

**FACTORS INFLUENCING MANAGEMENT OF
COMMERCIALISED URBAN WATER SERVICES IN KENYA**

PETER NDUNGU MUIRURI

**UNIVERSITY OF NAIROBI
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DECLARATION

This management project is my original work and has not been presented for a degree in any other university.

Signed  Date 5th Nov 2003

Peter Ndungu Muiruri
Candidate

This project has been submitted for examination with my approval as university supervisor.

Signed  Date 6/11/03

J. K. Maalu
Department of Business Administration

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ACRONYMS

GoK	Government of Kenya
LA	Local Authority
MOLG	Ministry of Local Government
NWCPC	National Water Conservation and Pipeline Conservation
NWMP	National Water Master Plan
MWRMD	Ministry of Water Resources Management and Development
NWSS	National Water Services Strategy
SP-1	Sessional Paper No.1
UWASAM	Urban Water and Sanitation Management Project
WSB	Water Services Board
WSP	Water Supply Provider
WSRB	Water Services Regulatory Board

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DEFINATIONS

Water Services	Water supply and Sewerage services
Sanitation	Sewerage disposal
Urban Area	Towns centres with population greater than 25,000

ABSTRACT

Water not only sustains life but also is an essential ingredient for all social and economic developments. Provision of water services particularly in urban areas, where the demands are high and the water resources very limited is a big challenge in all countries. The Government of Kenya in appreciation of the need for competitive service delivery in this sector paved way for commercialisation of urban water services in the country in mid 1990s. Though commendable improvements have been made in some of the commercialised water services, poor service delivery persists in others.

This study conducted in the period between May and August, 2003 had the objective of determining the important factors that influence management of the commercialised urban water services in Kenya. To achieve this objective, data on all the eight commercialised water services was collected through structured questionnaires and personal interviews held with senior management staff of the agencies managing these water services and staff involved in steering the commercialisation process of water services in Kenya.

From this study, important factors that must be effectively addressed for improved performance of the commercialised water services were identified. Financing was identified as a major factor that inhibited the commercialisation strategy implementation. Financing was found to affect the institutional capacity development and water supply operations improvement. Success in commercialised water services would only be achievable with substantial Government budgetary allocation, donor agency support and private sector partnership in the initial phase of commercialisation. Capability gaps were also identified in the human resources. This gap is permeated through a fundamental mistake of transferring almost all staff from the previous managing agency to the private water companies, as opposed to hybrid with sourcing from the competitive market. All the issues that influence management of the commercialised water services revolve around these two key factors; Financing and Human resources. It is hoped that the results of this study will contribute to the onerous task of quality water service delivery to all urban areas in this country.

CHAPTER 1: INTRODUCTION

1.1 Background

Water is an important natural resource, which affects all aspects of life. Experience has proven that supply of clean water to an individual is the foundation on which rests the health and economic progress of the community (Sessional Paper No.1, 1999). Based on this principle, the Government of Kenya committed itself to huge investments in water services development and management in order to accelerate both economic and social development in the country. Policies and strategies in the water sector have in the past been built around this theme, which is essentially a none-commercial approach to water development and management.

As a direct consequence of the policies governing the water sector the sector became the preserve of the public sector, mainly through the Ministry of Water Resources Management and Development (MWRMD), Ministry of Agriculture (MOA) and the Ministry of Local Government (MOLG) at the Local Authority (LA) level. Activities in the water sector have been closely guided by the MWRMD long-range plans, the National Water Master Plan (NWMP). The first NWMP, which was launched in 1974, had the express aim of ensuring potable and affordable water was made available at reasonable distance to all households in Kenya by the year 2000. All water supply activities in the country were geared towards achieving this goal (Sessional Paper No.1, 1999).

Management of water services in urban areas has either been under MWRMD, LAs or the state corporation, National Water Conservation and Pipeline Corporation (NWCP). The latter two are semi autonomous organisations. MWRMD is, however overall responsible for water resources management and licensing of Water Supply Providers (Seureca, 1998). In almost all cases urban Water Supply Providers (WSPs) have performed sub-optimally. This could be attributed to policy and water supply regulations constraints (Sessional Paper No. 1, 1999). The Integrated Water Resources Management Strategy (2001) estimates less than 30% of urban population is supplied with both water and sewerage services. This strategy paper also identifies financing of water services, as the most critical constraint in the sector. Seureca (1998) estimates that in most of the urban water supplies water sales revenue is less than 60% of the recurrent expenditure. Seureca (1998) further explains that these water supplies are over dependent on the central government and donor grants to meet their operational financial requirements.

In the mid 1980s, the government made major changes in policy and the general outlook towards water supply. The current policy, explained in the Sessional Paper No. 1 of 1999, requires that the full cost of urban water supply and sanitation and the recurrent costs of rural water supply should be recouped through water sales. This policy has been further strengthened by legislation; Water Act 2002, which provides for appointment of alternative WSPs from the private sector, where the existing public WSPs are unable to deliver services to required standards. In line with this, several Local Authorities have proceeded to commercialise their water supplies. This is aimed at enhancing productivity and competitiveness by

optimising on the returns on the water supply infrastructure (Cowen, 1996). Commercialisation however, is no panacea for water problems.

The water sector environment is stable, characterised by what Mintzberg (1979) described as centralized bureaucratic structures, the classical organization type that rules on work processes for coordination. Faced by dire need for change, the Government initiated the urban water services commercialisation strategy. As Ansoff and Mc Donnell (1990) stated, under conditions in which rapid and discontinuous changes occur in the environment of the organizations, established traditions and experiences no longer suffice for coping with the new opportunities and threats. As the commercialised urban water services strive to attain the desired competitiveness, numerous obstacles both internal and external to the firms must be overcome in relating the new organisations to the environment.

Public-Private Infrastructure Advisory Facility (2001) explains that unlike other infrastructure, water and sanitation services are natural monopolies, which imply that it is uneconomical to duplicate the associated infrastructure. Monopolies whether public or private, often yield lower productive and allocative efficiency than competitive firms (Cowen, 1996). The monopoly aspect of water supply provides a strong need for a regulatory regime that provides marginal incentive for private sector participation, which has profit maximisation objective. The Water Services Regulatory Board (WSRB) is mandated to regulate the water services sector. This is a task it must skilfully perform to attract investors from the private sector as well as safeguard consumers against undue exploitation.

As Pierce and Robinson (1991) explains, management decisions are evaluated in the light of values and priorities of influential individuals and groups, often called stakeholders. In water management, the stakeholders are so varied that their involvement may actually cripple any meaningful progress, as Mukundi (1998) stated. The prevailing none-commercial view of water services by stakeholders could inhibit commercialisation benefits as various stakeholders lobby for favourable decisions through the Water Supply Regulatory Board. Stakeholder influence is highly dependent on the ownership structure for the commercialised urban water services, as this determines the obligations, risks, and framework within which the private water services companies work.

Management is a form of work that involves coordinating an organization's resources towards accomplishing organizational objectives (Rue and Byers, 1992). Koontz and O'Donnell (1984) also defines management based on managerial functions as consisting of planning, organising, staffing, directing and controlling. Concerns such as consequences of utility employees, loss of control of a strategic sector and price increases and the impact on the poor in the commercialised urban water services must be carefully integrated within the management process (Cowen, 1996). These factors are closely linked to the nature of water as a socio-economic product and present unique challenge to managers in this sector.

1.2 Statement of the Problem

Increased demand for water resulting from population growth and economic developments has resulted in unparalleled developments in the water sector. This has resulted in huge inadequacies in the existing water supply providers. All urban

areas in Kenya suffer from inadequate provision of water and wastewater disposal (Seurecca, 1998). Unreliable water supply and water rationing in estates and limited sewerage coverage are typical of urban area problems.

It is generally observed that water problems remain persistent even when the water sources are full and running over and the infrastructure in place is adequate (Okun, 1991). Commercialisation of selected water supply schemes, to address the public sector institutional setbacks, has taken a lukewarm pace, the anticipated benefits of the private sector robustness and efficiency notwithstanding (UWASAM, 2001). Public-Private Infrastructure Advisory Facility (2001) observes that while the Government has firmly committed the country to infrastructure sector reform, there is inevitably some reluctance in certain quarters to the consequent loss of direct control and there is strong temptation to re-exert this control through manipulation of regulatory system. This presents managers of commercialised urban water services exceptional challenge from the macro environment.

Water resource has been and is still viewed as a social-economic commodity to which everyone has a right irrespective of his or her income. The new water policy enshrined in the Water Act 2002 states that water supply providers must now meet the sector requirement for self-sustenance. The urban water services strategy of commercialisation, which has been adopted by several Local Authorities, in pursuit of the new policy, presents conflicts between the private sector philosophy of business for profit and the social-economic aspect of water. This strategy could be stifled by costly mistakes of adopting management practices without due consideration of implications of all factors affecting the sector.

The arrangement adopted in water services commercialisation has significant implications on management performance of the water supplies. The Local Authorities preference is to adopt the structure that guarantees greatest control over the sector and one that is also most politically acceptable (UWASAM, 2001). Such a structure works against the desired commercialization spirit in the sector. Selection of the appropriate commercialisation and management structure is critical for the full realisation of the anticipated gains from the commercialised water supplies. There is therefore eminent need to determine implications of commercialisation arrangements made on water services management.

Commercialised urban water services require situational application of management practices to accommodate all factors from the internal and external environment, within the context of the specific water service scheme. Mukundi (1999) in his study on Commercialisation Process of Urban Water Services in Kenya recommended further research on application of strategic planning and management of infrastructure services in Kenya. This research inline with these recommendations seeks to study management of commercialised water supplies in Kenya. The research intent is to determine the important factors that affect management of commercialised urban water services in Kenya with an aim of making appropriate recommendation for improvement of the same.

1.3 Objectives of the Study

The objective of this study is to determine the factors that influence management of commercialised urban water services in Kenya.

1.4 Importance of the Study

The study is important, as it will benefit the following;

i) Stakeholders:

The findings of this study will provide useful information for developing practical strategies for commercialisation of urban water services.

ii) Water supply managers:

Lessons drawn from this study will lead to improved management practises, which will translate to improved water services in urban areas.

iii) Current and potential investors:

Current and potential investors will be better informed on prospects of investment in the water services sector.

iv) Researchers and Learning Institutions:

This will add to the knowledge on water supply management.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The literature review aims at capturing issues and experiences from past studies on commercialised urban water services. To understand the position of the commercialised urban water services within the context of the broader urban water services environment, the literature review was done on the urban water services sector studies. This was also found necessary from the need to supplement the limited literature available on commercialised urban water services in the country. To appreciate the nature and complexity of the water sector the literature review capture the issues identified within the context of human, organisational and environmental factors interactions and does not attempt to fragment these issues in line with specific management functions.

The literature review starts with definitions of commercialisation and privatisation as regards the water services sector. An over view of the sector, the players in urban water services provision and their general performance, is then captured. This is followed by review the regulatory framework, the philosophy governing the sector and discussion of the key stakeholders. The literature on abovementioned issues culminates in the discussion on paradigm shift in water services sector. This section is followed by review of literature on commercialisation arrangements and ends with highlights on the advantages and disadvantages of the water services commercialisation

2.2 Commercialisation and Privatisation Definitions

Different authors define privatisation in water services sector differently. UWASAM (2001) uses the term privatisation in the context where public sector ceases to own any part of services or utility, which means outright sale by the Government following a valuation of utility worth and prospect. UWASAM further defines the term corporatisation as the formation of autonomous utility company to take charge of water services.

Biwater (1996) on the other hand views privatisation to mean the same thing as corporatisation. Biwater describes privatisation or corporatisation as change of a public water supply provider into a corporation or, a private company specifically for the purpose of taking over responsibility for the water services is established. According to Biwater ownership of assets does not constitute privatisation and the government can retain these. According to the UWASAM (2001), what Biwater (1996) defines as corporatisation is essentially commercialisation. UWASAM in explaining commercialisation however stresses on evidence of private sector efficiency and management practises as the determinant of commercialisation.

The World Bank, which has great influence in the water sector, does not exclusively advocate for privatisation of water services. The World Bank argues water supply providers should seek to optimise their effectiveness by drawing specialized services when and as required from the private sector. In line with this, Cowen (1996) emphasises the need for Governments to put in place necessary legal and regulatory measures for private sector participation.

2.3 Overview of the Water Sector

2.3.1 General overview

Water in its many aspects is now recognized as perhaps the major resource issue for the 21st century. During the coming century, this will require constructive attention and action by leaders, politicians and technical specialists alike if water issues are to be resolved (Reindinger and Miller, 1998). The water supply sector is part of the broader water sector, which incorporates water resources management. Developments in water services sector must fit in the overall water sector framework for economic, sustainable and balanced national development.

Past investments in the water sector were not based purely on commercial market evaluation techniques. The principle investment objective was to improve the people's quality of life and initiate economic development. For this reason water has been heavily subsidized to finance the costly infrastructure and high recurrent cost, which by far exceeds the water sales revenue. As a result of the increasing public fiscal burden and decreasing budgetary allocation for water development, urban water services have continuously degenerated. The Integrated Water Resources Management Strategy (2001) estimates 70% of the urban population in the country is supplied with water and about 28% with sewerage services.

Commercialisation of the water services offers to restore the otherwise declining performance of most urban water services. This option is coupled with high risks arising from the social, economic and political entanglement of the product to be supplied. The prospects for profits can improve with appropriate ideological change and cooperation between stakeholders, consumers, the public and private sector to

improve the performance of the urban water utilities (Riviera, 1996). Appropriate management decisions in selection of alternative courses of action based on an assessment of key external and internal factors are prerequisite for success. Informed estimates of the impact of these complex and dynamic environmental considerations through proper analysis ensure an organization's success into the future (Pearce & Robinson, 1997).

2.3.2 Urban Water Supply

The Ministry of Water Resources Management and Development is overall mandated by law to oversee the management of water supply in the country. The ministry, in accordance with the new government policy, should gradually change its role to regulation and policy guidance in the water sector. In most urban areas, the ministry has handed over the management of water supplies to Local Authorities, except where the Local Authorities do not have adequate capacity to run the water supplies. Revenue generated by MWRMD from water sales is less than 20% of the ministry's recurrent expenditure (MWRMD Printed estimates, 2002).

The principal urban water supply provider is the Local Government through Local Authorities, which are autonomous self-governing entities. Of 147 councils, 30% have taken up water supply provision activities. The findings of Seureca (1998) show that revenues collected by almost all Local Authorities do not meet the cost of water production and supply. This situation is aggravated further by lack of autonomy in the water departments of particular Local Authorities. Financing water activities in the Local Authorities is heavily supplemented by the Central Government.

The National Water Conservation and Pipeline Corporation (NWCP) was set up in 1988 with a long-term objective of implementing and managing specified gazetted projects in a self-sustaining manner at an affordable level. NWCP mainly supplies bulk water to Local Authorities. In some cases, it also directly supplies water to consumers. Creation of the corporation could be viewed as the first step by the government in getting out of direct involvement in water supply. NWCP meets 87% of its total recurrent expenditure from water sales revenue. The average water production is estimated at 63% of the demand (Seureca, 1998).

Private water companies manage eight water supplies in urban areas. Private water companies managing water services, is a relatively new concept in Kenya, with the earliest schemes having been commercialised in 1997. Not much documentation has been done on performance and management of these water supplies. The current performance of water supplies run by MWRMD, NWCP and LAs raise doubt whether these supplies will be able to achieve the self-sustenance target in urban water supplies under their current set-up (Seureca, 1998).

2.4 Water Supply Regulation

The quality of intervention that the government builds is a concern in the water sector. Regulators may tend to intervene excessively in the market place for example by interfering with investments and managerial control (Rievera, 1996). Cowen (1996) highlights regulatory arrangement as the most important part of commercialisation framework as it protects the consumers from monopolistic pricing and force health, environmental standards and subsidy regimes to ensure access to services for the disadvantaged. In Kenya, every water resource in the

country is vested in the state, subject to any rights of users granted by or under the Water Act or any other written law.

Water supply regulations have recently been reviewed in the Water Act 2002. The New Act provides for the establishment of a Water Services Regulatory Board (WSRB), which in effect paves way for private sector participation in water sector as Water Supply Providers (WSPs). WSRB will be responsible for licensing WSPs for setting and enforcing water supply standards and giving guidelines on setting the prices of water. The main thrust of establishing the WSRB is the empowerment of water consumers and creation of opportunities for private sector participation in the water sector, either as partners or as principal agents. Through the WSRB, water consumers can lodge a complainant against WSPs and penalties levied to the WSPs. Depending on the nature of the offence, WSRB can transfer the license to another WSP (Water Act, 2002). Selection of most suitable contender for water supply provision will be based on competitive bidding criteria.

2.5 Water Supply Philosophy

Lack of basic water and sanitation services leads to a number of problems. For example, although water borne diseases, particularly those that cause diarrhoea among infants and children, are completely manageable in the industrialized world, they exact a heavy toll in the less developed countries. Also women and children in these countries must spend hours each day fetching water for the home, time that might be put to more socially economically productive uses (Okun, 1991). This view of water as a solution to socio-economic problems has been the overriding philosophy in water supply development in Kenya for many years.

Water is almost certainly the infrastructure that has the greatest direct impact on economic development and quality of life (Public-Private Infrastructure Advisory Facility, 2001). In the planning phase, of the Government water services schemes, cost benefit analysis of projects is done with a significant weighting of social benefit. These take the form of improved health, time saving and spin offs in economic activities. WSPs have no control over these socio-economic factors and they may not translate to direct tangible benefits to the WSPs.

Prioritisation of water development projects is often heavily influenced by politics, and not only the economic justification. Even in lending agencies the driving force for granting or lending may be political, diplomatic, or commercial. The grants and loans may be given irrespective of a country's expressed needs and little attention is made on whether the country uses the funds effectively (Okun, 1991). Frederiksen (1994) explains goals, resource allocation and programming are formulated through the political process and that the conditions encountered in the country's water sector reflect the political demands far more than any factor. The political factor in water development undermines the long-term sustainability of many projects, which have been implemented.

Quite a number of implementing agencies like World Health Organization (WHO), International Food and Agriculture Development (IFAD), United Nations Children's Education Fund (Unicef) and World Vision are quite active in the water service provision, though water provision is not their core function. Involvement of these agencies in water provision has also influenced the water consumer's perception of water as a means to achieve a wider goal. Right from inception, water

supplies adopts a non-commercial philosophy. This continues to haunt WSPs' efforts to change this perception for a long time.

The argument against commercialisation of water services has been based on the concern for the poor, whose lives would be negatively affected by higher water prices. When water and sanitation services are not provided due to inefficiency or infrastructure limitation, the poor end up paying much higher prices for water from vendors (Zaroff and Okun, 1984). In Nairobi water kiosks sell water at Ksh 1 per 10 litres compared to an average of Cts 30 per 10 litres for consumers with individual connections. A social economic survey for Garissa town carried out by Seureca Ingenieur Conseil and Cas Consultants in 2001 estimated consumers in this town spend on average between Ksh 1,000 and Ksh 3,000 monthly on water. Companies selling bottled water are also on the increase. These exploit the opportunity created by fear of consuming poor quality tap water. Bottled water sells at about eighty shillings per litre.

2.6 Stakeholders in the Water Sector

Stakeholders are individuals or groups of people who are affected by activities of a firm and who are active or inactive by choice, in trying to influence decisions of the firms to favour them. Stakeholders' influence is a significant determinant of management decisions in the water sector. Their involvement should not be simply on adjunct to the aspect of water sector strategy development. It should be an integral part of the process.

Campbell and Alexander (1997) explain that stakeholders are active not just because they have a commercial relationship with the company, but because they are greedy, they want to get as much as possible out of the relationship. The history of business and society clearly suggests that when business ignores its responsibility to its stakeholders, society tends to respond through government to restrict business autonomy. Business organizations must therefore recognize all their responsibilities if they want to have the autonomy essential to effectiveness and efficiency (Wheeler and Hunger, 1996).

Employees, who are the most vital resource, are key stakeholders in any organisation. Employees play a vital role in influencing organisation's decisions. Through formal and informal groups, they pressure top management to adopt their perception of issues. UWASAM, (2001) notes that commercialisation models in which the private company adopt most of its staff from former managing agencies creates the challenge of changing the attitude of staff from former managing agencies mind set and culture, to private enterprise way of thinking.

Water consumers who are essentially the customers are important stakeholders not only because they pay for services but their goodwill and support is also essential for success of the water supply companies. The consumers cover the whole spectrum, from the poorest to the most affluent, large consumers like industries and commercial enterprises. Water is an essential commodity and all consumers must be served. Industries and commercial enterprises must be given adequate consideration as they provide employment, the poorest of the consumers also must be served, as

they need the water for life. The affluent consumers argues, they are willing to pay for a reliable service of quality water, why can't it be provided if they can pay for it.

The primary role of management is to earn profits and dividends for shareholders in return for the capital investment and risk taken in providing services or products to customers. Shareholders are stakeholders who have invested their money in anticipation of monetary returns on investment. Shareholders would always try to minimize expenditure on costly responsibility to society and inordinately increase water prices to maximise profit (Biwater, 1996). On the other hand commercialisation arrangements where the private water companies are wholly owned by Local Authorities or by MWRMD provides leeway for public sector interferences in management (Mukundi, 1999).

Hogetts (1990) says that all organisms must relate in some way to their environment. If they cannot coexist, changes occur, the environment is altered and the organism dies. Water is an important constituent of sound environment conservancy. Exploitation of water resources and management of wastewater resulting from water supply must be to the satisfaction of environmentalists. This also safeguards against depletion of future water sources in terms of quality and quantity.

Seureca (1998) identified NGOs as important actors in supplementing government efforts in the provision of water and sanitation services. Actors in this category include organisation like Habitat, Red Cross and World Vision. Donor agencies like German Technical Agency (GTZ) and Swedish International Development Agency

(SIDA) also fit in this category. These agencies are active in water activities that are aimed at improving quality of life and will invariably advocate for water provision to the poor at affordable rates.

2.7 Water Services Commercialisation; a Paradigm Shift

The water sector may ideally represent what Wagacha and Okwach (1996) describe as a sector with revenue generating activities and a policy, which stifle growth by restricting investment and consumption while expenditures have remained largely uncontrolled. The policy of subsidizing urban water services development was sustained by economic successes, which characterised the period 1963-1972 when the GDP grew at more than 8% annually. Between years 1972 –1982, growth slowed to an average of 4.8% and by the year 2000 this had declined further to 2% (Wagacha and Okwach, 1996). In 1974, the government established a fully-fledged Ministry of Water and systematically took over self-help and Local Authorities' water supplies, believed to be for better management. Developments in the economy, which followed were not accompanied by policy adjustments in the water sector to suit, and ultimately culminated in policy failure. This is characterised by declining performance in the water sector.

Commercialisation of water supplies in Kenya is aimed at salvaging the situation in most urban water supplies, which is threatening to go out of hand. Commercialization gives leeway for actors in this sector to trade in water for profit. This is a major shift in the water supply philosophy. This nature of change is described Johnson and Scholes (1999) as a paradigm change.

Water sector is multi-ideological and changes in the firm's system and structure need to be made which provide the competence and capacity for dealing with societal and environmental challenges. Ansoff and McDonnell (1990), explains that the information system, which serves today's managers inform them about economic trends, technology competition, consumers and profitability preference. These information systems do not offer understanding of other ideologies, particularly the political process by which strategies are implemented. The view that water should be provided almost at no cost is so strongly engraved in the minds of many Kenyans. This has been reinforced by the managing agencies laxity where they continue to supply water to consumers even when payments are not being made. The Governments' huge subsidy to the sector has also significantly contributed to this view.

United Nations Environment Program (UNEP) in its specific component on water has recommended a "Fair Share Approach" to the supply of water, emphasizing the sustainable supply of water to the poor majority through United Nations System Wide Special Initiative on Africa (Smith, 1996). The Country Strategy on Integrated Water Resources Management (2002) diverges from this approach, and asserts that water finance needs are to be sourced from public revenue; those who benefit directly from services and those whose actions are a cost to the government.

Water sector is complex and multifaceted and requires responses that adequately balance the diametrically opposing private sector capitalism and societal responsiveness. Water services commercialisation should be seen as trading the benefits of the improved water services at a fair price to all consumers. Measures

must be put in place to check situations like in Britain where the water companies are under heavy criticism, as reported by the Sunday Times of 16th June 1991, for using their financial resources to buy properties around the world while neglecting their pollution control obligations.

Subsidizing water supply is not a unique feature in developing countries only. In the developed countries, water, particularly for agriculture is heavily subsidized, The Tennessee Valley Authority, probably the most magnificent demonstration of effects of comprehensive water resources management in socio-economic lives of people remains heavily subsidized even today (Reindiger and Miller, 1998). However water cannot continue to be the sacred cow of economic development. A.P. Sloans Jr. (1965) argument that if returns are not satisfactory the resources should be allocated elsewhere and that the manager should not have any sentimental attachment to the product, the market or the customer can also not apply now, or in the future where the society continues to pressure organizations to become servants of the market.

The key drivers of change in paradigm in the water sector are;

- Change in government policy, driven by financial constraints.
- Affluent consumers, pressing for better services.
- Donor community argue, this is the way forward: it has been tried and tested in their countries, and it works.
- International private and local private companies lobbying to create new opportunities for investment.

Firms require a certain degree of freedom that will permit the firm to optimise its contribution to society. Uncontrolled profit seeking leads to what Theodore Roosevelt called 'smash and grab imperialism'. Firms must supplement their profit seeking objectives with provision of services to inherently non-profitable areas maintaining the welfare of the community (Ansoff and McDonnell, 1990).

2.8 Water Services Commercialisation Arrangements

Based on the UWASAM (2001) definition of commercialisation as the outright sale of water services or utility by the Government to the private sector, three distinct commercialisation arrangements can be adopted; a private company fully owned by the former managing agency. This option provides the former managing agency with the greatest control over the private company. The second option is a private company with all or majority shares sold to a few or single individuals and the third option is a public owned company with shares floated in the stock exchange. The best option to adopt is dependent on the local conditions;

Biwater (1996), as mentioned earlier, does not view water services commercialisation as limited to infrastructure ownership. Contractual arrangements or concessions can be used by the Governments to work with the private sector to operate and develop their water infrastructure. Biwater (1996) identifies the typical arrangements for private sector participation as service contracts, management contracts, leasing and Building-Own-Operate-Transfer water services infrastructure.

Service contracts secure private sector assistance for performing specific tasks for short periods, six months to two years. Management contract transfer responsibility

for operating and maintenance of water services to private sector, at a fee. In lease arrangements the private firm leases assets of a utility from the owner and takes responsibility for operation and maintaining them. The leaser effectively buys the rights to the income stream or and assumes commercial risks for the operations. Responsibility for financing and investing still remain with the infrastructure owner. In Build-Own-Operate-Transfer or concession a private entity is licensed to finance, build, own and operate a facility and charge for its use and then transfer the facility to Government after pre-agreed period of time (Cowen, 1996).

2.9 Benefits and Shortcomings of Commercialisation

Commercialisation is broadly advocating a move from hierarchical bureaucracies to customer centred adhocracies. This would require appropriate strategies, which are a force for good (Koch, 1995). Rivera (1996) identifies three factors which have contributed to private sector participation in the public sector, which also apply in the water sector as: Private sector participation preclude a macroeconomic or fiscal crisis. Secondly this would address the pervasive discontent with performance of state owned enterprises. The third factor is that it offers a means of facilitating repayment of internal debt both through proceeds expected from the sale of the publicly owned enterprise and through reduction on governmental financial support for public services

Commercialisation offers opportunity for creation of an entrepreneurial organization, which essentially is a learning organization. Such organizations must be able not only to respond to opportunities and challenges but must also reflect the outcomes that result from the response and modify future responses in light of

experience (Wickham, 1998). The full benefits of total quality management can be achieved through commercialisation; these benefits include continuous cost reduction, continuous quality improvement and continuous improvement of the organization, (Srivastava, 2000), which requires, structure, culture and strategy formulation and effective implementation. What Thompson (1994) describes as a strategy well matched to the companies situation, both internal and external factors and its own capabilities and aspirations can be more easily attained in private sector set up. Commercialisation further strengthens decentralization of all management issues to the operating units, which is essential for effective implementation of scheme specific strategies.

Commercialisation has typically been made because government sees benefits in requiring such organisations to become more sharply focused on markets and specifically, on customer requirements and competitive pressure, (Johnson and Scholes, 1999). Under the new water law, water supply providers will be required to state targets they intend to achieve, as precondition for licensing. Performance will therefore be guaranteed contractually.

Biwater (1994) highlight two major negative outcomes that would result from commercialisation. Once fully commercialised, the major lending agencies such as the World Bank are not willing to continue funding water facilities at low interest rate loans, but at commercial rate. Water tariffs must also increase annually in line with inflation and they must be sufficient to cover capital expenditure.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This research study aims at determining the factors influencing management of the commercialised urban water services with an aim of making recommendations for improving these services. In this chapter, details of the research method used and justification, the population and sample of the study are discussed. Data collection methods used and data analysis techniques applied is also explained in this chapter.

3.2 Research Method

A cross-sectional survey across the commercialised urban water services in Kenya was used in carrying out this study. Cross-sectional survey was selected as the study aimed at determining both the common issues that affect the commercialised urban water services and the scheme specific issues that must be addressed to suit the unique requirements of the individual water supply schemes.

3.3 Population

The population of this study comprised of a total of eight water supplies, which had transferred their management services to private companies at the time of the survey. Due to the small number of commercialised urban water services, a census survey covering the entire population was targeted.

3.4 Data Collection

Primary data was collected using structured questionnaires consisting of both open ended and close-ended questions and personal interviews. The questionnaires were tested on two of the water service companies and revised accordingly, before they were mailed to the respondents who completed and mailed them back to the researcher. The questionnaires targeted the top management of water services companies, the General managers, Technical and Commercial managers.

Secondary data was collected on commercialised water services performance from existing records. Personal interviews were held with the water supply commercialization units of MWRMD, MOLG and the UWASAM project management. Through the pre-prepared interview guide for the personal interviews, information on ownership, stakeholders and policy direction on the urban water service sector was collected.

The questionnaire used comprised of two parts. The first part comprised of structured questions and focused on water services ownership and commercialisation arrangements, management issues and water services operations performance. The second part used 5-point likert scale method to determine the level of importance of the various factors affecting the water services sector.

3.5 Data Collection Response

The study targeted eight urban water services, which had been commercialised at the time of the study. Three of the schemes did not respond to the questionnaires

mailed to them. Limited information on these water supply schemes was however collected through telephone interviews.

The reasons given for declining to complete the questionnaires were;

- No authority to disclose company information on argument of client confidentiality.
- Lack of time.

Two water supplies, which had been commercialised, had receded back to being managed by MWRMD. These water supplies have been captured in this study, as at the time of the study, they were found to be operating with similar autonomy as other commercialised water services and were in the process of reverting back to management by private water companies. Based on the targeted respondents, the response rate of the study was 67%.

3.6 Data Analysis

Data collected was edited for completeness and consistency. The data was analysed through descriptive statistics methods; mean, frequency, percentages and variance. Qualitative analysis was applied to data that could not be quantified. Through content analysis, inclusion and exclusion of content was done according to consistently applied criteria of selection and objectivity guaranteed by carrying out analysis according to explicit rules (Nachmias and Nachmias, 1996). The questionnaire to be used was structured to enable logical deductions on issues under investigation. Where information obtained from a respondent contradicted the deductions made, it was checked against the contingency question included in the questionnaire. If this did not agree, the respondent's answer was rejected. If such

answer also contradicted information obtained from personal interviews, it was also rejected. Descriptive statistics and qualitative analysis provided adequate means of determining the factors affecting management of the commercialised urban water services in Kenya.

CHAPTER 4: DATA ANALYSIS AND DISCUSSION

4.1 Introduction

In this section, data from questionnaires completed by respondents are analysed interpreted and deductions made on factors affecting the commercialised urban water services. The data is summarized and presented in form of tables and charts. Charts are used where the type of data allows and this form of presentation gives a clearer picture of issues. Tables have been used to present summaries in forms of percentages frequencies and measures of central tendencies. The findings of this study are presented and discussed in details under each of the four broad subheadings; Profile of the commercialised water supply providers, Ownership and commercialisation arrangements, Management practices and Factors external to the firms, which affect management of the commercialised urban water services.

4.2 Profile of the Commercialised Water Service Providers

4.2.1 Year of Establishment

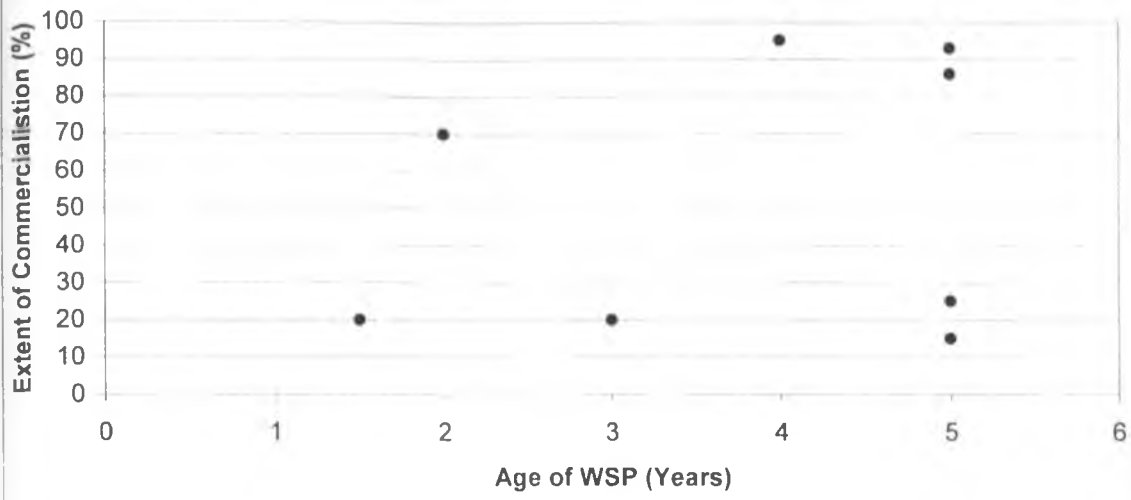
The age of the water supply firms may have some relationship with the nature of factors affecting the firm. The agencies managing the water services were established in different years as shown in Table 1. 88 % of the companies managing the commercialised water service utilities were established less than six years ago. 38% of the firms were established in the last two years. Only one firm, which is a consultant firm, has more than six years since it was established.

Table 1 Commercialised urban water services year of establishment

Year established	Frequency	Percentage
Before 1997	1	12 %
1997 – 2000	4	50 %
2000- 2003	3	38 %

All the water supplies are fairly young and most of them were determined to be in a prolonged stage of transition from public to private company management. The water supply providers were found to be at different stages of achieving full commercialisation as determined by factors like; signing agency agreements, final transfer of staff to the private company, reviewing the organization structure, recruitment of additional staff from competitive market and injection of funds for implementing initial water services improvements. As shown in the scatter diagram in Figure 1, 38% of the companies indicated they had achieved between 80 % and 95 % commercialisation of their firms. 12 % had attained between 60 % and 80% commercialisation while 50 % of the companies had attained less than 40 % transition to operating as fully commercialised water services.

Figure 1 Commercialisation extent and age of the water supply providers (WSPs)

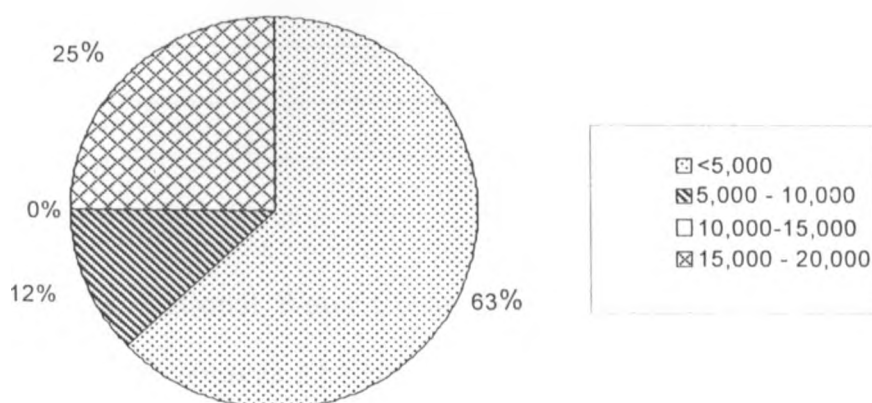


From the above figure, it is clear that the age of the water supply company has little relation with the extent of commercialisation. The sluggish organization capability development poses the threat of loss of focus, commitment and back peddling to the public sector culture.

4.2.2 Consumer base

A large number of customers, represented by the number of consumer connections, in a water supply give the benefit of economies of scale in service provision: the converse is also true. Customer base in different water supplies is shown in Figure 2. The figure shows, 63 % of the water services schemes have less than 5,000 consumer connections, 12% have between 5,000 and 10,000 consumer connections and 25% between 15,000 and 20,000 consumer connections.

Figure 2 Distribution of consumer connections



The commercialised water services have a customer base that varies by more than 300 %. This is almost the same level of variation expected in benefits of economies of scale in utilizing management staff, equipment and logistics. In line with this argument, the very small water services are bound to have substantially higher proportional cost of production and beyond a certain limit these are uneconomical to operate as fully-fledged water service schemes. The customer base in a water supply scheme has the upper limit determined by the population of the urban area served.

4.3 Ownership and Commercialisation Arrangement

4.3.1 Water Services Ownership

Claim of ownership of the water supply utilities affects the water supply aspirations, goals and objectives. The ownership of the commercialised urban water supply infrastructure is as shown in Table 2.

Table 2 Commercialised urban water services ownership

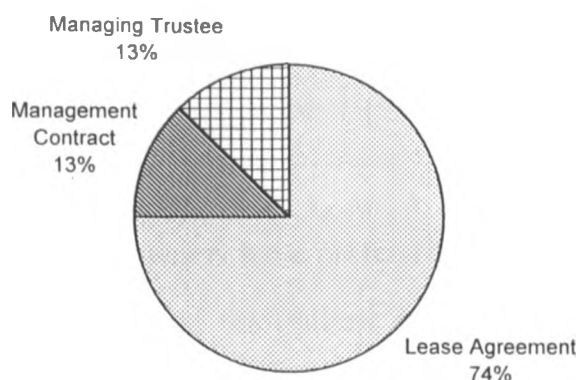
Water supply owner	Number of commercialised water services
LAs	6
NWCPC	1
MWRMD	1
Total	8

Local Authorities, National Water Conservation and Pipeline Corporation and the Ministry of Water Resources Management and Development are different arms of the Government. The Government therefore owns all the commercialised urban water supplies. It is also apparent that commercialisation of urban water supplies regards arrangements made to inject private sector competitiveness in management of these utilities and does not affect the ownership of infrastructure.

4.3.2 Commercialisation arrangements

Three commercialisation arrangements were identified in the proportions shown in figure 3. Lease agreement is the most common commercialisation arrangement covering 74% of the commercialised water services. Management contracts and managing trustees are only found in a total of 26 % of the commercialised water services.

Figure 3 Commercialisation arrangements



In all cases the contract is annulled when any water supply provider does not fulfil her obligation with regard to achieving the agreed upon performance targets. Discussions with the top management strongly indicated that the form of commercialisation arrangement adopted by the water supply providers did not impede acquisition of the desired competitive service provision.

Ownership has relationship with the commercialisation arrangement adopted, which is also linked to nature of autonomy given to management. Table 3 shows the water supply owners and the percentage of water supplies under different commercialisation arrangements.

Table 3 Ownership and commercialisation arrangements

Water supply owner	Proportion adopting various commercialisation arrangement		
	Lease	Management Contract	Managing Trustee
LA	100%	-	-
NWCPC	-	100%	-
MWRMD	-	-	100 %

Different infrastructure owners have preferred arrangements for commercialisation, as they do not spread across the options available. The choice of arrangement to adopt is inclined to obtaining the option that best fits into the water supply owner’s structure. It was apparent that the owners have no immediate intentions of relinquishing control of the water services as these are viewed as strategic business units, with potential for generating surplus income. It was also evident that the commercialisation arrangement adopted has to be agreeable to the donor agency supporting the commercialisation process. If infrastructure were fully sold out to private companies, major funding agencies like IMF, World Bank, GTZ and JICA would revert to lending at market rates as the companies would no longer qualify for the low interest rate loan scheme. Higher borrowing costs would further aggrieve the already financially troubled sector.

4.3.3 Water infrastructure owners involvement in management

The organisations claiming ownership’s level of involvement in management can be determined by the level of representation of the owner of the water supplies in the board of directors. Water infrastructure owners’ representation in the board is as shown in Table 4. In water supplies where Local Authorities claim ownership, on

average 53% of the board members are drawn from public sector while in water supplies owned by MWRMD 58 % of the board is drawn from the public sector.

Table 4 Water scheme owner involvement in management

Organisation claiming ownership	% of the managing board drawn from the Public sector
LA	53 %
MWRMD	58 %

The public sector involvement in the commercialised water services management is quite high. Other members of the boards of management were mainly stakeholders drawn from organizations such as farmers unions, learning institutions and traders. It is apparent that the constitution of the board, as prescribed in the memorandum of understanding, is not really aimed at injecting private sector competitiveness into water services sector but contain the private companies within the confines of diverse stakeholders' interests.

4.4 Management Practices

4.4.1 Planning

Planning gives focus and objective approach to realization of an organization's goals. The commercialised urban water supplies use of the strategic planning approach is as shown in Table 5. 62 % of the water supply companies indicated they had written down strategic plans, all of which covered a period of five years. These companies also had clearly written down mission statements and objectives, implying it was clearly defined what the organisations aimed at achieving.

Table 5 Use of strategic planning in commercialised urban water services

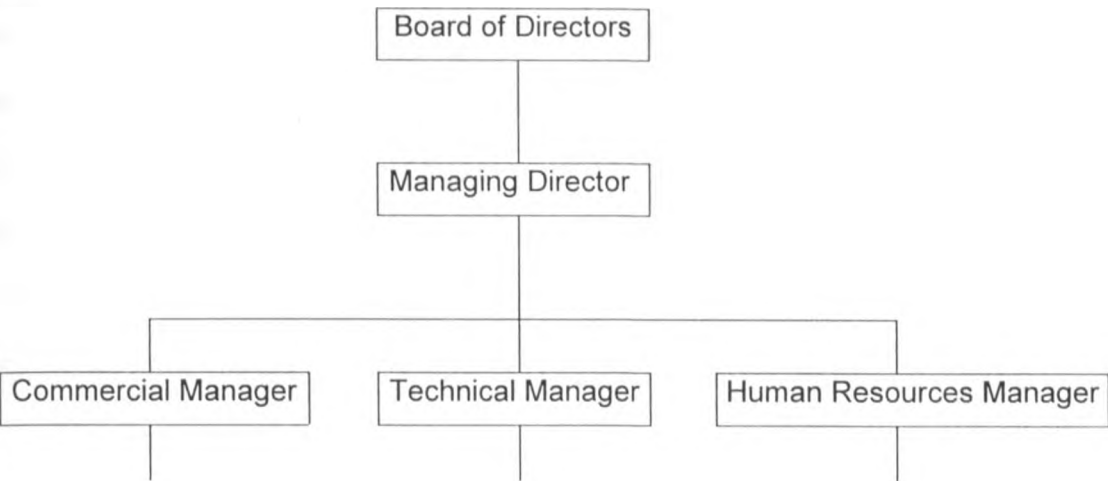
Question	Response	Percentage
Do you have written down strategic plans?	Yes	62 %
	No	38 %
Do you have written down mission statement?	Yes	62 %
	No	38 %

In all the water supplies the common issue were; self-sustenance, quality of service and provision of water for all. The firms without written down plans and mission statement had clear operational targets, which are reviewed regularly, as the guiding tool for their activities.

4.4.2 Organization

The form of organizational structure is critical for success in strategy implementation, as it constitutes a principal element of the institutional capability, which affects both efficiency and effectiveness of the organization. The organizational structure in all the commercialised urban water supplies is simple functional structure with very clear chain of command and delineation of responsibilities. The basic structure for all the water supply providers is shown in the Figure 4.

Figure 4 **Water Supply Companies Organisation structure**



Urban water service provision involves provision of a single product to the consumers. The simple flat structure adopted provides for adequate responsiveness in case of unforeseen occurrences like water supply system breakdowns. This structure also suits the needs for improving job content as relates to job enlargement and enrichment. The commercialisation of water services gives adequate autonomy for the day-to-day activities. From personal interviews, with the senior management staff, it was however found that greater freehand at the corporate level management is required for more proactive and innovative posture for competitive service provision, which is required for long-term success of the commercialised water supplies.

4.4.3 Water supply operations

i) Water production cost

Water production costs are dependent on the technology used and efficient utilization of the available resources. The cost is also determined by the processing and transmittion requirements, which vary for different water supply schemes. Table 6 shows that 25 % of the water supplies have water production cost of between Sh20 and Sh25 per cubic meter, 13 % have costs between Sh10 and Sh15. The bulk of the water supplies (62 %) have water production cost between Sh15 and Sh20 per cubic meter

Table 6 Water production costs in the commercialised urban water schemes

Water production cost KSh/m ³ of water	Proportion of water supplies
10 – 15	13 %
15 – 20	62 %
20 – 25	25 %

The water production cost varies from Ksh 14 to Ksh 23 per cubic meter of water. This great variation should be reflected in different tariffs implying water costs could vary across water supplies by up to 65 %.

ii) Staff /Water consumer connection ratio

The staff/water consumer connection ratio, in water supply gives indication of staff utilization. Table 7 shows that 26 % of the commercialised water supplies had between 20 and 25 and 50 % had between 15 and 20 staff members per 1,000 consumer connections. Of the remaining 24 % of the water supplies a half of them

had between 10 and 15 and the other half between 5 and 10 staff members per 1,000 consumer connections.

Table 7 Staff/consumer connection ratio

	Staff per 1,000 Consumer connections			
	5-10	10-15	15-20	20-25
% of water supplies in this category	12 %	12 %	50 %	26 %

The above analysis indicates a variation of staff/water consumer connection ratio of more than 100 %. This may imply a very high variation in staff utilization, suggesting overstaffing in some water supplies. This situation results from the contractual obligation of the private water companies to adopt all staff from the previous managing agencies.

iii) Unaccounted for water

Unaccounted for water constitute water produced which is not sold to consumers, either due to leakages along the lines or theft through illegal water consumer connections. Table 8 show the level of unaccounted for water in the water supplies at the time of the study. The amount of accounted water varies across the water supplies, from 28 % to 60 %, with the bulk of water supplies (63%) having between 50% and 60 % of water not being accounted for.

Table 8 Unaccounted for water in the commercialised urban water supplies

	Range of unaccounted for water				Mean
	20-30%	30-40%	40-50%	50-60%	
% of water supplies in this category	12 %	13 %	12 %	63 %	48 %

On average 48 % of the water produced is unaccounted for, which is extremely high. This loss is essentially revenue lost due to operations inefficiency. In all the commercialised water supplies, which had achieved more than 60% commercialisation, unaccounted for water had been reduced by on average 30 %. This particular inefficiency persistence may be explained by the costly initial system improvements and consumer connection refreshment required by the water supply providers.

4.4.4 Human Resources

Human resources are a major determinant of how the commercialised water supplies reposition themselves to acquire the desired competitiveness. Various aspects of human resources were investigated as explained in the following section.

a) Recruitment

i) Initial staffing

Recruitment determines the quality of human resources acquired by the firm. The water supplies identified in section 4.3 as having written down strategic plans, which constituted 62 % of the population also had clearly written down policy on recruitment. As shown in Table 9, all the commercialised water supplies did not have a free hand in initial recruitment, even where the companies have clear policy on this issue.

Table 9 Water supply providers involvement in initial staff recruitment

Question	Response	Percentage
Did the company have a free hand in the initial recruitment of staff?	Yes	-
	No	100 %

Less than 5% of the staff, comprising mainly the top management, was competitively recruited from the market in most of the water companies. More than 95% of the staff was transferred from the former managing agency. Recruitment of the right personnel in terms of qualifications, experience and numbers is paramount in determining the success of any organization. This critical factor is not given the due consideration it deserves by all the agencies owning the water supply infrastructure, and threatens to render commercialisation efforts ineffective as shown, latter in section on the staff competitiveness.

ii) Factors influencing recruitment

Attempt was made to determine the prioritisation criteria used in initial staffing by ranking the identified main factors in order of importance, from rank ‘1’ to ‘5’. The responses given are shown in Table 10.

Based on the mode of the responses obtained, contractual requirements of taking over staff from the previous managing agency was identified by 57 % of the respondents as the factor with greatest influence in initial staff recruitment. The second most important factor was identified as knowledge of water supply facilities by 57 % and humanitarian consideration as third by 86 % of the respondents.

Political influence was identified as having least influence by 86 % of the respondents followed by competence.

Table 10 Factors influencing staff recruitment

Factors	Rank in order of importance					Mode Rank
	1	2	3	4	5	
Humanitarian			86 %	14 %		3
Political				14 %	86 %	5
Competence			14 %	72 %	14 %	4
Contractual requirement	57 %	43 %				1
Knowledge of water supply facilities	43 %	57 %				2

From the preceding analysis, contractual requirement, knowledge of water supply facilities and humanitarian factors contributed the most in the initial staffing while competence and political influence had lesser influence. Other than knowledge of the water supply facilities, which is essential for the new water service provider to gain from experience of the former managing agency, all other factors have been wrongly prioritised. This approach for staffing opens a precarious window for recruiting staff that cannot offer the desired competence in the commercialised urban water services.

b) Staff competitiveness

Examination of the factors related to staff competitiveness was made from the data collected on a likert scale. Summary of the responses given is shown in Table 11. The table shows what percent of the water supplies gave different ranking and mean rank for the different factors. Rank ‘1’ was used to denote least negative influence

and ‘5’ the most negative influence on management of the commercialised water services.

Table 11 Factors affecting staff competitiveness

Issues	Rank on likert scale					Mean Rank
	1	2	3	4	5	
Former managing agency culture					100 %	5.0
Too many staff taken from former managing agency				14 %	86 %	4.4
Staff capability not adequate		28 %	14 %	29 %	29 %	3.6
Staff are de-motivated			50 %	50 %		3.5
Staff do not understand the commercialisation concept		43 %	43 %	14 %		2.7

iii) Organisation Culture

Former managing agency culture transferred to the commercialised water supplies was determined to have very high influence (rank ‘5’) in affecting management negatively in all of the water supplies. Organization culture inconsistency to strategy is a common factor affecting all the commercialised water services. This is as a result of the contractual requirement for the private water companies to adopt all staff from the former managing agencies into their organizations.

iv) Number of staff from former managing agency

Large number of staff transferred from former managing agency to the private water company was ranked ‘5’ in affecting management negatively in 86 % of the water companies. The average ranking for this factor was calculated to be 4.4 implying very high influence. Possible overstaffing had been identified earlier in the section

on Water supply operation, which leaves little doubt that the large number of staff transferred from the former managing agency is a common factor affecting all the commercialised water services. This condition is also as a result of the contractual requirement for the private companies to adopt all staff from the former managing agencies into their organizations.

v) Staff Capability

Inadequate staff capability varied across the water companies, with rank ranging from '2' to '5', implying this factor varied from very high to fairly low influence in affecting management negatively. The average ranking for this factor was calculated to be 3.6 implying there is a lot of room for improving staff capability to match the challenge in water service delivery.

vi) Staff motivation

Staff motivation was ranked either '3' or '4' in all water companies. The mean rank for this factor was calculated to be 3.5 implying staff motivation is an important factor that affects performance. For permanent change in the commercialised water services, factors that affect motivation; productivity-reward relationship and pride and esteem in staff regarding their organization should be addressed to arrest possible slippage to former managing agency culture.

vii) Understanding of commercialisation concept

Lack of understanding of commercialisation concept was ranked either '2' or '3' by 86 % of the water supplies. The mean rank for this factor was calculated to be 2.7 indicating this factor affects performance of water service provision negatively.

This shows there is need for effective communication of the aspirations of the commercialised water service to the staff members to ensure all staff has a sense of ownership and understanding of all the water company activities. This fact was further confirmed through complementary question, which showed that in all firms strategic plans were developed exclusively by the top management, indicating there is need to develop more inclusive strategic planning approach.

4.4.5 Finance

Success of commercialisation of water services is highly dependent on availability of adequate funding. All water companies gave financing rank ‘5’ on the likert scale, where rank ‘1’ was used to denote low negative effect on management and ‘5’ very high effect. This factor was thus identified as a highly important factor that affected all the water services companies.

i) Water tariff

In investigating issues considered in setting water tariffs, respondents were asked to rank the identified main factors in order of importance starting with the factor that had greatest influence. The responses given are shown in Table 12.

Based on the mode of the responses obtained, self-sustenance was identified as the factor given greatest consideration by all water supplies in setting tariffs. The second most important factor was identified as affordability by 88 % and adherence to set regulations was ranked third by 88 % of the respondent. Maximizing profit is given the least weight among these four factors in setting water tariffs by all the water supplies.

Table 12 Factors considered in setting of water tariffs

Factors	Rank in order of importance				Mode Rank
	1	2	3	4	
Affordability		88 %	12 %		2
Self sustenance	100 %				1
Adherence to set regulations		12 %	88 %		3
Maximizing profit				100 %	4

Though affordability was ranked second in importance to self-sustenance while setting tariffs, this factor was found to have the greatest influence in tariff setting for the low-income group. Where a large low-income group exists, this may jeopardize the achievement of self-sustenance goal. While setting tariffs, it must be noted that even where profit maximizing is given the least priority, this does not necessarily imply that the water supplies are offering the best value for money to the consumers. An unreliable water supply at the end of the day may result in higher costs to consumers than an efficient system that seeks to maximize profits through savings from increased efficiency and not through raising tariffs.

On the likert scale, Table 13 shows what percent of the water supply providers gave different ranking and mean rank for responses on how water tariff control affected the private water companies. Rank ‘1’ implies low influence and rank ‘5’ very high negative influence on management, as a result of water tariff control.

The effect of lack of free hand in setting water tariffs ranking ranged from ‘5’ implying very high negative impact on management to a rank of ‘3’, implying this factor has substantial negative influence on management. The average ranking for this factor was calculated to be 4.4 implying very high influence.

Table 13 Water tariff control in commercialised urban water services

Issue	Rank on Likert Scale					Mean Rank
	1	2	3	4	5	
Lack of free hand in setting water tariffs effect on management			12 %	38 %	50 %	4.4

Lack of free hand in setting water tariffs is an important factor that affects management of commercialised urban water services negatively. The water tariffs are levied on an increasing scale in all water supplies; These range from 10sh/m³ to 100 sh/m³ of water, for consumptions less than 10m³/month and consumption greater than 300m³/month respectively. It was also noted that there was little correlation between the tariffs levied and the water production cost, which were discussed in the section on Water supply operations. This doubtlessly impacts negatively on the water companies' ability to provide competitive services to consumer's satisfaction. From the foregoing, the need to determine an acceptable tariff structure that will enhance competitive service delivery is evident.

ii) Revenue collection

High recurrent debts and bad debts affect management's ability to perform its tasks effectively. A comparison of the revenue billed and the revenue collected for the year 2002 is shown in the table 14. It was determined that 50 % of the companies collected more than 80 % of the revenue from the water sales made. 25 % collected between 60 % and 80 % of the revenue, while 25 % collected between 40 % and 60% of revenue for services provided. In 12 % of the water supplies, revenue collected exceeded the sales; this mainly arose from collection of payments owed to the companies from past years.

Table 14 Revenue collection in commercialised urban water services

	% of revenue billed to payment made in 2002			
	40-60%	60-80%	80-100%	>100%
% of water supplies in this category	25 %	25 %	38 %	12 %

The above analysis is based on revenue billed. The compounding effect of low revenue collection and high proportion of water supplied without billing results in colossal amounts of revenue loss. The problem of revenue collection was found to be resulting from difficulties in enforcing the set regulations. An effective system for billing and discontinuing service provision to consumers who are not paid up is not in place in most of the water supply companies, which highly impacts negatively on management.

iii) Financing activity

The commercialisation strategy requires substantial amounts of money to implement immediate improvements required and build up the desired institutional capability. From personal interviews held with top management, all the water companies which have achieved more than 70 % commercialisation, have incurred costs of on average half a billion Kenya shillings in the initial immediate improvement phase. It was clear that these companies with more than 70 % commercialisation level within the existing tariff structure could meet the recurrent costs and less than 25 % of the infrastructure investment cost.

Considering the risks involved, this volume of funding is only viable through donor agency funding like IMF, World Bank, GTZ and JICA. It was apparent that the key bottleneck to commercialisation of water services is the funding problem.

4.5 Factors external to the firm

4.5.1 Government policies and Regulations

Government policies and regulations could limit the firms’ ability to achieve their goals, particularly when these inhibit competitiveness. To the question whether existing Government regulations affected the water supplies negatively, the responses given are shown in the table below.

Table 15 Government regulations and water supply provision

Question	Response	Percentage
Do the existing regulations affect management negatively?	Yes	37 %
	No	63 %

The above indicates that 37 % of the water supplies were negatively affected by government regulations in the sector. Majority of the water companies (63%) indicated their performance was not inhibited by the same regulations. On the likert scale, Table 16 shows the responses on how negatively the government regulations affected the private water service providers. Rank of ‘1’ was used to denote low negative influence and ‘5’ very high negative influence in management performance. Influence of GoK regulations was given a rank of ‘1’ by 75% and rank ‘2’ by 25% of the respondents.

Table 16 Influence of GoK regulations on commercialised urban water services

Issue	Rank on Likert scale					Mean Rank
	1	2	3	4	5	
Restrictive regulations negative effect on management	75 %	25 %	-	-	-	1.3

The average ranking for this factor was calculated to be 1.3. This implies though government regulations affected water supplies negatively, this did not affect management performance significantly. This deduction was also confirmed by the complementary questions, which showed nominal regular reporting was required to be made to the Government in water service provision.

4.5.2 Consumer’s influence

The bargaining power of consumers has great effect on the firm’s decisions. The consumer influence in water supply management is shown in Table 17.

Table 17 Water consumer influence on water service provision

Question	Response	Percentage
Are there actions by the consumers, which have influenced management decisions?	Yes	38 %
	No	62 %

38 % of the water supplies have had consumer actions, which have influenced management decisions. The rest of the water supplies have not had any significant collective actions from the consumers. In all cases the consumers were seeking to have the water companies incorporate adequate checks to see that the water supply

providers do not charge tariffs that were unaffordable and that consumers, who it would be otherwise not profitable to serve, are supplied with water.

4.5.3 Political Influence

Political factor is an important element that determines not only Government investment decisions, but also the management of various institutions. The impact of political factor in commercialised water services is shown in Table 18. The table shows the responses on a likert scale where rank ‘1’ was used to denote low influence and ‘5’ very high influence of political factor on management. All respondents indicated interferences from politicians had some impact on management and gave this factor rank ‘2’. Lack of political goodwill, where politicians do not support nor interfere with management was given a mean rank of ‘2.5’ implying this had considerable influence in water supply management.

Table 18 Political influence in commercialised water services

Issues	Rank on Likert Scale					Mean Rank
	1	2	3	4	5	
Interferences form politicians		100 %				2
Lack of political goodwill		50 %	50 %			2.5

Though the respondents did not point at political influence as a highly important factor, from discussions held with staff involved in steering the commercialisation strategy in MWRMD and UWASAM, it was evident that politics was a critical factor in water service provision. Political influence was also the only plausible explanation for strategy reformulation, where MWRMD took over management of some water services from private companies and was now in the process of re-

launching them from a different platform, as the owner of the infrastructure facility. A more inclusive approach to involve all stakeholders is absolutely essential for winning support from various stakeholders in the commercialisation strategy implementation. Water consumers' support to the private water companies was also found to require a lot of political good will.

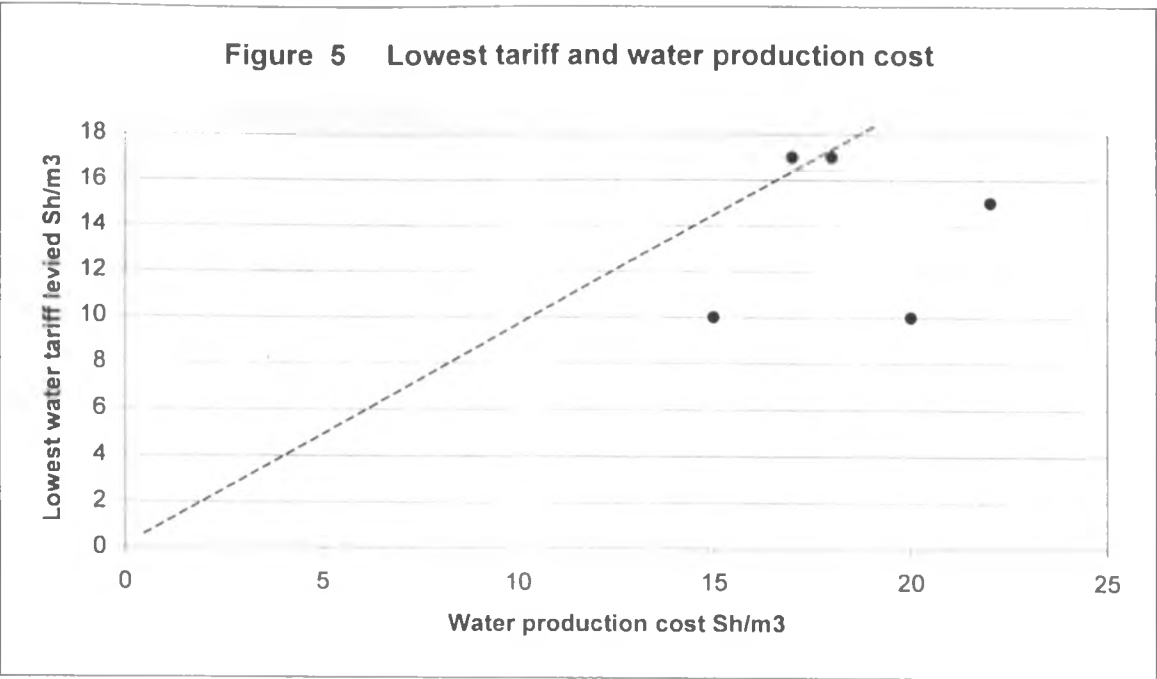
4.5.4 Social responsibility

Water is viewed as a social economic commodity to which every one has a right. On social responsibility, the following was determined;

- All commercialised urban water services provided water to some unprofitable areas.
- All commercialised urban water services made consideration for the poor by having water tariffs increase with consumption.

Financial implication of provision of water to the poor is objectively verified in the scatter diagram in Figure 5. Based on the sample of five water companies for which data was availed on this issue, 60 % had the lowest water tariffs lower than the production cost, 20 % had the lowest tariff equal to the production cost while the other 20 % had the production cost higher than the lowest tariff

Figure 5 Lowest tariff and water production cost



Further scrutiny of the data collected revealed that about 10 % of the water produced is supplied at a cost lower than the production cost in these water supplies. Social responsibility, which was found to be not clearly defined, in the water service provider’s policies, is a major factor that affects the commercialised water services.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The objective of this research study was to determine the important factors that influence the management of commercialised urban water services in Kenya. The study goes further to make recommendations for improving the water services and determine the general water sector policy implication on the urban water service provision.

In all cases where the water service providers had made significant progress in commercialisation of their water services, there was a notable improvement in commercial operations reflected in increase in operating revenue and reduction in operational losses. These two complementary factors translated to cumulative improved service delivery of about forty percent in the commercialised water services. The results of this study discussed in the preceding chapter, however reveal that several factors indeed inhibit the commercialised urban water services from attaining the ultimate goal of self-sustenance. The conclusions of this study and recommendations derived from these results are made in this chapter.

5.2 Water Services Ownership and Management Arrangements

The Government owns all the commercialised urban water supplies in the country. Ultimate responsibility in water service provision lies with the Ministry of Water Resources Management and Development. Local Authorities and the National

Water Conservation and Pipeline Corporation though subordinate to Ministry of Water Resources Management and Development have responsibility over certain water services as provided for under the Local Government Act and the State Corporations Act. This scenario where the Government still maintains the ownership of the entire urban water services infrastructure is evidence of the colossal amounts of money required for infrastructure development.

Three distinct commercialisation arrangements for urban water service provision are in place; lease agreement, managing trusteeship and management contract. The research findings, discussed in the preceding chapter, indicated that the arrangements for commercialisation selected were particularly inclined to granting autonomy while ensuring the Government did not loose control of the water service utilities. The study also reveals that there was no correlation of the commercialisation arrangement adapted to the performance of the water companies and that the success of the commercialisation strategy is heavily dependent on successful implementation.

5.3 Factors Affecting Commercialised Urban Water Services

Organization culture was identified as a major factor affecting the commercialised urban water services. Approximately ninety five percent of staff in the private water companies was transferred from the former managing agencies. This presents problems of long established culture that is fundamentally incompatible with the commercialisation strategy. As Pierse and Robinson (1991) explain, in this kind of scenario, the organizations should prepare for long-term difficult change. Comprehensive culture change initiative is required to effect the perception in

organizations that relates the future survival of the water supply provider to service provision to customer's satisfaction. The approach adopted by Meru water supply, which takes full cognisance of the culture change needs through a comprehensive soft component is ideal for addressing the culture discordance.

Staff capability was found inadequate in most of the water supplies. Human resource development should be fully integrated to the change process to ensure staff members attain the desired productivity. Clear criteria for transferring staff from the previous managing agencies to the private water companies based on objective capability audits are imperative. More emphasis should be made on determination of optimal staffing for all operations prior to recruitment and need for equitable early retirement incentives, to minimize resultant overstaffing. Low motivation in staff was identified as a common issue in the water supplies. This concern if not addressed introduces the risk of the staff emulating the public sector performance. It was thus apparent that a strong human resource development initiative to bridge the capability gap existing in most of the commercialised urban water services is required.

Water supply operations have not attained the targeted improvement in productivity efficiency. This translates to less than expected quality in the water services provided. The required immediate improvements in most of the water services entail; replacement of parts of water supply systems which are uneconomical to operate or maintain, metering and refreshing the water consumer connections. Some of the water supplies have inadequate consumer base, hence not viable for commercialisation. Amalgamation of several water schemes to be managed by a

single water supply provider and integration to manage entire as opposed to part of the water supply systems would release significant benefits from economies of scale. The water supply providers should also seek to enlarge their portfolios by extending their service provision to different regions, within provisions of Water Act 2002.

An efficient tariff linked to the value of the service provided to water consumers and investment requirements of particular water services is required. A tariff structure that incorporates profitability incentive to private sector and clear policy on how to distribute the benefits should be put in place. The tariff structure should however not be used to cover for operations inefficiencies. In all the commercialised urban water services the poor have been given due consideration by being served through fairly low water tariffs. Government subsidy in water development in the very low-income areas remain the best option to ensure these consumers are adequately catered for, without financially overburdening the water supply providers.

For success in the commercialisation strategy in urban water service provision, critical study of problems related to specific water schemes and determination of solutions to these problems through consultations with important stakeholders and experts should be done before and not after commercialisation of the water services. The strategic plans formulated for this transition must include among others, issues of securing human resources, accurate financial analysis and realistic performance targets. The Government's over dependence on donors to initiate private sector participation in the water sector presents an eminent limitation in ability to drive

this change process to completion. Sufficient budgetary allocation and establishment of stronger private-public sector partnership would go a long way to achieve this end.

5.4 Policy Implications

At the time of this research study, the Ministry of Water Resources Management and Development was actively involved in the implementation of the National Water Services Strategy (NWSS) which is a legal document gazetted in accordance with the in Water Act 2002. NWSS would in effect see the Ministry of Water Resources Management and Development role diminished through creation of Water Services Regulatory Board to oversee activities of Water Services Boards under which water service providers would operate. The water service providers selected through competitive bidding would manage all water services in the country. These changes are aimed at giving greater autonomy across the entire water sector and clear separation of operating and regulatory functions. Problems experienced by the individual commercialised urban water services will however not be alleviated without addressing the factors negatively affecting the commercialised water service companies identified in this study.

5.5 Limitations

This research study was intended to cover all the commercialised urban water services in the country, the research was limited to using data of a sample of 67% of target population. Greater participation could have undoubtedly enhanced the research findings particularly considering the small size of the population.

Respondents in some cases were hesitant to discuss issues they felt would jeopardize their relations with their development partners, stakeholders, and colleagues at work.

This research would also have been greatly enhanced by more detailed study of the identified issues and actual visits to all the water supplies targeted for study. This was however not possible within the time and financial resources that were available for this research.

5.6 Recommendations for future research

Developments in the commercialised urban water services reviewed in this study are very recent. Rapid changes in the water sector are expected, with the implementation of the National Water Services Strategy and injection of funding into the sector. Studies on the factors affecting all water services should be continuously updated and results used to foster improvements in this sector.

Some issues that merit further study are; study of the culture change in the commercialised urban water services, application of process improvement techniques, revenue enhancement strategies in the commercialised water services and detailed study on viability of urban water services privatisation in Kenya.

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APPENDICES



UNIVERSITY OF NAIROBI
FACULTY OF COMMERCE
MBA PROGRAM – LOWER KABETE CAMPUS

Telephone 732160 Ext. 208
 Telegrams Varsity Nairobi
 Telex 22095 Varsity

P.O. Box 30197
 Nairobi Kenya

DATE 23rd June, 2003

TO WHOM IT MAY CONCERN

The bearer of this letter Mr. P. N. Muiruri

Registration No: D61/P/8156/00

is a Master of Business Administration (MBA) student of the University of Nairobi.

He/she is required to submit as part of his/her coursework assessment a research project report on some management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate if you assist him/her by allowing him/her to collect data in your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.



The Managing Director,
P.O. Box xxxxx,
Xxxxx Water Supply

P.O.BOX 11396 – 00100,
NAIROBI.
22th July, 2003.

Dear Sir,

I am a Business Administration student at the University of Nairobi carrying out a research study on the factors affecting the management of commercialized urban water supplies in Kenya. In carrying out this study, I require information on your organization, which I intend to collect through the attached questionnaire. The Information required is mainly on senior management issues: planning, stakeholders, organization, staffing, operations and general management.

The results of this study will be used for academic proposes only and a copy of the same can be availed to you on request. Please complete the attached questionnaire and mail it through the above-indicated address.

With much gratitude,

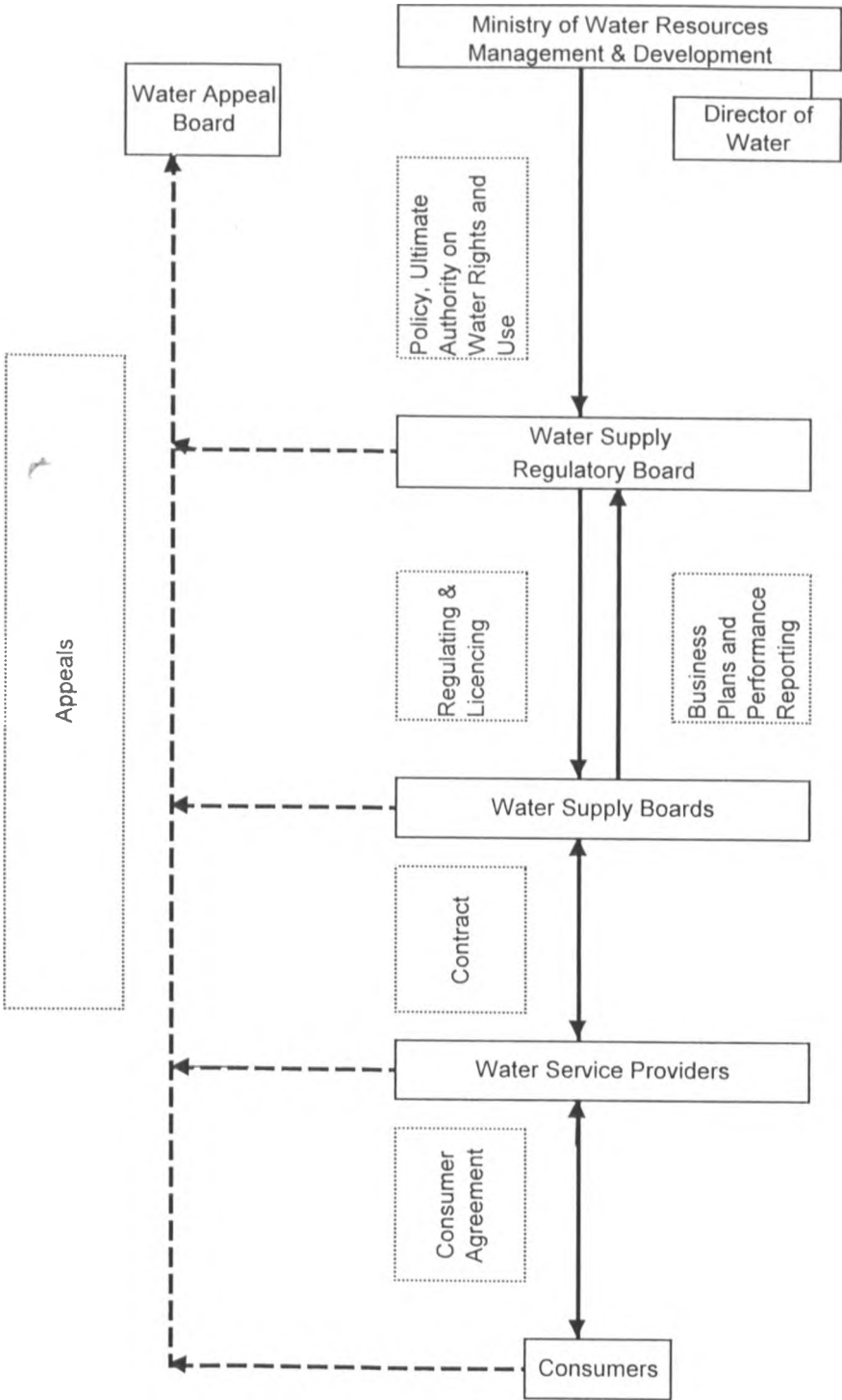


P.N. Muiruri

**List of Commercialised urban water services
(Named by town served)**

1. Eldoret Water Supply
2. Kericho Water Supply
3. Kitale Water Supply
4. Nakuru Water Supply
5. Nyeri Water Supply
6. Nyahururu Water Supply
7. Malindi Water Supply
8. Meru Water Supply

Institutional Framework for Water Service Provision



Source: National Water Services Strategy, 2003

QUESTIONNAIRE

PART A

GENERAL INFORMATION

1. What is the name of your water supply?
.....
2. What is the name of the former managing agency of this water supply?
.....
3. What is the name of your organisation/company, which is managing the water supply?.....
4. In which year was the water supply company incorporated?.....
5. In which year did your company start operating this water supply?.....
6. Your company is engaged under what commercialisation arrangement in this water supply?

(please tick the correct option)

i) Infrastructure Lease

[]

ii) Management contract

[]

iii) Concession

[]

iv) Other (specify).....
7. This commercialisation arrangement covers how many years?
8. Who are the owners of the water supply company?

Name	% shareholding
.....	
.....	
.....	
.....	
.....	

9. From which government or private sector organisations are the board of directors of this water supply?

.....

.....

.....

.....

10. How are the board members selected?

.....

.....

.....

PLANNING ACTIVITY

11. Do you have any formal, written plans? Yes []

No []

12. Which year were these plans written?

13. How many years do these plans cover?

14. Do you have any written down objectives or goals for the company? Yes []

No []

15. What are these objectives?

.....

.....

.....

16. Do you have written down company mission? Yes ☐ No ☐

No []

17. What is the company mission?

.....

.....

.....

18. How are the goals and objectives of your company set?

(Please tick the correct option)

- i.) By the board of directors/trustees []
- ii.) By the top management []
- iii.) All employees are involved []

19. Did you incorporate views of consumers and other stakeholders in setting goals, objectives and the mission of your company? Yes []

No []

STAKEHOLDER ISSUES

20. Who are the specific stakeholders¹ who seek to influence your decisions?

- 1)
- 2)
- 3)
- 4)

21. On what issues do the consumer views differ from your company views?

- i.)
- ii.)
- iii.)

¹ Stakeholders are viewed as individuals or groups outside the company who are affected by, or they seek to influence the company activities

22. On what issues do the Local Authority’s views differ from your company views?

- i.)
- ii.)
- iii.)

23. On what issues do the other stakeholder views differ from your company views?

- i.)
- ii.)
- iii.)

24. What consumer actions have affected management decisions or your company performance since you took over the management of the water supply?

.....

.....

.....

25. What stakeholder actions have affected management decisions or your company performance since you took over the management of the water supply?

.....

.....

.....

26. What measures did you take to address these consumer and stakeholder actions?.....

.....

.....

.....

27. Who sets the water tariffs?

.....

28. What factors do you consider when setting the water tariffs?

(Please rank the following factors from 1 to 5. Use 1 to represent the factor, which is of greatest influence and 5 the factor that is of least influence in setting tariffs)

- i) Affordability []
- ii) Self sustenance []
- iii) Adherence to set regulations []
- iv) Maximising Profit []
- v) Other (*specify*) []

29. Does your company take social responsibility in providing water services to unprofitable areas?

Yes []

No []

30. What special considerations do you make for the poor?

(Please tick the correct option)

- i) Provide water at subsidized rate []
- ii) Price of water is increased with consumption []
- iii) Other (*specify*) []

31. What is the distribution of the water consumers according to consumption?

- i) 0 – 10 m³/month%
- ii) 11 – 21 m³/month%
- iii) 21 – 40 m³/month%
- iv) 41 – 60 m³/month%
- v) > 60 m³/month%

Total

100 %

COMPANY ORGANIZATION

32. What changes did you make to improve on the previous managing agency performance?

.....

.....

.....

.....

.....

33. How are the staff distributed in various departments ?

Department	Number of staff
.....	
.....	
.....	
.....	
.....	

34. On what issues does the company seek MWRM&D¹ approval?

.....

.....

.....

35. On what issues does the company seek LA³ approval?

.....

.....

.....

36. For Questions 34 to 35, do you find the approval requirement inhibitive to decision-making?

Yes []

No []

¹ MWRM&D = Ministry of Water Resources Management and Development
³ LA = Local Authority

37. What form of regular reporting is done to MWRM&D¹ and MOLG²?

.....

.....

.....

38. What new technologies has your company adopted to enhance your firms efficiency?

.....

.....

.....

.....

.....

39. What activities do you out source?

(Please tick the activity out sourced)

i)	Revenue Collection	[	]
i)	Meter reading	[	]
ii)	Design	[	]
iii)	Construction	[	]
iv)	Leakage repair	[	]
v)	Other <i>(Specify)</i>		

¹ MWRM&D = Ministry of Water Resources Management and Development
² MOLG = Ministry of Local Government

STAFFING

40. Do you have written policy on recruiting? Yes []

No []

41. If so what are they key issues?

.....

.....

.....

42. What is your staffing structure?

(please use the table below)

Designation	Number Employed	Ideal Number
Management staff		
Senior administration and finance staff		
Senior technical staff		
Secretaries		
Clerks		
Technical support staff, plumbers, etc		
Other staff <i>(specify)</i>		
Total		

43. Do you have written job description (tasks, duties, activities) for each job?

Yes []

No []

44. Do you have written job specification (abilities, skills, traits) for each job?

Yes []

No []

45. What proportion of staff was recruited from the private sector?%

46. What proportion of staff was adopted from the former managing agency%

47. Did you have a free hand in the initial staffing of the company? Yes []

No []

48. What criteria most contributed to the employment of staff from the former managing agency?

(Please rank the following factors from 1 to 5, use 1 to represents the factor which had greatest influence and 5 the factor which had the least influence in employment).

- i) Humanitarian consideration []
- ii) Competence []
- iii) Politics []
- iv) Contractual obligation []
- v) Other (specify) []

WATER SUPPLY OPERATIONS

	Year		
	1998	2000	2002
49. What is the water supply area? (km ²)			
50. What amount of water is processed? (m ³ /day)			
51. What is the price of water? (Ksh/m ³)			
i) <10 m ³ /month			
ii) 11 – 20 m ³ /month			
iii) 21 – 40 m ³ /month			
iv) 40 – 60 m ³ /month			
v) >60 m ³ /month			
52. What is the production cost of water? (Ksh/m ³)			
53. What is the number of consumers served?			
i). Metered			
ii). Un-metered			
iii). Water Kiosks			
54. What percentage of water is unaccounted for?			

55. What proportion of the consumers are adequately served with,

- i) Water?%
- ii) Sewerage services?%

56. What is the proportion of water put to different uses?

- i) Domestic use%
- ii) Commercial use%
- iii) Institutional use%
- iv) Industrial use%
- v) other uses (*specify*).....%

	Year		
	1998	2000	2002
57. What are the annual costs in various activities? (000' KSH)			
Power/Energy			
Chemicals			
Staff costs			
Other costs			
Total cost			
58. What is the annual revenue billed?			
59. What percentage of revenue billed is collected?			

60. Which of the following is the main reason for none payment for water services by consumers?

(Please rank the following factors from 1 to 4. Use 1 to represent the factor which is the greatest contributor to none payment and 4 the least contributor)

- i) Unwillingness to pay []
- ii) Inability to pay []
- iii) Laxity in enforcement []
- iv) Other, (*Specify*) []

61. What proportion of revenue collected is used for purposes other than within the water and sanitation services provision%

GENERAL MANAGEMENT ISSUES

62. To what extent has the commercialisation process been implemented in your organisation?%

63. How suitable is your current arrangement of privatisation, for achieving the full commercialisation of Water and Sanitation Services?

(please tick the correct option)

- i). Highly suitable []
- ii). Moderately suitable []
- iii). Not suitable []

64. What problems do you encounter from the privatisation arrangement adopted by your company?

.....

65. Do the current water supply regulations inhibit your company's performance?

- Yes []
- No []

66. If yes, what are the regulatory issues that affect your company performance?

.....

.....

.....

67. If you have not achieved 100 % commercialisation, what other factors hinders full commercialisation?

.....

.....

.....

68. What is the greatest challenge for your company in water supply management?

(Please rank the following factors from 1 to 8. use 1 to represent the factor which is the greatest challenge and 8 the least challenge).

- | | | |
|-------|-------------------------------|-----|
| i) | Financing | [] |
| ii) | Building staff capacity | [] |
| iii) | Operations and maintenance | [] |
| iv) | Managing stakeholders | [] |
| v) | Revenue collection | [] |
| vi) | Changing staff culture | [] |
| vii) | Changing consumer's culture | [] |
| viii) | Other (<i>specify</i>)..... | [] |

69. What is the estimated value of your water supply infrastructure?

Ksh (Millions)

70. What is the estimated infrastructure development requirement of the water supply for next;

5-years Ksh.....

10-years Ksh.....

71. What are your current sources of financing water supply development?

(Please indicate the percentage of financing from different sources shown below)

- i) Revenue%
- ii) Local Banks.....%.
- iii) Foreign Banks.....%
- iv) Donor agencies (World Bank, IMF etc).....%
- v) Other (*specify*)%

72. What securities do you use to secure the loans granted?

.....

.....

.....

73. Can the water supply meet all its financial requirements (recurrent and capital costs)?

Yes []

No []

74. What recommendations would you make based on experiences gained to water supply agencies seeking to privatise their water and sanitation services?

.....

.....

.....

.....

.....

.....

.....

.....

.....

PART B

The following factors affect management of water supplies. To what extent do you consider these factors to be negatively affecting management of your water supply? A score of (1) will imply **least** negative influence while a score of (5) will imply greatest negative influence.

Circle the correct score

- | | | | | | | |
|-------|---|---|---|---|---|---|
| i) | Low income consumers are unable to pay for water services | 1 | 2 | 3 | 4 | 5 |
| ii) | Low income consumers are unwilling to pay for water services | 1 | 2 | 3 | 4 | 5 |
| iii) | High income customers are unwilling to pay for water services | 1 | 2 | 3 | 4 | 5 |
| iv) | Government institutions are unwilling to pay for water | 1 | 2 | 3 | 4 | 5 |
| v) | Lack of political goodwill | 1 | 2 | 3 | 4 | 5 |
| vi) | Private sector competitiveness is absent | 1 | 2 | 3 | 4 | 5 |
| vii) | Staff are de-motivated | 1 | 2 | 3 | 4 | 5 |
| viii) | Too many staff were taken from previous managing agency | 1 | 2 | 3 | 4 | 5 |
| ix) | Inadequate staff capability | 1 | 2 | 3 | 4 | 5 |
| x) | Lack of understanding of the privatisation concept by staff | 1 | 2 | 3 | 4 | 5 |
| xi) | Interferences from the ministry | 1 | 2 | 3 | 4 | 5 |

xii)	Influence of NGOs	1	2	3	4	5
xiii)	Influence from other stake holders	1	2	3	4	5
xiv)	Interferences form politicians	1	2	3	4	5
xv)	Lack of free hand in setting water tariffs	1	2	3	4	5
xvi)	Restrictive regulations	1	2	3	4	5
xvii)	Inadequate initial funding	1	2	3	4	5
xviii)	Lack of free hand in making Key decisions	1	2	3	4	5
xix)	Revenue diverted to other uses	1	2	3	4	5