political consequences of which could jeopardize the whole reform process.

- The specter of business opportunities will align the private sector behind reform and create a lobbying force that can be used to drive through reform.

Despite the many advantages of pursuing short-term, low level PSP, there is one potential disadvantage that needs to be taken into account. Short-term, low level PSP arrangements, if successful, can be used to stall further reform and more comprehensive PSP. Overall, however the advantages of introducing low-level PSP in the short-term outweigh the disadvantages.

Unsolicited bids

Procedures should be developed to encourage unsolicited bids. These procedures should balance rewarding the initiative and effort of those who develop unsolicited proposals with bringing competitive pressure to bare on the final outcome. Such a procedure could be designed around the following principles:

1. The regulator issues guidelines on the type of projects for which unsolicited proposals would be welcome and the manner in which they will be dealt with.

2. A private sector proponent submits an unsolicited proposal to the regulator.

3. The regulator evaluates the proposal. If it is judged to be worth pursuing, the regulator prepares an outline of the concept with particular emphasis on the outcomes to be achieved.

4. The concept is put out to competitive tender.

5. If no other more attractive proposals are received, the regulator proceeds to negotiate directly with the original proponent.

6. If more attractive proposals are received, the original proponent is given the right to better the most attractive proposal. If he declines, then negotiations for implementation commence with the proponent of the most attractive proposal.

Such procedures have been developed and used in the Philippines where they solicited a strong interest from the private sector. Although the number of initiatives finalized under this procedure may have been few, the flow of unsolicited proposals promising improvements in infrastructure services helped drive sector reform and the letting of two large concessions for the delivery of water and wastewater services to east and West Manila. It is recommended
that a similar strategy be used in Kenya to make the step from policy formulation to implementation.

**PSP: THE NEXT STEPS**

Private sector participation is both an objective of reform and a driver for reform. The next steps involve the development of demonstration projects which will help drive reform.

**Cities and secondary towns**

Identifying cities and towns where PSP could usefully be pursued in the short- to medium-term. Nairobi has already been confirmed and an options study is to be funded by PPIAF. Mombasa and the coastal region is also under consideration. These projects are likely to attract interest from international water companies. Although these projects are sufficiently large to be standalone projects and dealt with through specific legislation, if development partner funds are required, such funding should be made conditional upon adequate progress having been achieved on reform of the water sector as a whole.

PSP should also be pursued in secondary towns but this first requires the identification of towns which should be attractive to the private sector and a preliminary review of potential PSP arrangements (see below).

**The framework for successful introduction of PSP**

Experience worldwide has demonstrated that PSP can be introduced successfully if the following conditions are met:

- Appropriate PSP options are evaluated by specialist, independent advisers
- Once a preferred option has been identified, broad consensus must be achieved among the many stakeholders
- Selection of the private partner must be subject to maximum transparency and probity
- The perception of risks by private partners must be minimized by developing a clear regulatory framework

**Option selection**

If the framework is conducive, proposals for PSP arrangements should arise from three sources:

- The business plans of Water Supply and Sanitation Companies
- The regulator and central government sponsored initiatives
- The private sector (water companies / investors)

The challenge is to develop PSP arrangements which best serve the interests of the consumer whilst ensuring commercially attractiveness to the private sector. This will require:

**Option Selection**

**Identification and development of stakeholder objectives**

Customers comprise the most important stakeholder group but the WSSC and the private sector also have legitimate objectives and, finally, the objectives of government and development partners also need to be taken into account.

**Identification of constraints**

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The main constraint is likely to be financial, however, other constraints such as the availability of expertise (both on the public and private side) and political acceptability need to be considered. If the reforms recommended in this paper are implemented, legal and institutional arrangements should not constrain PSP arrangements.

Allocating risk

For example, should the private sector take raw water supply risk (i.e. development and operation of source works and drought preparedness). Should the contractor's remuneration be a function of revenue collected (thereby assigning demand and collection risk to the private sector)? The most cost-effective and robust outcomes are achieved when risks are allocated to those parties which are able to manage them most cost-effectively. Arrangements will be project specific.

Developing the optimal scope of PSP arrangements

Should the PSP arrangement include both water and wastewater services? Should it include informal settlements? Should the private sector be responsible for capital investment, how long should the term be, etc.? Definition of scope should follow, not precede the three tasks described above. Developing PSP arrangements from a pre-conceived scope is likely to lead to sub-optimal outcomes. An independent assessment of the best feasible option requires the participation of technical, financial, economic and legal experts. From a technical and financial point of view, particular attention should be paid to:

- Proper assessment of demand and willingness to pay for different levels of service
- Evaluation of the condition of the assets and technical performance (coverage, reliability, UWW, etc.)
- Analysis of the financial performance of the existing service (billing and collection, outstanding debt, etc.)
- The potential cash generation capacity of the system based on reasonable assumptions for improvements in technical and financial performance
- Investment requirements for rehabilitation and expansion of services and internal cash generation potential

The selection of the preferred PSP option can be facilitated by organizing a study tour to countries that have had to address similar issues.

Consensus building

The building of a broad consensus among the various stakeholders including:

- the various ministries involved
- the local authority
- the management and staff of the existing utility
- consumers
- small-scale independent suppliers
- non-governmental organizations concerned with the provision of services to the poor
- the international and local private sector
- local financiers and international funding agencies (including development partners)
- the media

This often requires professional facilitation and organization of communication and targeted public relation campaigns.
Transparency

Open competition and the use of carefully designed privatization procedures help achieve transparency. The support of international agencies, such as the World Bank Group in the selection and negotiation process can also help.

Unsolicited proposals should be dealt with using a clear, transparent. Proposals for BOO/BOOT contracts for water production and wastewater treatment must be considered in the overall context of the provision of WSS service. The regulator should develop and oversee a process which does not discourage unsolicited bids but which also brings competitive pressure to bear on the final solution (see below).

Minimizing risk

Reduction of the perception of risk by private partners requires a clear regulatory framework and in particular a clear definition of the role of the Regulator (see aide memoire section H). Most PSP schemes that can be envisaged in Kenya will be regulated by provisions in the contract. Guidelines on these provisions should initially be drafted by the regulator whose role thereafter would be to ensure that contractual provisions are respected. The regulator may also need to have some limited discretionary power.

Example of a city - Nairobi

Two-stage process

Introduction of appropriate private sector participation in Nairobi will have an important demonstration effect that should drive both sector reform and private sector participation. Implementation will be in two stages:

- Options study – to identify and develop the most appropriate option and build stakeholder consensus around it.
- Competition – development of contract and tender documents, management of an international tendering process, negotiation with the preferred tenderer(s) and closure

The PPIAF have approved funding of the options study and the following sections are based on the proposed terms of reference for this study. These sections are included as they clearly set out the many complex issues that need to be investigated and taken into account when selecting and developing private sector participation arrangements.

Background information

Nairobi has a population of about 2.5 million in 2000, of which no more than 58% has direct access to piped water through about 145,000 residential connections (out of a total of 160,000) and no more than 25% to sewers. The Nairobi water distribution system also provides bulk supply to several neighboring urban districts. Significant investments have recently been made to increase water production (to a capacity of about 520,000 m3/day) and waste water treatment (to a capacity of about 125,000 m3/day). But, the quality of the water supply and sewerage services have progressively deteriorated during the last ten years as a combination of insufficient investment for rehabilitation and extension of water distribution and sewer systems and inadequate commercial and financial management.

Intermittent water supply has become the rule and households and businesses have to rely on costly substitutes, such as individual boreholes, tankers and water vendors. The poor, comprising 40% of the total population and mostly living in informal settlements, are the most affected by this situation. Only a small fraction of the wastewater collected by sewers

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reaches the stabilization ponds, because of illegal diversion for irrigation. The rapid
development of multi-story buildings in informal settlements creates an additional burden on
the environment as reliance on on-site sanitation in such areas is not possible any longer.
Finally, the drought that recently affected Kenya has raised concerns about the reliability of
existing water sources for Nairobi.

The public WSS service is under the responsibility of the Water and Sewerage Department
(WSD) of the Nairobi City Council (NCC). The WSD has never managed nor financial
autonomy from the NCC and its technical, commercial and financial performances are low,
even by African standards with unaccounted for water above 50%, a staffing ratio of 17 staff
per thousand connections, accounts receivable at more than two years of billing, and financial
statements not audited during the last three fiscal years. Funds collected are just sufficient to
cover operating costs, and most of the surplus generated is used by the NCC to finance
expenditures that are not related to WSS operations. Cash generated from the sale of water
and sewerage services represents about half of Council’s revenue.

Because of the deteriorating quality of service, recently exacerbated by a severe drought, a
largely unregulated parallel water industry has recently developed: about 2,000 individual
boreholes exist within NCC boundaries and clean water tankers can be seen throughout the
city. Although there is no monitoring of ground water abstraction, it is believed that it
represents a significant share of the total supply. While the costs of such services are way
above that of the public services, WSD has lost many of its large customers that could
generate a significant share of its revenues.

The process

Nairobi City Council has recently been placed under an “Oversight Board” whose main
objective is to reorganize a municipal government that is now unable to deliver basic services
to the population. The Oversight Board wishes to rapidly address the issue of the water and
sewerage services which it intends to “privatize”. Several options, rapidly described below,
are currently being envisaged:

Divestiture

An autonomous public WSS utility company is formed by the NCC and WSD
staff, assets and liabilities are transferred to the newly created WSS utility
company. An international professional water operator is appointed to
manage the WSS utility. A majority share of the WSS utility is sold to
international and local investors. The WSS utility may also use bonds to finance
rehabilitation and extension of the WSS systems. This option is somewhat
similar to what is currently being considered for the greater Johannesburg
area (South Africa);

Concession

WSS assets remain owned by the public sector (NCC or a publicly owned
Asset Holding Authority). A “concessionaire” becomes responsible, for a
duration of 25 to 30 years, for financing rehabilitation and extension of the
WSS systems from cash generation, private equity and commercial debt and
for operating the WSS service, at its own risks. This option is similar to what
has recently been implemented in many large cities facing problems similar to
that of Nairobi: Buenos Aires, Argentina; Manila, Philippines; Jakarta,
Indonesia; Casablanca, Morocco; or Abidjan, Côte d’Ivoire.

Lease

As in the concession arrangement, ownership of WSS assets remains public but,
the rehabilitation and extension of the WSS systems are financed from

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cash generation and public sources, for a period of about 10 years. The
operator generates its revenues by retaining a share of fees collected from
users, and thus still accept to take the commercial risk. This is often the best
option possible in Africa, where cash generated from operations is likely to be
insufficient to finance the entirety of the capital expenditure programs and
private equity and commercial debt are usually not available for WSS
projects. Leases are currently effective in Guinea (Conakry), Senegal,
Central African Republic, Mozambique and under preparation in Niger and
Tanzania (Dar es Salaam); and

Management contract An autonomous public WSS utility company is formed by the NCC
and the WSS staff, assets and liabilities are transferred to this newly created
WSS utility company. The WSS utility appoints a "manager" to carry out
technical and commercial operations for a monthly fee plus a bonus for
performance above a minimum contractual level. Examples of management
contracts, implemented when the commercial risk cannot reasonably be
transferred to a private operator, can be found in the Middle East (Gaza,
Amman, Jordan), Central Europe (Armenia, Georgia) and Africa (mining
townships, Zambia).

The Oversight Board wishes to rapidly come to a conclusion on the best option to be
implemented in Nairobi and intends to select a "Consultant Team" to:

- Conduct a preliminary analysis of the technical, legal and financial feasibility of the four
  options above;
- Organize a study tour to countries that have recently implemented schemes that appear
to be best adapted to the case of Nairobi; and
- Organize a consultation with key stakeholders on the acceptability of the preferred option.

A "Steering Committee" has been established to follow-up on the above. It comprises:

- the Chairman of the Oversight Board;
- the Investment Secretary, Ministry of Finance and Planning;
- the Permanent Secretary of the Ministry of Environment and Natural Resources (MENR)
in charge of the water sector;
- the Permanent Secretary of the Ministry of Local Authorities (MoLA);

After the preferred option has been identified, the Oversight Board will appoint technical, legal
and financial advisers to prepare the documentation needed for implementing it as well as
that needed for raising the financing for the capital expenditure program. These consultant
services are likely to be financed by the "Privatization and Private Sector Competitiveness
Project" currently being prepared by the Government for World Bank funding.

Comparison of options

The selection of a "privatization" strategy would depend mostly upon three key elements:

- An assessment of the risks involved: political risk; regulatory risk; technical risk, in
  particular with regards to the reliability of the water resource; commercial risk; financial
  risk; and foreign exchange risk;
- The possibility of "graduating" the WSS service in Nairobi from Central Government
  support by financing the capital expenditure program from internally generated cash,
  private equity and long term commercial debt; and
- The acceptability of the preferred option(s) by a wide range of stakeholders:
  parliamentarians; various ministries involved in the provision of the WSS service; NCC;

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management and staff of the WSD; customers; NGOs; international professional operators; local and international investors; and multilateral and bilateral financing agencies.

Risk assessment - water resource

The Consultant would have to carry out a preliminary assessment of the reliability of the water resource in the long term, based mostly on a review of the existing documentation, discussions with Kenyan specialists and site visits. The Consultant would have to assess the possibility of developing ground water as a "public" permanent or stand-by source for the public WS service and the need for developing a new raw water storage capacity during the next ten years. The Consultant would also have to identify measures to be taken in the short and medium term to strictly enforce "private" ground water abstraction and river basin management. The Consultant would have to outline a medium term action plan, and define a preliminary related capital expenditure program, with the main objective of providing potential investors and operators: a reasonably accurate picture of the risks involved and of the magnitude of solutions to be envisaged by the Government for mitigating them.

Risk assessment - investment program and financing plan

Water production and wastewater treatment capacities are currently well above demand but water distribution and sewers systems are still underdeveloped. It is thus likely that the largest share of the investment program for the years to come would be related to the rehabilitation and extension of the distribution and sewerage networks. Well managed WSS utilities finance extension of their distribution and sewerage systems primarily from cash generated from operations; this applies in particular to African water utility companies for which private equity and long commercial debt have so far not been available.

External financing

The Consultant would have to estimate the need for external financing by:

• Assessing the WSS market: this would require a review of existing studies and willingness to pay surveys, site visits (including in low income areas) and comparisons with African cities with well-managed WSS service. The review would be concluded by a forecast of water sales and an identification of key parameters of the commercial and pricing policies that could influence them;

• Reviewing (or proposing) an investment program for the next ten years: a particular attention would be paid to water distribution, sewers, operating equipment as well as to other expenditures associated with implementation of the new structures; and

• Assessing the cash generation capacity of the WSS operations: this would require the definition of forecast parameters (unaccounted for water, staffing ratio, operating costs, account receivable using well run WSS operations in Africa as a benchmark) and the preparation of a medium term forecast of the WSS operation. The main objective being to identify the need for initial working capital and the volume and acceptable characteristics of long term external financing required.

Business valuation

With the objective of assessing the feasibility of the "divestiture" option, the Consultant would also have to carry out a preliminary "valuation" of the WSS operation by conducting a preliminary review of WSD existing assets and related debts as well as forecasted profiles of the WSS operations.

18/12/00
Risk assessment - legal and regulatory environment

The Consultant would have to carry out a review of the existing legislation related to among others:

- Surface water resource management and abstraction;
- Groundwater management and abstraction;
- Provision of the public WSS service;
- Competition for and in the WSS service;
- Regulation of privately provided public services;
- Setting of WSS tariffs;
- Joint public/private ownership of public utility companies;
- "Concession" of public service; and
- Tax regimes.

and to suggest amendments that would be needed to provide a solid legal basis to the various privatization options that can be envisaged.

Study tour

The Consultant would have to organize a study tour for (a maximum of) eight key Kenyan stakeholders to (up to) two countries that have successfully implemented the option(s) that appears the most adapted to the case of Nairobi. The study tour could be organized, for example, in the UK (divestiture, discretionary regulation), the Philippines or Côte d’Ivoire (concession); Senegal (lease) or Jordan (management contract). Key stakeholders identified are currently:

- The Chairman of the Oversight Board of the NCC;
- The Investment Secretary, Head of the Department of Government Investment and Public Enterprises, Ministry of Finance and Planning, the Treasury;
- The Permanent Secretary of the Ministry of Environment and Natural Resources;
- The Permanent Secretary of the Ministry of Local Authorities;
- A key representative of the Parliament, with special interest in public utility reform;
- A representative of a Consumer Association;
- A councillor at the NCC; and
- A representative of the staff currently employed by the WSD.

The leader of the Consultant Team would also participate in the study tour to arrange meetings and guide discussions with:

- The key staff of the agency(ies) that designed and implemented the privatization process;
- The management and staff of the privatized WSS utility companies;
- Representatives of consumer associations;
- Representatives of the public agency with whom the operator is under contract (if applicable); and
- The Regulator.

Consensus building on the preferred option

The Consultant would have to prepare a summary description of the four options envisaged, including:

- The proposed structure of the "divested" WSS utility company;
- The contractual arrangements between the various parties for the concession, lease and management options, including an outline of the various contracts involved;
- The regulatory arrangements and the terms of reference of the Regulator; and
• The proposed financing plan of the development of the WSS service during the upcoming ten years (cash generation, public financing, commercial financing).

The Consultant would have to organize a series of consultations with various stakeholders with the main objective of assessing:

• The "political" acceptability of "divesting" the WSS service, traditionally associated with poverty reduction and public health improvement, to local and international private investors or "concessioning" the WSS service to a locally incorporated company whose majority share would be held by an international WSS operator. The main stakeholders to be contacted during these consultations are probably the parliamentarians and NCC councilors, consumer associations, the media, local and international NGOs, management and staff of the WSD of the NCC;

• The "technical" acceptability of each of the options. The main stakeholders to be contacted are probably selected international water operators, "public granting authorities" and regulators of countries that have implemented similar schemes could be contacted as advisers; and

• The "financial" acceptability of each option. The main stakeholders to be contacted are likely to be international and local institutional investors and banking institutions and international financing agencies (World Bank Group, African Development Bank, bilateral agencies...).

The Consultant would have to include a "public relations and communication specialist" who would prepare a series of messages targeted to specific audiences. The Consultant would also have to organize a one-day stakeholder workshop for about 60 participants to present the findings and recommendations of the preliminary analysis and of the study tour and recommendations that take into account the concerns raised by the various stakeholders during individual consultations. This workshop would be held in the Nairobi area.

Presentation of the preferred option – road map for implementation

Following the preliminary technical, financial and legal review, the study tour and the consultation with key stakeholders, the Consultant would prepare a summary final report on its findings and recommendations, bearing in mind that the objective is to improve the WSS service to all categories of consumers in Nairobi, including to low income groups, and not only to "privatize" a public WSS utility. The summary final report should include a "road map" for implementation of the preferred option and in particular:

• Describe the "privatization" option that is likely to be accepted by most stakeholders;

• List needed amendment to the existing legislation or legislation being prepared to provide a solid legal basis to the preferred option;

• Suggest an outline of the terms of reference of the advisers to be appointed for preparing the documentation for privatizing the WSS service;

• Suggest an outline of the terms of reference of the consultants to be appointed for preparing the documentation for financing for the development of the WSS service;

• Propose a realistic timetable for implementing the preferred option including approval of needed amendment to the legislation, selection of private partners, approval of financing based on recent similar experience; and

• Estimate a preliminary budget for getting to a closure.

Secondary towns

PSP should also be pursued in secondary towns. The table on the following page provides a preliminary evaluation of the attractiveness of selected secondary urban centers. It is
recommended that a more comprehensive comparative evaluation be undertaken to allow focussing of government and development partner efforts on demonstration initiatives.
## Preliminary evaluation of suitability for PSP of selected secondary towns

<table>
<thead>
<tr>
<th>Urban centre</th>
<th>Pop (connections)</th>
<th>Industry</th>
<th>Operator</th>
<th>Undertakership</th>
<th>Age condition of infrastructure</th>
<th>Investment requirement</th>
<th>OIZ-UNASAM</th>
<th>Syndication possibilities</th>
<th>Other comments</th>
<th>Attractiveness for PSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eldoret</td>
<td>250,000 (12,000)</td>
<td>High</td>
<td>ELDOWASA Co.</td>
<td>Yes</td>
<td>Relatively new system</td>
<td>Low</td>
<td>Yes</td>
<td>Kapsabet, Ise</td>
<td></td>
<td>Good</td>
</tr>
<tr>
<td>Kakamega</td>
<td>124,000 (4,000)</td>
<td>Medium</td>
<td>NWPCPC</td>
<td>No</td>
<td>Relatively new system</td>
<td>Low</td>
<td>No</td>
<td>Kitamba, Vihiga, Luori, Mumias</td>
<td></td>
<td>Fair</td>
</tr>
<tr>
<td>Kericho</td>
<td>60,000</td>
<td>Medium</td>
<td>Council</td>
<td>Not sure</td>
<td>Relatively new system</td>
<td>Low</td>
<td>Yes</td>
<td>Londiani, Kipkur, Boki, Bonet</td>
<td></td>
<td>Fair</td>
</tr>
<tr>
<td>Kitale</td>
<td>130,070</td>
<td>Low</td>
<td>KWS Co</td>
<td>Yes</td>
<td>Poor network</td>
<td>High</td>
<td>Yes</td>
<td>Eldoret, Kimihili, Kapenguria, Tororo</td>
<td></td>
<td>Fair</td>
</tr>
<tr>
<td>Kisoro</td>
<td>345,000 (11,000)</td>
<td>High</td>
<td>Council</td>
<td>Yes</td>
<td>Old and poor condition</td>
<td>High</td>
<td>Yes</td>
<td>Kakinga, Vihiga, Luori, Mumias</td>
<td>Management problems</td>
<td>Good</td>
</tr>
<tr>
<td>Mokolongo</td>
<td>245,000</td>
<td>Low</td>
<td>NWPCPC</td>
<td>No</td>
<td>Old</td>
<td>High</td>
<td>No</td>
<td>Kipoi, Mang'i, Tabu</td>
<td></td>
<td>Fair</td>
</tr>
<tr>
<td>Mere</td>
<td>200,000</td>
<td>Low</td>
<td>MENR</td>
<td>No</td>
<td>Old, poor condition network</td>
<td>High</td>
<td>No</td>
<td>Chiuki, Wale, Mema</td>
<td></td>
<td>Fair</td>
</tr>
<tr>
<td>Murang'a</td>
<td>70,000</td>
<td>Low</td>
<td>MENR</td>
<td>No</td>
<td>Relatively new network</td>
<td>Low</td>
<td>No</td>
<td>Nyeri, Karokuma</td>
<td></td>
<td>Fair</td>
</tr>
<tr>
<td>Nairuru</td>
<td>400,000 (19,500)</td>
<td>High</td>
<td>WSS Co</td>
<td>Yes</td>
<td>Old network, insufficient water supply</td>
<td>High</td>
<td>Yes</td>
<td>New company in place</td>
<td></td>
<td>Good</td>
</tr>
<tr>
<td>Nanyuki</td>
<td>80,000 (4,525)</td>
<td>Low</td>
<td>Council</td>
<td>Yes</td>
<td>Old network and NTP and STP require expenditure</td>
<td>High</td>
<td>Yes</td>
<td>Isiolo, Nanyuki</td>
<td>Relatively well performing council</td>
<td>Good</td>
</tr>
<tr>
<td>Nyahururu</td>
<td>120,000 (2,278)</td>
<td>Council</td>
<td>Yes</td>
<td>Old and overloaded facilities</td>
<td>Very high</td>
<td>Yes</td>
<td>Management problems</td>
<td></td>
<td>Fair</td>
<td></td>
</tr>
<tr>
<td>Ngeri</td>
<td>155,000</td>
<td>Low</td>
<td>WSS Co</td>
<td>Yes</td>
<td>Relatively new but old network</td>
<td>High</td>
<td>Yes</td>
<td>Keratin</td>
<td>Well run council owned company</td>
<td>Good</td>
</tr>
<tr>
<td>Taka</td>
<td>120,000 (8,180)</td>
<td>High</td>
<td>Council</td>
<td>Yes</td>
<td>Old network, NTP fully new, STP overloaded</td>
<td>High</td>
<td>Yes</td>
<td></td>
<td></td>
<td>Good</td>
</tr>
</tbody>
</table>

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Annex PSP
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The above table provides a very preliminary review of the attractiveness of selected secondary urban centers to private sector participation. It is recommended that a more comprehensive comparative evaluation be undertaken to allow focussing of government and development partner efforts on demonstration initiatives.
Implementation road map

The introduction of private sector participation in secondary towns will be a staged process. The following process is recommended:

**Stage 1 – identification of candidate towns**

This stage will involve a brief review of all secondary towns to identify those towns where private sector participation is likely to:

- Bring significant improvement to water and sanitation services
- Be attractive to the stakeholders
- Be attractive to the private sector and investors (including development partners).

This comparative evaluation will be based on a number of criteria (cf. the preliminary comparative evaluation in the table above). Such a study would involve water utility, PSP and financial experts reviewing available information, visiting potential candidate towns and meeting with stakeholders. The outcome of the study will be a shortlist of candidate towns and a description of the way forward (issues to be addressed in stage 2 - Options Study, etc.). The study should be achievable within a two to three month period.

**Stage 2 – Options study for candidate towns**

This study will determine the most appropriate PSP option for each of the shortlisted towns. Appropriate options are expected to include service contracts, management contracts and lease/concession arrangements. This study will need to address many of the issues described above under the Nairobi options study, including consensus building.

Unfortunately, although the towns will be smaller than Nairobi, the issues may be equally complex.

The output from the study will be a recommended PSP option for each of the shortlisted towns, an estimation of the investment requirements (including that which will need to be provided by central government / development partners) and a description of the way forward (issues to be addressed in stage 3 – Option Development and Tender, etc.). It is difficult to estimate the time required for such a study but between three to six months would be a preliminary estimate.

**Stage 3 – Option development and tender**

This stage involves the development of contract documents for the selected PSP options and the selection of a private partner through a competitive tendering process. The outcome is the signature of a PSP contract with the selected partner.

The tendering process is likely to involve pre-selection of, say, not more than five capable bidders. The duration of negotiations with the preferred tenderer is difficult to estimate but it is expected that closure could be achieved within ten to twenty months of commencing Stage 3.

**PSP – Action list and Development Partner Support**

To achieve the benefits of PSP, the government should provide an enabling environment. This requires refinement of the Draft Strategy on the Water Sector and redrafting of the New Water Act (as dealt with in Tony’s section). In particular, the government should facilitate PSP through the following actions:

15/12/00
• The Water Supply and Sanitation Transitional Commission and its successor, the Water and Sanitation Regulatory Board, should require Water Supply and Sanitation Companies to investigate syndication and private sector participation when developing business plans and applying for undertakings. On these issues, the Regulatory Board should providing guidelines and pro-forma agency agreements and PSP contracts,

• The government should ensure that all future financial and technical support initiatives encourage implementation of reform and PSP. This can be achieved by developing a PSP policy (preferably through the Water Supply and Sanitation Transitional Commission) which will apply to all development initiatives. Such a policy would require certain conditions be met e.g. making outsourcing of O&M a condition of obtaining support for network rehabilitation, development of new works through BOT type arrangements. The government should coordinate development partner initiatives on PSP

• The government should not seek development partner support for initiatives that support the status quo (and thereby undermine sector reform and the introduction of PSP)

• The government should review and, where possible, modify on-going projects in-line with the above two points

• The government should fully support projects with a demonstration and knock-on effect: PSP in Nairobi, Mombasa and selected secondary towns

• The government should encourage unsolicited proposals from the private sector. The Water Supply and Sanitation Transitional Commission should indicate what sort of unsolicited proposals would be appreciated and develop clear procedures for dealing with them

The government should direct development partner support towards the following activities:

• Supporting refinement of water sector strategy and redrafting of the Water Act

• Supporting the Water Supply and Sanitation Transitional Commission (and its successor, the Water Supply and Sanitation Regulatory Board) by
  • undertaking a study to identify secondary towns which are potential candidates for PSP and/or syndication
  • preparation of regulatory procedures and documents (business plan requirements, pro-forma PSP contracts
  • evaluation of business plans and applications for undertakings
  • analysis of requests for tariff adjustments
  • auditing of undertakings

• Supporting the Water Supply and Sanitation Companies by
  • development of business plans and applications for tariff adjustment
  • identification, development and introduction of PSP arrangements

• Increasing the effectiveness of the drive for reform and PSP by coordinating the financial and technical assistance provided by the various development partners

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Republic of Kenya

Review of the Water Supply and Sanitation Sector

Joint World Bank, KfW, GTZ and AFD Mission

November 20 to December 17, 2000

Aide Mémoire

December 17, 2000

Distribution:

Ministry of Environment and Natural Resources
Ministry of Local Government
Ministry of Finance and Planning
National Water Conservation and Pipeline Corporation
Nairobi City Council Water and Sewerage Department
Republic of Kenya

Review of the Water Supply and Sanitation Sector

Joint World Bank, KfW, GTZ, AfD Mission
November 20 to December 17, 2000

Executive Summary

Diagnosis of the Current Situation

_Pot Investments have Resulted in a Good Water Supply Coverage..._ Of a population of about 30 million, approximately 19 million (65%) have access to an improved water service; 16.5 million people obtain their water from about 1,000 urban and rural piped water supply systems and an additional 2.5 million people in rural areas from about 10,000 improved point water sources. About 2.0 million people in urban areas are connected to 35 sewage systems; the remainder of the population relies mostly on pit latrines and sometimes on septic tanks in urban areas. Significant investments during the last two decades have provided ample production capacity and wastewater treatment capacities but these are not always matched by water distribution and wastewater collection capacities. 11 million people have no access to improved water supply and sanitation (WSS).

... _but the Water Supply and Sanitation Service is of Poor Quality..._ Intermittent service has now become the rule for most piped systems. Because of a limited focus on comprehensive water resources management (WRM), many water supplies face uncertainty with regard to availability and quality of water, restlessly exacerbated by the drought. Under-investment in maintenance has resulted in the collapse of the WSS infrastructure, especially distribution networks, sewers, connections and meters, and the need for massive rehabilitation. Many rural piped systems provide a service that apparently does not correspond to what consumers want and are willing to pay for; a high proportion of the total 750,000 connections is inactive. The Ministry of Environment and Natural Resources (MENR) is still running 630 piped systems (280,000 connections), and the parasitical National Water Conservation and Pipeline Corporation (NWCPc) another 40 systems (230,000 connections). Both institutions are highly centralized and bureaucratic; their organizational arrangements and culture provide little incentive to maintain facilities. For the ten large municipalities that serve a total of 250,000 connections, of which 160,000 are in Nairobi, WSS operations are an important source of cash to finance activities not related to WSS. The “pipced” WSS sector is essentially bankrupt, despite an average tariff of Ksh30/m3 (US$0.45/m3), plus a sanitation surcharge of typically 75%, which, in theory should be sufficient to cover the costs of reasonably well run operations. Inefficient cross-subsidies among geographical areas have distorted consumption, encouraged wastage in subsidized areas, and hampered proper maintenance of facilities in subsidizing areas. Because of a poor public piped WSS service, all categories of customers rely on costly substitutes. Households with private connections
actually spend about Ksh240/m³ or US$3.2/m³ for water when taking into account not only piped water but also complements from kiosks or tankers. Those relying on kiosks only, pay an average Ksh380/m³ (US$5.0/m³) and those purchasing water from vendors Ksh45/m³ (US$1.13/m³); these figures are to be compared with the official tariffs ranging from Ksh20 to Ksh100/m³ (US$0.25 to 1.35/m³).

... mostly because of a Sector Framework not Adapted to the Challenge... During the last two decades, MENR has not sufficiently emphasized WRM, and this now requires a major shift in policies and a significant effort for implementation. MENR and NW CPC have performed poorly as WSS operators; Local Authorities (LAs) have not performed better, and the creation of autonomous municipal WSS companies has been very slow. The 350 piped WSS systems run by communities are also often in poor shape. There is virtually no "formal" private sector participation (PSP) in the delivery of the WSS service, but a very active and unregulated private sector which has developed to provide WSS where the public services have failed. This failure comes at a high cost to the Kenyan economy through unnecessary expenditure on costly complementary supplies, storage and loss production and time.

...and the Proposed Reform still needs to be Reviewed. A Water Sector Policy was approved by the Parliament in 1999. A draft Water Sector Strategy is currently being prepared by MENR, and a draft Water Bill, prepared before the Water Sector Strategy, has been sent to the Cabinet for review. The Water Bill lacks clarity and provides potential for conflicts of interest; it also requires harmonization, in particular with the Local Government Act. If the Water Bill is passed as is, MENR would mostly be responsible for putting itself and NW CPC out of the business of direct provision of WSS services, but would still remain responsible for: (a) coordinating all future WSS investment; (b) approving WSS tariffs; (c) regulating WSS services; and (d) appointing the Water Appeal Board. This absence of "checks and balances" may not provide sufficient confidence to attract investment from development partners and the private sector.

A Road Map for Improving the Water Supply and Sanitation Service

To move rapidly towards the provision of reliable, sustainable and affordable WSS service, there is a need to...

...Finalize the Water Strategy and Redraft the Water Bill... Two Strategies and Bills should be prepared: one for Water Resource Management (WRM) and another for Water Supply and Sanitation (WSS). MENR should rapidly focus primarily on WRM, and Local Authorities should rapidly assume responsibility for WSS. The WSS Bill should provide the necessary "checks and balances" and in particular provide for the creation of an "Independent WSS Regulator", who should report neither to MENR nor to the Ministry of Local Government (MOLG). Autonomous WSS Companies (WSSCs) should be formed by Local Authorities (LAs), preferably "syndicated", and encouraged to sub-contract operation of the WSS service to private operators, NGOs or communities.
MENR, through District Water Offices (DWOs), should continue to provide engineering technical assistance to communities for the development of their WSS systems.

... Design a Transition Plan... The WSS Act should provide for the creation of an "Independent WSS Transition Commission," that would eventually become the "Independent WSS Regulator." This Commission should preferably report to the President's Office, as do other regulators of public services. Initially, the Commission's main role would be to: (a) organize and manage the handover of MENR and NWPCD operations to WSSCs to be formed by LAs; (b) facilitate the syndication of LAs, based on independent viability assessments; (c) draft standard contractual arrangements between LAs and WSSCs; (d) grant "Service Provider Licenses" to WSSCs, based on business plans demonstrating their financial sustainability; (e) draft WSSC guidelines and procedures for selecting private operators and standard forms of contracts between WSSCs and private operators, NGOs or communities; (f) provide guidelines for setting WSS tariffs and for reviewing WSS tariff adjustment applications; (g) set, in collaboration with MOLG, guidelines for submission of applications for Government financial support by WSSCs and for appraisal of these applications by MOLG. The Commission, as future Regulator, would also have to facilitate conflict resolution between LAs, WSSCs, operators and consumers and monitor execution of procedures and contracts.

... Initiate the Transfer Process Rapidly... It is not necessary to wait until WSSCs are established and licensed to initiate the transfer of responsibility of the WSS service to LAs. In a first phase and pending establishment of a WSS Company: (a) financially "ring fenced" WSS departments should be treated by LAs; (b) infrastructure and assets to be transferred should be identified and (c) MENR and NWPCD operation staff should be transferred to LAs. Revenues of WSS operations should, at a minimum, cover operations costs.

... Establish a Mechanism for Financing Development of the WSS Sector... About US$300 million (Ksh27.5 billion) would be needed for immediate rehabilitation of piped WSS systems, plus an additional US$1,100 million (Ksh82.5 billion) for medium term extension. At the same time about 700 piped WSS systems would have to be transferred to newly formed WSSCs. Large piped WSS systems (Nakuru, Mombasa, Nakuru, Kiambu, .. ) can probably be treated as part of standalone projects. For all smaller operations, a WSS Fund should be established within the Ministry of Finance and Planning (MOFP) to finance WSS projects, presented by WSSCs and appraised by MOLG. An additional US$900 million are needed for rehabilitation and extension of existing small piped and point systems run by communities. Most external assistance could be channeled to Community WSS Trust Funds, administered by Boards of Trustees. Trust Funds would appraise financing applications prepared by communities with assistance of NGOs and DWOs and channel funds directly to communities.

... Encourage Private Sector Participation... PSP should be sought primarily to improve the efficiency of WSS operations and reduce costs; and, if possible, to raise financing. An assessment of PSP options should be carried out with assistance of
independent advisers, who should also help build a consensus among stakeholders on the preferred option. Transparency in the selection of private partners should be achieved through systematic open competition. To limit perception of risk by private partners, a clear regulatory framework (selection procedures, contractual arrangements, tariff setting mechanisms, dispute resolution...) should rapidly be established by the WSS Transition Commission. Contracts with operators should be performance based and specifically provide for extension of service to low income areas. While WSS operations in large cities such as Nairobi and Mombasa are likely to require international expertise, the local private sector should be encouraged to participate in the provision of the service in smaller WSSCs. The demonstration effect of PSP in large cities, such as Nairobi, and selected secondary towns should be used as catalyst for the implementing the proposed reform.

...Build Capacity at All Levels... The WSS Transition Commission should be a "lean" office with only a limited number of engineers, financial analysts, economists and legal advisers; it should initially obtain limited permanent technical capability and sub-contract to specialized consultants most of the preparation of the documentation that would constitute the WSS regulatory framework, viability studies of WSSCs, syndication and PSP and monitoring of WSSCs' performance. WSSCs should also sub-contract most of the tasks related to selection of private operators, preparation of projects and financing applications. MOLG would also require limited permanent assistance to appraise and prioritize financing application submitted by WSSCs. WSS sector staff, whether managers, technicians or workers should obtain certification within a Water Sector Qualification Framework from local training institutions, preferably linked to international ones.

... and, Finally, Design Future Water Supply and Sanitation Projects aimed at achieving reliability, sustainability and affordability of the WSS service. This would require those agencies or private sector proponents designing projects to:
- assess demand for the WSS service in a participatory manner so that WSS systems are rehabilitated, extended or created to provide a service that corresponds to what customers want and are willing to pay for;
- identify investment programs that balances rehabilitation with extension, distribution with production and waste water collection with waste water treatment, and that corresponds to the proposed management capacities;
- revise the WSS tariff so that it: (a) rapidly becomes sufficient to cover operation and maintenance costs, depreciation and as much capital investment as possible; (b) manages demand in water scarce or environmentally sensible areas by gradually moving tariffs to a level that compares with the long term marginal cost of the WSS service; (c) eliminates cross-subsidies between geographical areas and categories of customers; and (c) facilitates access to piped water (and sewers) by lowering costs of connection and encouraging minimum consumption by increasing the frequency of collection of water bills;
- identify boundaries of WSSCs in order to maximize efficiency of operation and limit their costs and encourage LAs in the same geographical areas to regroup in syndicated WSSCs;
• identify the preferred PSP options after independent assessment and stakeholder consultation and ensure transparency in selection of partners;
• propose a financing plan that emphasizes cash generation to contribute to the capital expenditure program and identify on-lending conditions that correspond to the repayment capacity of the WSSC;
• identify the need for capacity building and provide for its financing in the project design;
• assess independently the impact of an increased abstraction on the water resources and an increased disposal of waste water in the environment and propose a realistic mitigation plan; and
• independently assess social impact and propose a realistic mitigation plan.
Republic of Kenya

Review of the Water Supply and Sanitation Sector

Introduction

1. This aide mémoire summarizes the findings and recommendations of a mission that took place between mid November and mid December 2000 to review the water supply and sanitation (WSS) sector in Kenya. The mission included Messrs. Mmes.: Solomon Alemu, Catherine Revels and Sumila Gulyani (World Bank, AFTU1), Rafic Hirji (WB, ENV), Mukami Kartuki and Wambui Gichuri (Water and Sanitation Program, WSP, Nairobi). Also participated in the review Messrs.: Tony Richards (consultant, GTZ), Keith Stallard (consultant, KIW), Jérôme Bertrand Hardy and Nicolas Fornage (Agence française de Développement, AfD), James Karuri (WB, Nairobi), Andrew Makokha and Japeth Mbuvi (WSP). The inputs of the various members of the mission were coordinated by Alain Locusot (WB, AFTU1). The mission met with a wide range of stakeholders from the central and local Governments, communities, private sector and NGOs and financing agencies (Annex 1) and visited a series of urban WSS operations and rural WSS schemes (Annex 2). The mission wishes to thank the officials of the Government, various local governments visited and NWCPc for their collaboration and the courtesies extended.

2. The main objective of the mission was to identify key issues to be addressed while formulating objectives and components of future WSS projects and to agree on the “road maps” for preparing and implementing them. The mission participated in a workshop organized by the Ministry of Environment and Natural Resources (MENR) on December 4, 2000 to discussed the Draft Strategy for the WSS sector and discussed its findings and recommendations during a wrap-up meeting held at MENR on December 15, 2000. More specifically the mission focused on actions to be implemented for:

- assessing the demand for the WSS service and for investment in the WSS sector;
- pricing the WSS service to meet financial, economic and equity objectives;
- transferring the responsibility for the provision of the WSS service from central government to the appropriate level of local governments and/or communities;
- involving the private sector in the operation and development of the WSS service;
- financing the development of the WSS service;
- building the capacity of the various actors of the WSS sector; and
- identifying Water Resources Management regulatory issues as they affect WSS.

3. The aide mémoire includes this summary, that focuses mostly on the “piped WSS service” managed by MENR, NWCPc and municipalities; specific issues related to “self help WSS schemes”, whether small piped systems or point water sources are covered in Annex 3, in order to simplify the reading. Similarly, preliminary findings and recommendations related to Water resources management are covered in Annex 6. “Supporting papers” that cover the above topics have also been prepared by the mission and distributed as separate documents. This aide mémoire reflects the views of the mission; its conclusions will be confirmed after an internal review within the Bank.
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Supporting Papers

Water Resources Management Issues, Challenger and Options:
A Framework for a Strategy – Draft Issues Paper
December 2000
Rafik Hirji, World Bank

Community and Self Help Water Supply and Sanitation
December 2000
Wambui Gichuri, Water and Sanitation Program
Nicolas Fornage, Agence francaise de Developpement

Decentralization and Capacity Building in Urban Water Supply and Sanitation
December 2000
Teny Richards, Consultant, GTZ

Private Sector Participation in the Provision of Urban Water Supply and Sanitation Services
December 2000
Keith Stallard, Consultant, KfW

To be distributed later

Willingness to Pay for and Pricing of Water and Sanitation

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Summary of Findings – The Current Situation

A. Background

4. The Urban Sector. In 2000, Kenya has about 215 “urban” centers with a total population of about 7.5 million out of a total of about 31.2 million; in 2010, this population is expected to grow to about 11.1 million, out of a total of 37.4 million, at an average growth rate of 4%. 4.9 million of the urban population, i.e. 65% of the urban population, live in eleven centers that have populations greater than 100,0001, and 1.7 million (22%) live in 40 towns with populations of 50,000 to 100,000. As far as WSS services are concerned, the Ministry of Environment and Natural Resources (MENR) recognizes 109 gazetted towns as urban centers, of which 73 are served by MENR, 21 by the National Water Conservation and Pipeline Corporation (NWPCPC) and nine by municipal councils. The rest of the small towns and trading centers are considered “rural” by MENR, although these are often served by large rural piped water schemes with thousands of connections.

5. The Informal Settlements. Low income households account for 30-70% of the urban population, depending upon the city or town, and comprise the fastest growing segment of the urban population. Between 1990 and 2000 the percentage of the total urban population below the absolute poverty line rose from 27% to 49%.2 Most low income households or about 3.6 million people live in informal settlements where WSS utilities are not providing the service. More than 60% of the population rely on kiosks, vendors or natural sources; more than 85% use a pit latrine.

6. The Rural Sector. Out of the rural population of about 23.7 million, about 11 million, or 46%, have access to improved water supply through piped and point source systems operated by MENR, NWPCPC and self-help groups. MENR and NWPCPC systems jointly serve an estimated 6.4 million people; “self-help” piped systems serve 2.3 million people and point source systems serve an additional 2.6 million. About 40% of the rural population has access to sanitation facilities, mainly through pit latrines. Improved latrines (VIP) are few and found only in areas that have recently received support from external donors.

7. The “Water Undertakers”. In Kenya, an official provider of WSS service is called an “water undertaker”. MENR has the responsibility for granting “water undertakership” to public agencies or private entities that apply for it.

- MENR: at the end of 2000, MENR operates 73 piped “urban” water systems serving a total of about 52,000 connections and 1.4 million people; the largest urban centers operated by MENR are Meru (3,800 conn.), Garissa (3,400 conn.) and Isiolo (3,350 conn.); waste water facilities, when they exist, are operated by local authorities. In addition, MENR also operates 555 piped water supply systems in rural areas serving a total of 230,000 connections and 4.7 million people.

- the National Water Conservation and Pipeline Corporation (NWPCPC), a parastatal created in 1988 to take over from the Ministry water supply systems that could be run on a commercial basis, operates piped water systems in 21 urban centers totaling 93,000

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1 Nairobi (2.24 million), Mombasa (0.64 million), Nakuru (0.40 million), Kisumu (0.35 million), Eldoret (0.25 million), Machakos (0.24 million), Meru (0.20 million), Nyeri (0.19 million), Kitak (0.13 million), Kagarama (0.12 million) and Thika (0.12 million).

2 The absolute poverty line is Ksh26,648 per day per month. (Welfare Monitoring Survey).

3 Low income areas comprise informal and formal settlements.
connections and a population of about 2.2 million. NWPC’s largest operation are those of Mombasa and the Coastal Region (57,000 conn., 1.0 million people) and Kakamega (4,000 conn., 125,000 people). In all these centers, local authorities are also responsible for the collection and disposal of waste water. NWPC also operates 14 large piped water supply systems in rural areas (82,000 conn., 1.5 million people), the largest rural scheme being Kandara, with about 11,200 connections.

- **Local Authorities**: ten major gazetted local authorities operate their WSS systems; they cover about 228,000 connections and a population of 3.9 million. The WSS service is provided by municipal departments without financial autonomy, such as in Naivasha (160,000 conn., 2.25 million people) or Kisumu (11,000 conn., 345,000 people) or through autonomous municipal water supply and sanitation authorities created recently such as in Nyeri, Nakuru and Eldoret. Local authorities operate 31 sewerage systems equipped with waste water treatment facilities; sewers, usually covering only the city centers, serve a total of about 160,000 connections; only in the above ten major cities is the provision of WSS service under a single agency.

8 "Self Help" groups operate about 355 piped water supply systems in urban and rural areas serving about 2.3 million people and about 19,000 water points serving 2.6 million people. They are mainly registered with the Ministry of Culture and Social Services, but a few have established themselves as legal entities under the “Societies Act”. Because of the rapid degradation of the public WSS service, many Small Scale Independent Providers (SSIPs) have recently provided a substitute WS service to all categories of customers. In formal settlements, SSIPs typically finance and operate boorholes equipped with mechanized pumps, small distribution networks, and water tankers (6 to 8 m3); they obtain a water abstraction permit, but rarely a water vending license. In informal settlements, SSIPs operate mostly water kiosks or vend small quantities (20 to 25 liter jerricans or 80 to 100 liter drums).

B. **The Water Resource Context**

9. **Overview of the Water Supply Situation.** The water supply situation has recently deteriorated significantly from the combined effect of limited renewable water resources, limited water supply development, increasing demand, poor management of urban and rural water supplies, and ineffective management of water resources. This is posing a threat to Kenya’s economic and social development. Water is a scarce resource and the need for managing it carefully cannot be understated. Annex 6 describes the key water resources management (WRM) challenges and suggests elements of a WRM Strategy that will provide a basis for detailing a WRM Regulatory Framework.

10. **Impact of the 1999/2000 Drought.** The current drought has exacerbated an already difficult situation and made water supplies unreliable. It has reduced power production and has caused water shortages. Urban and rural water supplies are intermittent. Mombasa and coastal towns continue to face chronic water supply shortages. Nairobi is now experiencing water shortages as are most municipalities, small towns and rural settlements. Load shedding and power outages are common: KPLC the power utility about US$55 million a month in revenues. Commercial, industrial, and agricultural outputs have declined and food prices have increased.

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*Nairobi, Nakuru, Kisumu, Eldoret, Kericho, Narok, Nyeri, Kitale, Thika and Nyahururu*
11. During the last two years, water supply shortages have affected most parts of the country and all sector including: urban, rural, industrial, energy, agricultural, livestock, wildlife and environment. In addition, competition for water has increased, while its management has weakened. It is however important to distinguish between the short-term effects of drought and the long-term systemic problems that have resulted in the sector due to the steady deterioration of water resources management (WRM) caused by diminishing resources and support provided by the Government. Although drought has resulted in water supply deficits and increased the pressures on land and water resources, it did not create the existing problems in WRM such as: (a) weak water apportionment and allocation procedures; (b) intense water use conflicts; (c) severe and extensive catchment degradation; and (d) growing water pollution from point and non-point sources. Drought has only magnified the serious problems and weaknesses in the existing WRM system.

C. The “Piped” Water Supply and Sewerage Operations

12. In 2000, about 13.7 million people, or 44% of Kenya’s total population, rely on piped water supplies managed by MENR, NWPC and municipal councils. MENR and NWPC together provide the service to 3.6 million people in urban areas and 6.2 million in rural areas; they operate about 655 systems and a total of more than 450,000 water connections. Municipalities serve a total of 3.9 million people through 228,000 water connections; data on sewage coverage and number and connections are not always available. Whether in the larger cities, smaller towns or in rural areas, the issues the "piped water supply sector" is confronted with can be described as follows. A discussion of specific issues related to piped water systems run by self-help groups, which provide piped water to an additional 2.3 million people, can be found in Annex 3.

Table 1: The “Piped” and “Self Help” Water Supply and Sanitation Sectors

<table>
<thead>
<tr>
<th>Centers</th>
<th>2000 Population (million)</th>
<th>Water Connections</th>
<th>Sewer Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nairobi Operations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>1</td>
<td>2.3</td>
<td>160,000</td>
</tr>
<tr>
<td>NWPC Coastal Oper.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>5</td>
<td>1.0</td>
<td>57,000</td>
</tr>
<tr>
<td>NWPC Other Oper.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>21</td>
<td>1.2</td>
<td>93,000</td>
</tr>
<tr>
<td>Rural</td>
<td>14</td>
<td>1.5</td>
<td>82,000</td>
</tr>
<tr>
<td>MENR Operations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>73</td>
<td>1.4</td>
<td>52,000</td>
</tr>
<tr>
<td>Rural</td>
<td>555</td>
<td>4.7</td>
<td>230,000</td>
</tr>
<tr>
<td>Other Municipal Op.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>9</td>
<td>1.6</td>
<td>68,000</td>
</tr>
<tr>
<td>“Piped” WSS Sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>109</td>
<td>7.4</td>
<td>420,000</td>
</tr>
<tr>
<td>Rural</td>
<td>569</td>
<td>6.2</td>
<td>312,000</td>
</tr>
<tr>
<td>Total</td>
<td>678</td>
<td>13.7</td>
<td>742,000</td>
</tr>
<tr>
<td>“Self Help” WSS Sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piped systems</td>
<td>355</td>
<td>2.3</td>
<td>Not available</td>
</tr>
<tr>
<td>Point sources</td>
<td>10,000</td>
<td>2.6</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

* Includes Mombasa area, Kieli, Voi, Malindi and Kwale
13. **Piped WSS Service.** About 70% of the urban population has direct access to piped water through house or yard connections. A vast majority of domestic connections in small and medium towns are shared by multiple households. Data provided by undertakers on production, sales and customers are unreliable; many connections are inactive and most meters do not function. In Mombasa and the Coastal Region, about 35% of the connections are inactive and 37% of the meters are not working; in Nakuru (19,500 conn.), 30% of the connections are inactive, 25% are metered but only 50% of the meters function. About 30% of the rural population is served by piped water, mostly through yard connections. Rural piped water systems have been developed using MENR design criteria, regardless of the customers' preferred type of service and willingness to pay for it. For example, in Shioli, a rural scheme operated by NWPC in western Kenya, more than 70% of the original 2,500 connections are now permanently inactive as a result of poor service and unwillingness to pay for it. Production capacities are often under-utilized and per capita production is high by African standards. But most customers receive only an intermittent service a few days per week or a few hours per day, exacerbated during recent drought conditions.

14. The waste water service is also in bad shape, despite significant recent investment for waste water treatment. For example, in Nairobi where about 55% of the city is covered by conventional sewerage, only 50% of the treatment capacity is utilized, a large share of the waste water generated being diverted for illegal irrigation. The recently closed Third Nairobi WSS project failed to improve ambient water quality in the Nairobi river. In the Mombasa island where about 10% of the population is connected to sewers, the pumping stations and an old treatment facility have fallen into disrepair; a treatment facility to be commissioned shortly cannot be effectively used because the corresponding sewerage network has not been built. According to a recent JICA survey, about 28% of the urban population relies on sewers, 47% on pit latrines and 23% on septic tanks; 2% have no access to sanitation facilities. 80% of the population of informal settlements use pit latrines and contribute to an increased pollution of ground and surface waters.

15. With growth rates as high as 12% per annum, compared to an average 4% for urban areas, low income households will comprise the majority of potential new customers for WSS utilities in the future. For example in Nairobi, the utility plays a minor role in the direct provision of WSS to informal settlements, with less than 21% of households having access to a private connection, 31% using water from kiosks and 33% relying on shared/yard taps often installed (as private connections) and managed by landlords.

16. A growing number of households rely on community initiated water supply systems including boreholes (with or without networks) and extensions to the distribution network. At least 30 urban centers have community water supplies operating within the service area of the WSS utility. Working in partnership with the utility and NGOs, communities have contributed towards the construction of these systems. There are more than 30 small piped systems serving small communities in Nairobi and Ngong town and more than 20 piped gravity water schemes in the Meru municipality. In Nairobi and Embu more than 10 communities have contributed toward the extension of distribution networks served by the WSS utility.

17. The many customers who refuse to pay their water bill are eventually disconnected, and as a result of the erosion of the customer base, WSS utilities generate revenues barely sufficient to cover operating costs; they cannot carry out basic maintenance and funds available for capital expenditure have to be used to finance rehabilitation programs rather than extensions. For example, in Kisumu, the main waste water treatment facility will soon undergo its second major rehabilitation in 15 years. Because of the under-funding of the
development of secondary and tertiary distribution networks, most urban water supplies experience an anarchic extension where long individual connections are the main cause for major leaks; unaccounted for water (UFW) suspected to be 50% and higher has become the norm, but in the absence of metering, it is difficult to support this figure. All categories of customers are now forced to develop their own water sources or to rely on costly alternatives. For example, in Nairobi, where significant investments have recently been made for water production and waste water treatment, about 1,500 individual boreholes, many of them developed recently, and a large fleet of water tankers provide a service that complements or substitutes the intermittent or non-existent public water service. This situation affects large customers, who could generate significant revenues for the utility, and low income groups, whose water budget is several times what it would be if they were relying on the public service. Recently, the level of the water table in Nairobi has significantly declined.

18. **Piped WSS Tariffs.** Currently both MENR and NWPC apply the same tariff rates and increasing block structure to both urban and rural schemes throughout the country. The tariff increases from Ksh20/m3 for domestic consumption below 10 m3/month to Ksh100/m3 for consumption above 300 m3/month. MENR tariff includes a sanitation surcharge that typically represents 50% to 75% of the water tariff. NWPC tariff sometimes applies a similar sanitation surcharge or a fixed sanitation fee on behalf of the local authorities responsible for waste water and sanitation; however, the tariffs do not include any surcharge for regulating water resources. Since metering is deficient or non-existent in most operations, customers receive water bills established on estimated consumption or on a lump sum basis, encouraging wastage of water; households typically received a Ksh250 bill per month based on a 10 m3 consumption at Ksh20/m3 plus a Ksh50 charge for meter rental. In WSS operations run by local authorities, the average tariff is supposed to cover all financial costs (operation, maintenance, depreciation and debt where applicable); in these operations the tariff structure is also based on increasing blocks. Table 2 below gives tariff structures for several utilities; Table 3 compares the NWPC and Nairobi WSS tariffs with that of various African countries.

### Table 2: WSS Tariffs in Kenya

<table>
<thead>
<tr>
<th>Town</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
<th>Block 4</th>
<th>Block 5</th>
<th>Block 6</th>
<th>Tariff range for comm. &amp; industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWPC &amp; MENR</td>
<td>Consumption-m³</td>
<td>0-10</td>
<td>10-20</td>
<td>20-50</td>
<td>50-100</td>
<td>100-300</td>
<td>&gt; 300</td>
</tr>
<tr>
<td>Nairobi</td>
<td>Tariff - Ksh/m³</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>45</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>Nyeri</td>
<td>Consumption-m³</td>
<td>0-10</td>
<td>10-30</td>
<td>30-60</td>
<td>&gt; 60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tariff - Ksh/m³</td>
<td>12</td>
<td>18</td>
<td>25</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nyahururu</td>
<td>Consumption-m³</td>
<td>0-10</td>
<td>11-20</td>
<td>21-40</td>
<td>41-100</td>
<td>&gt; 100</td>
<td></td>
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<tr>
<td></td>
<td>Tariff - Ksh/m³</td>
<td>20</td>
<td>28</td>
<td>32</td>
<td>36</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Kitale</td>
<td>Consumption-m³</td>
<td>0-10</td>
<td>10-20</td>
<td>20-40</td>
<td>40-100</td>
<td>&gt; 100</td>
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<td></td>
<td>Tariff - Ksh/m³</td>
<td>17</td>
<td>24</td>
<td>27</td>
<td>31</td>
<td>34</td>
<td></td>
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<tr>
<td>Tshina</td>
<td>Consumption-m³</td>
<td>0-10</td>
<td>10-20</td>
<td>20-40</td>
<td>40-100</td>
<td>&gt; 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tariff - Ksh/m³</td>
<td>20</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Kericho</td>
<td>Consumption-m³</td>
<td>0-9</td>
<td>10-19</td>
<td>20-39</td>
<td>40-59</td>
<td>&gt; 60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tariff - Ksh/m³</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>26</td>
<td>28</td>
<td></td>
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<tr>
<td>Kisumu</td>
<td>Consumption-m³</td>
<td>0-10</td>
<td>10-20</td>
<td>20-40</td>
<td>40-50</td>
<td>&gt; 60</td>
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<td></td>
<td>Tariff - Ksh/m³</td>
<td>8</td>
<td>20</td>
<td>23</td>
<td>26</td>
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<tr>
<td>Nakuru</td>
<td>Consumption-m³</td>
<td>0-6</td>
<td>6-15</td>
<td>15-25</td>
<td>25-35</td>
<td>35-45</td>
<td>45-50</td>
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<td>Tariff - Ksh/m³</td>
<td>12</td>
<td>19</td>
<td>14</td>
<td>22</td>
<td>27</td>
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</table>

16-45
Table 3: WSS Tariffs in Selected African Countries

<table>
<thead>
<tr>
<th>Utility</th>
<th>NWCPC</th>
<th>WSD Nairobi</th>
<th>SODECI</th>
<th>SDE</th>
<th>GWSC</th>
<th>NWSC</th>
</tr>
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<tbody>
<tr>
<td>Type of operation</td>
<td>public</td>
<td>public</td>
<td>private</td>
<td>private</td>
<td>public</td>
<td>public</td>
</tr>
<tr>
<td>1999-2000GDP per Capita</td>
<td>360</td>
<td>360</td>
<td>710</td>
<td>510</td>
<td>390</td>
<td>320</td>
</tr>
<tr>
<td>Population served (million)</td>
<td>3.7</td>
<td>2.25</td>
<td>6.3</td>
<td>4.0</td>
<td>8.2</td>
<td>1.8</td>
</tr>
<tr>
<td>$/kg (million m³/year)</td>
<td>65</td>
<td>67</td>
<td>113</td>
<td>74</td>
<td>87</td>
<td>23</td>
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<tr>
<td>Tariff (%)</td>
<td>40</td>
<td>52</td>
<td>18</td>
<td>25</td>
<td>55</td>
<td>47</td>
</tr>
<tr>
<td>Customers ('000)</td>
<td>242</td>
<td>160</td>
<td>420</td>
<td>250</td>
<td>251</td>
<td>40</td>
</tr>
<tr>
<td>Sales/customer (m³/year)</td>
<td>271</td>
<td>419</td>
<td>269</td>
<td>296</td>
<td>347</td>
<td>575</td>
</tr>
<tr>
<td>Population/customer</td>
<td>15.3</td>
<td>14.1</td>
<td>15.0</td>
<td>16.0</td>
<td>32.3</td>
<td>45.0</td>
</tr>
<tr>
<td>Centers served</td>
<td>N/A</td>
<td>N/A</td>
<td>44</td>
<td>36</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Staff</td>
<td>N/A</td>
<td>N/A</td>
<td>549</td>
<td>47</td>
<td>110</td>
<td>12</td>
</tr>
<tr>
<td>Staff/1,000 customers</td>
<td>6.2</td>
<td>16.2</td>
<td>3.3</td>
<td>5.0</td>
<td>17.7</td>
<td>30.6</td>
</tr>
<tr>
<td>Tariff (USD/m³)</td>
<td>0.40</td>
<td>0.40</td>
<td>0.50</td>
<td>0.56</td>
<td>0.27</td>
<td>0.73</td>
</tr>
<tr>
<td>Of which contribution to capital expenditures (%)</td>
<td>N/A</td>
<td>N/A</td>
<td>44</td>
<td>36</td>
<td>11</td>
<td>16</td>
</tr>
</tbody>
</table>

19. A rapid survey of 675 households was carried out in Nairobi, Mombasa and Kakamega in November, during the mission. It confirms that a significant proportion of the population has to rely on alternative sources of water and sanitation services and that the cost of these alternatives is high. Water from kiosks costs between Ksh3 and Ksh5 per jerrican of 20 liters (Ksh150-250/m³), water from vendors costs between Ksh10 to Ksh18 per jerrican (Ksh 500-900/m³), and water tankers of 8 m³ capacity cost Ksh2,250 to Ksh7,500 (Ksh281-750/m³). This means that a family of four that consumes about 8 jerricans per day (4.8 m³/moain or 40 l/cd) and relies on kiosks has a monthly water budget of Ksh720 to Ksh1200, to be compared with a monthly water budget of a connected household of Ksh250 that can, in theory, consume 10 m³/month. Emptying a septic tank costs about Ksh3,150 to Ksh7,500 depending on distance; in low income areas, where there is no space for proper infiltration, “septic tanks” of newly built multi-storey buildings have to be emptied frequently. The survey results for Nairobi show that due to the current water shortage, all households – including those with private connections – are coping by spending a lot on water and consuming an average of less than 40 litres per capita per day (l/cd). Specifically, households with private connections consume an average of 39 l/cd and pay an average of Ksh9.5 per capita per day. By comparison, households relying on kiosks consume 34 l/cd and pay Ksh13 per capita per day, and those entirely relying on vendors consume 35 l/cd and pay Ksh29.6 per capita per day.

20. The survey also assessed household preferences and willingness to pay for service improvements. Unconnected households in the sample were offered private connection at prices ranging from Ksh250 to Ksh5,000, and a monthly WSS bill of Ksh300 to Ksh750. In Kakamega, 57% of currently unconnected households indicated that they would be willing to connect; the proportion of households opting to connect in Nairobi and Mombasa was 33% and 39%, respectively. A majority of those that are unwilling to connect cited the deposit fee as the main problem.

21. Piped WSS Operations. Both MENR and NWCPC are overly centralized operations, with regional operations having to transfer between 85 and 90% of the cash generated to headquarters, typically headquarters cover salaries, benefits, power and
chemicals costs. Operations which generate a cash surplus seldom receive it back, and therefore cannot fund badly needed maintenance expenses. Operations run by local authorities have neither managerial nor financial autonomy; although cash collected is deposited in a separate WSS fund, revenues from WSS sales are often used by local authorities for expenses not related to WSS. However, in the few urban centers where the UWASAM project has succeeded in creating an autonomous WSS company (WSSC), revenues are “protected”. While operations in Nyeri (4,700 connections, 0.19 million people, annual revenue KSh46 million) is among the most efficiently run in Kenya, from the technical, commercial and financial points of view, it is too early to judge if the apparent conflict of interest of having a municipal company with a Board primarily composed of representatives of its only client, i.e. the Local Authority, hampers development of the WSS service. As demonstrated by the case of NWPC, autonomy is a necessary condition to improve performance, but it is not sufficient if the right set of financial incentives and enforceable regulatory arrangements are not provided. MENR is currently envisaging the “hand-over” of WSS operations it runs in about 10 small towns; another 18 have expressed interest and an additional 15 are considering application.

22. Private Sector Participation in Piped WSS. Private Sector Participation in Piped WSS. The only formal PSP experience in the WSS sector in Kenya is the Management Contract which NWPC has recently signed with a consulting firm in Malindi (4200 conn.; 66,000 people). The water companies set up with support from UWASAM are established under company law but with a majority share owned and controlled by local authorities. They do not function in a commercial environment and, with perhaps the exception of Nyewasco (Nyeri Water and Sewerage Company) do not behave as such; they are not considered as “private sector” in this report.

23. The Malindi area obtains its water from the Baricho production facilities supplying Mombasa. The “Manager”, who is under contract for 4.5 years from February 2000, is responsible for “the complete technical and commercial management of the Malindi Area of the Client, including its operation and maintenance, meter reading, billing, accounting and reporting.” The Manager has apparently not yet formally received a license from MENR to operate the water supply service. Revenues generated in Malindi are sufficient to cover the cost of O&M, the Manager’s fees and an increasing part of depreciation. Part of the cash surpluses are currently transferred to NWPC headquarters as a contribution to general overheads. The contract includes penalty and bonus arrangements based on target levels for UFW and revenue collection efficiency. According to the Manager, his obligation to follow government procurement guidelines that apply to NWPC slows procurement and makes quality control difficult.

24. The current management contract has been developed from a service contract, the “Improvement in Billing and Revenue Collection” contract that was funded from the Second Mombasa and Coastal Water Supply Project (financed by the World Bank) and which ran from 1995 to December 1997. Over this period, the number of estimated blocked meters was reduced from 75% to 10% and billing was increased by a factor of 2.3. Collection rates also increased from an average of KSh1.4 million per month prior to the contract to an average of KSh3.8 million (with a maximum of KSh 5.2 million). The collection rate over the period during which the contractor undertook collections averaged 98% (including arrears). Average turnover increased by about 135%. Service reliability improved although the increase in distribution pressure limited the reduction in network losses from 52% to 45%. In December 1997, the activities under the service contract reverted to the NWPC and many of the performance levels also declined towards their previous levels.
25. Preliminary indications are that the current Management Contract is also producing benefits, particularly with respect to reliability of supply and collection. As is usual with management contracts, all large capital investments remain the responsibility of NWPC and this limits the impact that the Manager can have on network efficiency. However, the Management contract was designed to complement current efforts of NWPC (supported by KFW) in network improvement and extension. It is expected that these coordinated initiatives will eventually lead to the current tariffs being sufficient to cover the full costs (O&M, capital investment and depreciation) of the water system.

26. The Water and Sanitation Department (WSD) of the Nairobi City Council (NCC) has attempted to enter into a similar contract after a long period of direct negotiations with a large international private operator but has so far failed to attract support from key ministries involved. A few unsolicited proposals have been tabled, in particular for a BOOT water production project in the Coastal Region, but have not come to closure. The less formal and the informal private sector is active in many cities and towns; it appears however that most individuals who have obtained licenses for drilling boreholes, have not obtained licenses to sell water; the same applies to water tankers.

27. Financial Situation of Pipel WSS Operations.

- NWPC operations are technically insolvent; in FY99/00, NWPC total billing was Ksh1,200 million, its cash expenditures Ksh760 million and total expenses Ksh1,250 million. NWPC accounts receivable is about Ksh1,525 million (an increase by more than 28%, over FY98/99), representing 420 days of billing. NWPC has not been able to service its Ksh833 million of long-term debt on-lease by GOK; with accrued unpaid interest, the total outstanding is now close to Ksh1,000 million. The independent audit report of NWPC FY99 financial statement mentions "...such deficits make it impossible for the corporation to achieve its main objective in developing and managing water projects in the future... and ... it is doubtful as to what extent the corporation's accounts receivable reflected on its balance sheet are realizable”.

- WSD of the Nairobi City Council - In the absence of separate accounts and audited (or, at least, internally generated) financial statements of the WSD of the Nairobi City Council for the past three years, it is difficult to form an opinion on its financial situation. For FY00/01 WSD billing is forecast at Ksh1,900 million, collections at Ksh1,200 million, and cash operating expenditures at Ksh720 million. Reportedly, NCC which is still paying claims on construction contracts of the third Nairobi WSS project that absorb most excess cash generated by WSD, cannot service a WSS related long term debt of about Ksh9,500 million.

- The WSS companies recently created in large cities such as Nyeri, Eldoret and Nakuru representing a total billing of Ksh255 million in FY90 for a total of about 30,000 connections served could also be technically bankrupt from day one because uncollectible accounts receivable have been transferred along with short term debt (such as power and arrears in salaries and benefits). The transfer of fixed assets and long term debt to these companies is still to be clarified.

- MERN piped WSS operations are not financially sustainable, with 1999 collections at about Ksh150 million and total cash expenditures of provincial and district water offices and operating costs of the piped WSS systems about Ksh650 million, out of which an estimated 40% is directly attributable to WSS operations. For the coming years in accordance with the Medium Term Expenditure Framework (METF), MERN
will have to cover all operating costs other than salaries and benefits from revenues. The paucity of data does not allow presentation of a simple consolidation of the financial position of piped WSS operations in Kenya.

28. **Human Resources in the Piped WSS Sector.** The piped WSS sector employs a total of about 9,100 staff of which 4,000 in MENR, 1,400 in NWCP, and 3,700 in operations run by local authorities and their autonomous WSS companies. At an average 12.2 staff per thousand connections, the performance of the Kenyan piped WSS sector has to be compared with that of other African countries of an average 8 staff/1,000 connections, with the best performance being at less than 4 staff/1,000 connections for a sector of similar size. As part of the public sector reform currently being implemented, the Department of Water within the MENR plans to reduce its staff by 1,000 from the current level of 7,200, by July 1, 2001; an estimated 4,000 of this staff is employed in the direct management of WSS operations. WSS operations in large cities and NWCP employ competent technical staff, many of them trained at the Kenya Water Institute (KEWI), under MENR. The poor performance of the WSS sector results from its inability to attract competent commercial and financial managers with compensation packages that compare with that of the private sector. In Nyeri, a well-run WSS operation, the management teams of the WSSC has been recruited on the market and operates under fixed term contracts, to be renewed depending upon performance.

D. **Recent Development of the WSS Sector**

29. **Past Activities and Development.** Investment needs for the piped (mostly urban) WSS sector is estimated at about US$1,300 million (according to the JICA “Aftercare study”), but very little financing has recently been available. In the current fiscal year, only about US$0.4 million is allocated in MENR’s budget for capital expenditure to be provided by GOK and a further US$50 million is expected from external financing agencies. The MTEF budget US$11 million for the coming two years’ funding for investments by municipal councils is not included in these figures. Since the closing of the two IDA supported WSS projects in Nairobi and the Coastal Region in 1998, that were both based on sustainable, external financing has been provided mainly to develop WSS systems operated by municipal councils and NWCP by KFW. ADB, JICA and AFD are investigating the possibility of financing WSS projects in urban areas. Nairobi City Council and NWCP are not likely to be able to attract financing in the coming few years, until institutional changes are in place. GTZ, JICA, SIDA, among others, have continued to finance technical assistance to MENR, MOLG and NWCP. In the “self help” WSS sector, traditional donors (SIDA, FINNIDA, JICA...) have also reduced their financing pending a clarification of the overall policy environment and institutional arrangements. The Government has thus recently engaged in a series of reforms that are embedded in three main documents:

- the National Policy on Water resources management and Development;
- the Country Strategy Paper for the Water Sector; and
- the draft Water Bill 2000.

30. **National Policy on Water resources management and Development.** The Policy is set out in the Sessional Paper No1 of 1999 and covers issues relating to water resources management, water supply and sewerage development, institutional framework and financing of the sector. With regards to WSS, the Policy provides for a re-evaluation of the respective roles of the key actors in the WSS sector, to be translated by a diminishing role of the Government in the direct implementation of WSS projects and provision of WSS services and an increased participation of communities and the private sector in these
activities. The Policy which requires an update of the Water Act Cap 372, emphasizes the need to develop sanitation in parallel with water supply and WSS tariffs to ensure adequate cost recovery and to protect the rural and urban poor. It also requires a co-ordination of the use of the funds made available by development partners (financing agencies and NGOs) to develop the sector through the Ministry in charge of water affairs. The Ministry of Health is also preparing a sanitation policy.

31. **Country Strategy Paper for the Water Sector.** The Department of Water Development of the MENN is currently engaged in the preparation of a Country Strategy Paper for the Water Sector. It covers a wide range of issues such as: inter-sectoral issues; water and industry; water and health; institutional framework and co-ordination; rural water supply and management; urban water supply; financing sources and mechanisms; legislation, regulation and enforcement; capacity building; applied research and technology. The main proposals of the Strategy Paper can be summarized as follows:

- **institutions:** establishment of (a) a National Standing Committee (NSW) to deal mostly with cross sectoral issues and integrated water resources management; (b) a Directorate of Water Affairs (DWA) to advise on tariffs, determine applications for major WSS infrastructure projects and coordinate activities in the sector; (c) a National Water Board (NW) to address issues of water sources allocation among competing users; and (d) a WSS Regulatory Board (WSSRB) to regulate the provision of the WSS service, set performance standards and approve tariff structures; and continuing the water sector working groups;

- **decentralization:** handing over of the responsibility for the provision of the WSS service to local authorities and community groups that have the required capacity; encouraging "syndication" to ensure sustainability of WSS operations through economies of scale; encouraging creation of autonomous WSS authorities to ensure transparency; and retaining NWPC as a strategic developer, bulk water supplier and "undertaker of last resort";

- **private sector participation:** separation of ownership of WSS assets from operation of the WSS service to allow increased PISP; involvement of the private sector from first to improve efficiency, then to raise equity financing;

- **pricing:** development of WSS tariffs to cover G&M costs in rural areas and, in addition, capital development costs in urban areas; assessment of the desirability of subsidizing the WSS service in small communities; differentiation of tariff according to usage;

- **financing of WSS:** creation of a development "levy" to contribute to the development of the rural WSS sector; promotion of autonomous and transparent financing of WSS projects; and

- **capacity building:** redefinition of training activities to new needs in the WSS sector.

32. **Draft Water Bill 2000.** MENR is also in the process of finalizing a new Water Bill; its preparation was initiated before the Strategy Paper and thus there are some discrepancies between the two documents. With regards to the WSS service, the draft Water Bill attempts to clarify the role of the various actors and the new mechanisms to be put in place; they can be summarized as follows:

- **Regulator:** the Regulator, who reports to the Minister, MENR, determines applications for licensing of WSS service providers, advises on WSS tariffs and levies, determines WSS standards, advises on the appointment of WSS authorities and administers the WSS Fund;
**MENR and MOLG:** MENR, in consultation with MOLG, appoints WSS authorities (WSSAs) for defined areas; a WSSA has the duty to provide the WSS to all consumers in its area;

- **WSSA:** WSSAs have the duty to provide efficient and affordable WSS service to all consumers in their territory; WSSAs have to update their development plan every 10 years; and to report annually on their activities; in case a WSSA does not perform, the Minister, MENR can appoint another WSSA; NWPCPC could take over operations from a non-performing WSSA; WSSAs can provide the WSS service themselves, through an independent company or through a contract with an independent service provider; conditions under which the service is provided is subject to regulation;

- **Undertakers:** Service providers registered by MENR have to apply for a license from the Regulator to provide the service as “undertaker” (the notion of undertaker and the sequencing of its licensing are somewhat confusing in the various clauses of the draft Bill);

- **Water Appeal Board:** The WAB, appointed by the Minister MENR, settles disputes among the above stakeholders.

33. The effect of the draft Water Bill is to leave total control of the WSS sector under the responsibility of MENR, which directly conflicts with the National Policy statement of “diminishing role of Government”. The table below identifies the main strengths and weaknesses of the current situation and proposed reforms:

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well trained technical manpower;</td>
<td>Poor service delivery: service level not adapted to consumer needs; low revenues; poor O&amp;M; high UIW; lack of linkage between water supply and sanitation; low capital investment;</td>
</tr>
<tr>
<td>Existence of vibrant private sector able to provide substitute to the public WSS services;</td>
<td>Low accountability of “undertakers”; inadequate incentive system resulting from heavy centralization (MENR and NWPCPC) or absence of transparency in financial management (municipal WSS Departments); overstaffing of most undertakers;</td>
</tr>
<tr>
<td>Tariff level in theory sufficient to cover costs;</td>
<td>Total bankruptcy of all undertakers;</td>
</tr>
<tr>
<td>Some well functioning “self help” water supply systems able to minimize own and external financing;</td>
<td>Lack of collaboration between MENR and MOLG; conflicts between Water and Local Government legislation;</td>
</tr>
<tr>
<td>Well defined provision for water allocation and pollution control;</td>
<td>High cost of substitute to the public WSS services for the Kenyan economy; and</td>
</tr>
<tr>
<td>Water use fees gazetted by the Water Act</td>
<td>Lack of regulation of private initiatives;</td>
</tr>
<tr>
<td></td>
<td>Weak enforcement of water apportionment, allocation and pollution control;</td>
</tr>
<tr>
<td></td>
<td>Water use fees degazetted;</td>
</tr>
</tbody>
</table>
Proposed Reform

Strengths

• Recognition of the need for reform;
• National Water policy endorsed by Parliament;
• Willingness to decentralize;
• Private sector participation encouraged;
• Catchment protection levies and pollution levies;
• Concept of a reserve.

Weaknesses

• Strategy lacks clear objectives; Water Bill drafted before Strategy is approved; complex and confusing terminology used in draft Bill;
• Complex institutional framework; multiplicity of sector actors;
• Role of Government not limited to policy and regulation; Regulator not autonomous; approval of tariffs still with MENR; conflict of interest having the Regulator and the Water Appeal Board reporting to MENR;
• No clear separation of responsibility for water resources management (WRM) and WSS; still limited link between water supply and sanitation;
• Complex arrangement for licensing of service providers; hand-over of WSS operations determined by MENR;
• Framework not conducive to PSP;
• Cross sectors' implications difficult to implement without adequate consultation;
• Concept of reserve and levies unclear.

Summary of Recommendations -- A Proposed Road Map for Developing the Water Supply and Sanitation Service

E. Objectives and Principles

34 The objectives of the proposed reform should primarily be to provide a reliable, sustainable and affordable WSS service to all categories of consumers both in urban and rural areas:

• Reliability of the WSS service refers primarily to the provision of technology and the level of service that consumers want and are willing to pay for; it also refers to the technical and financial capacities of the provider of service to maintain the facilities in working order so that consumers do not have good excuses for not paying their bills; it finally refers to the existence of a water source of sufficient quantity and quality. Thus, reliability is directly linked to proper demand assessment, in relation to pricing, to operation arrangements and water resources management;

• Sustainability of the WSS service refers to the adequacy of the decision making level for both day to day operations and longer term planning and project implementation; it also refers to the incentive framework within which the provider of service operates; it refers to pricing that simultaneously helps recover costs and manage demand; it also refers to a proper financing strategy that emphasized reliance of cash generation and eventually non public sources; it finally refers to the protection and the conservation of the water resource and proper assessment and mitigation of impact of additional abstraction and
disposal of waste water on the environment. Thus sustainability is directly linked to decentralization, private sector participation, pricing, financing mechanisms and water resources management;

- **affordability of the WSS service** refers mostly to a pricing level and structure of the WSS service that assist low income consumers to maintain at least minimum consumption levels.

35. This section of the aide mémoire summarizes the recommendations of the mission with regards to demand, pricing, decentralization, private sector participation, financing mechanisms, capacity building and water resources management (as it affects the WSS service) primarily for piped WSS systems currently operated by MENR, NWCP and municipalities. Recommendations for self help piped water supply or point sources systems are given in Annex 3.

### F. Demand for the Piped Water Supply and Sanitation Service

36. **Long Term Investment Needs.** For piped WSS, demand for rehabilitation and extension of the WSS service is obviously huge both in urban and rural areas. On the basis of an average US$40 per capita for rehabilitating existing piped WSS schemes, US$200 per capita for extending piped WSS schemes to half of the un-served urban the investment need for the next ten years would be in the US$1,100 million (Ksh85 billion) range for piped WSS. The costs of securing and protecting the sources are not included.

37. **Short Term Investment Needs.** The table below gives a summary of the information collected by the mission from the various undertakers on their short term investment needs. For Nairobi, it includes mostly rehabilitation and extension of distribution systems and sewers; for the Coastal Region, it covers some additional production works. For other urban centers it includes mostly rehabilitation of WSS works. It is worth noting that rehabilitation of sewers and waste water treatment facilities would absorb more than 65% of the short term investment program. It was not possible, because of the paucity of the existing data base to carry out a more detailed review.

<table>
<thead>
<tr>
<th>Water Supply</th>
<th>Sewerage and Sanitation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ksh million</td>
<td>(US$ million)</td>
</tr>
<tr>
<td>*</td>
<td></td>
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</tr>
</tbody>
</table>

- Nairobi
  - 1,550
  - 3,150
  - 4,300
  - 410

- Coastal Region
  - 3,650
  - 1,359
  - 5,000
  - 670

- Other Piped WSS Systems
  - 3,900
  - 8,500
  - 12,400
  - 1660

- Total Piped WSS
  - 8,700
  - 13,000
  - 21,700
  - 2300

**Notes:**
- US$1,00 = Ksh75
- All systems other than the piped WSS systems operated by MENR, NWCP and large municipalities.
38. To prioritize investment programs, it is necessary to take into account the following elements:

- water production capacities in urban areas are usually sufficient to meet demand in the short term, but often need rehabilitation; water production capacities have not been matched by the formal extension of distribution networks;
- a significant share of the future urban population will live in informal settlements, where low cost WSS service has to be provided;
- waste water treatment capacities are often above that of the waste water collected by sewerage networks which all need major rehabilitation and some extension, in particular in those low income areas where multi-story houses are being rapidly developed; complex waste water treatment plants are usually not functioning and need rehabilitation or re-designing;
- the sustainablility of large rural water distribution systems is often questionable, with a significant share of original customers having been disconnected;
- technology has to be adapted to the type of service consumers want to obtain and the management capacity of the utility; and
- most of the currently un-served rural population is likely to be served either by point water supplies or by community managed small piped systems.

39. During the preparation of future WSS projects, the following key elements would have to be taken into account:

- potential consumers should actively participate in the design of the future schemes; their preferences and willingness to pay has to be determined carefully as part of the assessment of the demand for WSS services; for example, it would not make sense to rehabilitate existing large rural piped systems if potential customers are not willing to re-connect because they find the service too expensive; and
- the technical design of rehabilitation and extension projects has to be carried out in parallel with that of the implementation of management arrangement.

G. Pricing of the Piped Water Supply and Sanitation Service

40. Financial Pricing of WSS Service. In principle, the WSS tariff should generate revenues to cover O&M, depreciation, costs associated to WRM and yield an acceptable return on assets. One criterion often used is the utility's potential to earn an acceptable rate of return on assets\(^5\). For government-owned utilities, a rate of return requirement helps resist social and political pressures to keep the WSS tariff too low. For private utilities, the Regulator usually imposes a "fair" rate of return as an upper limit on earnings or adjustment linked to the Consumer Price Index (CPI) and productivity (CPI - \(X\) "regulation"). Another criterion, useful when the WSS service is to be rapidly expanded, is the utility's capacity to make a reasonable contribution to its capital expenditure program from its own revenues\(^6\).

Tariffs charged by MENR, NWPC and municipal utilities are "in theory" sufficient to cover O&M and capital costs; in fact, because of inefficient operations they often cover only cash operating expenses and seldom allow for sufficient maintenance. Thus the Piped WSS sector relies heavily on Government subsidies to meet its financial obligations, in particular

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\(^5\) Defined as: net operating income after taxes as a fraction of net fixed assets in operation.

\(^6\) The self-financing ratio is often expressed by the amount of internally generated funds available after operating expenses and debt service as a fraction of capital expenditures.
to service its debt. WSS Tariff Guidelines to be developed by the Regulator should provide for the coverage of O&M, debt service and a significant contribution to the capital expenditure program in accordance with a medium term detailed (and realistic) financial forecast, that matches investment and management arrangements with targeted service levels and efficiency improvements. Guidelines should also provide for automatic protection against inflation through simple cost index formula, and for clear procedures for regular reviews of WSS tariffs.

41. **Economic Pricing.** In principle, the WSS tariff should equal the long run cost of providing an incremental unit – i.e. the Long Run Marginal Cost (LRMC) – of the WSS service, which includes the costs of required incremental capacity, O&M and externalities, including WRM. If a WSS tariff is lower than the LRMC it would encourage over-consumption and therefore wastage detrimental to the society and the environment. If the WSS tariff is higher than the LRMC, it would limit consumption and reduce benefits – in particular, public health benefits – of optimal use of the WSS service by encouraging users to revert to cheaper substitutes of lesser quality. Marginal cost pricing aims at affecting consumption on the margin and requires volumetric tariffs which in turn requires metering. Universal metering and efficient billing and collection must be the main objective of the massive rehabilitation program to be implemented in the near future. Marginal cost pricing implies also that the WSS tariff should be determined for each individual WSS system, according to its own costs, and that all customers on a given system are charged the same tariff regardless of their level of consumption. Marginal cost pricing should be based on "efficient" operations and avoid passing on to the consumers operating costs such as high UFW, over-staffing or over-design of extension projects which can realistically be eliminated. The economic cost of water supply should also include that of collecting and disposing of incremental waste water generated; adding a sanitation surcharge on water use provides consumers an incentive to use quantities of water in a manner that is efficient from society's perspective.

42. **Tariff Structure.** The tariff structure should be understandable to customers so that they can read price signals and respond to them by adjusting their consumption. A uniform tariff applicable to all categories of consumers keeps price signals to consumers clear, avoids the cross subsidies that encourage larger and richer customers to exit the system, and keeps the utility's administrative costs low. The move toward a uniform tariff for all categories of customers needs to be implemented carefully; any major tariff increases need to be gradual to prevent a sudden and/or massive decline in consumption that can hurt utility revenues. WSS tariffs should also avoid significant fluctuations over time, which are a source of uncertainty for consumers and create cash flow problems to the utility.

47. **Equity Objective.** Since WSS confer obvious public health benefits, it is economically efficient to favor the consumption of a minimum quantity of water by low income consumers. Improving access of poor households to utility-provided WSS services can enhance welfare by reducing their reliance on high cost alternative sources such as kiosks, water vendors, and providers of pit-exhauster service. To achieve these goals the following approaches should be used:

- a mechanism should be designed to allow low income households to connect to piped water at an affordable cost; connection funds replenished through a small surcharge on the WSS tariff have proven to be very successful in West Africa.
- the system of billings and collections should be adapted to reflect the smaller and somewhat unpredictable cash flow of low income households: for example, a system that allows the poor to make several partial payments each month toward their bill
(using prepayment meters or private collectors) may help lower their default and disconnection rates; and
• efforts should be made to increase the number and density of kiosks in low income neighborhoods and to keep the up-front costs of such connections low.

H. Decentralization of the Piped Water Supply and Sanitation Service

44. Implementing the proposed Reform will require large financial resources for capital investment and technical assistance. The lack of clarity of the draft Strategy Framework and draft Water Bill may not provide sufficient confidence to development partners and the private sector to meet these needs. As currently worded, the obvious conflict of interest of having MENR at the same time: (a) being the major operator to be “divested” (if NWPCP operations are included); (b) coordinating the future capital investment program; (c) approving WSS tariffs; (d) regulating the provision of the WSS by WSSAs; and (e) appointing the Water Appeal Board does not provide the necessary “checks and balances” required for rapidly reforming the WSS sector. Also, it would be beneficial for increased certainty to draft two distinct Strategies and Bills: one for Water resources management (WRM) and another for Water Supply and Sanitation (WSS) and to ensure that the latter is fully consistent with the Local Government Act, currently under revision. Implementation of these two Acts would be regulated by two separate Regulatory Bodies. Until the framework for decentralization of the WSS is clearly accepted and understood by all stakeholders, it is felt that there is no need to rush approval of legislation which may serve as a barrier to investment in the sector and would likely be difficult to alter once approved by Parliament. Below is a proposal for designing a framework that would address the perceived deficiencies.

45. The Need for a Independent WSS Transition Commission. If the draft Water Bill is approved as is, potential conflicts of interests within MENR, NWPCP and MOLG could hamper the rapid hand-over of piped WSS operations and the creation of autonomous WSS companies. It is thus recommended that the hand-over be organized by an Independent Water and Sanitation Transitional Commission (WASTCOM). WASTCOM would be under a Board representing key government stakeholders (MOFP, MENR, MOLG, MOH, Public Sector Reform, consumers, NGOs and professional organizations) but would report directly to the President’s office. WASTCOM would eventually become an independent Regulatory Body or could be transferred to a multi-utility Regulatory Body, if this option is considered, as it is the case in several neighboring countries. If WASTCOM is created, it would replace all other inter-ministerial committees related to WSS provided for in the draft Water Bill. WASTCOM main mission would be to:
• organize the decentralization of the operations currently run by MENR and NWPCPC; this requires the active consensus building for the “syndication” of WSS operations by several local authorities (LAs), on technical, commercial and/or financial considerations;
• encourage, through detailed “Viability Studies”, WSSCs to systematically seek management (and possibly financing) options that rely on the capacity of the private sector, including SSIPs and communities to deliver the WSS service;
• provide an active support to the drafting and negotiation of “Memorandum and Articles of Association” and “Shareholder Agreements” between participating LAs for the formation of the WSSC and an “Agency Agreement” with the WSSC;
grant "Service Providers Licenses (SPLs)" to autonomous WSSCs which have submitted a "Business Plan" demonstrating financial sustainability taking into account rehabilitation and planned extension of existing facilities and commercial activities;

facilities, in support of MOLG, the financing from public sources of the rehabilitation and extension plans presented by WSSCs; and

"regulate" the provision of WSS service by WSSCs and their contracted private operators, SSIPs and communities; this would require the close monitoring of execution of SPLs and business plans of WSSCs, which include the "Operating/Performance contracts" with these parties, and the review of WSS tariff proposed by WSSCs.

46. **The Transition Period.** In order not to delay the transfer of WSS operations to LAs, it is not necessary to wait until WSSCs have been established and licensed. It is proposed that a transition phase be developed to achieve the transition within a period of, say, five years based on:

- identification of the infrastructure and operational assets to be transferred;
- establishment of a financially "ring fenced" WSS department within the LA, with segregated accounting and bank accounts;
- formal hand-over of responsibility for O&M and commercial authorities to LAs;
- secondment of agreed and necessary existing staff from MENR or NWCPC to the respective LA, pending establishment of the WSS.

47. The objective is to create all WSSCs within a period of a maximum of ten years. Apart from Nairobi and the Coastal Region, that can be treated as separate cases, up to about 700 piped water would have to be transferred, and eventually up to 20 to 30 WSSCs would have to be created; sewage schemes are already under the responsibility of LAs. It would be neither realistic nor desirable to envisage a shorter period because the capacity of WASTCOM to prepare the documents that constitute the regulatory framework and to appraise business plans proposed by WSSCs may initially be limited. Also, SPLs should be granted only to those WSSCs that have demonstrated sustainability through:

- reaching a consensus among stakeholders on the proposed institutional arrangement at the local level: this may take time, in particular especially when "syndication" is envisaged or steep tariff adjustment is needed; and
- obtaining financing for the initial rehabilitation and extension programs, which may take time.

48. **WASTCOM Detailed TOR.** WASTCOM would have to:

- draft: (a) detailed hand-over procedures; (b) standard Memorandum and Articles of Associations, Shareholders Agreements, and Agency Agreement; (c) standard Customer contracts; (d) standard procedures for selecting private partners; (e) standard management, lease or concession contracts between WSSC and private operators and communities; and (f) detailed procedures for setting WSS tariffs;
- draft detailed guidelines manual for preparing WSSC business plans, including participation assessment of demand for the WSS service, planning of rehabilitation and extension of WSS facilities with a special of low-income communities, operation and PSP arrangement, environmental and social assessment and financial and economic analysis;

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* Undertakership granted by MENR would no longer be required.
• draft detailed procedures for appraising and reviewing business plans, financing and tariff adjustment applications;
• draft detailed guidelines for monitoring the technical, commercial and financial performance of WSSCs; and
• gradually implement the above procedures and guidelines so that they be fully operational not later than two years after the inception of WASTCOM.

49. Financing of the Transition Commission. While the objective is to eventually have a fully independent and autonomous Regulatory Body financing its operating costs from levies on the regulated WSSCs and/or private providers of service as soon as possible, this cannot be achieved overnight. Initially WASTCOM would have to rely on the Government’s Budget; its permanent staff should be as lean as possible, and mostly include a limited number of experienced economists, engineers, financial analysts and legal experts recruited on the market; most of WASTCOM tasks should be contracted to consultants with relevant experience in the reorganization of WSS sectors, organization of Regulatory Bodies and preparation and appraisal of business plans. Most of the financing for this assistance should be sought from development partners.

I. Private Sector Participation in Piped Water Supply and Sanitation

50. Rationale for PSP in WSS in Kenya. Experience worldwide, and in Africa in particular, during the last 15 years has demonstrated that well structured PSP arrangements improve delivery of service and reduce its cost. The rationale for PSP in WSS is to:

• reduce political influence in the provision of service;
• access expertise;
• access private capital;
• transfer risk to specialist companies that can manage it more cost-effectively
• improve cost-effectiveness through the introduction of commercial discipline. This is achieved through competition, arrangements linking returns to service provision and management freedom; and
• use the interest of the private sector to enter the WSS market to drive reform

51. Potential PSP Models for Kenya. Annex 5 summarizes the main advantages of the various PSP approaches that can be envisaged for the WSS sector, ranging from simple service and management contracts, to lease contracts, concessions and partial or total divestiture. It also describes the main features of PSP options adapted for developing new water production and waste water treatment facilities (BOT, DBO, BOOT). The conditions in Kenya and the generic characteristics of the principle PSP arrangements suggest that the following options should be considered:
<table>
<thead>
<tr>
<th>Sector</th>
<th>Issues to be Addressed</th>
<th>PSP Arrangements to be Considered</th>
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<tbody>
<tr>
<td>Large cities (Nairobi, Mombasa, possibly Nakuru, Kisumu)</td>
<td>• Large technical, managerial, financial resource requirements;</td>
<td>• Concession with international partner as majority shareholder in local operating company; mostly private financing of capital investment to complement cash generation;</td>
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<tr>
<td></td>
<td>• Large-scale capital investment requirements for water distribution and sewerage as well as production (Mombasa and Coast)</td>
<td>• Affirmage with international partner as majority shareholder in local operating company; mostly public financing of capital investment to complement cash generation;</td>
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<td>• Large informal settlements;</td>
<td>• Support to SSDP by main operator in informal settlements;</td>
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<td></td>
<td>• Complex political environment;</td>
<td>• BOOT for bulk water supply (Mombasa and Coast)</td>
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<td></td>
<td>• Minimization of municipal council interference;</td>
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<td></td>
<td>• Large turnover and high growth potential;</td>
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<td></td>
<td>• Attractiveness to international operators;</td>
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<td>• Regulation capacity</td>
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<tr>
<td>Secondary cities (Nakuru, Kisumu, Eldoret, Kericho, Eldoret, Nyeri, Taita, etc.)</td>
<td>• Significant technical, managerial, financial resource requirements;</td>
<td>• Affirmage with mostly local operators; mostly public financing of capital program to complement cash generation;</td>
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<td></td>
<td>• Increased attractiveness if economies of scale achieved through “syndication”;</td>
<td>• Performance-based Management contracts with mostly local operators;</td>
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<td></td>
<td>• Minimization of potential council interference;</td>
<td>• Franchising arrangements between international franchisor and local franchisee;</td>
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<tr>
<td></td>
<td>• Limited attractiveness to international operators;</td>
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<td></td>
<td>• Potential for developing local operators;</td>
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<td>• Address limited success to date of UWASAN.</td>
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<tr>
<td>Smaller towns and piped rural schemes</td>
<td>• Significant technical, managerial, financial resource requirements;</td>
<td>• Affirmage with mostly local companies; mostly public financing of capital program to complement cash generation;</td>
</tr>
<tr>
<td></td>
<td>• Increased attractiveness if economies of scale achieved through “syndication”;</td>
<td>• Performance-based Management contracts</td>
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<td></td>
<td>• Minimization of potential council interference;</td>
<td>• Franchising arrangements between international franchisor and local franchisee;</td>
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<tr>
<td></td>
<td>• No attractiveness to international operators;</td>
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<tr>
<td></td>
<td>• Multitude of point sources and piped systems;</td>
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<td></td>
<td>• Low ability to pay;</td>
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<td>• Low local capability;</td>
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<td></td>
<td>• Local “ownership” of project.</td>
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32. Implementation of PSP Arrangements. Experience worldwide has demonstrated that the approach for successfully implementing PSP schemes is to: (a) independently assess the best feasible option; (b) build a broad consensus among the many stakeholders on the
preferred option; (c) ensure the maximum transparency in selecting the private partners; and
(d) limit the perception of risks by private partners by developing a clear regulatory framework.

- an independent assessment of the best feasible option requires the participation of
technical, financial, economic and legal experts. The first step is to clearly define
stakeholder objectives and all constraints. Options are then evaluated against these
objectives and constraints. Particular attention should be paid to proper assessment of
demand for the WSS service, corresponding investment requirement and appropriate
service delivery mechanisms, and to the potential cash generation capacity of the WSS
operation. The selection of the preferred PSP option can be facilitated by organizing a
study tour to countries that have had to address similar issues;
- the building of a broad consensus among the various stakeholders including: the various
ministries involved, the management and staff of the existing utility, the consumers,
SSIs and NGOs concerned with the provision of the WSS service to the poor and
transparency issues, the media, the international and local private sector, the private and
international financing agencies; this often requires professional facilitation and
organization of communication and public relations campaigns targeted at the various
stakeholders;
- transparency is almost always achieved through open competition among pre-qualified
companies; the support of international agencies, such as the World Bank Group, to the
"privatization" process often provides the guarantee of transparency in the selection and
negotiation process; unsolicited bids, in particular for BOO/TOs for water production and
waste water treatment have to be treated with prudence and placed in the overall context
of the provision of WSS service; the Regulator should develop and oversee a process
which does not discourage unsolicited bids but which also brings competitive pressure
to bear on the final solution; and
- reduction of the perception of risk by private partners requires a clear regulatory
framework and in particular a clear definition of the role of the Regulator (see section H
above); most PSP schemes that can be envisaged in Kenya, would be regulated by
standard contracts initially to be drafted by the Regulator, with limited discretionary
power left to the latter.

53. The Way Forward. To achieve the benefits of PSP in the provision of the WSS
service, the Government should provide an enabling environment this will require:

- finalizing the Country Strategy Paper for the Water Sector and the re-drafting of the
Water Bill to take into account comments formulated in section H;
- supporting an active facilitation of the "syndication" of LAs to create WSSCs, in order
make WSS operations sufficiently attractive to potential private operators, both local
and international;
- preparing standard documents for the creation and operation of WSSCs;
- preparing clear mechanisms for setting WSS tariffs, guidelines for selection of private
sector partners and pro-forma contracts (together, these provisions constitute the
regulatory framework);
- preparing guidelines for financing of WSS projects from public funds that favor both
"syndication" and PSP through higher per capita grants and more attractive loan
conditions (section J);
- coordinating activities of development partners, and supporting initiatives that support
PSP options (and do not maintain the status quo);
• using the demonstration effect of "privatization" of the WSS service in Nairobi and the Coastal Region, and other large cities (Nakuru, Kisumu...), through detailed preparation and transparent implementation, and
• encourage the private sector to develop initiatives by indicating what sort of proposals would be welcome and by establishing clear procedures for dealing with unsolicited proposals.

54. **PSP and the Poor.** Private sector participation is often associated with profit motive and therefore seen as negative for the poor. However, private participation offers the opportunity for improved efficiency in service delivery leading to a reduction in the high prices currently paid by poor households under poorly managed public sector. Recent experience regarding PSP and the poor, has shown that a well designed transaction offers opportunities for improving access to the poor through proper assessment of demand, consumer participation in identifying service levels, and the use of performance targets to ensure that the poor are explicitly targeted in service expansion plans. The role of Government in creating an enabling environment for PSP is key, in particular, the policy framework for service delivery to informal settlement improvements, tariff setting policy and technical standards for service delivery should be clarified.

55. In extending services to the poor, private operators would be required to extend networks and increase the number of connections. However in informal settlements where access is limited due to land tenure or other concerns, private operators would need to work with alternative providers such as Small Scale Independent Providers (SSIPs) and community organizations who are currently the main providers of service to the informal settlements. Efforts would need to be focussed on subcontracting service delivery functions to these actors, and providing a legal framework for them to operate in. This would include licensing the retailing of water from independent boreholes, bulk sales to community organizations, water kiosks and vendors (particularly tankers), and in the sanitation sector would entail the de regulation of septic tank emptying services. It may also include the development of franchising and leasing arrangements for public facilities such as public toilets and water kiosks. It is possible to build on several successful experience in large cities (Buenos Aires, Manlala, Casablanca) where PSP schemes have recently been implemented.

J. **Financing the Development of Piped Water Supply and Sanitation Sector**

56. **Establishment of WSSCs.** WSSCs should be established on the basis of detailed business plans. To ensure financial sustainability, a WSSC should have sufficient working capital. The need to finance initial working capital, is part of the "start-up financing package" in addition to grants and loans for the rehabilitation and extension of WSS systems should be assessed thoroughly. In appraising business plans, WASTCOM should ensure that:

• a detailed analysis of outstanding customer arrears is carried out; accounts deemed uncollectible should be written off;
• short term debt is transferred only if sufficient working capital is provided for repayment in a reasonable time frame;
• fixed assets are transferred, either as legal owner, in holding or in trust for the purpose of tracking them in the accounting system; valuation of fixed assets should be required within the first three years of the WSSC operations; and
57. **Protection of WSSC Revenues.** Cash transfers by WSSCs to LAs must be transparent, and in strict accordance with the "Agency Agreement". Clearly identified surcharges on the WSS tariff are more appropriate than payment of dividends, at least during the initial stage of operation of the WSSC; this would give the WSSC the possibility of offsetting amounts collected for transfer of surcharges against any unpaid WSS bill by the local government. WSSC should not be required to transfer funds to a National Water Development Fund, except in the form of a clearly identified levy.

58. **Cash Generation.** Well run WSS utilizes finance development of the service mostly through cash generation; this should be achieved through combination of cost savings, improved collection and, if necessary, tariff increases. To limit reliance on external financing WSSCs should be requested, during the preparation of their initial business plans, to demonstrate that they can generate sufficient cash to cover an average 20 to 30% of their capital investment program on a three year rolling basis, for the rehabilitation and extension of the distribution and sewers networks; rehabilitation of production and waste water treatment works can be financed by grants and loans.

59. **Private Equity and Commercial Debt.** While the availability of private sources of financing should be investigated in priority, expectations as to the possibility of raising sufficient private equity and commercial debt under conditions compatible with the economy of the Kenyan WSS sector should be limited, based on the recent African experience. Large cities with private operation by a joint venture of international operators and local investors and industrial and tourist enclaves are prime candidates for attracting investors of the active Kenyan financial market.

60. **Grants and Concessionary Loans from Government.** The Government will remain the main source of financing for rehabilitation and extension programs and technical assistance in most cases. Funds would come from development partners, either through earmarked financing for specific projects, as it has been the case in the past, or through "WSS Sector Adjustment Credit (SAC)", or "Budget Support" operations. The latter types of operations appear well adapted to the financing of WSS projects for smaller towns and large rural piped schemes. Significant funds could also be generated for the WSS sector by a future "Highly Indebted Poor Country (HIPCO)" initiative if implemented in Kenya. In case of WSS SAC, or Budget Support operations, a "WSS Fund" would have to be established within MoFP. This WSS Fund would transfer both grants and loan funds to WSSC whose financing applications have been appraised by MoLG and agreed by the Fund. Government grants can be considered for initial rehabilitation and extension programs; a price cap per connection or per capita should be imposed. On-lending conditions should be carefully selected to match the repayment capacity of the WSSC. In order to encourage implementation of economies of scale through "syndication" of local authorities as well as PSP, incentives should be built both in grant conditions (through higher per capita allocations) and loan conditions (through longer repayment and grace periods or lower interest rate).

61. **Financing Applications by WSSC and Appraisal by MoLG.** In the case of specific projects (large cities, for example), appraisal will be carried out by the external financing agency jointly with the Government. In the case of WSS SAC and Budget Support operations, the Government will be responsible for carrying out appraisal of individual WSS
projects, along a procedure to be agreed with external financing agencies. Once WSSC
business plans have been approved by WASTCOM, WSSC requests for grants and
concessionary loans would be appraised by MOLG for presentation to the WSS Fund. A
standard “Application Format” would be developed by WASTCOM and MOLG; it should
include, in addition to technical justifications and implementation arrangements, a detailed
analysis of the past financial performance (financial statements and audit reports) and a five
year financial forecast. Additional revenues expected to be generated by the proposed
project and the need for adjusting the WSS tariff should be identified. Detailed appraised
procedures should also be drafted by WASTCOM and MOLG. In appraising projects,
MOLG should consider technical and financial justifications, implementation arrangements,
and compliance with guidelines. MOLG should prioritize presentation of projects for
financing by the WSS Fund of those projects that yield high rates of return, aim at achieving
economies of scale (through syndication and PSP) or have a particular focus to improve the
WSS service to lower income groups. WSSCs should be assisted by qualified consultants
for the preparation of these applications. MOLG should also be assisted by specialized
consultants to appraise financing applications.

K. Building the Capacity of the Pipel Water Supply and Sanitation Sector

62. Capacity Building in WASTCOM. Implementation of the reforms will require
capacity to be built in WASTCOM for developing the various standard agreements,
guidelines and procedures underlying the reform process. These include hand-over
procedures for WSS schemes, “agency agreements”, customer contracts, procedures for
selecting private partners, contracts between WSSC and private operators, SSIPs and
communities and detailed procedures for setting WSS tariffs. WASTCOM will also need to
prepare guidelines for preparing and monitoring WSSC business plans, including
participatory assessment of demand for the WSS service, planning of rehabilitation and
extension of WSS facilities, operation and PSP arrangements, environmental and social
assessment and financial and economic analysis; and procedures for appraising and
reviewing business plans, financing and tariff adjustment applications. WASTCOM should
be supported in this capacity building by internal advisor(s) and external specialized
consultants.

63. Capacity Building in WSSCs. Apart from building staff capacity in the WSSCs, the
main capacity building support will be in the preparation and updating of business plans
required by WASTCOM. Support from external engineering, financial and management
consultants is likely to be necessary to achieve this.

64. Capacity Building for Sector Personnel. In order to enhance the capability of
sector personnel to perform their tasks, it will be necessary: to support the development of
appropriate training programs to meet the needs of commercialization and private sector
participation. KEWI should develop training programs at the technician and vocational
levels, and add managerial and commercial programs within a Water Sector Qualification
Framework (WSQF). WSQF is increasingly being adopted internationally as the basis of
certifying vocational skills and assessing levels of competency in performing WSS jobs.
Where personnel achieve the performance standards required for the job, a nationally
recognized certificate of competence is awarded. KEWI could fulfil the role of the national
body to award the certificates and maintain assessment standards. Other training
institutions, including NETWAS and those in the private sector, would be expected to
develop appropriate training programs. The support of external advisors and/or linkages to
international training institutions already operating a similar system would be required to
develop WSQF to meet the particular needs of the Kenyan WSS sector. Also, in line with the National Policy, KEWI should also develop the capacity to undertake applied research in developing solutions to practical problems in WSS, in particular the application of appropriate technologies.

65 Capacity Building in MoLG. MoLG will focus on the co-ordination of the identification, preparation, appraisal and prioritization of WSS investment projects. During the transition period most projects will be identified as part of the preparation of viability and business plans for the WSSCs. However, it will be necessary to co-ordinate the engagement of consultants to carry out design studies and construction supervision. Support from external consulting engineers is expected to be necessary to handle the high work load during the transition process.

66. Capacity Building in MENR. In parallel to the transitional arrangements for the urban WSS and the change of responsibilities of MENR, it will be necessary to provide technical support for the establishment of an effective WRM capability for the country. Such support is essential to meeting the WRM component of the National Policy, within which the WSS sector is one of the key users, and thereby contribute to the sustainability of the reform process. The capacity requirements for WRM will be reviewed under the proposed WRM Strategy.