IMPACT

A performance Report of Kenya's
Water Services Sub-Sector

Issue No 2

Water Services Regulatory Board

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Abbreviations

CBO	-	Community Based Organisation
MDGs	-	Millennium Development Goals
NESHP	-	National Environmental Sanitation & Hygiene Policy
NGO	-	Non-Governmental Organisation
NWSS	-	National Water Services Strategy
PRSP	-	Poverty Reduction Strategy Paper
SPA	-	Services Provision Agreement
SWAP	-	Sector Wide Approach to Planning
UfW	-	Unaccounted for Water
WARIS	-	Water Regulation Information Systems
WASREB	-	Water Services Regulatory Board
WSB	-	Water Services Board
WSP	-	Water Services Provider

Company Names

Reference in text	Actual name
Nairobi	Nairobi City Water & Sewerage Company
Mombasa	Ministry of Water & Irrigation (NWCPC) Mombasa Municipality
Nzoia	Nzoia Water & Sanitation Company
Nakuru	Nakuru Water & Sanitation Company
Nyeri	Nyeri Water & Sewerage Company
Mathira	Mathira Water & Sewerage Company
Kisumu	Kisumu Water & Sewerage Company
Garissa	Garissa Water & Sewerage Company Ltd
Amatsi	Amatsi Water Services Company
Western	Western Water Services Company
Othaya	Othaya Mkurueni Water & Sanitation Company
Kirinyaga	Kirinyaga Water & Sanitation Company
Eldoret	Eldoret Water and Sanitation Company
Nakuru Rural	Nakuru Rural Water & Sanitation Company
Gusii	Gusii Water and Sanitation Company
Murang'a South	Murang'a South Water and Sanitation Company
Kahuti	Kahuti Water & Sewerage Company
Malindi	Malindi Water & Sewerage Company
Nanyuki	Nanyuki Water & Sewerage Company Ltd
Kericho	Kericho Water & Sanitation Company
Muranga	Muranga Water and Sanitation Company
Tetu Aberdare	Tetu Aberdare Water and Sanitation Company
Meru	Meru Water Sewerage Services
Oloolaiser	Oloolaiser Water & Sewerage Company
Imetha	Imetha Water & Sanitation Company

Embe	Embe Water & Sanitation Company
Tavevo	Tavevo Water & Sewerage Company
Tuuru	Tuuru Water Association
Gatamathi	Gatamathi Water & Sanitation Company
Embu	Embu Water & Sanitation Company
Nyahururu	Nyahururu Water & Sanitation Company
Narok	Narok Water & Sewerage Company
Isiolo	Isiolo Water and Sewerage Company
Lamu	Lamu Water and Sewerage Company
Kapsabet Nandi	Kapsabet Nandi Water & Sanitation Company
South Nyanza	South Nyanza Water Services Company
Mikutra	Mikutra Water Services Company
Kitui	Kitui Water & Sanitation Company
Yatta	Yatta Water Company Ltd.
Nithi	Nithi Water and Sanitation Company
Kwale	Kwale Water and Sewerage Company
Kapenguria	Kapenguria Water & Sanitation Company
Rumuruti	Rumuruti Water & Sanitation
Olkalou	Olkalou Water & Sanitation Company
Naivasha	Naivasha Water & Sanitation Company
Mavoko	Mavoko EPZA Water and Sewerage Company
Kibwezi	Kibwezi Mtito Water & Sewerage Company
Makindu	Makindu Water & Sewerage Company
Upper Chania	Upper Chania Water Services
Tachasis	Tachasis Water Supply
Nyandarua North	Nyandarua North Water & Sanitation Company
Tarda-Kiambere	Tarda-Kiambere Water and Sanitation Company
Muthambi	Muthambi 4k Water Association
Vihiga	Vihiga District Water Office
Mt Elgon	Mt Elgon District Water Office
Nyakanja	Nyakanja Water Service Providers Society
Gitei	Gitei Water Society
Tia Wira	Tia Wira Water Project
Engineer Town	Engineer Town Water Project
Mawingo	Mawingo Water Society Project
Ndaragwa	Ndaragwa Water Project
Kinja	Kinja Water Project
Eldama Ravine	Eldama Ravine Water and Sanitation Company
Mandera	Mandera Water and Sewerage Company
Maralal .	Maralal Water and Sanitation Company
Liboi Location	Liboi Location Water Service Providers Association
Moyale	Moyale Water & Sewerage Company Ltd
Ngagaka	Ngagaka Water Consumers Association
Ngandori /Nginda	Ngandori /Nginda Water Consumers Association
Tana Water Boreholes	Tana Water Boreholes and Sanitation Company
D.O.M Kathita Gatunga	D.O.M Kathita Gatunga Water society

D.O.M Ruiru Thau	D.O.M Ruiru Thau Water Association
Ngariama/Njukiini	Ngariama/Njukiini Water Association
Kathita Kiirua(CEFA)	Kathita Kiirua(CEFA) Water Association
Murungi Mugumango	Murungi Mugumango Water Society
Hola Tana River	Ministry of Water and Irrigation Hola Tana River
Kilifi-Mariakani	Kilifi-Mariakani Water & Sewerage Company
Nol Turesh	Nol Turesh Bulk Water Company
Machakos	Machakos Water & Sewerage Company
Karimenu	Karimenu Water & Sewerage Company
Thika	Thika Water and Sewerage Company
Matungulu Kangundo	Matungulu Kangundo Water and Sewerage Company
Wote	Wote Water and Sewerage Company
Kikuyu	Kikuyu Water and Sewerage Company
Gatundu	Gatundu Water & Sewerage Company
Runda	Runda Water & Sewerage Company
Wamuya	Wamuya Water & Sewerage Company
Olkejuado	Olkejuado Water & Sewerage Company
Kiambu	Kiambu Water & Sewerage Company
Githunguri	Githunguri Water & Sanitation Company
Limuru	Limuru Water & Sewerage Company
Gatanga	Gatanga Water & Sewerage Company
Ruiru-Juja	Ruiru-Juja Water & Sewerage Company
Boya	Boya Water Project
Ahono Sinaga	Ahono Sinaga Water Project
Nyanas	Nyanas Water and Sanitation Company
Gulf	Gulf Water and Sanitation Company
Nyasare	Nyasare Water Supply Association

Foreword

First steps in filling information gap

In a time of drastic change, it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists

– Eric Hoffer, Self-taught Philosopher.

The publication of the second issue of *Impact* marks another step in the entrenchment of regulation in the water services sub-sector. As highlighted in the first edition, the purpose of the report is to introduce a benchmarking mechanism and encourage comparative competition so that we can identify areas of strength to learn from and build on, while pointing out areas that require improvement for the overall growth of the sector.

When the first issue was published last year, regulation was more at infancy stage. The work of the Regulator was interpreted as being only that of developing regulatory guidelines. The introduction of *Impact* in the sector could be interpreted as the first step of testing the guidelines the Regulator had developed. In a way, it is the first step towards enforcing regulation.

I must say we were rather excited by the reception the production of the first issue received. Indeed we felt humbled by the demand this issue received and the citations in numerous forums, local and even global. This convinced us that *Impact* was going to be a relevant publication for the sector. This impetus has greatly motivated the production of the current issue.

The second issue of *Impact* comes at a time when the need for sector information cannot be overemphasised. This need was highlighted as one of the key commitments of the water sector consultative meeting held towards the end of last year. *Impact* is WASREB's contribution towards bridging this gap.

From the trends depicted in this report, a general improvement will be noted in sector performance, particularly if the previous year's scenario is taken as the benchmark. Service delivery has generally improved with increase noted in coverage, metering, cost coverage and reduction of UfW. With this improvement, we expect that consumer confidence will continue to grow, and ultimately translate into improved collections. However, challenges still abound in water quality, hours of supply and staff rationalization.

The issue of sustainability of WSPs remains a major challenge as well. In response to this challenge, WASREB recently effected an extra-ordinary tariff adjustment across the sector. The increase was taken as a temporary measure that should give temporary relief for WSPs . But the final antidote will be in implementing mechanisms that improve efficiency. WSPs are therefore

encouraged to make fresh tariff review applications reflecting the reality of their situations. The success of this process will be WASREB's contribution to enhancing sustainability in service delivery.

With this issue of *Impact,* we intend to move a step further to introduce the aspect of incentives in the regulatory process. Using information here, we shall reward companies that have exhibited exemplary performance and 'name' those whose work has fallen below par. We, however, encourage that as companies look at their scores in the sector, they should also examine themselves internally to see whether the trends depicted in this report represent an improvement from where they were the previous year. In a sense, this should be a point for self-gratification even where one has not emerged a winner, for to have winners, there must be losers.

I wish to congratulate those who have emerged winners in various categories. The caution, though, is to avoid complacency and look at the winning as a benchmark that must be built upon. While 'naming' those who have not emerged top, we must encourage them to look at this as a learning point to improve their work. As an institution, WASREB is committed to an open-door policy where all sector players are encouraged to share their experiences and limitations, and tap into whatever support we can give as a Regulator to improve their performance and grow the service.

In this issue of *Impact,* we endeavoured to overcome the challenges of poor information submission and lukewarm sector commitment to reporting to improve on our first issue. This improvement will be noted in the scope of the analysis done, from 25 WSPs earlier, to 55 WSPs covered in the current report. The quality of information, I must say, has also improved substantially. While acknowledging that some challenges in data accuracy still exist, we must, however, forge on with our commitment to make desired improvements so that *Impact* can be relied upon as an authoritative instrument on water sector performance.

We wish to request all the sector players to make information available to WASREB. For without information, you cannot regulate.

Eng. Robert N. Gakubia

Chief Executive Officer

Executive Summary

The second issue of *Impact* is published to advance a process started last year, to introduce comparative competition in the sector, out of the realization that since water is a natural monopoly, the only way providers can compete is in the level of services they deliver.

Both in the Licence and SPA, WSBs and WSPs respectively commit themselves to progressively improve on service delivery by agreeing to meet Minimum Service Levels (MSLs) and other sector benchmarks. This report documents the performance of Water Services Boards (WSBs) and Water Service Providers (WSPs), in line with the commitments in the licences and the SPAs, and compares the performance amongst WSPs and also WSBs. This was done by assigning scores on various sector performance indicators and using the same to rank the WSPs or WSBs. The report is therefore a fulfillment of WASREB's mandate of information dissemination in conformity with the requirements of the National Water Services Strategy (NWSS).

Data utilized in the report was generated through inspections and the Water Regulation Information System (WARIS). Given that the system was developed years after the commencement of the water sector reforms, the process of data capture was generally delayed leading to a backlog in many of the institutions. Therefore, the information used in this report is for the period 2006/07.

Out of about 118 registered WSPs, 70 submitted information, but only 55 had complete information. The 55 WSPs were grouped on the basis of connections and analysed for sector indicators that have significant influence on the performance in service delivery.

Among the 55 WSPs, forty six (46) were considered as urban defined by the predominance of connections in urban areas. Nine (9) WSPs were considered as rural, defined by the predominance of connections in rural areas.

The seven (7) WSBs that existed in 2006/07, provided information that was used for analysis. They were grouped according to the turnover in their areas. This is the aggregated turn-over of the constituent WSPs of the WSBs. The turnover in Athi WSB is over 50 per cent of the national turnover while Coast WSB follows a distant second. The other WSBs had comparable turnover and were therefore grouped together, while Athi and Coast WSBs were also grouped together.

From the scores, Malindi emerged as the best company overall followed by Nyeri. Meru was third while Eldoret and Nyahururu took positions four and five respectively. In the small WSP category, Nyahururu emerged top, followed by Isiolo. In the medium category, Malindi was first followed by Meru. In the large WSP category, Nyeri was first followed by Eldoret.

WSPs which made great improvement in their operations include Tavevo, Kericho, Nakuru, Mombasa and Lamu. Despite their failure to emerge tops, they can be said to be making progress in the right direction.

The least performing WSPs for the review period were Olkalou, Kapenguria and Imetha in position 55, 54, and 53 respectively. Those that recorded least improvement over time were Amatsi, Embu and Nyahururu. The onus on them is to improve their performance.

There was a general improvement in service delivery compared to the 2005/6 position. Improvement was noted in coverage, metering, cost coverage and reduction of UfW.

A major drop was, however, noted in all indicators assessed with the inclusion of new WSPs. This could be explained from the fact that a majority of the new WSPs included in the current report are smaller and are drawn from rural areas where infrastructure is scantily developed.

At Board level, Athi Water Services Board recorded the best performance in 2006/2007 while Lake Victoria South Water Services Board was the least performing during the period.

It is worth mentioning that the information utilized for this report is almost two years old, which poses challenges in terms of currency. To catch up with the information backlog and ensure that this report is current, WASREB intends to collect information for the years 2007/8 and 2008/9 concurrently and utilize it to produce the next report.

Chapter 1

overview of the water services sub-sector

Access remains a challenge

Kenya's fresh water supply is estimated at 647 cubic metres per capita per year. Indications are that this situation could get worse. Considering the United Nation's recommended benchmark of 1000 cubic metres per capita per year, Kenya can be classified among the most water scarce countries in the world.

The water crisis can be attributed to the wave of droughts the country has been experiencing, rampant catchment degradation, pollution of water sources, and high population growth. The crisis impacts heavily on social and economic activities throughout the country.

Kenya's development blueprint, *Vision 2030,* assigns the goal of ensuring "water and sanitation availability and access to all by the year 2030" for the water and sanitation sector. The strategies to achieve this goal are increasing supply in all urban areas; expansion in rural water supplies; and expansion in sewerage coverage, which are underpinned by an effective institutional framework.

The specific objectives under this goal in the next four years are to: increase water access in urban and rural areas, reduce unaccounted for water, and improve sewerage access in both urban and rural areas. These objectives have a bearing on the activities of Water Service Providers (WSPs) and Water Services Boards (WSBs).

The objectives are consistent with both the Millennium Development Goals (MDGs) and the National Water Services Strategy (NWSS) 2007-2015. Under the MDG goal number 7, one of the targets is "to halve by 2015 the proportion of people without sustainable access to safe drinking

Degradation of catchment areas poses a threat to availability of water.

Boreholes occassionally used as short-term sources of water supply.

water and sanitation services". The NWSS has one of its goals as reaching "at least 50 percent of the underserved urban population with safe and affordable water by 2015, and access to all by 2030."

According to the National Water Services Strategy (NWSS), access to safe water is around 40 per cent in rural areas and 60 per cent in urban areas but this drops to as low as 20 per cent in settlements of the urban poor where half of the urban population lives.

From WASREB's *Impact Report,* which collected data for the periods 2006/7, coverage in urban areas is estimated at 37 per cent. Thus, a lot of effort is required in service provision to be able to attain the goals the country has committed itself to.

Given the myriad challenges in water resource availability, and the rapid population growth of Kenya, estimated at 34 million people in 2007 and, 40 and 50 million people in 2010 and 2020, respectively, immense pressure is exerted on water as a natural economic resource. Similary, there are challenges in improving water access. They include management of water supplies, under-investment, unfair allocation of water, urbanisation, and high population growth. It is therefore imperative that prudent management be exercised to ascertain sustainability, efficiency and affordability of water services.

On this basis, a review of sector performance becomes important to facilitate duplication of best practice, while taking cognizance of weaknesses identified and summoning efforts to overcome them.

The Regulatory framework strives to measure the performance of the sector through monitoring nine key indicators as follows:

1. Water coverage
2. Sanitation coverage
3. Unaccounted for water
4. Water Quality
5. Hours of supply
6. Metering ratio
7. Revenue collection efficiency
8. O&M Cost coverage
9. Staffing

Improvement in these indicators should represent a positive step towards realizing water access to all Kenyans.

Chapter 2

the regulatory environment

Significant strides made in Regulation

Regulation was introduced in the water sector as part of the reform process to ensure that the interests of consumers are protected and harmonized with those of service providers. A well regulated water environment can generally be viewed as one where there are clear operational guidelines, where there is improved access to services, where service delivery is efficient, and where institutions are sustainable. Such an enviroment should have a mechanism to check that consumers have access to efficient, affordable and sustainable water services.

In pursuit of these goals, the Water Services Regulatory Board (WASREB) has undertaken a number of initiatives meant to guide and improve the performance of the sector. These initiatives are examined below.

2.1 Development of Regulatory tools

WASREB has finalized the development of diverse tools to regulate the sector. They include the following:

- A 10-year license for WSBs with targets for improved network expansion for water and sewerage coverage.
- Three types of model Service Provision Agreements with targets on hours of supply, water quality and reduction of unaccounted for water.
- Model Water Regulations- for regional regulation by Water Services Boards.
- Guidelines on Corporate Governance.
- Guidelines on Minimum Service Levels (MSLs).
- Guidelines on Tariff Setting.
- Guidelines on Business Planning.
- Guidelines on Reporting.
- Guidelines on Customer Service and Complaints Procedures.
- Guidelines on the Water Regulation Information System.
- Guidelines on Water and Effluent Quality.

The tools have already been disseminated to stakeholders through regional workshops and are now in use. Other regulatory tools that are still under development include Water Demand Management, Kiosk Design Standards, Metering Standards, and Kiosk Management standards.

2.2 Regulatory Levy

In order to sustain Regulation in the sector, the Water Services Levy (popularly known as regulatory levy) has been published under legal Notice number 36 of 2008. It is now a law of the Republic that requires all WSPs to remit 1% of their turnover to WASREB. The desirable position in any regulated industry is that the sector should fund the Regulator so that the Regulator is not financed from the exchequer. This ensures that the Regulator maintains independence from political influence in decision making.

2.3 Policy Advisory

As a policy advisor the Ministry, WASREB has raised a number of issues with a view to facilitating appropriate legislative amendments or policy shifts. They include:

- Amendment of the Local Government Act to enable the proper corporatisation of WSPs operating facilities previously run by Local Authorities.
- Amendment of the Public Health Act to enable WASREB and WSBs take up powers related to sewerage monitoring that were previously vested in Local Authorities.
- Coordination of the provisions of the NEMA effluent discharge levy and the WRMA abstraction fees which are supposed to be paid by WSPs for the same purpose hence double licensing. As a result of this intervention, negotiations were entered into and an agreement was reached with WRMA on the interim abstraction fee to be paid to WRMA by WSPs.
- Inadequacy of the memorandum of understanding between NWCPC with WSBs in construction of water facilities and the preference that the relationship be regulated by a contract with enforceable provisions.
- Incomplete implementation of the Transfer Plan.
- Inappropriateness of the lease fee and the determination of liabilities held by Local Authorities for development of water service facilities.

2.4 Tariff Review

In view of the escalating costs of water service provision, tariff review has been a major area of focus. Based on the tariff guideline, WASREB approved tarrifs for Nyeri, Nairobi and Kisumu.

Considering the high inflation rate and general increase in inputs and salaries for water services since 1999, WASREB effected an Extraordinary Tariff Adjustment (ETA) countrywide. This was to assist the stabilization of WSPs and allow them to meet their operation and maintenance costs. The adjustment was an interim measure that gives WSPs a one year period where they can prepare a regular tariff adjustment based on justified costs. The WSPs/WSBs have been given up to June 2009 to submit their applications.

It is critical that consumer tariffs are commensurate with justified costs and quality of services and that they enhance the sustainability of the service.

Consumers at a pay-point: WASREB's extra-ordinary tariff adjustment was meant to cushion WSPs.

2.5 Water Services Regulations

Under the Water Act, WASREB is mandated to develop guidelines on regulations for the provision of water services to be adopted by licensees. Licensees are in turn required to make regulations spelling conditions for the provision of water services and the tariffs applicable in their areas of operation. These regulations are then supposed to be effected with the approval of WASREB.

WASREB has finalized the development of model water regulations to be cascaded to WSBs and WSPs. The regulations will be used as a basis for these institutions to develop rules to govern water service provision within their own areas.

Water Services Boards are expected to draft regulations under section 73 of the Water Act 2002 for their service areas to regulate the operation of water services. These regulations are supposed to replace the bye-laws, if any, that had been drafted by municipalities that previously supplied water services. These regulations will assist WSBs to enforce the obligations on their agents and third parties such as owners or occupiers of premises who interfere with the smooth running of water service operations.

2.6 Development of Service Provision Agreements

Besides the three type of SPAs earlier developed, WASREB has now finalized the development of a model Service Provision Agreement (SPA) for Bulk Water Supply. The SPA is now ready for utilization by Bulk Water Suppliers. The earlier SPAs were for medium to large scale WSPs, community Projects, and community projects operated by third parties.

A total of 116 SPAs have therefore been submitted to WASREB for review. A review of the SPAs identified that the financial and technical capacity of all WSPs does not meet the standard set out in the Water Act. The WSPs therefore continue operating on an interim basis. A draft agreement for small scale water service providers has also been developed. The agreement applies to water service facilities owned by communities.

2.7 Corporate Governance

In the water services sector, good governance requires that entities are governed with integrity and enterprise as agreed under the licence and the SPA. Owing to this, WASREB has sought to support budding institutions in the sector by promoting sound management practices.

There are numerous benefits anticipated from well managed institutions. They include the following:

- Ensuring profitability and efficiency of water services delivery
- Creating ethical business enterprises capable of creating wealth and employment
- Ensuring the long-term competitiveness of the water sector
- Ensuring financial stability and credibility
- Improving relationships between the different players in the water sector
- Improving the relations between water enterprises and their various stakeholders

Good leadership, resulting from embracing corporate governance principles, will see institutions advance towards the following objectives:

- Attainment of water for all
- Efficiency in the provision and distribution of water services
- Probity for the sustainability of the financial resources
- Transparency and accountability in leadership

WASREB has finalized the development of corporate governance guidelines and conducted a study on corporate governance in the sector. The results of the study will assist WSBs in undertaking governance training and monitoring of governance in the licensed area.

2.8 The Water Regulation Information System

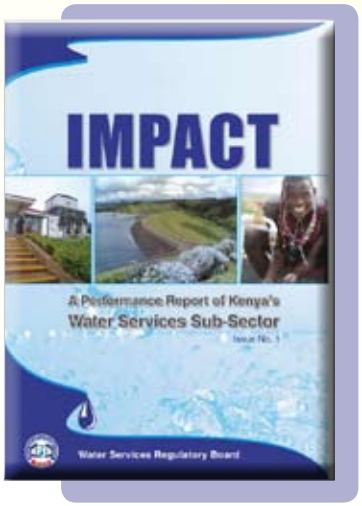
Under the Water Act, WASREB is mandated to be the custodian of information in the water services sub-sector. In response to this role, WASREB developed WARIS to enhance gathering and processing of data, both from WSB and WSP levels. The collected data is analysed and the information dispatched to stakeholders to facilitate decision making. The information is also used in developing reports on sector performance. WARIS therefore aids and facilitates WASREB's mandate to:

- Monitor compliance with established standards
- Monitor the application of the Service Provision Agreements
- Disseminate information about water services

- Gather and maintain information on water services
- Advise the Minister

The information system has already been installed and used for data capture by all licensees and their operating service providers. The first sector performance report was released based on information gathered through this system. The tool has now been upgraded to a more user-friendly version to fill the gaps realized when it was first administered.

2.9 First Water Services Sub-Sector Report



In compliance with the NWSS, and the Water Act, WASREB drafted and published the inaugural Water Services Sub-Sector Performance Report for the year 2005/06. The publication of this report effectively introduced comparative competiton in the water services sub-sector. The inaugural report was received very well and is being relied upon to fill the information gap in the sector.

2.10 The Inspection Programme

To facilitate monitoring standards of services being rendered by the utilities and ensure compliance with the regulatory tools so far developed, WASREB has developed an Inspection Programme whose implementation continues to provide significant information upon which regulation can be modeled.

The mandate of inspecting WSPs to ensure compliance to the regulatory framework is, however, also the responsibility of WSBs, who are the licence holders. In due course, WASREB will be moving to enforce this mandate.

Since WSBs have some delegated regulatory functions, it is expected that they should be able to routinely inspect the WSPs based on the checklist already developed by WASREB. The inspections by WASREB to the WSPs therefore serve to supplement those by the WSBs. It has, however, been noted in majority of the cases that WSBs have not fully taken charge of their WSPs since the schedules and reports of the inspections were not available during the visits.

Generally, the Inspection Programme reveals that a majority of WSPs have not fully complied with the provisions of the licence and SPA. The payment of the Regulatory Levy is still largely based on collection and not on billing as provided for in the licence and SPA. Poor management continues to be an issue at the level of WSPs. It is manifested in poor delegation of powers and responsibilities, insider lending, problems of un-surrendered or unaccounted for imprest, poor and opaque cost control, opaque tendering procedures, and resistance to change.

Conflict of interest, resulting from dealings with companies by Boards of Directors were noted in some instances. This was mainly in employment and trading with the company.

Pioneer companies, in the initial sector reforms, under pilot schemes, have done extraordinarily well, implying that by following the principles applied in turning the pilot cases around, the sector is set to be rejuvenated. However, apart from adopting good corporate governance, heavy infrastructural investment was made, in the pioneer cases, to revamp infrastructure.

In addition, viable entities need to be engaged in service provision to ensure sustainability. This is largely dependent on the type of water schemes operated for service provision, with pumping schemes being more expensive than gravity schemes. Appropriate clustering and delineation of boundaries of providers to blend both types of schemes to facilitate cross-subsidy should be encouraged to ensure sustainability.

WASREB noted that tariffs were last reviewed more than ten years ago and this had resulted in expenditures outstripping revenues, due to inflationary trends. It is therefore important that applications for justifiable tariff review be made to aid sustainability.

To address the anomalies identified during the inspections, WASREB issued various directives to be implemented by the respective institutions. In certain cases, however, issues that require policy interventions were realized. These issues are discussed more fully in chapter 5.

2.11 Communications

In order to reach stakeholders and engage them in matters of Regulation, communication is utilized as an important instrument. Highlights of WASREB's communication activities included the development of a radio programme to disseminate information on Regulation. Media interventions were also made through the publication of supplements. Effort was also expended towards rallying stakeholder involvement in matters of regulation, while opportunities were exploited to tell the WASREB story in various public forums including the public service week, world water day, shows and exhibitions.

A number of stakeholder forums were held to derive feedback that would enrich the process of developing Regulation for the sector. Views received from the forums have been incorporated in the subsequent development of the various regulatory actions.

2.12 Consumer Engagement

Consumers received renewed focus with WASREB initiating exploration of a mechanism that could get them more engaged in the water service provision process.

Jointly with partners and stakeholders, WASREB began to explore avenues for engaging with consumers in a more structured way. The Regulator led a team of stakeholders to Zambia in March 2008 to learn from the Water Watch Groups (WWGs) model established by the National Water and Conservation Council, NWASCO. The objective of the visit was to study the mechanism employed by NWASCO, through their WWGs. The team agreed that a feedback mechanism was a

useful practice from which lessons could be adopted for the Kenyan context. It was agreed to pilot a model based on realities of the sector in Kenya and lessons learnt over the years in Zambia.

Following the visit, a feedback concept note was developed and ratified by stakeholders. Later, WASREB convened stakeholders to provide them with training on accountability mechanisms which can be used by service providers, and elaborate further the draft consumer feedback mechanism concept.

WASREB has now initiated a pilot model in four towns based on realities of the sector in Kenya. The pilot covers Nairobi, Mombasa, Kisumu and Kakamega.

Members of WAGs being taken through a training session.

Chapter 3

performance analysis of WSPs

Coverage improves, Supply Hours decline

3.1 Preamble

The performance of WSPs was done based on nine indicators, many of which constitute the minimum service levels WSPs are expected to attain in their operations. These indicators are water coverage, sanitation coverage, unaccounted for water, water quality, hours of supply, metering ratio, revenue collection efficiency, O&M Cost coverage, and staffing. They formed the basis for comparing the performance of WSPs.

3.2 Data Collection

Data utilized in this report was generated through inspections and the Water Regulation Information System (WARIS). Given that the system was developed years after the commencement of the water sector reforms, the process of data capture was generally delayed leading to a backlog. Therefore, the information used in this report is for the period 2006/07.

Out of about 118 registered WSPs, 70 submitted information, but only 55 had complete information. The 55 WSPs were grouped on the basis of connections and analysed for all the major sector indicators that have significant influence on performance in service delivery. Among the 55 WSPs, forty six (46) were considered as urban because their connections were predomintly in urban areas. Nine (9) WSPs were considered as rural.

The seven (7) WSBs that existed in 2006/07, provided some information for analysis. They were grouped according to the turnover in the board areas. This is the aggregated turn-over of the constituent WSPs of the WSBs. The turnover in Athi WSB is over 50 per cent of the national turnover while Coast WSB follows a distant second. The other WSBs had comparable turnover and were therefore grouped together, while Athi and Coast WSBs were grouped together.

3.3 Classification of WSPs

To facilitate comparative analysis, WSPs were grouped depending on size, with respect to number of connections, as this may reflect the level of business turnover. However, it is recognized that due to different types of schemes and the expected differences in tariff structures, two WSPs with equal connections may have scores that are totally different. For the period in focus, however, most WSPs had similar tariff structures, and may therefore be compared favourably on the basis of number of connections.

The WSPs were grouped into four. Category one, for small scale providers, had those with less that 5,000 connections; medium scale providers were classified at between 5,000 and 10,000 connections; large providers had 10,000 to 35,000 connections, while those with over 35,000 connections were categorized as very large providers.

This classification is illustrated in Table 3.1 below.

Table 3.1: Classification of WSPs

Small WSPs (<5,000 connections)	Number of water connections
Nyandarua North	25
Upper Chania	362
Vihiga DWO	390
Olkalou	626
Tachasis	699
Yatta	721
Kapenguria	791
Makindu	853
Rumuruti	984
Muthambi 4k	989
Kapsabet Nandi	1288
Lamu	1487
Tarda- Kiambere Mwingi	1593
Mavoko	1700
Narok	1704
Kibwezi Mtito	1775
Naivasha	2028
Nithi	2056
Mikutra	2549
Kitui	2863
Isiolo	3131
Mt. Elgon DWO	3209
Nyahururu	3660
South Nyanza	4032
Kwale	4149
Embu	4970

Medium WSPs (5,000 - 9,999 connections)	Number of water connections
Tuuru	5232
Tetu Aberdare	5266
Meru	5344
Imetha	5642
Muranga	6933
Tavevo	7014
Nanyuki	7284
Oloolaiser	7327
Gatamathi	7471
Malindi	8102
Kericho	9377
Embe	9793
Large WSPs (10,000 - 34,999 connections)	**Number of water connections**
Garissa	11,054
Kahuti	11,883
Nyeri	13,185
Muranga South	13,426
Amatsi	13,821
Gusii	18,913
Othaya Mukurweini	14,448
Western	15,532
Kirinyaga	16,731
Nzoia	25,379
Eldoret	25,784
Nakuru	25,961
Kisumu	14,102
Mathira	16,323
Nakuru Rural	34,434
Very large WSPs (≥ 35,000 connections)	**Number of water connections**
Mombasa	57,304
Nairobi	218,627

Table 3.2 WSPs information Submission

WSBs	WSPs/Main Town	Submission Status	WSBs	WSPs/Main Town	Submission Status
Rift Valley	Nyakanja	Not submitted	Tana	Ngagaka	Not submitted
	Gitei			Ngandori /Nginda	
	Tia Wira			Tana Water Boreholes	
	Engineer	Incomplete submission		D.O.M Kathita Gatunga	
	Mawingo			D.O.M Ruiru Thau	
	Ndaragwa			Ngariama/Njukiini	
	Kinja Water			Kathita Kiirua(CEFA)	Incomplete submission
	Eldama Ravine			Murungi Mugumango	
Northern	Mandera	Not submitted	Coast	Hola Tana River	Not submitted
	Maralal			Kilifi-Mariakani	Incomplete submission
	Liboi Location				
	Moyale				
Athi	Nol Turesh	Not submitted	LVS	Boya	Not submitted
	Machakos			Ahono Sinaga	
	Karimenu			Nyasare	
	Thika			Nyanas	
	Matungulu Kangundo			Gulf	
	Wote			Nyasare	Incomplete submission
	Kikuyu				
	Gatundu				
	Runda				
	Wamuya				
	Olkejuado				
	Kiambu				
	Githunguri	Incomplete submission			
	Limuru				
	Gatanga				
	Ruiru-Juja				

KEY

Not Submitted

Incomplete Submission

3.4 Assigning scores to indicators

WARIS is able to capture 67 indicators on sector performance. However, nine key performance indicators, that have major impact on sector performance, were selected for purposes of ranking. The nine indicators were selected based on sector benchmarks, and the level of control WSPs have over the indicators. Recognizing the level of sector development, upper and lower limits were defined for each indicator and weighted scores assigned. Performance above the upper limit assigned attracted a maximum score while performance on or below the lower limit attracted a minimum score of zero. Average (middle-level) performance was interpolated to determine the score. The aggregation of weighted scores was used to determine the ranking of WSPs. In the next period, scores assigned to indicators will take into consideration improvement over time.

The scores for the nine key performance indicators is illustrated in Table 3.3.

Table 3.3: Performance indicators, Benchmarks and scores

Indicator		Maximum		Minimum	
		Performance	Score	Performance	Score
Collection efficiency		>90%	30	<50%	0
Unaccounted for Water (UfW)		<20%	30	>70%	0
Water quality	Drinking water quality	>95%	20	<80%	0
	Compliance with residual chlorine tests	>95%	10	<50%	0
Hours of supply	Population >100,000	20-24hrs	20	<8hrs	0
	Population <100,000	>16hrs	20	<4hrs	0
Cost Recovery (O&M)		>130%	20	<70%	0
Metering ratio		100%	20	<50%	0
Staffing (No. of staff per 1000 connections)	Large & Very large companies	<5	20	>20	0
	Medium & Small companies (with less than 3 towns)	<7	20	>20	0
	Medium & Small companies (with more than 3 towns)	<9	20	>25	0
Water coverage		>90%	20	<30%	0
Sanitation coverage		>90%	10	<20%	0
Total maximum Score			200		

3.5 Overall Ranking

From the scores, Malindi emerged as the best company overall followed by Nyeri. Meru was third while Eldoret and Nyahururu took positions four and five respectively. In the small WSP category, Nyahururu emerged top, followed by Isiolo. In the medium category, Malindi was first followed by Meru. In the large WSP category, Nyeri was first followed by Eldoret.

The least performing WSPs were Olkalou, Kapenguria, and Imetha in position 55, 54 and 53 respectively.

Service delivery generally improved with increase noted in coverage, metering, reduction of UfW and cost coverage. With this improvement, we expect that consumer confidence will continue to

grow, and ultimately translate into improved collections. However, challenges still abound in the areas of water quality, hours of supply and staff rationalization. The ranking of WSPs is illustrated in Table 3.4.

Table 3.4: Performance ranking of WSPs

Name of WSP / main town	Staffing	Water coverage	Sanitation coverage	UfW	Collection Efficiency	O&M cost coverage	Drinking Water Quality	Compliance with chlorine standards	Hours of Supply	Metering ratio	Total Score	Ranking	Overall ranking
WSPs very large (more than 35000 connections)													
Nairobi	9.76	35.26	22.91	39.59	84.93	150.80	No data	99.67	15.00	99.58	121	1	7
Mombasa	10.87	56.59	55.48	33.73	90.35	121.77	47.14	84.94	6.00	100.00	118	2	8
WSPs large (10,000 - 34,999 connections)													
Nyeri	8.27	57.50	36.00	45.30	96.80	132.53	100.00	96.41	24.00	100.00	149	1	2
Eldoret	5.85	54.15	25.45	43.92	103.13	150.00	85.55	60.12	24.00	100.00	143	2	4
Othaya	6.91	55.34	74.20	84.91	81.58	106.00	83.33	98.58	24.00	9.15	108	3	11
Kirinyaga	6.92	16.24	No data	72.25	98.04	150.00	100.00	90.03	22.80	48.84	101	4	13
Kisumu	18.89	26.54	10.29	68.88	99.78	120.03	98.48	98.91	16.00	100.00	101	4	13
Nakuru	9.20	66.67	96.00	52.54	72.21	150.00	59.09	66.03	10.00	59.90	97	6	18
Mathira	11.98	22.96	82.65	64.76	101.17	81.00	100.00	100.00	18.00	39.66	95	7	19
Nzoia	10.90	35.39	84.62	52.80	81.84	69.70	98.04	99.78	15.00	61.46	92	8	21
Nakuru Rural	6.04	49.05	No data	45.64	71.55	150.00	100.00	13.89	12.00	18.30	92	8	21
Western	21.06	29.46	95.18	24.88	112.60	63.28	100.00	83.33	10.67	42.25	83	10	31
Gusii	7.77	8.10	75.00	53.00	89.48	62.11	50.00	55.56	12.00	63.46	79	11	34
Garissa	10.05	57.14	4.76	77.00	45.00	116.10	75.00	98.91	10.00	86.65	74	12	36
Kahuti	13.00	12.13	No data	80.99	81.74	113.38	95.89	83.29	16.00	26.34	72	13	38
Murang'a South	19.57	51.88	99.61	68.00	76.17	29.56	66.67	90.00	8.00	24.35	53	14	43
Amatsi	8.30	21.75	No data	60.02	68.71	88.79	16.67	90.00	6.90	2.15	46	15	48
WSPs medium (5,000 - 9,999 connections)													
Malindi	5.06	64.57	83.30	24.60	73.18	150.00	78.18	94.99	24.00	100.00	162	1	1
Meru	14.68	70.86	No data	27.61	117.89	113.25	74.43	96.18	24.00	94.53	146	2	3
Kericho	22.28	56.00	15.00	51.47	97.48	130.98	97.22	100.00	22.00	100.00	129	3	6
Tavevo	16.35	50.00	95.00	56.15	165.41	101.31	68.95	9.65	8.00	100.00	100	4	16
Muranga	12.70	51.03	38.58	77.26	98.10	77.56	100.00	81.81	18.00	73.47	92	5	21
Oloolaiser	14.93	12.59	No data	44.07	83.44	109.38	89.29	100.00	15.00	37.00	91	6	24
Tuuru	31.02	5.56	No data	74.50	88.90	150.00	No data	No data	24.00	97.58	88	7	27
Nanyuki	15.77	52.30	25.00	52.10	62.95	150.00	91.92	97.80	10.00	53.59	84	8	30
Tetu Aberdare	7.03	72.00	No data	68.50	77.26	117.80	40.00	40.00	16.00	47.00	82	9	32
Gatamathi	7.52	56.31	No data	85.62	117.80	94.87	84.66	69.90	11.00	5.59	74	10	36
Embe	13.05	25.44	56.78	70.60	102.63	95.61	50.00	41.67	15.30	18.92	65	11	40
Imetha	39.05	12.21	No data	82.30	69.80	45.43	100.00	100.00	No data	No data	34	12	53
WSPs small (<5000 connections)													
Nyahururu	21.64	49.90	63.31	37.84	97.72	116.82	100.00	92.33	22.00	97.09	132	1	5
Isiolo	11.69	25.86	10.00	49.80	111.99	97.35	75.21	100.00	18.00	77.47	112	2	9
Embu	10.06	47.90	17.00	51.18	107.94	130.00	85.33	65.00	16.50	100.00	110	3	10
Lamu	29.00	43.88	60.00	32.00	89.00	42.00	19.23	4.00	18.00	100.00	102	4	12
Makindu	16.00	29.05	15.30	40.00	98.70	78.20	92.10	91.00	10.00	100.00	101	5	13
Mavoko	13.00	20.00	15.00	37.50	81.32	120.00	100.00	100.00	3.00	98.00	98	6	17
Kibwezi	19.41	4.95	No data	51.88	87.90	150.00	91.67	100.00	7.00	84.64	93	7	20
Yatta	42.09	5.41	No data	50.10	122.33	15.00	100.00	100.00	10.00	100.00	91	8	24
Tarda-Kiambere	24.07	13.53	No data	30.70	79.66	118.56	50.00	83.33	12.00	100.00	90	9	25
Kitui	22.38	24.61	No data	76.15	114.69	150.00	No data	89.47	16.00	100.00	88	10	27
Naivasha	16.20	13.33	No data	30.00	84.00	150.33	No data	No data	14.00	6.83	85	11	29
Narok	35.76	20.82	77.67	75.21	107.26	47.65	75.00	100.00	7.00	99.31	82	12	33
Mikutra	40.60	42.60	25.00	61.00	103.47	123.84	66.70	100.00	8.00	22.03	77	13	35
Muthambi	13.41	4.18	No data	62.10	73.49	68.72	No data	No data	18.00	99.33	70	14	39
Mt Elgon	16.68	57.14	No data	76.57	75.31	70.45	100.00	94.26	11.20	0.76	63	15	41
Nithi	22.86	7.37	No data	No data	99.89	67.88	100.00	60.00	13.30	28.55	56	16	42
Nyandarua North	0.00	No data	No data	83.59	64.15	150.00	No data	No data	No data	No data	51	17	44
South Nyanza	12.47	15.57	No data	84.37	100.23	0.02	No data	No data	No data	65.51	50	18	45
Upper Chania	22.66	11.32	No data	No data	92.43	107.57	60.00	66.67	No data	No data	49	19	46
Rumuruti	25.27	69.75	86.73	No data	74.31	27.00	No data	No data	8.00	No data	48	20	47
Tachaasis	15.06	9.11	No data	66.39	82.99	104.39	No data	No data	24.00	No data	45	21	49
Kwale	26.63	17.78	24.40	77.42	51.65	150.00	70.47	68.44	12.40	62.72	44	22	50
Vihiga	120.51	15.82	30.00	66.95	89.23	10.69	50.00	40.00	7.00	No data	38	23	51
Kapsabet Nandi	24.44	15.15	20.00	64.47	101.11	52.50	41.67	42.00	6.00	38.93	37	24	52
Kapenguria	12.20	30.00	No data	67.95	65.70	56.69	16.67	87.30	10.00	4.80	20	25	54
Olkalou	53.76	5.58	No data	No data	No data	5.94	No data	No data	3.00	No data	0	26	55
					Good								
					Acceptable								
					Not Acceptable								

3.6 Comparative performance over time

The comparison of one WSP with another is important for gauging improvement in sector performance. However, some WSPs may have recorded improvement within their operations from the position they were last year, without necessarity rising to emerge top in the sector. It was therefore considered necessary to also acknowledge improvement made over time.

Table 3.5 illustrates the comparative performance of the WSPs which had submitted information in Year 2005/2006.

Table 3.5: Comparative performance of the WSPs which had submitted information on Year 2005/2006

Name of WSP	Score 2005/06	Score 2006/07	Variance
Tavevo	68	100	32
Meru	117	146	29
Eldoret	114	143	29
Kericho	102	129	27
Nakuru	72	97	25
Mombasa	93	118	25
Lamu	77	102	25
Malindi	139	162	23
Gathamathi	55	74	19
Embe	49	65	16
Nyeri	135	149	14
Nzoia	104	92	12
Isiolo	102	112	10
Muranga	91	92	1
Amatsi	49	46	(3)
Embu	117	110	(7)
Nyahururu	141	132	(9)
Kisumu	114	101	(13)
Nairobi	137	121	(16)
Maragua	71	53	(18)
Garissa	93	74	(19)
Mathira	115	95	(20)
Nanyuki	126	84	(42)
Eldama Ravine	64	Nil	Nil

3.7 Performance of WSPs by indicator

As mentioned earlier, indicators that have significant impact on the performance of the sector were identified and used to gauge the performance of the WSPs. This is discussed below.

3.7.1 Water Coverage

Water coverage describes the population served by a WSP compared to the population living within the service area of the WSP. Access is defined to take into consideration the aspects of quantity, quality, distance, cost, and waiting time.

The average of the weighted water coverage during the year 2006/07 was 36.95%, with the range straddling between 4.26% and 69.75%. This average is grossly below the minimum acceptable value of 90%, with none of the WSPs meeting the benchmark.

Data on water supply shows that the annual water production is approximately million 273.8 m^3/year, while the population in the area of service is 9,523,390, and the served population is 3,505,046. This indicates that while the coverage is 36.95 per cent, the actual production is 217 litres per capita per day. With the average UfW of 44 per cent, the available water is 122 litres per capita per day, which is high. It should, however, be noted that most of the UfW water is actually consumed but not accounted for by WSPs.

Experience has shown that distribution of the available water is skewed, with the poor and those living in informal settlements getting less of the share, while paying more for it. The scenario needs to be changed by improving coverage through use of low-cost technologies like water kiosks.

Compared to the year 2005/06, the weighted water coverage has reduced from an average of 39% to 36.95% in 2006/07. The reduction is attributed to:

(a) Inclusion of more WSPs with less developed infrastructure, specifically 55 WSPs compared to 25 WSPs considered in 2005/06.

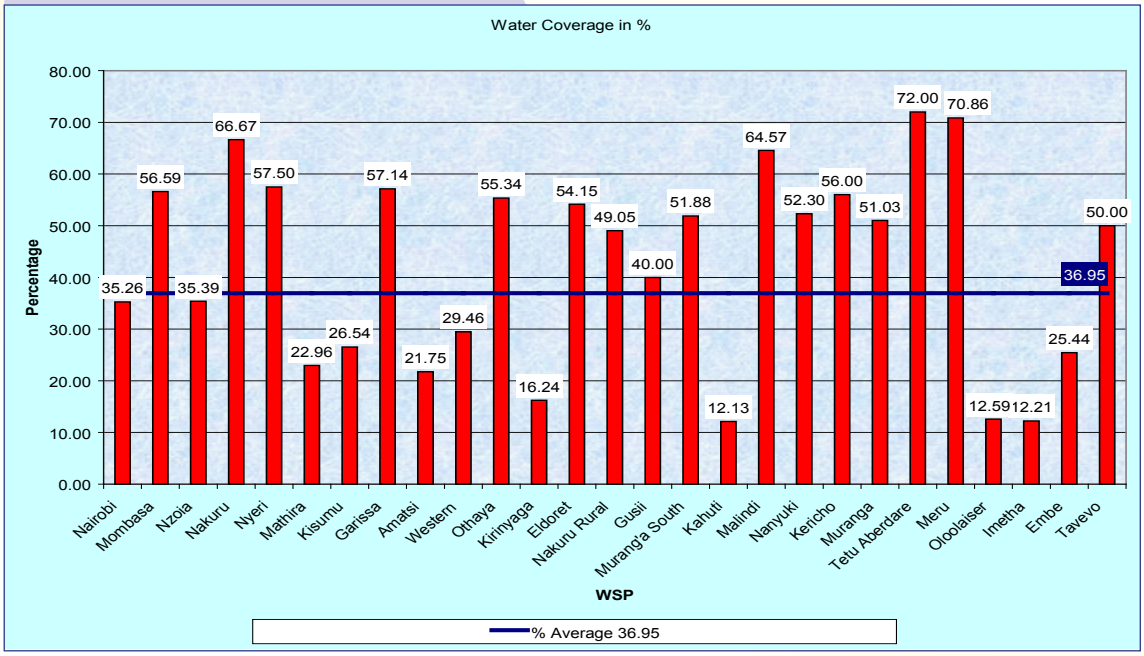
(b) Inclusion of 9 rural WSPs, compared to none in 2005/06.

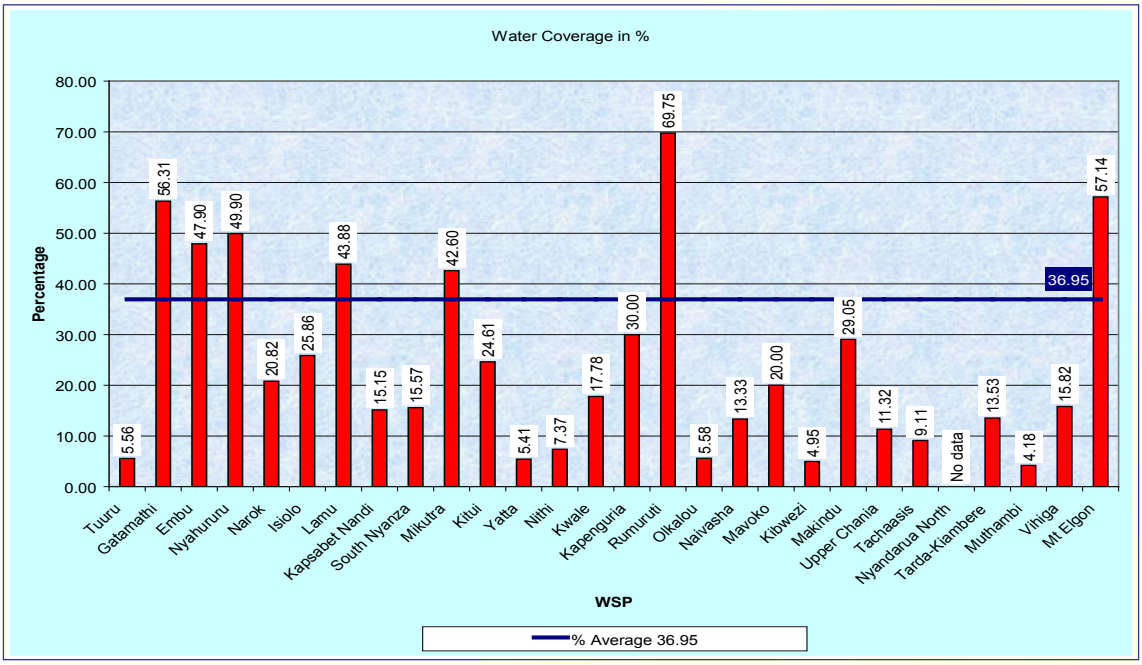
(c) Submission of more accurate data, with better understanding of the factors that contribute to access. This is due to the training conducted by WASREB before the compilation and submission of the data.

(d) Significant reduction of coverage from 45.5 per cent to 35.0 per cent in Nairobi due to an improved information system at company level.

The performance of WSPs in this indicator is illustrated in figure 3.1 below:

Figure 3.1: Water coverage





Key

Water Coverage Bench-mark	Good	>90%
	Acceptable	80-90%
	Not acceptable	<80%

A clearer picture of the trend on coverage can be derived when relying on the same baseline WSPs as were covered in the year 2005/6.

Indicators	2005/2006	2006/2007 - same baseline	Increase/ Decrease	2006/2007- Includ. new WSPs
Water Coverage %	39.04	42.45	+ 3.41	36.95

When WSPs used in 2006/2007 are considered, coverage is seen to increase by more than 3 per cent.

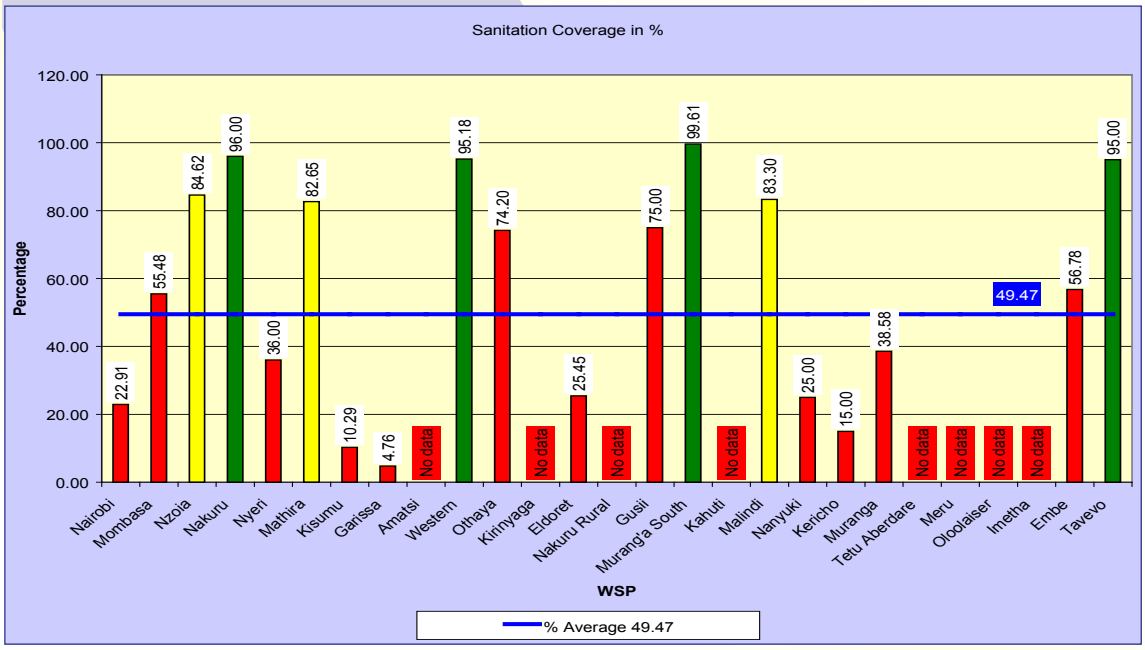
3.7.2 Sanitation Coverage

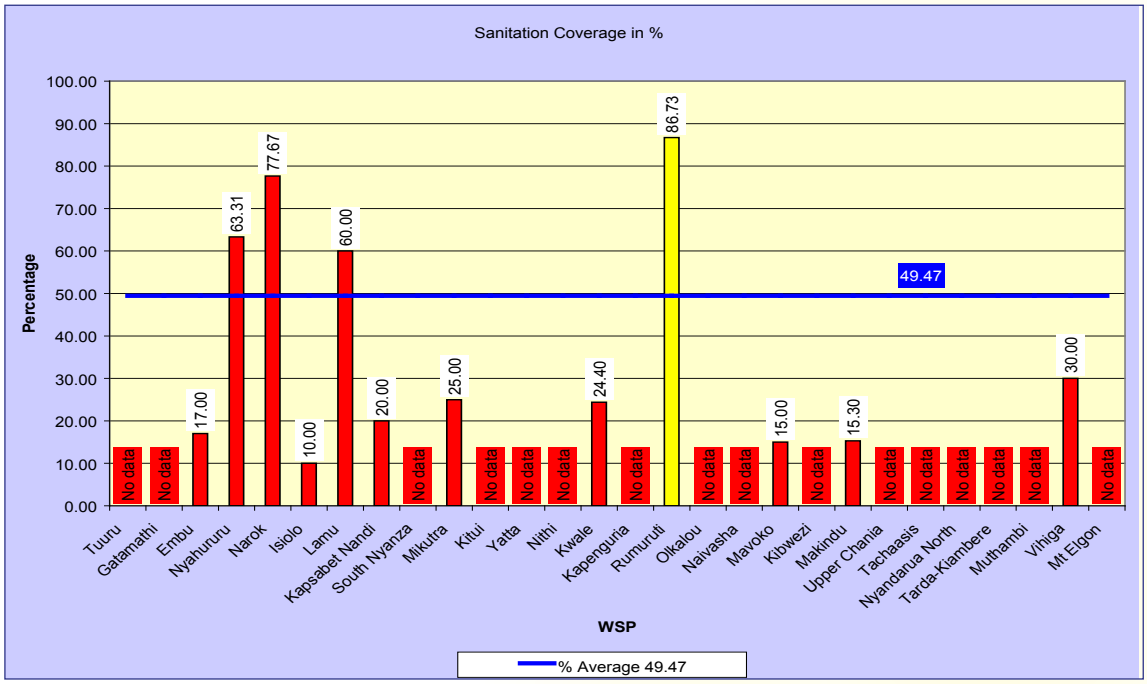
Sanitation coverage is defined as the proportion of the population within the service area of the WSP which is using improved sanitation facilities. These are defined as flush or pour-flush to piped system, septic tanks, ventilated improved pit latrines and pit latrines. The average sanitation coverage has been estimated as 49.47%, which is a drastic 'improvement' from the value of the previous year of 17%. The apparent increase in coverage was occasioned by better understanding of what sanitation entails, following training sessions conducted on WARIS. Though there could have been improvement in coverage due to the various projects undertaken, the degree is not certain.

Nevertheless, sanitation coverage is still exceptionally lower than the acceptable sector benchmark of 90%. This may be because most WSPs do not manage onsite sanitation and therefore they do not have information on the same. Owing to this, data captured in this section is unrealistic and may not therefore be reliable. In the case of Murang'a South for example, sanitation coverage is captured as 99%, which is exceptionally high. In Garissa, coverage is captured at 4.76%, which is exceptionally low. This anomaly can be addressed if the definition of sanitation is standardized and adopted by WSPs.

Due to the traditional lack of preference on investment on sewers, higher cost of sewer works and the limited resources, the development of sewerage is still exceptionally low, and does not meet the projections of targets of NWSS, MDGs and Vision 2030. This is set to change with the policy that all water works must have sewerage components. Figure 3.2 gives a graphic depiction of sanitation coverage.

Fig 3.2: Sanitation coverage





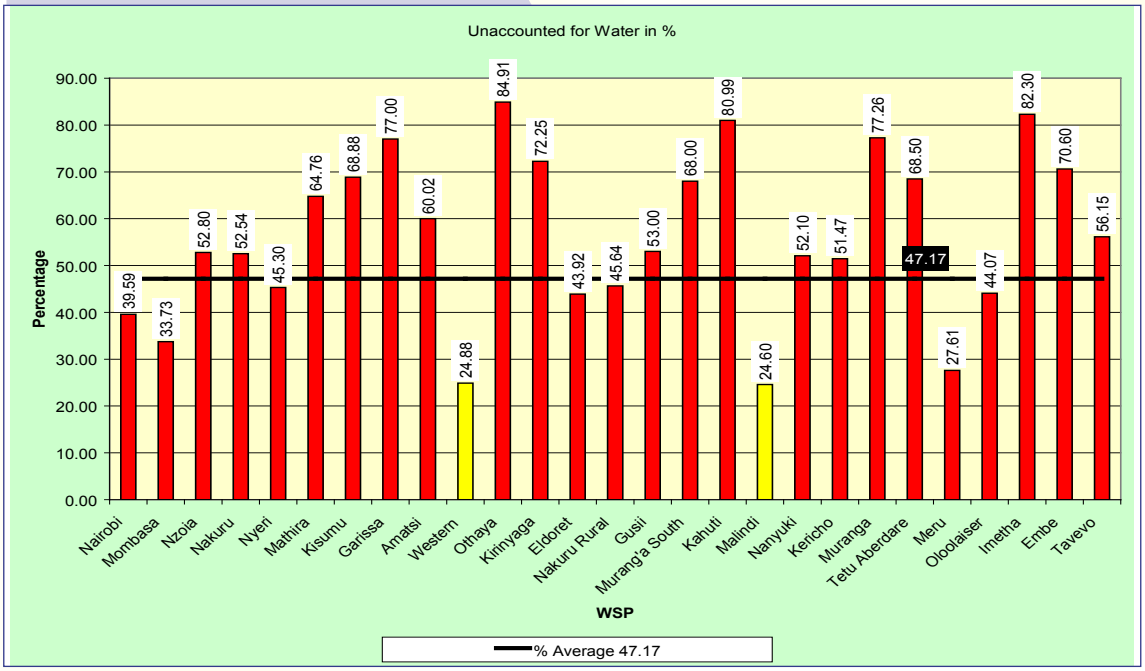
Sanitation Coverage Benchmark	Good	>90%
	Acceptable	80-90%
	Not acceptable	<80%

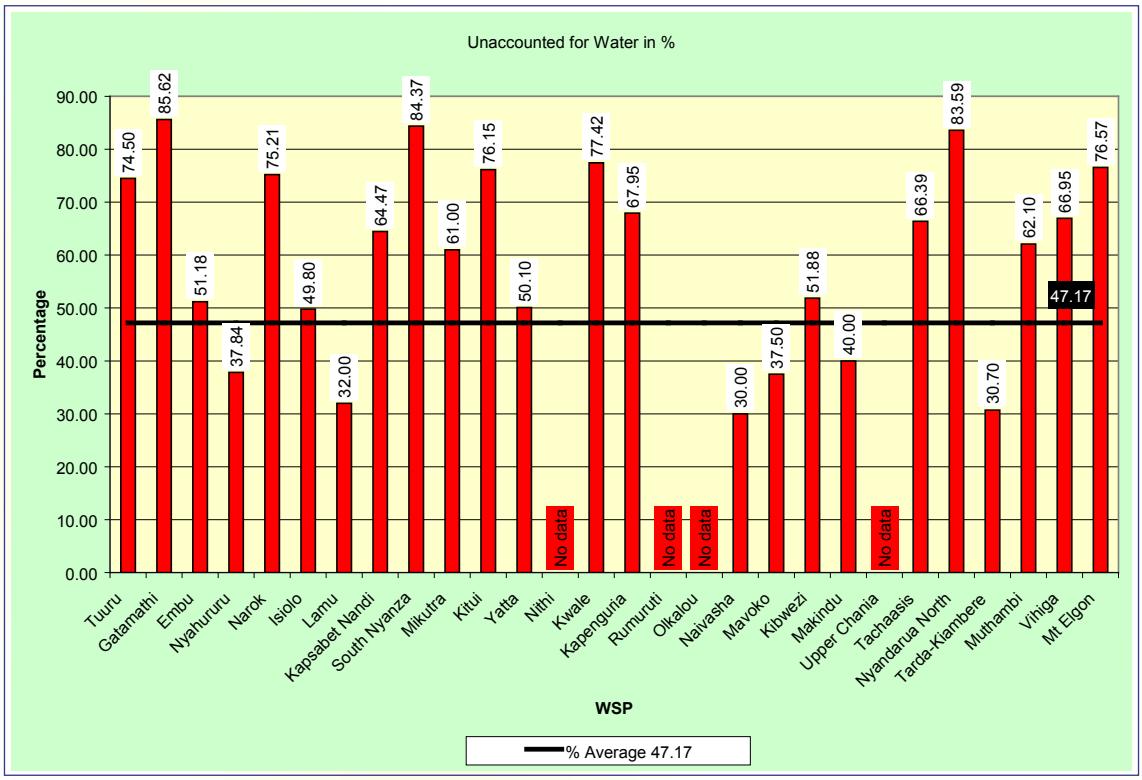
3.7.3 Unaccounted for Water (UfW)

Unaccounted for water (UfW) is the component of water produced but not billed for income to the WSP. Conventionally, it is defined as the difference between the quantity of produced water for distribution in the network and the quantity of water billed. UfW consists of the technical losses (e.g. due to leakage) and commercial losses (illegal connections, unbilled customers, wastage on

un-metered customers premises). UfW continues to plague the operations of WSPs as it is one of the major factors that contributes to the immense losses companies continue to experience. Sector performance is this indicator is illustrated in figure 3.3.

Fig 3.3: Unaccounted for water





UfW Benchmark	Good	<20%
	Acceptable	20-25%
	Not acceptable	>25%

Unaccounted for water continues to remain high at an average of 47 per cent, which is beyond the acceptable sector benchmark of 25 per cent. Only Malindi and Western are within the acceptable benchmark at 24.6 per cent and 24.88 per cent respectively.

Nevertheless there is a positive trend in reduction of UfW by 2.6 per cent if we consider only the baseline WSPs from 2005/2006. An overall drop in the indicator can be attributed to lower efficiency levels of newly incorporated WSPs.

Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Includ. new WSPs
UfW	44.72 %	42.11 %	-2.61	47.17 %

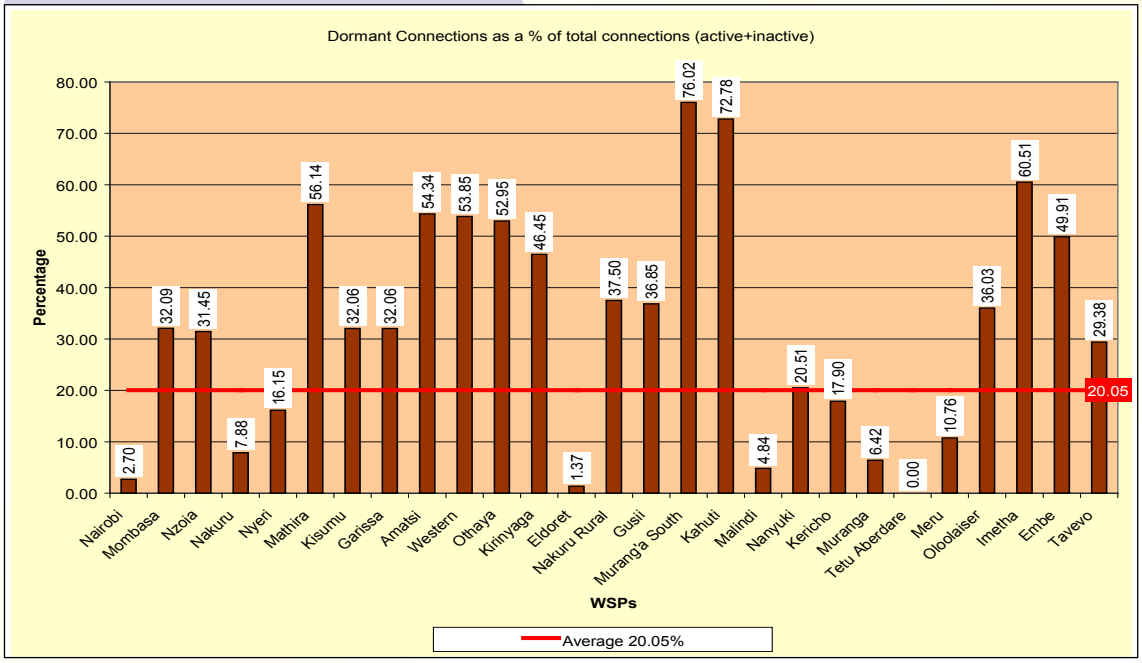
If the high water losses (UfW) are translated into monetary terms, one can understand the magnitude of the problem and the amount of revenues lost. With the high UfW, WSPs should devise strategies of addressing the massive monetary and consumer confidence losses.

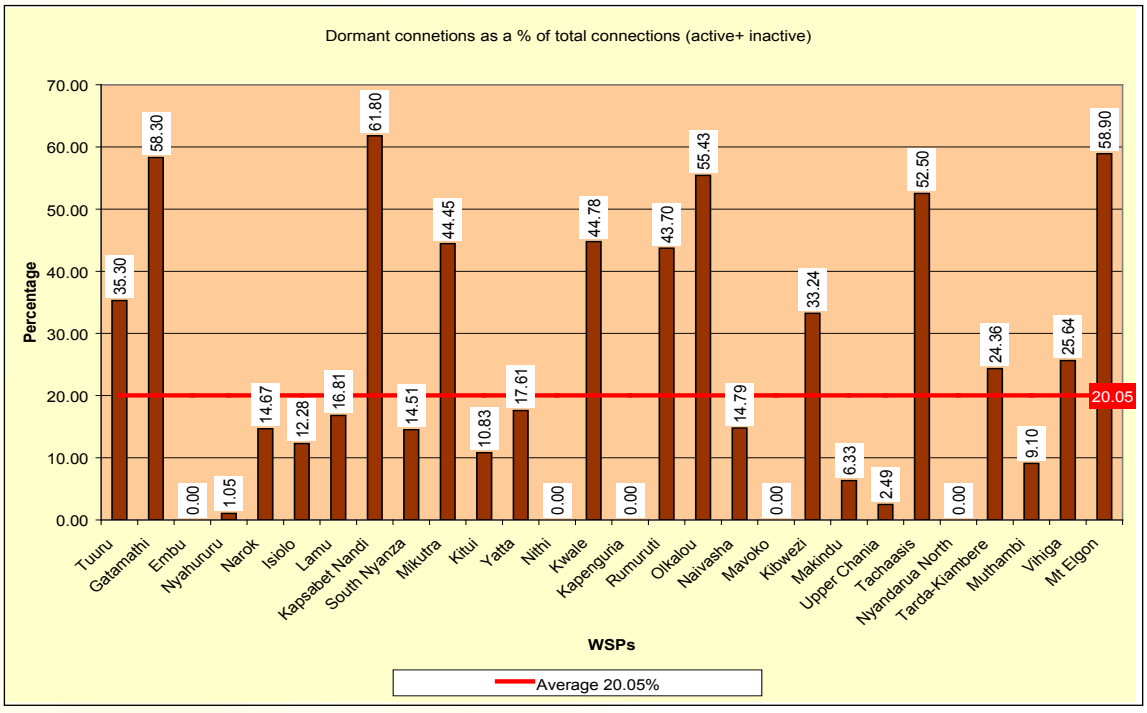
3.7.4 Dormant Connections

Dormant connections arise out of disconnections that last longer than three months. The ratio of dormant connections to total connections can be suggestive of how much customers value the services of a provider. If services are good and disconnections cause inconveniences, then the ratio is bound to be relatively low as customers would strive to resolve the issues resulting in disconnections. However, availability of alternative sources of services may raise the dormant disconnection ratio. Operations of such sources, in the near future, is supposed to be overseen by the principal WSPs. Such sources will be allowed to operate subject to the principal WSP not having adequate capacity to serve the area in question.

Percentages above 20% for dormant connections seem extreme. This could imply the existence of a large number of illegal connections in WSPs. It is not suprising that all the better performing WSPs have a very low percentage of dormant connections. WSPs should therefore adopt a policy of verifying dormant connections and reducing illegal connections.

Figure 3.4: Dormant connections





The national average for dormant connections continues to be high at 20.05 per cent, a deterioration from the previous year value of 15.39 per cent. This can be attributed to the inclusion of rural WSPs with higher ratios of dormant connections. There is a slightly positive trend of reduction of dormant connections when comparing only the baseline WSPs from 05/06.

Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Includ. new WSPs
Dormant Connections	15.39 %	14.74 %	-0.65	20.05 %

3.7.5 Water Quality

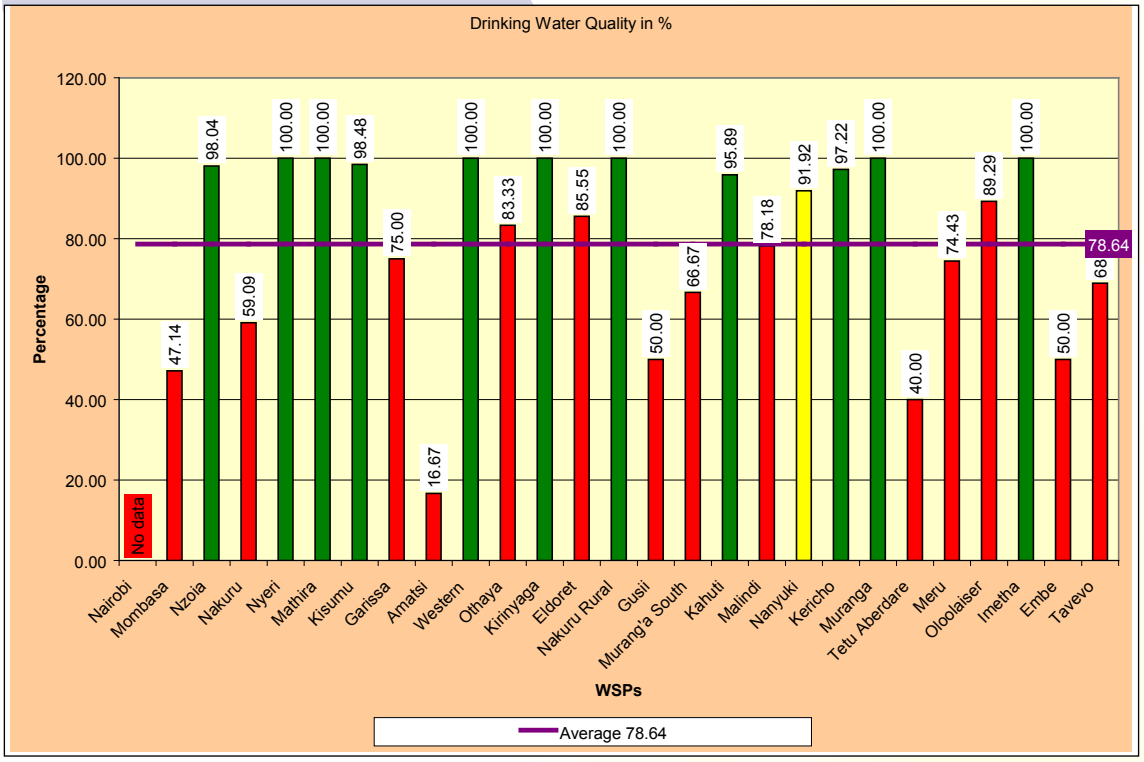
By the close of 2006/7, WASREB had finalised the development of a guideline on water quality and effluent monitoring, but the dissemination of this guideline had not been done. This did not, therefore, allow for the implementation of stringent measures in the assessment of water quality. In this regard, water quality, like in the previous period, was still assessed in terms of drinking water quality and compliance with residual chlorine levels.

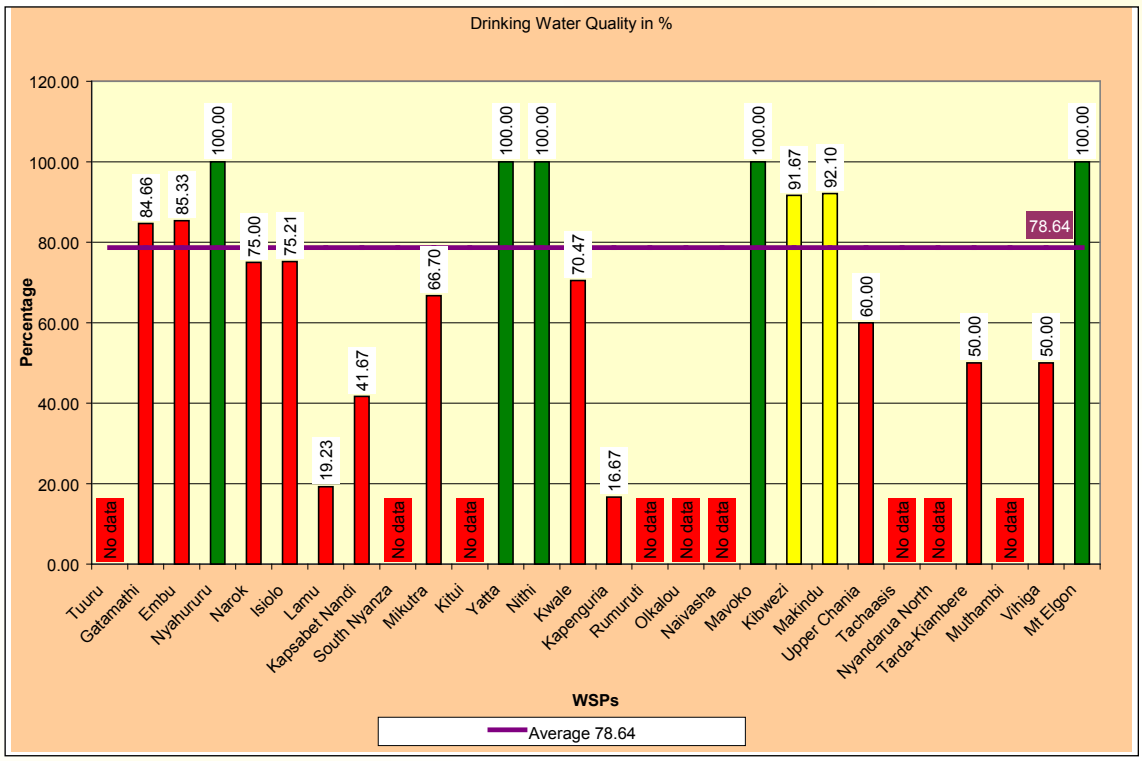
(a) Drinking water quality in terms of residual chlorine

Drinking water quality gives a measure of water quality in terms of percentage of drinking water quality tests carried out versus that planned for residual chlorine.

Figure 3.5 below shows the performance of all the providers during the current period.

Figure 3.5: Drinking water quality





Drinking Water Quality Benchmark	Good	>95%
	Acceptable	90-95%
	Not acceptable	<90%

There was generally a drop in the average performance on this indicator and this can be attributed to inclusion of smaller WSPs in the analysis. Even when the baseline WSPs from 2005/6 are considered, drinking water quality tests are still seen to have declined.

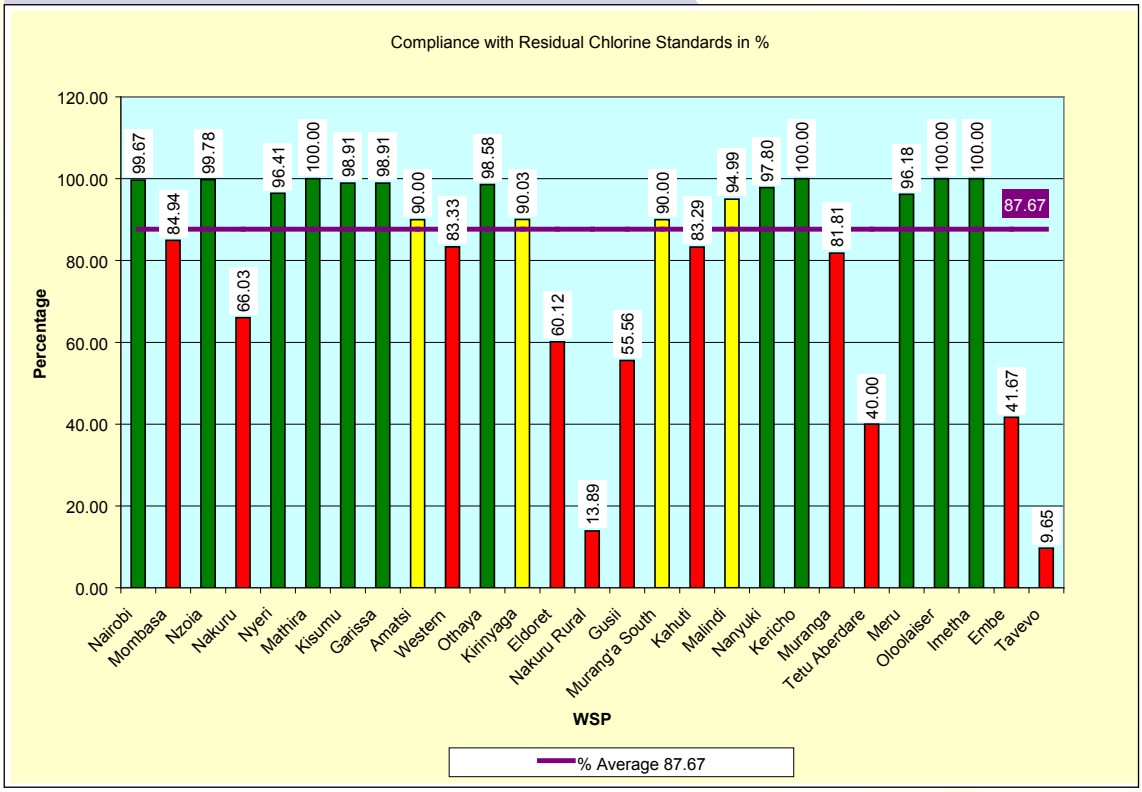
Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Includ. new WSPs
Drinking Water Quality Tests %	100	77.05	-22.95	78.64

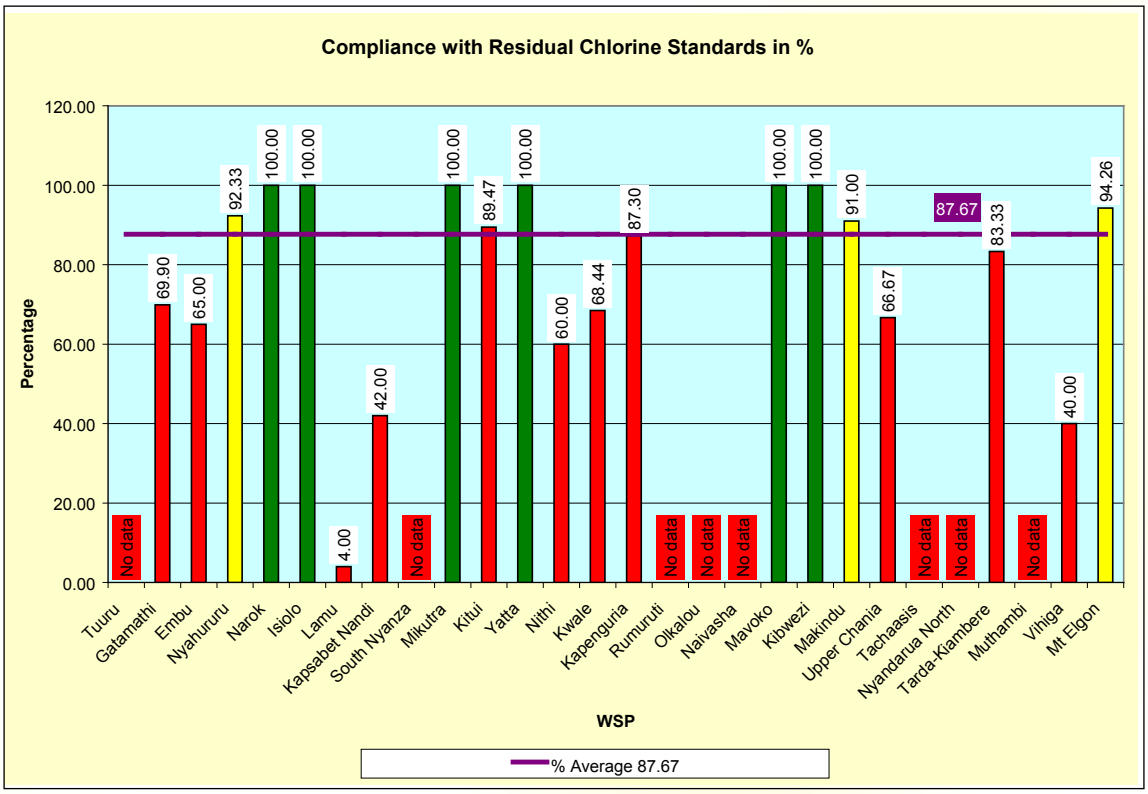
While Mombasa recorded the greatest improvement, its performance is still way below the acceptable limits. It is anticipated that with the dissemination of the water quality and effluent guideline, monitoring of water quality by the WSBs will be more frequent.

(b) Compliance with residual chlorine standards

Compliance with residual chlorine tests is a measure of the ratio of the number of samples within norm against the total number of samples.

Figure 3.6: Compliance with residual chlorine standards





Compliance with Residual Chlorine Standards	Good	>95%
	Acceptable	90-95%
	Not acceptable	<90%

There was generally a drop in the average performance on this indicator and this can be attributed to inclusion of smaller WSPs in the analysis. Even when the baseline WSPs from 2005/6 are considered, compliance with residual chlorine is still seen to have declined.

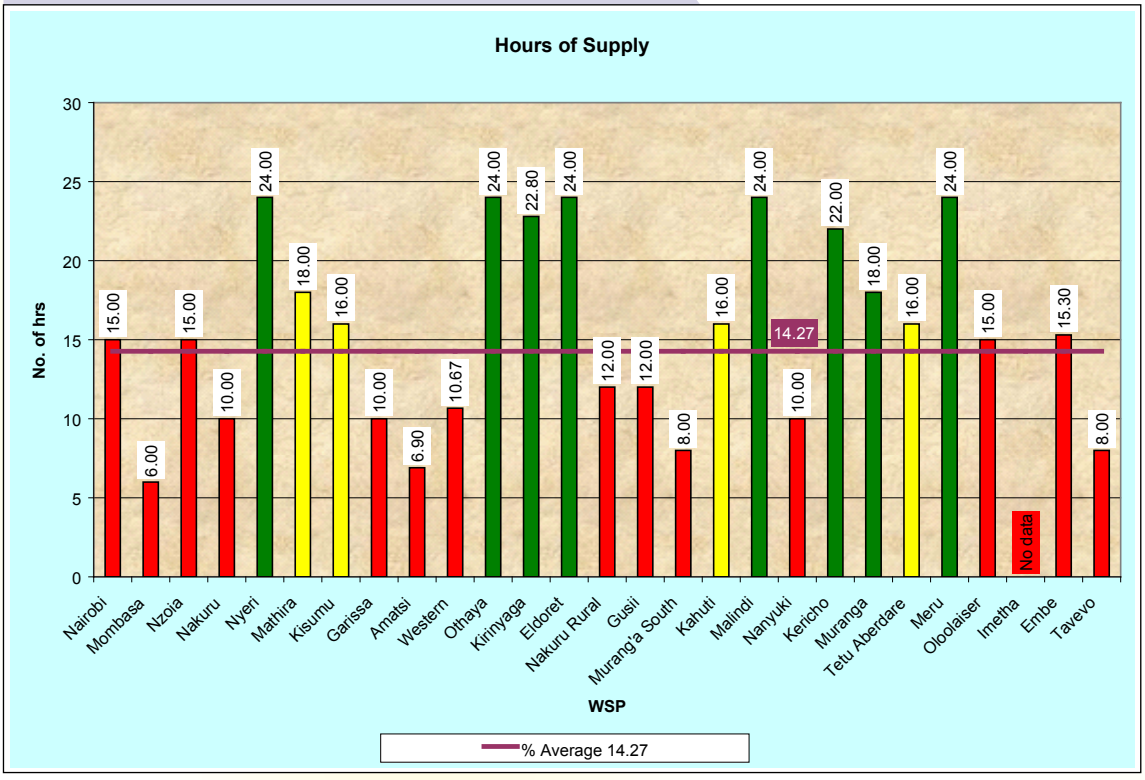
Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Includ. new WSPs
Compliance with Residual Chlorine standards %	90.35	87.91	-2.44	87.67

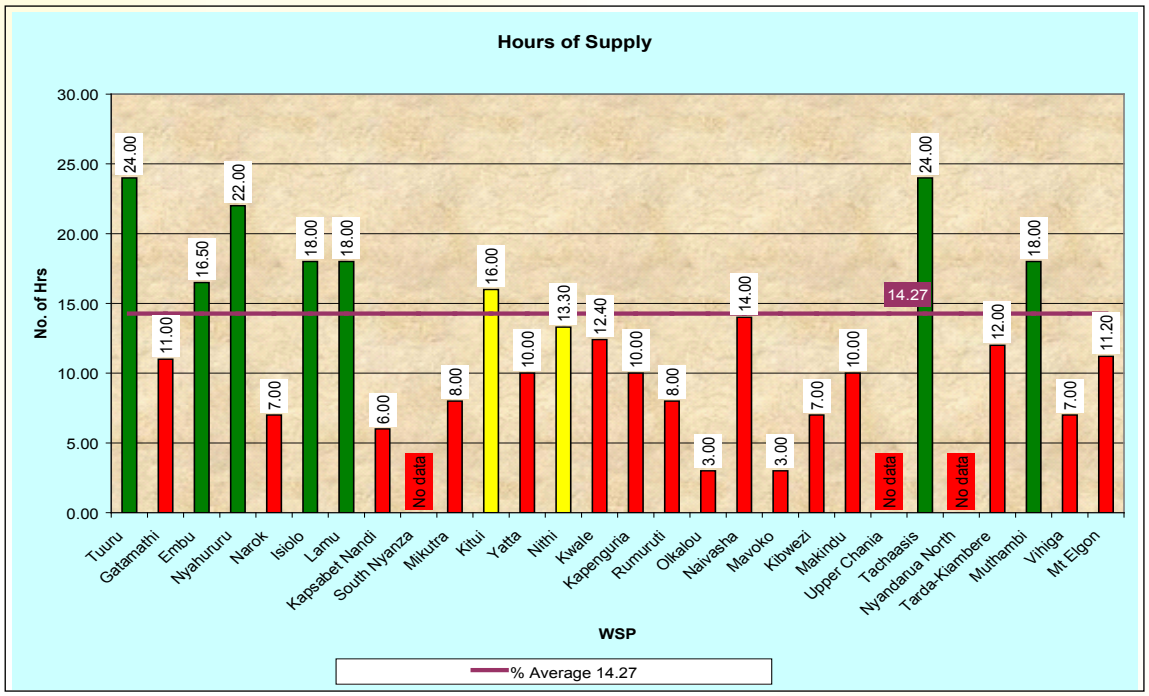
Remarkable improvement was noted in the case of Nyeri (46.21 per cent) and Eldoret (15.82 per cent). A major drop was recorded in the case of Tavevo (80.83 per cent).

3.7.6 Hours of Water Supply

Hours of supply is a measure of the average number of service hours that a utility is able to provide services. This definition takes cognizance of the aspects of distance, quantity, quality, waiting time and affordability. Figure 3.7 summarizes the average performance on this indicator during the review period.

Figure 3.7 Hours of Supply





Hours of Supply where population >100,000	Good	20-24 hrs
	Acceptable	16-20 hrs
	Not acceptable	<16 hrs

Hours of Supply where population <100,000	Good	>12 hrs
	Acceptable	12-16 hrs
	Not acceptable	<12 hrs

From figure 3.7, it can be noted that generally most WSPs recorded a drop in this indicator , a fact that can be attributed to weighting of the same within the entire service area as opposed to an average supply period that had been given in the previous year. The national average was 11.09 hours which was a drop from the figure of 15.92 hours reported in the period 2005/06. The drop cannot only be attributed to newly incorporated WSPs; it can also be observed when comparing the baseline WSPs only. It can be noted that the two very large WSPs of Nairobi and Mombasa are still within the unacceptable range for this indicator, with the latter being able to supply an average of 6 hrs per day.

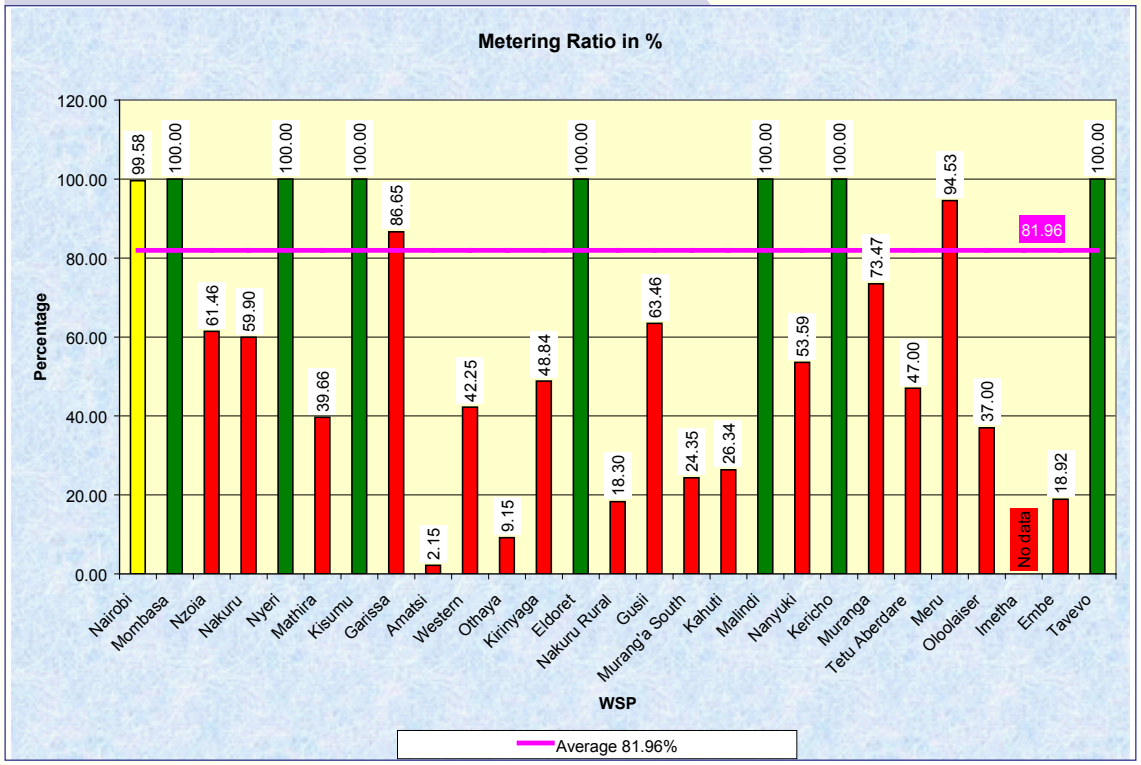
Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Includ. new WSPs
Hours of supply	15.92	15.28	-0.64	14.27

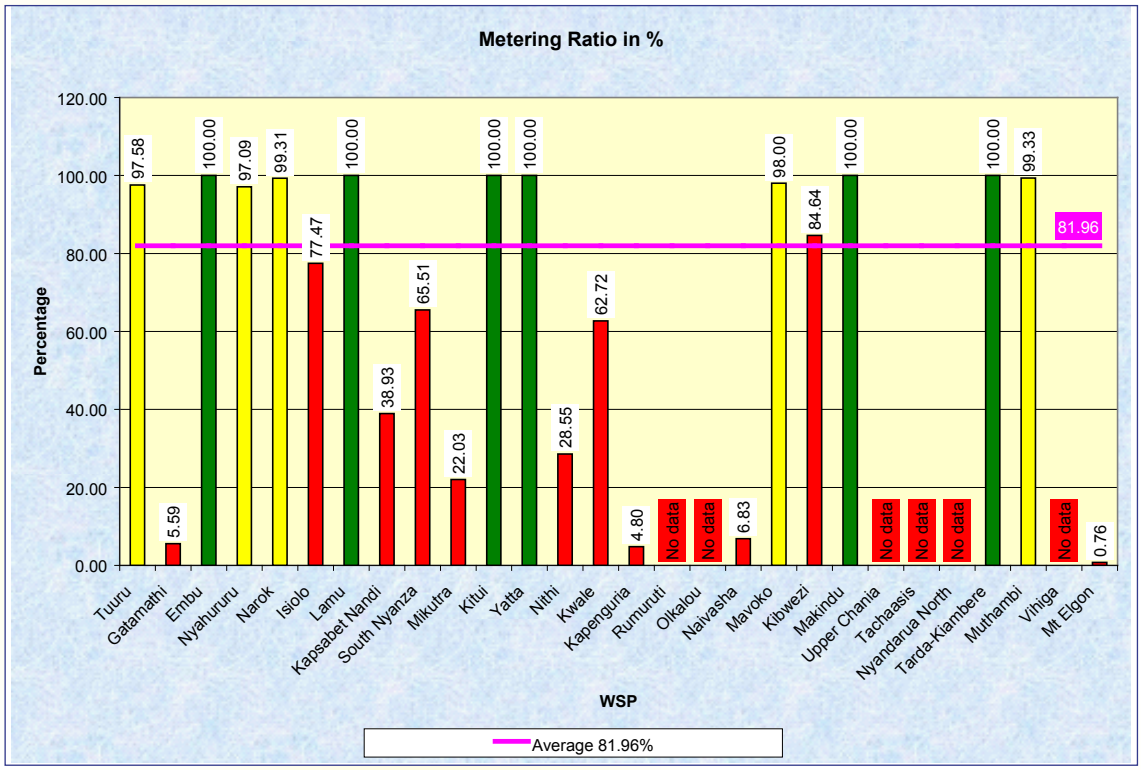
The greatest improvement was recorded in Meru where the number of hours changed from 8 to 24 whereas Narok reported the biggest decrease from 24hrs to 7 hrs per day. In both cases the variations can be attributed to quality of information in the first reporting period. It is anticipated that with the tariff increase implemented by WASREB, WSPs will undertake proper O&M, which situation is expected to result in an improvement in the quality of service.

3.7.7 Metering Ratio

This refers to the number of metered connections compared to the total number of connections. Metering is a prerequisite for charging consumers according to their consumption. It is an important tool for controlling consumption and UfW. Figure 3.8 shows the performance of WSPs in this indicator.

Figure 3.8 Metering ratio





Metering Ratio Benchmark	Good	100%
	Acceptable	95-100%
	Not acceptable	<95%

The metering ratio is at an average of 82 per cent, which is below the accepted benchmark of 95 per cent, and the impact is manifested in the high UfW. Compared to the performance of 2005/06, the metering ratio has reduced by an average of 4 per cent. This can be attributed to the inclusion of poorer performing and smaller WSPs in the data analyzed.

There is uncertainty about the functionality of installed meters. WASREB expects the ratio to drop further once more reliable information on the functionality of the meters is available.

Water meter

In Nairobi, the ongoing Water and Sanitation Services Improvement Project (WaSSIP) includes restoration of the existing infrastructure and is conceivably the reason for the improved metering ratio in the area. Kericho, Narok, Nzowasco and Amatsi dedicated efforts to metering customers. Nevertheless, Nyahururu, Meru, Mathira, Muranga and Embe made a drastic drop in metering, a phenomenon that is giving a general decrease in metering ratio. With much emphasis in metering, it is not vividly clear why these utilities are dropping in their metering ratio. This perhaps shows that the information submitted in the previous year was inaccurate or that the WSPs are not giving metering the priority it deserves.

Only Nyeri, Embu and Kisumu continue to meet the benchmark of 100 per cent metering.

When comparing only the baseline WSPs, a positive trend can be observed, as shown below.

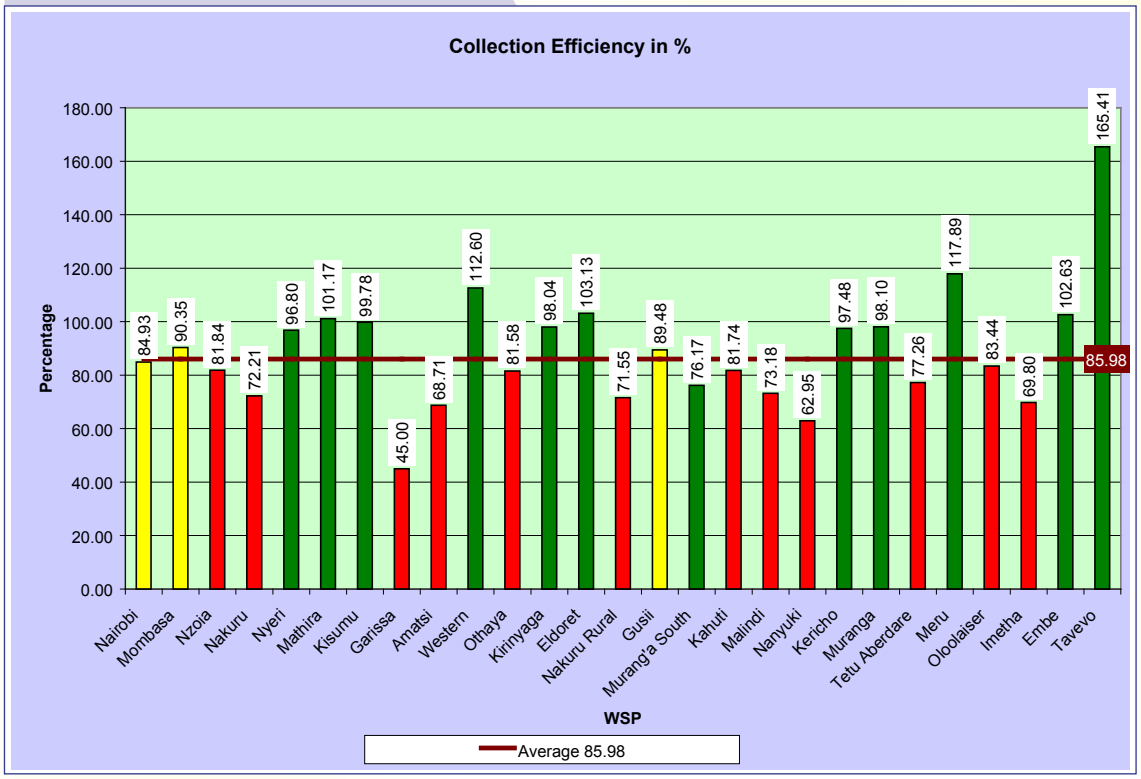
Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Includ. new WSPs
Metering Ratio %	86.06	89.65	3.59	81.96

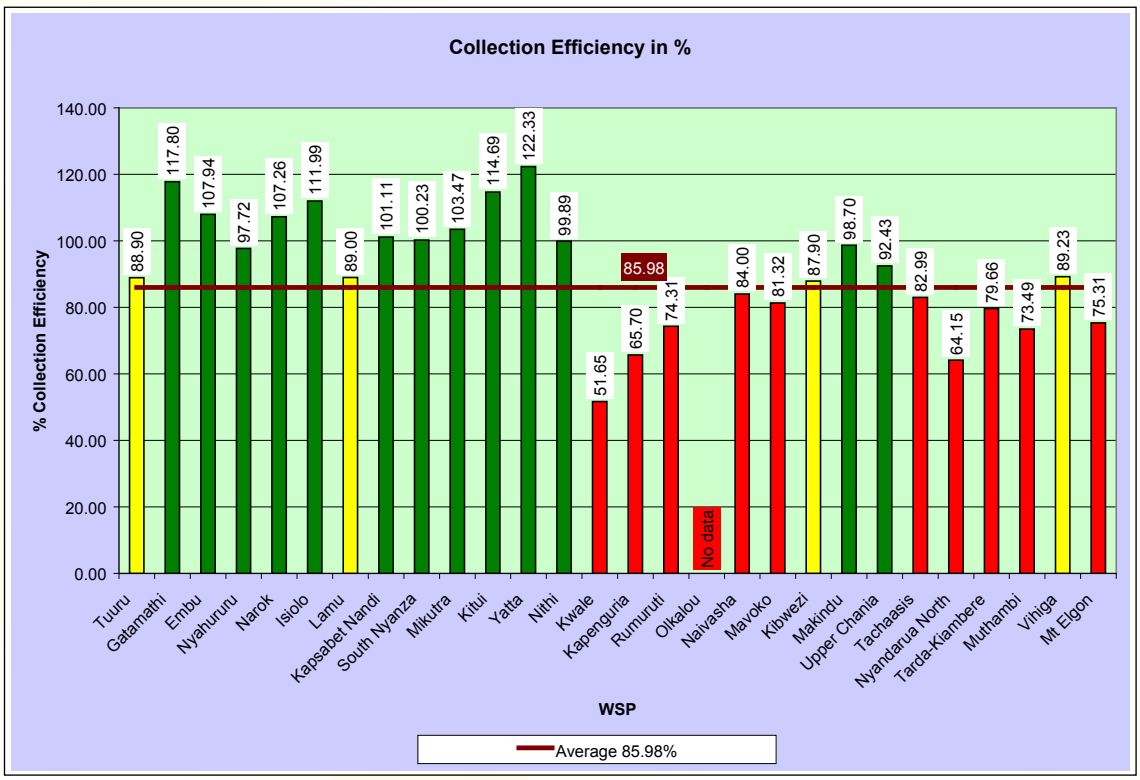
3.7.8 Revenue Collection Efficiency

Collection efficiency determines the percentage of the billed amount to consumers that is collected effectively by the WSP. Good performance in collection efficiency is essentially a management task.

For the period under review, most WSPs recorded very impressive revenue collection efficiencies. As shown in Figure 3.9, the average collection efficiency for the period was at approximately 86 per cent, showing a positive increase of 5 per cent in comparison to the previous reporting period. Although slightly more than half of all WSPs attained good levels of efficiency, there is still a big number within unacceptable levels.

Figure 3.9: Revenue Collection efficiency





Collection efficiency Benchmark	Good	>90%
	Acceptable	85 -90%
	Not acceptable	< 85%

Overall collection efficiency is still estimated to be relatively high due to high collection of outstanding arrears. A more realistic picture may be concluded if the unusual high collection peaks (over 85%) are cut out. By doing this, a national average of 82 per cent revenue collection efficiency can be concluded in comparison to 75 per cent in the previous reporting period. This is a very positive trend. The national average is close to the acceptable levels of 85 per cent.

Remarkable is the collection by Yatta and Tavevo. Garissa and Kwale are still far away from reaching acceptable levels.

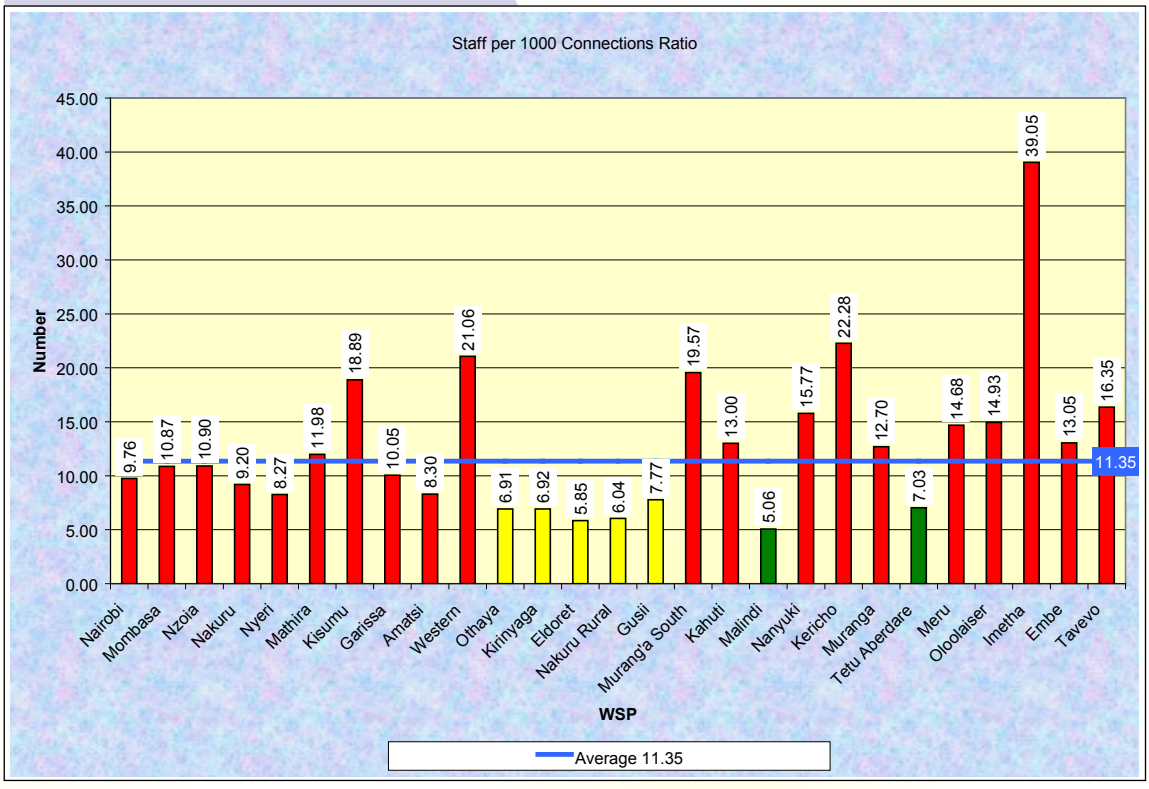
Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Include. new WSPs
Collection efficiency	80.29	86.16	5.87	85.98

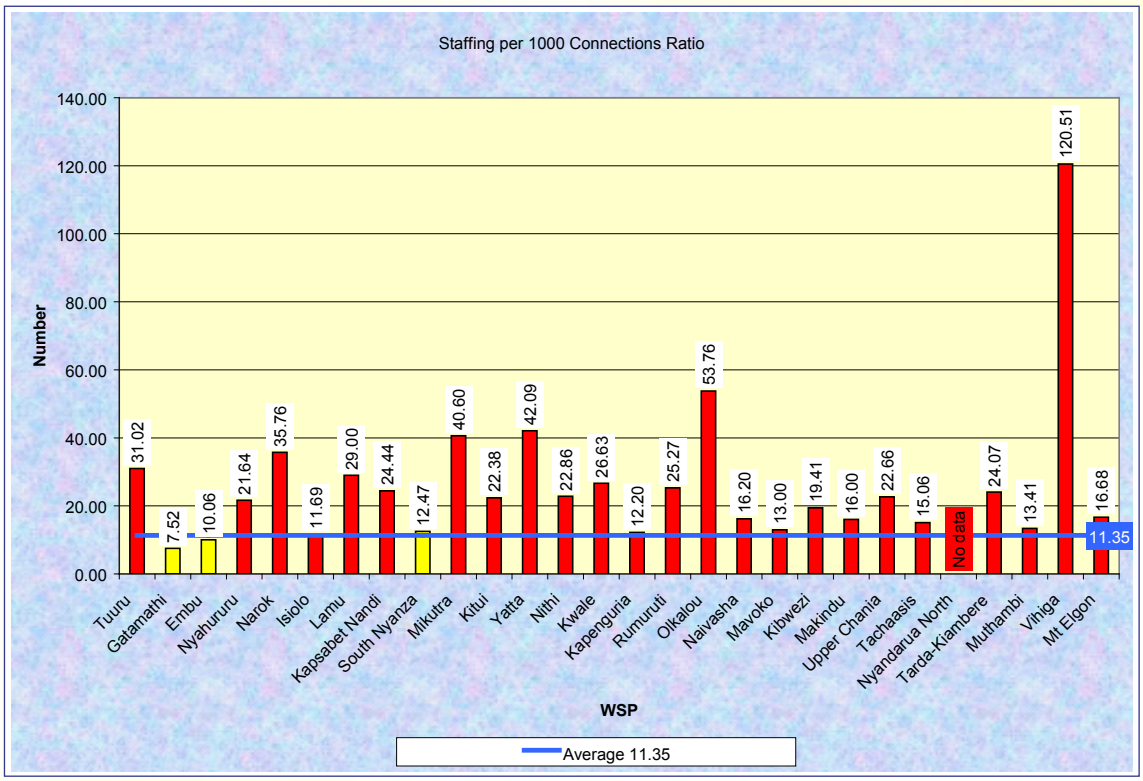
Within the baseline WSPs 2005/2006, collection efficiency is seen to have improved in the current period.

3.7.9 Staff Per 1000 Connections

This indicator describes the number of staff WSPs have for every 1000 connections. The lower the value, the lower the number of staff according to the size of the company. Low ratios usually indicate higher personnel efficiency. The indicator is recognized for evaluation of the efficiency of water companies in terms of number of personnel. Figure 3.10 shows the performance of the WSPs for this indicator.

Figure 3.10: Staff per 1000 connections





Benchmarks for staff establishment per 1000 water connections

Staff per 100 connections	Good	Acceptable	Not acceptable
Large Companies	<5	5-8	>8
Medium and small companies (with up to three towns)	<7	7-11	>11
Medium and small companies (with more than three towns with different systems)	<9	9-14	>14

Three of the Providers namely Eldoret, Kirinyaga and Nakuru Rural attained good benchmarks while 9 WSPs were within acceptable benchmarks. The rest of the WSPs were in the category of unacceptable staffing levels.

The national indicator dropped drastically from 5.7 to 11.3 staff per 1000 connections, which reflects a more realistic picture of the situation of most WSPs. It can be observed that most WSPs have significantly increased their number of staff, implying much lower efficiency levels. Compared to the previous period, this indicator shows a drop.

Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Includ. new WSPs
Staff per 1000 connections	5.72	10.65	4.93	11.35

Nairobi has corrected downwards its number of connections and corrected upwards the number of personnel leading to a higher ratio of staff per 1000 connections. Considering the size of Nairobi, this has impacted greatly on the national averages.

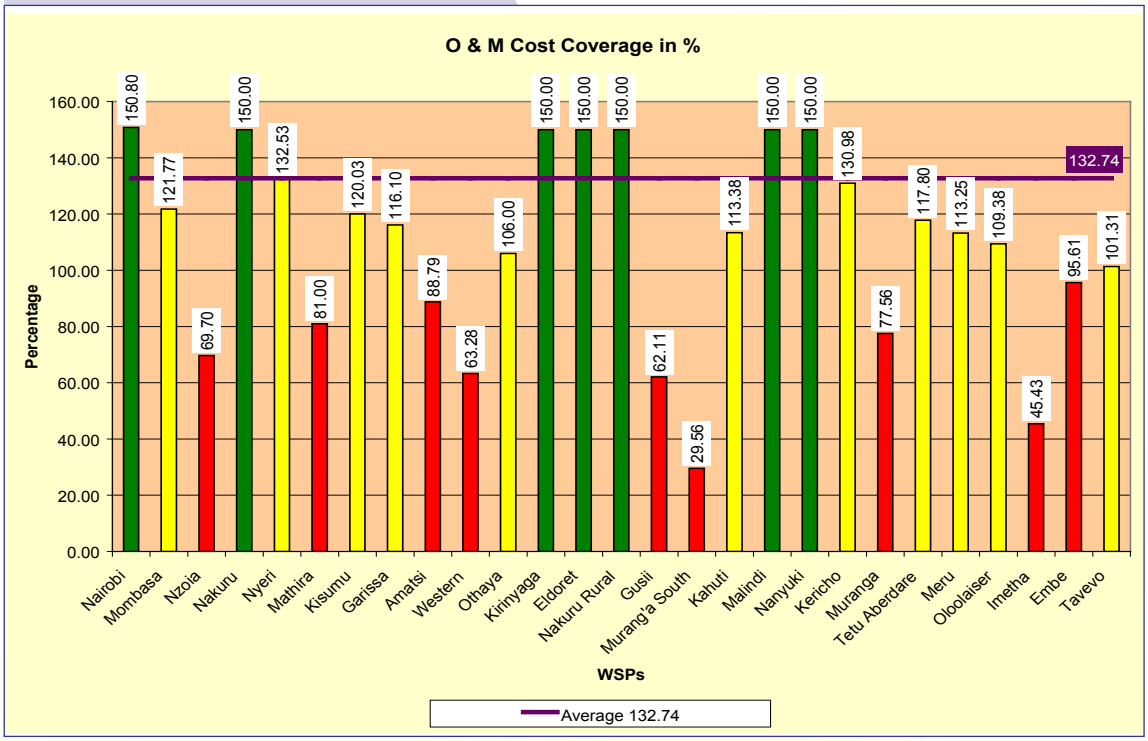
Overstaffing in the majority of the companies still continues, leading to very high personnel costs. Most of the companies that are overstaffed are not able to cover their O&M costs. There is a strong correlation between cost coverage and staffing levels.

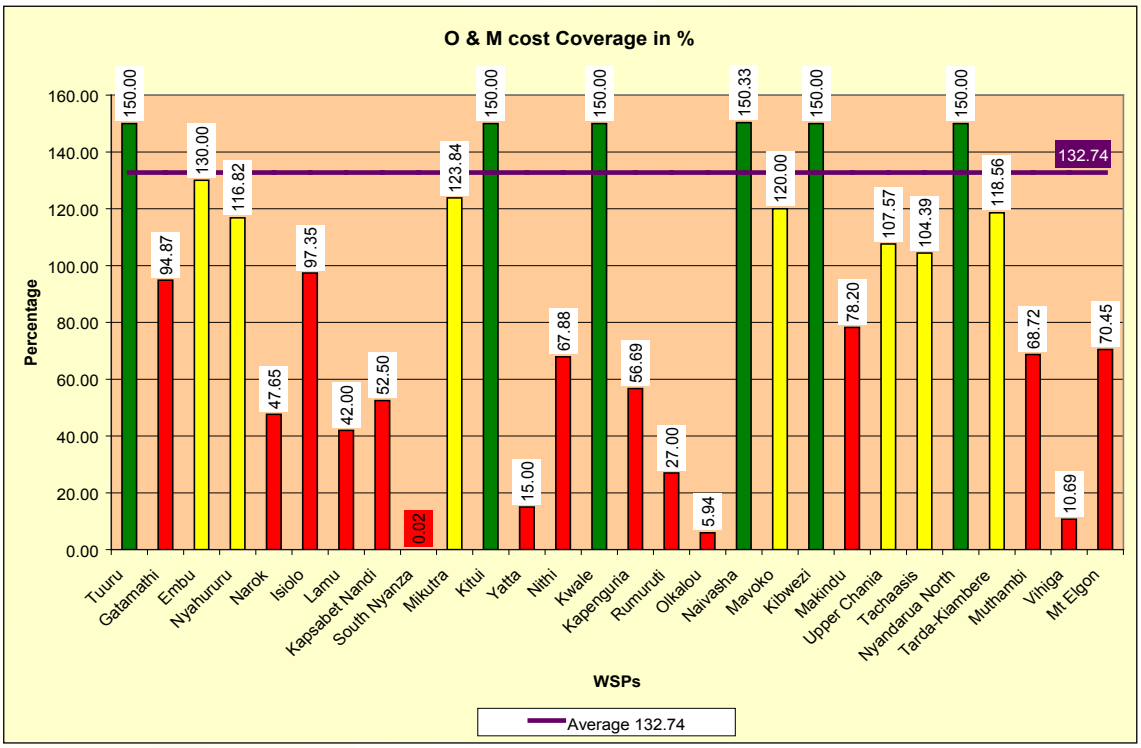
Reducing personnel and employing the right qualifications will help the companies to reduce personnel costs and work more efficiently. WSPs should therefore immediately adopt a policy of staff rationalization. This should be preceded by implementation of strategies in the Transfer Plan.

3.7.10 Cost Coverage

Some WSPs have problems to effectively differentiate between operational costs and costs for full cost recovery. Operations and maintenance (O&M) cost are the costs an institution requires to operate a system and to realize the vital maintenance of the infrastructure in place. The main categories of O&M costs are personnel, chemicals and energy costs. Costs in these areas should be reasonable and justified. It can be assumed that a large number of WSPs are not carrying out adequate maintenance works. For that reason, the actual production and O&M costs are expected to be higher than presented in the report. In certain cases also, some WSPs still receive subsidies for O & M. However, these costs have not been reflected for most WSPs.

Figure 3.11 O&M Cost coverage



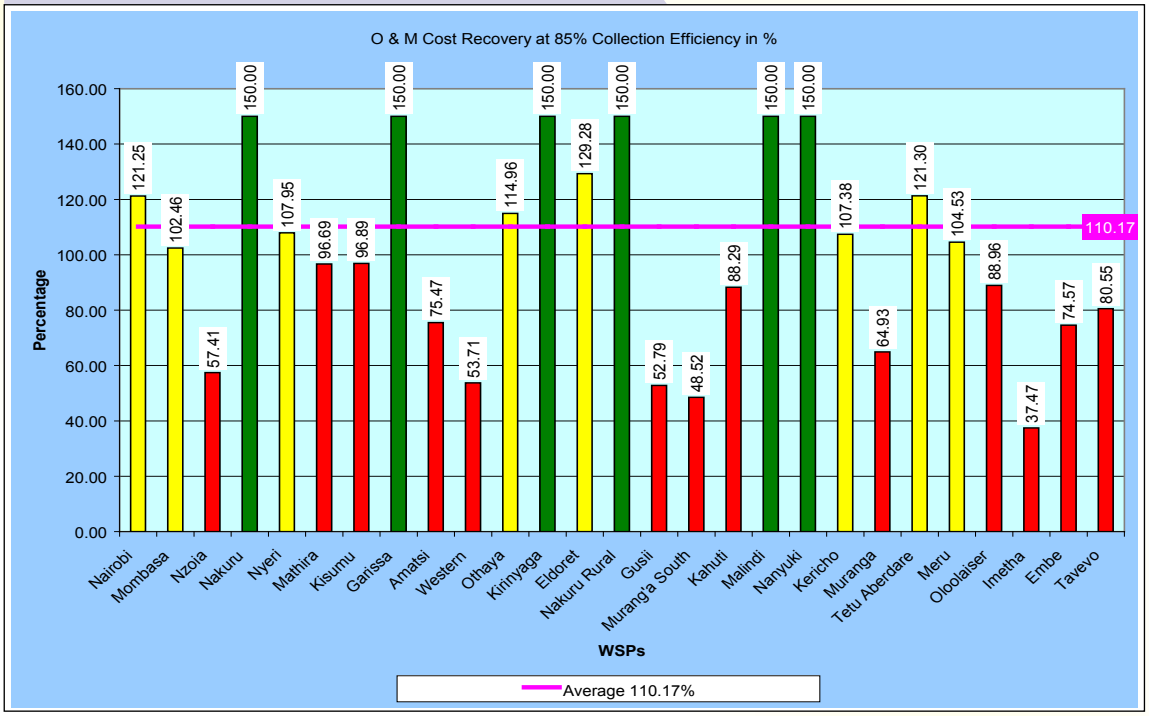


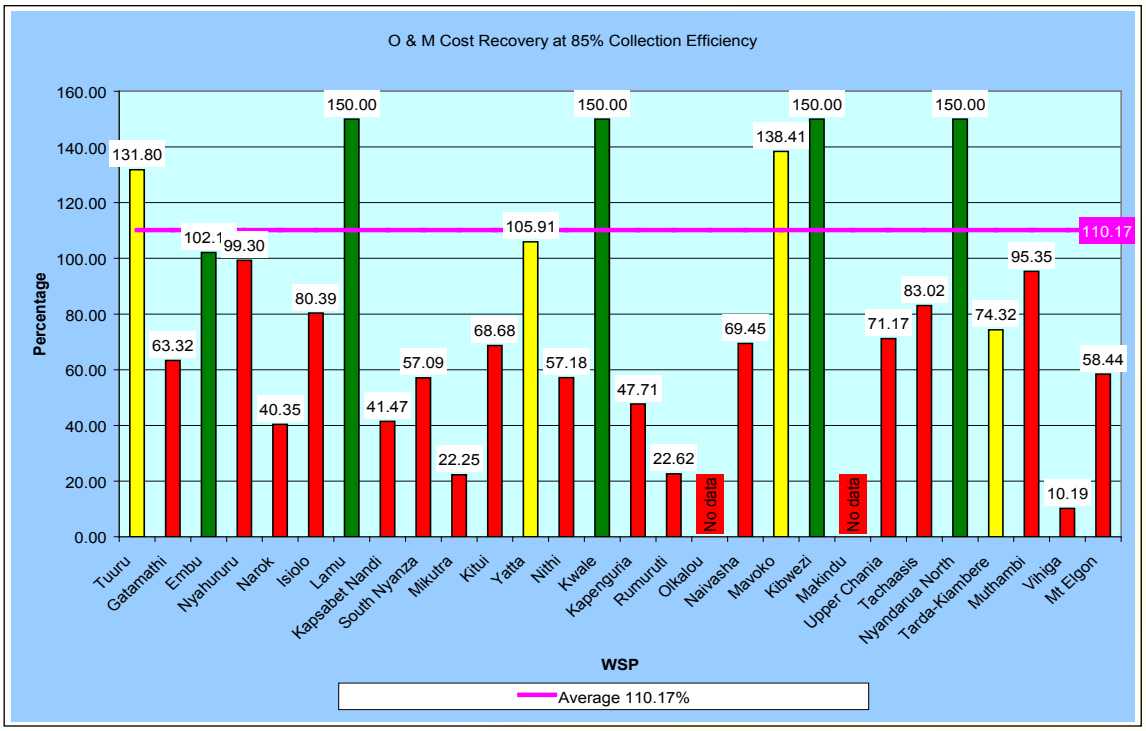
3.7.11 O&M Cost Coverage by Billing at 85% Collection Efficiency

Most of the WSP exceeded coverage of O&M costs in the reference year. Sustainable cost coverage must be reflected in the billing volume of the company. The amount a company is billing is the maximum average income a WSP can achieve – not considering the collection of outstanding arrears, which can only have a temporary effect. Usually, water utilities do not collect 100 per cent (Benchmarks are shown in the section under collection efficiency). A more realistic picture can be illustrated if we consider 85% collection efficiency.

Figure 3.12 shows the O&M cost coverage, if we consider a collection of 85 per cent of the volume billed.

Figure 3.12: Cost coverage at 85% collection efficiency





It is noted that only 22 of the 55 WSPs are able to meet their O&M expenditure assuming they collect 85 per cent of their bills. It can be assumed that WSPs that are covering more than 150 per cent of their O&M cost are close to achieving full cost recovery. Seven (7) of the 22 WSPs fall within this category. 25 WSPs are not able to cover their O&M costs. The extraordinary tariff adjustment by WASREB at the end of 2008 should have a positive impact on these WSPs. Nevertheless these WSPs urgently need to apply for regular tariff adjustment and work with WASREB on a plan on how to reach financial sustainability.

Table 3.6 illustrates the cost coverage of the WSPs in relation to sector turn-over and contribution to water coverage. It is noted that 82.5 per cent of the sector turn-over is realized by WSPs which are covering their O&M cost.

Table 3.6: Cost coverage levels and relevance for the sector

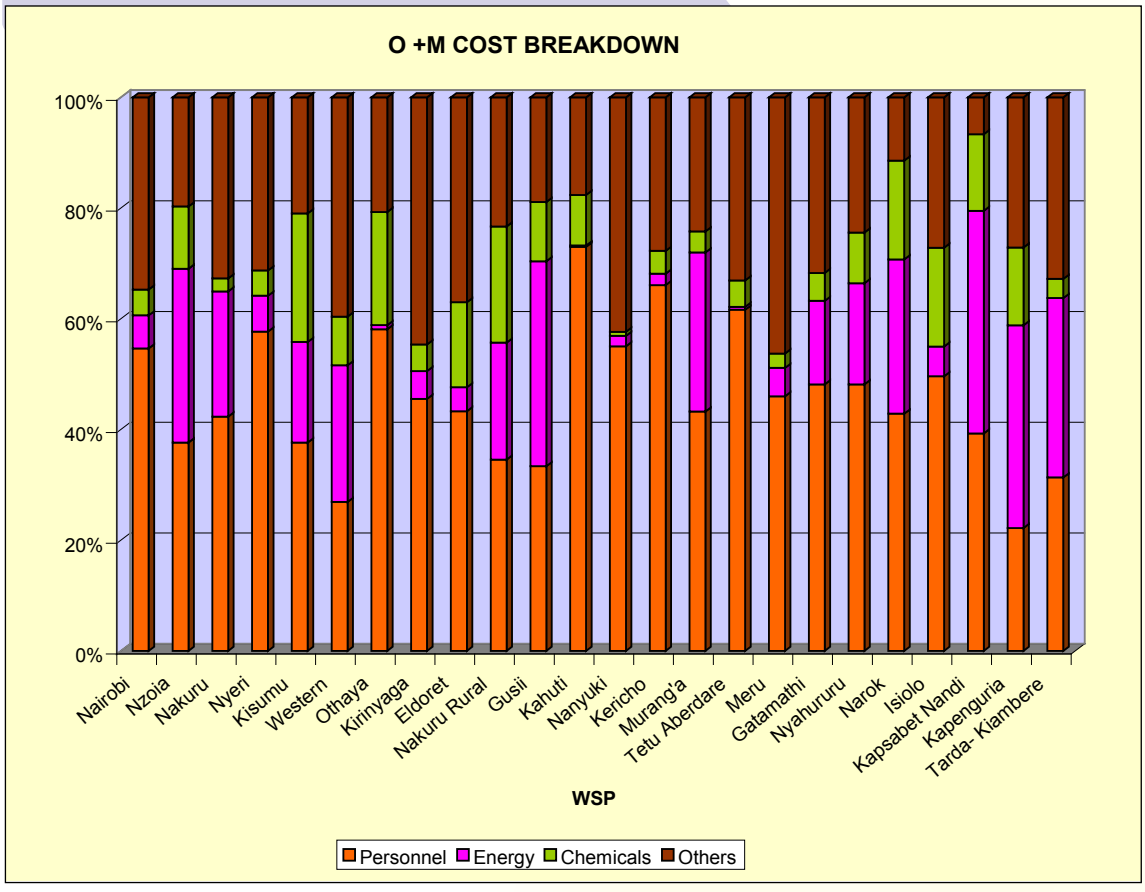
Coverage of O&M costs at 85% collection efficiency	Proportion of Sector Turn-over	Contribution to water coverage of 37%	Name of WSPs	Conclusion / Recommendation
≥ 150%	8%	6%	Malindi, Kwale, Lamu, Nanyuki, Garissa, Kirinyaga, Nakuru, Nakuru Rural, Kibwezi, Nyandarua North	Full cost recovery could be achieved if good performance indicators are achieved at the same time. WSPs must urgently submit tariff applications to prove if tariffs are too high for consumers. Cross-subsidies are possible. Pro-poor tariff structure must be proven.
≥ 100 < 150%	74.5%	17%	Nairobi, Mombasa, Nyeri, Yatta, Mavoko, Tuuru, Kericho, Othaya, Eldoret, Tetu Aberdare, Meru, Embu	WSPs are able to cover their O&M cost. Basic operation and maintenance of the systems can be achieved. WSPs should submit tariff applications to evaluate if tariff adjustments are necessary to carry out investments. In this context performance targets should be agreed.
≤ 100%	17.5%	14%	Nzoia, Nithi, Kapenguria, Rumuruti, Naivasha, Upper Chania, Embe, Kapsabet Nandi, Oloolaiser, South Nyanza, Mikutra, Imetha, Kitui, Kahuti, Murang'a, Amatsi, Western, Muranga, Gusii, Nyahururu, Gathamati, Tavevo, Narok, Isiolo, Tachaasis, Mathira, Kisumu, Murang'a South, Tarda Kiambere, Muthambi 4k	WSPs must urgently submit regular tariff applications, because costs for operation and maintenance of the system cannot be covered. Fast-tracking of tariffs might be possible.

It is one of the declared sector goals to achieve self-sufficiency. To achieve this goal, one of the highest priorities for WSPs should be the improvement of their income. Measures to improve the situation are mainly related to the reduction of costs, like reduction of personnel cost, or reducing UfW. Other measures include identification and correction of illegal connections. WSBs should concentrate on investments contributing to the financial sustainability of the WSPs below 150 per cent O&M cost coverage. Tariff adjustments can help WSPs to set tariffs covering their operational expenditure, if their costs are justified.

3.7.12 Cost structure

Figure 3.13 shows a break-down of O&M cost into the main cost categories being, Personnel, Energy, Chemicals and others.

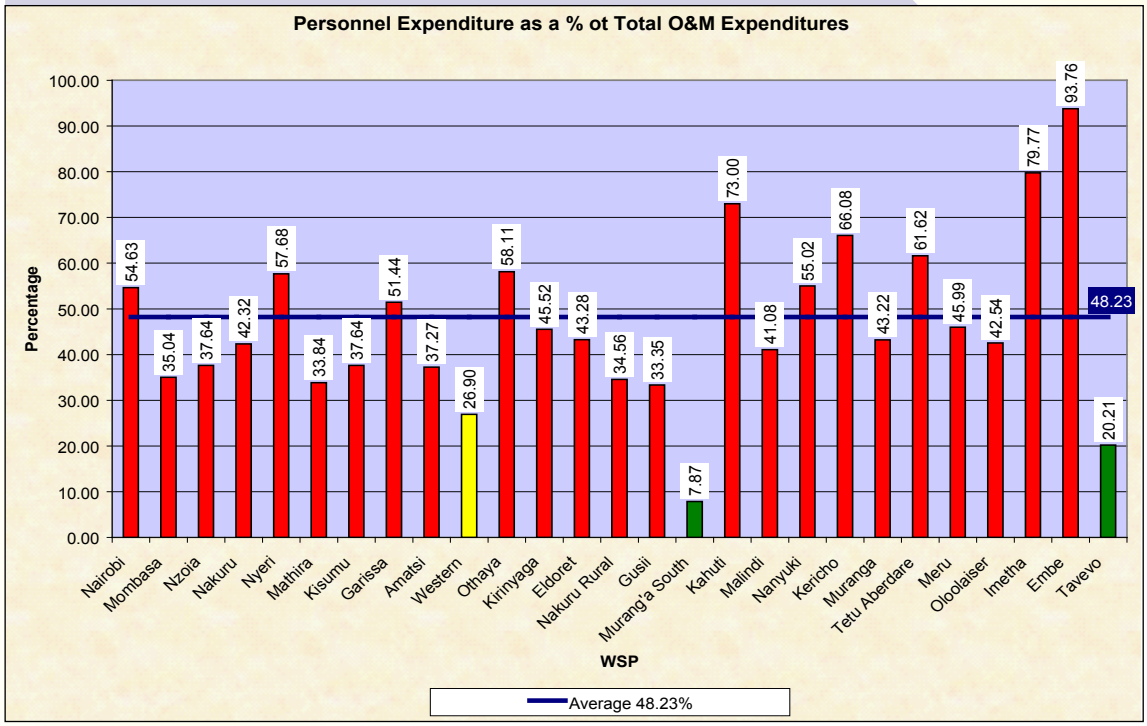
Figure 3.13: Cost structure

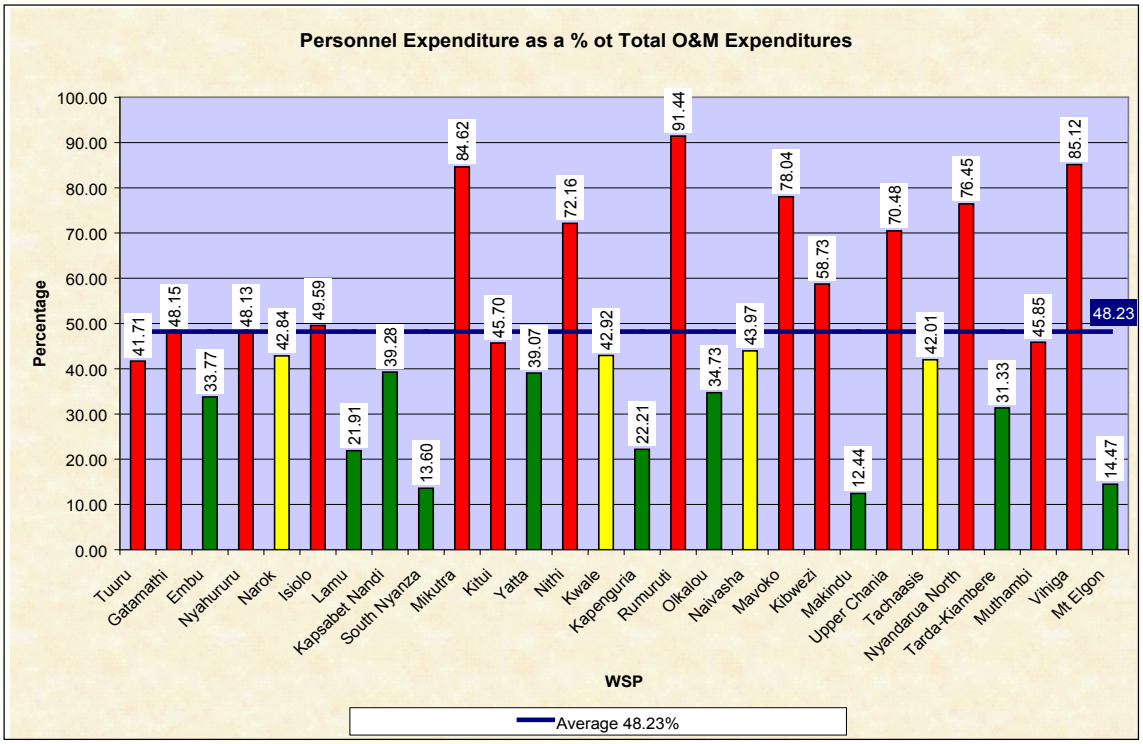


3.7.13 Personnel Costs as Percentage of O&M Costs

The performance of WSPs for personnel cost as percentage of O&M cost is presented in figure 3.14.

Figure 3.14: Personnel expenditures as a percentage of total O&M expenditures





Personnel cost as a share of (O&M) costs	Good	Acceptable	Not acceptable
Large companies	<20%	20-30%	>30%
Medium companies	<30%	30-40%	>40%
Small companies	<40%	40-45%	>45%

The national average on personnel expenditure as a percentage of O&M cost is at 48.5 and therefore 9 per cent higher than in the last year (39.2 per cent). This is a negative development which can be attributed to unjustified hiring of staff and/or increased salaries in some WSPs. Regular tariff applications allow WASREB to assess individually the justified level of personnel expenditures and to set performance targets to achieve sector benchmarks.

Thirty eight (38) WSPs are within unacceptable levels, 5 WSPs are within acceptable levels and 12 recorded good levels of personnel costs. This scenario is illustrated in chart 3.14.

It can be noted that especially the large and very large WSPs spend too much on personnel costs. Good examples of reasonable personnel costs are Meru, Lamu and a number of small WSPs. Some small WSPs seem to have too low expenditures on personnel. Examples of over expenditure in personnel are Nairobi, Nyeri, Kericho, Tetu, Mikutra, Imetha, Kahuti, Nithi, Rumuruti and Mavoko.

Indicators	2005/2006	2006/2007 - same baseline	Increase/Decrease	2006/2007- Includ. new WSPs
Personnel costs as % of O&M cost	39.18	48.42	9.24	48.23

All baseline WSPs have increased personnel expenditure significantly compared to the previous period.

3.7.14 Staff Efficiency – Overview

Table 3.7 gives an overview of different staff efficiency indicators.

Table 3.7: Staff efficiency indicators

WSP	No. of Staff	Staff/1000 connections	Average Monthly gross salary per staff in Ksh	Billing/staff/ month	% Collection Efficiency	Collection per staff per month	% Personnel Cost of O+M
Nairobi	2044	9.76	38701.78	123631.60	84.93	104995.84	54.63
Mombasa	394	10.87	24854.88	142512.31	90.35	128755.88	35.04
Nzoia	178	10.90	19437.96	38250.14	81.84	31303.95	37.64
Nakuru	213	9.20	25600.38	176711.90	72.21	127595.85	42.32
Nyeri	111	8.27	36630.77	102697.85	96.80	99411.52	57.68
Mathira	58	11.98	9773.81	34343.63	101.17	34744.50	33.84
Kisumu	154	18.89	29468.34	98625.23	99.78	98408.86	37.64
Garissa	60	10.05	13579.13	66378.30	45.00	29870.24	51.44
Amatsi	58	8.30	11210.61	26709.61	68.71	18351.74	37.27
Western	135	21.06	14925.67	36039.42	112.60	40579.45	26.90
Othaya	47	6.91	11344.21	32160.66	81.58	26236.63	58.11
Kirinyaga	62	6.92	9375.09	38081.37	98.04	37333.56	45.52
Eldoret	181	5.85	25334.19	109913.12	103.13	113357.06	43.28
Nakuru	130	6.04	2888.06	81173.06	71.55	58075.61	34.56
Gusii	98	7.77	7218.58	16393.22	89.48	14667.94	33.35
Murang'a South	63	19.57	12786.88	10377.06	76.17	7904.21	7.87
Kahuti	43	13.00	16006.74	23153.30	81.74	18925.63	73.00
Malindi	39	5.06	71145.98	401046.43	73.18	293485.07	41.08
Nanyuki	83	15.77	23820.14	144069.48	62.95	90692.10	55.02
Kericho	164	22.28	13579.64	30343.93	97.48	29579.80	66.08
Muranga	61	12.70	18101.09	33981.70	98.10	33335.29	43.22
Tetu Aberdare	37	7.03	12403.98	41988.38	77.26	32440.22	61.62
Meru	70	14.68	24250.57	66461.91	117.89	78351.70	45.99
Oloolaiser	70	14.93	4476.58	14689.82	83.44	12257.18	42.54
Imetha	87	39.05	15529.49	8607.49	69.80	6008.34	79.77
Embe	64	13.05	10656.14	9970.53	102.63	10233.07	93.76
Tavevo	81	16.35	3866.13	25670.53	165.41	42460.91	20.21
Tuuru	105	31.02	3086.22	13184.61	88.90	11721.12	41.71
Gatamathi	23	7.52	14509.95	22593.89	117.80	26614.83	48.15
Embu	50	10.06	20850.63	87892.78	107.94	94867.74	33.77
Nyahururu	78	21.64	12384.42	34225.35	97.72	33443.78	48.13
Narok	52	35.76	10351.17	12778.83	107.26	13706.60	42.84
Isiolo	52	11.69	16854.06	37121.93	111.99	41574.25	49.59
Lamu	40	29.00	589.55	14961.75	89.00	13315.96	21.91
Kapsabet Nandi	11	24.44	11797.55	15998.04	101.11	16175.92	39.28
South Nyanza	43	12.47	2639.13	14120.03	100.23	14152.22	13.60

Mikutra	66	40.60	17388.93	5753.15	103.47	5952.69	84.62
Kitui	62	22.38	4490.17	11523.94	114.69	13216.28	45.70
Yatta	25	42.09	1047.70	5315.08	122.33	6502.16	39.07
Nithi	47	22.86	7593.09	7463.73	99.89	7455.43	72.16
Kwale	61	26.63	6311.05	34225.63	51.65	17678.76	42.92
Kapenguria	32	12.20	4577.78	11979.15	65.70	7870.30	22.21
Rumuruti	14	25.27	14820.86	5285.07	74.31	3927.58	91.44
Olkalou	15	53.76	3031.60	No data	No data	11495.55	34.73
Naivasha	28	16.20	14831.79	31995.60	84.00	26876.97	43.97
Mavoko	72	13.00	32578.35	67978.98	81.32	55282.41	78.04
Kibwezi	23	19.41	2901.34	18237.08	87.90	16030.53	58.73
Makindu	12	16.00	738.76	0.00	98.70	16618.66	12.44
Upper Chania	8	22.66	3682.81	4375.00	92.43	4043.96	70.48
Tachasis	5	15.06	3540.00	8230.00	82.99	6829.73	42.01
Nyandarua North	30	0.00	2018.67	12680.81	64.15	8134.13	76.45
Tarda-Kiambere	29	24.07	21093.34	59259.58	79.66	47203.27	31.33
Muthambi	12	13.41	3869.04	11739.17	73.49	8627.01	45.85
Vihiga	23	120.51	9293.48	1318.84	89.23	1176.81	85.12
Mt Elgon	22	16.68	899.91	11367.42	75.31	8561.21	14.47

3.7.15 Unit Costs of Operation and Average Tariffs

Water tariffs should reflect the cost of producing water. Average tariffs should at least be equal to the unit operation cost to ensure that operations of WSPs are sustainable.

	Average Tariff (KSh/m³)	Unit cost of production (KSh/m³)	Unit operating cost of water billed (KSh/m³)
2005/2006	46.75	21.96	30.33
2006/2007	35.70	18.3	25.50

It is noted that the nationwide averages of tariff levels, unit cost of production and unit operating cost of water billed have dropped. This can be attributed to the integration of a high number of additional WSPs. It should be noted that the majority of WSPs are not carrying out the necessary full range of operations and maintenance activities due to inadequate resources. Therefore, the unit cost of operations is likely to increase in future. Equally investments to renew or rehabilitate infrastructure or repayment of debts are only been carried out to a very limited extend, leading to an increase of cost in future.

Inefficiencies of operations increase the cost of providing water. Based on the unit cost of production, the nationwide losses through Unaccounted for Water can be estimated at 2.43 Billion Kenyan Shillings (The produced volume for 06/07 is 297,051,934m³).

It can be noted that on nationwide level the average tariff is higher than both unit operating cost of water billed and unit cost of production. The situation reflects relatively favorable levels of tariffs, but is still be undermined by low levels of efficiency. The actual unit cost of producing water including inefficiencies reaches almost 40KSh/m³, which is still clearly higher than the average tariff.

3.7.16 Impact of Subsidies

Typical subsidies consist of direct or indirect subsidies for operational expenditure or investments by external sources such as MWI. For purposes of this report, subsidies were not taken into account to reflect a realistic picture of the financial situation of the reporting companies. This was done to show progress in view of the sector goal of self-financing. Nevertheless, not all subsidies could be excluded, because of WSBs and WSPs not considering subsidy data when reporting (although WARIS has explicit provisions for entering information on subsidies) or because relevant information was not given. This fact might lead to some slight distortions in the data.

3.7.17 Performance in Rural Service Provision

Due to the small number of rural WSPs, and the failure by WSBs to submit information on rural service provision, it is not possible to show accurate averages or trends on rural service provision. WASREB will follow up on this issue with WSBs to ensure an improvement in this situation in the next report.

Chapter 4

performance analysis of water services boards

Information submission still wanting

All the seven Water Services Boards (WSBs) which were in existence during the reporting period submitted information. It is, however, noted that the information was lacking in most areas making a comparative analysis and ranking of the Boards complicated.

4.1 Grouping of WSBs

Table 4.1 below shows the turnover of the WSBs based on the turn-over of the WSPs in their respective areas.

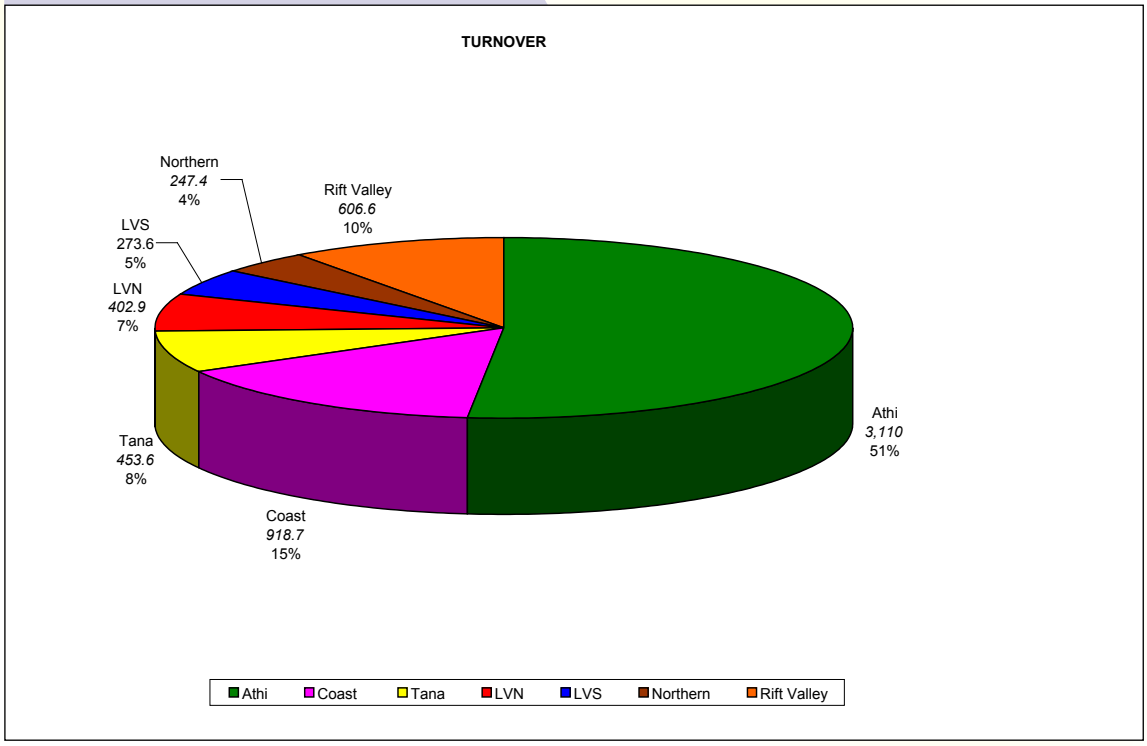
Table 4.1 Turnover and grouping of WSBs

Water Services Board	Turnover in Mio. Kshs 05/06	Turnover in Mio. Kshs 06/07	Trend	Percentage of total 06/07
Athi	3,650	3,110	↓	51.72%
Coast	839.1	918.7	↑	15.28%
Tana	293.5	453.6	↑	7.54%
LVN	278.9	402.9	↑	6.70%
LVS	211.1	273.6	↑	4.55%
Northern	210.6	247.4	↑	4.11%
Rift Valley	253.8	606.6	↑	10.10%
Total	5,737.00	6,012.90		100%

The inclusion of more WSPs during the current reporting period raised the turnovers in Board areas from Kshs 5,740 to 6,013 million. Excluding the newly incorporated WSPs, the average turn-over compared to the last year has slightly risen. Only Nairobi WSC recorded a drop in the billing of more than 10%.

The percentage turnover of the WSBs above may be illustrated as a pie chart as shown in figure 4.1.

Figure 4.1: Turnover and grouping of WSBs



Figures refer to Mio Kshs and percentage of the overall turn-over

Athi WSB, with the presence of Nairobi only, has the highest share of turn-over in the sub sector. The second largest turn-over area is Coast WSB, which is also significantly higher than the rest of the WSBs. The rest of the WSBs have an almost equal turn-over within their regions. For comparison purposes Athi and Coast were therefore grouped together and the rest of the WSBs considered as another group.

4.2 Performance in Service Provision

The WSBs have a mandate to ensure efficiency in the services provided within their areas of jurisdiction through proper monitoring of the SPAs and undertaking of investments.

Table 4.2 shows the performance of the WSBs based on the performance of the WSPs within their regions.

Table 4.2 Performance of the WSB based on the analysed indicators of the WSPs

Indicator regional WSP average / WSB*	Athi	Coast	LVN	LVS	Rift Valley	Tana	Northern	Weighted Average
Water coverage	32.53	52.10	34.92	34.34	43.66	31.07	51.19	36.95
Sanitation coverage	20.57	57.31	60.27	51.89	43.12	26.82	17.13	49.47
Metering ratio	0.98	0.98	0.67	0.78	0.40	0.58	0.76	81.96
Cost Recovery O+M	150.09	134.90	104.31	110.57	295.26	118.40	160.85	132.74
Hours of supply	10.00	13.68	11.54	16.40	9.33	6.60	13.60	14.27
Staff per 1000 connections	10.28	11.73	10.68	16.43	10.30	12.88	14.87	11.35
Drinking Water Quality (resid chlor.)	100	69.66	34.27	96.67	100	96.31	84.66	78.64
Unaccounted for water	39.48	38.45	41.48	64.26	52.92	71.64	41.84	47.17
Collection Efficiency	84.95	87.81	98.37	98.60	72.98	97.97	68.62	85.98

The inclusion of many new providers makes a comparison to the former reporting period difficult. There was a drop in the regional performance for all the indicators except sanitation coverage and drinking water quality. This drop, like the case of the WSPs, can be attributed to inclusion of more providers whose performance is lower than that considered during the period 2005/06. For all the indicators, except drinking water quality, collection efficiency and O&M cost coverage, performance for all the regions are still within the unacceptable range of national benchmarks.

4.3 Rural Networks and Point Sources

The management of the rural networks and the rural point sources will continue being under WSBs until they are appointed as WSPs or linked with the main WSP. In this regard, information provision on the performance of these systems will in the meantime be provided by the WSB. In the period under review, no WSB provided information on the rural networks and rural point sources within their areas. In the absence of information, it is not possible to report on the performance of the rural water WSS, so as to put in place measures to improve service delivery. Nevertheless information on rural WSPs could significantly be improved.

4.4 Indicators for Benchmarking

At the level of the WSB, WARIS has 36 indicators on the water services sub-sector performance. Considering the limitation in the information submitted, WASREB settled on the following indicators for comparison of the performance of WSBs;

i. Four investment driven output indicators from the WSPs within the Board area. These are water coverage, sanitation coverage, Hours of Supply and Unaccounted for Water (UFW).

From the next report onwards, half of the scores will be attributed to the achievement of the sector benchmarks, the other half to the improvement of performance in comparison to the last year.

ii. Four financial indicators on WSB performance namely Personnel Expenditures as a percentage of Operational Costs, BoD Expenditures as a percentage of Total Administrative Expenditures, Cost Coverage of Operational Expenditures through fees and Expenditure of WSBs as percentage of turn-over in WSB area.

iii. Four qualitative indicators derived from the duties of WSBs: Monitoring and motivation of WSPs, Driving efficient investment in WSB area, Improving customer service of WSPs and transparency issues and interaction with WASREB. Information was verified through inspections, reports and other information available at WASREB.

Development of sewerage infrastructure is a mandate of WSBs.

To be able to rank the performance of WSBs on the criteria above, the indicators were assigned weights as indicated below. The first two areas of qualitative indicators were not included in the ranking because licences were awarded at the end of the financial year 2007.

Table 4.3: Performance indicators and scores

	Indicator		Maximum		Minimum	
			Performance	Score	Performance	Score
I*	Water coverage		>90%	15	<30%	0
	Unaccounted for Water		<30%	15	>70%	0
	Sanitation coverage		>90%	10	<20%	0
	Hours of supply		> 20	10	< 12	0
Ii	Cost coverage of Operational expenditures through fees from WSPs		>100	7	<50	0
	Personnel expenditures as a % of Operational costs		<20%	7	>70%	0
	BoD expenditures as a % of Total Operational expenditures		<2%	7	>5%	0
	Expenditure of WSBs as percentage of turn-over in WSB area	> 1.5 Bio KSh Turnover	< 3.5%	9	> 10%	0
		> 0.75 < 1.5 Bio Ksh Turn-over	<10 %	9	>20 %	0
		< 0.75 Bio Turn-over	< 15 %	9	> 25 %	0
**iii	Monitoring and incentivising of WSPs	(1) Performance based incentives in SPA	Available	3	Unavailable	0
		(2) Monitor compliance by WSPs with regulatory regime	Complying	3	Not complying	0
		Submitting tariff proposals in cooperation with WSPs	All WSPs in WSB area work with RTA	4	No WSP in WSB area works with RTA	0
	Driving efficient investments in WSB area	Facility Management System (and register)	Available	2	Unavailable	0
		Ten-year capital plan, including detailed investment strategy	Available	5	Unavailable	0
		Five year Business and Capital works plan for the WSB area	Available	2	Unavailable	0
		Pro-poor efforts and strategies	Available	3	Unavailable	0
		Adherence to procurement procedures	Available	3	Unavailable	0
	Improving customer service of WSPs	Use of Model customer contract	Available	3	Unavailable	0
		Use of customer complaints procedure	Available	2	Unavailable	0
	Transparency and inter-action with WASREB	WARIS data submitted (timely, accurate)	Available	5	Unavailable	0
		WSB duties derived from License (Public information officer in place, information available on website etc.)	Available	2	Unavailable	0
		Performance Guarantee provided	Available	3	Unavailable	0
	Total maximum Score		120			

* WASREB will include performance improvements over time in the ranking in the next Impact report.

** *Scores for the qualitative indicators derived from the Licence achievement report and inspection findings*

4.4.1 Ranking of WSBs

Based on the criteria set out under section 4.5 above the performance of the WSBs was ranked as in Table 4.4 below

Table 4.4: Ranking of WSBs

Name of the WSB	Water coverage	Unaccounted for Water (UfW)	Sanitation coverage	Hours of supply	Cost coverage of Operational expenditures through fees from WSPs	Personnel expenditures as a % of Operational costs	BoD expenditures as a % of Total Operational expenditures	Operational Expenditure of WSBs as percentage of turn-over in WSB area	Monitoring and incentivising of WSPs			Driving efficient investments in WSB area					Improving customer service of WSPs		Transparency and interaction with WASREB			Total Score	Ranking
									1	2	3	1	2	3	4	5	1	2	1	2	3		
Athi	32.5	39.48	20.6	10.00	114.52	33.08	3.64	6.72	0	1	1	0	3	0	1	1	2	1	3	1	0	47.33	1
LVN	35.4	41.43	60.3	11.54	30.4	45.55	5.46	11.17	0	2	1	0	2	0	0	1	2	1	4	1	0	44.96	2
NWSB	48.6	41.84	17.1	13.60	11	13.91	4.31	37.47	0	2	1	0	2	0	0	1	2	1	3	1	2	42.47	3
RV	45.3	52.92	43.1	9.33	18.3	26.41	2.94	30.5	1	2	0	0	3	0	0	1	2	1	4	1	0	41.96	4
Coast	52.1	35.05	57.3	13.68	23	No data	2.95	No data	0	1	0	0	2	0	0	1	1	1	1	0	0	38.982	5
Tana	23.0	75.52	26.8	6.60	63.21	20.33	11.09	12.48	1	2	1	0	2	0	0	1	2	1	4	1	2	34.2418	6
LVS	33.5	63.38	51.9	16.40	12.08	23.90	3.71	44.88	0	1	1	0	3	0	0	1	2	1	3	1	0	30.8035	7

Athi Water Services Board recorded the best performance in 2006/2007. It is worthwhile to note that the Water and Sanitation Improvement project (WaSSIP) under the World Bank gave Athi WSB a head start as far as operations and investments within Nairobi are concerned. Lake Victoria South Water Services Board was the least performing during the period.

4.5 Detailed performance analysis of WSBs

Besides their role in asset management, WSBs are involved in rural water and sanitation services in areas where WSPs have not been contracted. Therefore operational costs were assigned separately to rural and urban services.

One way of comparing costs of different WSBs is to relate them to the turn-over of WSPs in their areas. The turn-over reflects the size of the business WSBs have to monitor. The amount of operational costs of each WSB is clearly related to the turnover in the WSB area.

It is the current policy of the Ministry of Water and Irrigation to cover the operational cost of WSBs through WSP tariffs. Therefore, the overall operational expenditures of the WSBs are compared to the turn-over of WSPs in each area.

4.5.1 Water Coverage

Northern WSB and Coast WSB had the highest coverage rates with 51 per cent and 52.1 per cent respectively. The lowest water coverage rate was found in Tana with 31 per cent.

4.5.2 Sanitation Coverage

The highest Sanitation coverage was found in LVN WSB with 60 per cent. The lowest was Northern with 17 per cent, followed by Athi with 20.6 per cent.

4.5.3 Unaccounted for Water

The highest UfW rates were in Tana, reaching almost 72 per cent. Commercial losses should especially be reduced to reach more acceptable levels of UfW. The lowest UfW was found at Coast WSB with less than 39 per cent, which is almost half of the losses in Tana.

4.5.4 Hours of Supply

The highest average hours of supply was found in Northern and LVSWSB with 13-14 hours. The lowest continuity was found in Tana with less than 7 hours service per day.

4.5.5 Coverage of operational costs

The financial situation of the WSBs was assessed by comparing income of WSBs through levies from the WSPs within their region. Since the sector is heading towards self financing, subsidies from government or from other sources were not considered as income. WSBs should be able to cover their administrative costs from the licensee remuneration fees from the WSPs. Most WSBs were found to have mixed expenditure and income from various sources. This violates the conditions set in the license and makes it hard to assess and justify the costs incurred by WSBs. Cross-subsidies from schemes directly operated by WSBs to cover other expenses is not allowed by the Water Act. Doing so may imply that consumers are being overcharged. WSBs should therefore immediately account separately for schemes they directly operate, and procure competent WSPs to operate the schemes.

Table 4.5: Cost coverage of operational costs

WSB	Cost Coverage operational cost through fees in 2005/2006	Cost Coverage operational expenditure through fees in 2006/2007	Trend
Rift Valley	27%	18 %	↓
Northern	7%	11 %	↑
Athi	128%	115%	↘
LVN	48%	30 %	↓
Tana	13 %	63 %	↑
Coast	61 %	No data[1]	_
LVS	No data submitted	12 %	_

It is evident from Table 4.5 that only Athi WSB is able to cover its operational expenditures from the fees it collects from the WSPs. This means that most WSBs still heavily rely on government subsidies or donors. Cost coverage of operational expenditure can be ensured by applying for Regular Tariff Adjustments (RTAs). WASREB has started to determine justified costs of each WSB during the tariff adjustments and apportioned the same to the respective WSPs within the Board's region. It is only when all WSPs have approved RTAs that full coverage of WSB operational costs can be guaranteed. It is also expected that the implementation of the Extraordinary Tariff Adjustment (ETAs) at the beginning of year 2009 should lead to an improved income situation for the WSBs.

4.5.6 Expenditure of WSBs as percentage of turn-over in WSB area

Operational expenditure should be related to the total turn-over for each WSB.

Table 4.6: Expenditure of WSBs as percentage of turn-over in WSB area

WSB	Total Operational expenditure in 2005/2006 in Mio KSh.	Total operational expenditure in 2006/2007 in Mio. KSh.	Turn-over of WSPs in WSB area in 05/06 in Mio KSh.	Turn-over of WSPs in WSB area in 06/07 in Mio KSh.	Operational Expenditure as % of Turn-over in WSB area 05/06	Operational expenditure as % of turn-over in WSB area 06/07	Trend
Rift valley	106.4	185	253.9	606.6	42 %	30%	↓
LVN	64.6	45	278.9	402.9	23%	11%	↘
Athi	127.3	209	3,650	3,110	3 %	7%	↗
Northern	51.5	92.7	210.7	247.4	24 %	37%	↗
Tana	83	56.6	293.5	453.6	28 %	12%	↓
Coast	128.3	No data	839.2	918.7	15 %	No data	_
LVS	---	122.8	--	273.6	No data	45%	_

The turn-over for each WSB area has increased significantly mainly due to a capturing of a bigger number of WSPs. The operational costs of WSPs in Rift Valley, Northern, and LVS WSBs are very high compared to the turn-over of the WSPs in their area. The WSBs should take measures to reduce their operational expenditures. The other WSBs have attained almost acceptable levels. Athi and Northern WSBs had their operational expenditures increasing in 2006/7.

Table 4.7 Personnel Cost as % of Operational Cost

WSB	Personnel cost as a % of Total operational cost in 2005/2006	Personnel cost 2006/2007 as % of operational cost of 2005/2006	Trend	Personnel cost as a % of Total operational cost in 2006/2007
Rift Valley	43 %	46%	↓	26 %
Northern	20 %	25%	↓	14 %
Athi	39 %	54%	↓	33 %
LVN	37 %	32%	↑	46 %
Tana	55 %	14%	↓	20 %
Coast	60 %	No data	_	No data
LVS	No data	No data	_	24 %

Overall personnel costs as a percentage of the total operational costs of the WSBs are especially too high for Athi and LVN.

4.5.7 Average Gross Monthly Salary per Staff

The following table illustrates the development of the gross monthly salary per staff in the WSBs.

Table 4.8 Average Gross Monthly Salary per Staff

WSB	Total No. of staff 05/06	Total no. of staff 06/07	Salaries in Ksh. (06/07)	Average Monthly Gross Salary per staff in 06/07	Average Monthly Gross Salary per staff in 05/06	Trend
Rift Valley	No data	36	48,868,643.45	113,122	No data	_
Northern	31	28	12,889,237	38,361	27,232	↑
Athi	23	32	69,136,197.00	180,042	182,901	↘
LVN	40	42	20,554,898.00	40,784	50,100	↓
Tana	No data	40	11,505,384.00	23,970	No data	_
Coast	167*	87	67,969,816.00	65,105	76,726	↓
LVS	No data	53	29,355,588.93	46,157	No data	_

* Coast couldn't provide separate numbers of staff excluding schemes directly operated.

4.5.8 Administrative Cost (WSB offices) as % of Operational Cost

The following table shows the amount WSBs spend for their administrative costs (for rent, communication, stationery, PR, travelling etc.) and relates them to the operational costs.

Table 4.9: Administrative Cost (WSB offices) as % of Operational Cost

WSB	Administrative cost as % of Total operational Cost in 2005/2006	Administrative cost in Mio KSh. (2005/2006)	Administrative cost as % of Total operational Cost in 2006/2007	Administrative cost in Mio Ksh. (2006/2007)	Trend
Rift Valley	24.1 %	25.7	56.9 %	90.7	↑
Northern	51.8 %	26.7	45.3 %	40.6	↓
Athi	24.4 %	31.1	12.9 %	40.3	↓
LVN	41.8 %	27	51.8 %	22.1	↑
Tana	27.3 %	22.7	68.8 %	32.6	↑
Coast	24.2 %	31.1	11.1 %	37	↓
LVS	No data	No data	23.2 %	28.5	_

Rift Valley WSB has the highest administrative costs, leading to a very high ratio of administrative costs to total operational costs.

4.5.9 Board of Directors' Expenditure as % of Operational Expenditure

Table 4.10: Board of Directors' Expenditure as % of Operational Expenditure

WSB	Board of Directors Expenditure as % of Operational expenditure in 05/06	Board of Directors Expenditure as % of operational expenditure in 06/07	Trend
Rift Valley	5.2 %	2.94 %	↓
Northern	9.5 %	4.31 %	↓
Athi	4.7 %	3.64 %	↓
LVN	7.7 %	5.46 %	↓
Tana	5.9 %	11.09 %	↑
Coast	10.4 %	2.95 %	↓
LVS	---	3.71 %	_

All WSBs have reduced Board of Directors expenditure compared to the operational expenditure mainly due to the increased turn-over. However, expenditure for all WSBs are too high compared to the sector benchmark of 2-3%. Tana and LVN, especially, need to reduce ttheir expenditure on Board of Directors.

4.5.10 Investments

One of the main functions of the Licensee is the asset development of their agents. It is therefore important to inform the public about the performance of WSBs to attract and implement investments. Unfortunately, information submission on investments was extremely poor as reflected in the table below. LVN is the WSB whose information was most complete.

Table 4.11 Investments per WSB in Mio KShs

WSB	Investments in WSPs 05/06	Investments in WSPs 06/07	Investments in Rural Networks 05/06	Investments in rural networks 06/07	Investments in rural point sources 05/06	Investments in Rural Point Sources 06/07
Rift Valley	No data	655	No data	148	No data	142
Northern	No data	No data	No data	No data	125.8	No data
Athi	No data	60	No data	26.7	No data	6.1
LVN	278.8	8.8	2	27.3	No data	2.4
Tana	No data	No data	No data	No data	No data	No data
Coast	64.4	No data	No data	No data	No data	No data
LVS	No data	No data	No data	No data	No data	No data

4.5.11 Monitoring and motivating WSPs

a. Performance based incentives in SPA

The licence under clause 8.6 provides for the establishment of providers income which should allow for performance based incentives for the WSP. This should form part of the special conditions in the SPA. The incentives should be based on the Key Performance Indicators (KPIs) and shall ensure that the WSPs increasingly improve and optimize their performance. From the information submitted none of the WSBs have build incentives into the SPAs.

b. Submitting tariff proposals in cooperation with WSPs

Submission of tariff applications should be a joint exercise between the WSPs and the WSB as per clause 6.2 of the licence. WASREB has, however, noted that the there is a disconnect in the submission of the tariff applications. This situation not only delays the time taken to finalise on the tariff applications but omits the validation of the WSP information by the licencee. It is the focus of WASREB to ensure that all WSPs are using tariffs where all costs in the tariff are justified. In this regard, WSBs are expected to assist their WSPs realize Regular Tariff Adjustment (RTA) to WASREB in accordance with the tariff guideline. So far only three WSPs namely Nyeri, Kisumu and Nairobi are using tariffs based on justified costs. Another three applications from Nanyuki, Muranga and Mathira are currently under analysis at WASREB.

4.5.12 Driving efficient investments in WSB area

a. Facility Management System and asset registers

Although it is a licence condition (clause 6.2) for WSBs to put in place systems for preventive maintenance of plant and equipment, none has so far complied with this requirement. In addition, no WSB has an updated asset register of all its assets.

b. Ten-year capital plan

A ten year capital works plan would provide a road map towards the attainment of the sector benchmarks in service provision. No WSB, however, has in place a ten year capital works plan although this is a condition of the licence. A report on the implementation of the capital works plan should be submitted annually to WASREB.

c. Five year Business and Capital works plan for the WSB area

The licence under clause 9.1 provides for WSBs to develop and maintain a five year business and capital works plan for the WSB area. All WSBs have developed these plans but the plans are not linked to the business plans of their agents.

4.5.13 Pro-poor efforts and strategies

WSBs are obliged under clause 8.7 of the licence to improve services in disadvantaged areas. Towards this end, WSBs should cooperate with the WSPs to implement a pro-poor strategy for promoting low cost technology such as water kiosks. Most WSBs, however, have not clearly documented efforts to realize this obligation.

4.5.14 Adherence to procurement procedures

The Public Procurement and Disposal Act 2005 requires all users of public assets to comply with the Act. The licence also under clause 6.3 provides for procurement of capital works and services on competitive basis. This should include the procurement of agents to provide services in a given area of the licencee. WSBs should ensure all their agents fully comply with the procurement act.

4.6.15 Improving customer service of WSPs

a. Use of Model customer contract

WSBs should develop model customer contracts for use by the WSPs as per clause 7.1 of the licence. This shall ensure uniformity in the obligation of all parties in the contract within a WSB's area of operation.

b. Use of customer complaints procedure

Clause 7.2 of the licence requires WSBs to submit a customer complaints handling procedure to WASREB and make sure that the procedures are applied by the WSPs. In addition, WSBs should ensure that there is a complaints officer designated for each WSP.

Studies in Best Practice

Eldowas: Spring of Pride for Eldoret town

If you walk into a hotel in Eldoret town, waiters will tell you ,'take tap water, it is safe'. This is unlike many situations in the country, where, in some hotels, there are open notices: 'do not drink tap water'.

But how have waiters come to know this?

"Out of experience. Experience is the best teacher. They have seen people drink tap water and nobody has ever fallen sick," says Reuben Tuei, Managing Director of the Eldoret Water and Sanitation Company (Eldowas). 'Even water from the Eldowas sewerage treatment plant is cleaner than river water,' Tuei says.

Thus, the confidence among water consumers in Eldoret has been created by Eldowas. The company assures its stakeholders that the water supplied complies with national and international standards for drinking water. So is the case with treated waste water effluent. The company has embarked on plans to upgrade their laboratory so that they can become a testing centre even for other institutions.

This adherence to quality is one of the many milestones that Eldowas has achieved for the residents of Eldoret town. The standards are part of the numerous 'firsts' that have seen the company become the first WSP in the country to be ISO certified.

So if you asked the management of Eldowas what WSPs need to do to make them tick, they answer in simple words: invest in good processes, invest in proper documentation. Invest in quality staff; embrace culture change. Go for ISO certification.'

Certified themselves last year, Eldowas management is quick to advise that, 'once you get the certification, to not settle; walk the talk'.

Team spirit prevails in management team.

The testimony of Eldowas success is therefore in the 'walking'. They boast 100 percent metering. Their hours of supply average 24 , meaning water nearly all the time for consumers.

"People in this town do not invest in storage, because there is nearly water all the time. The complaints we get are that 'there is low pressure in the pipes. If one goes for an hour without water in this town, there

is an outcry; yet there are places where when people get water once a week, they are lucky,' says the management of Eldowas.

With a production capacity of 33,499 cubic metres per day, their supply almost balances the demand. The 151,548 Kenyans the company serves are therefore largely a satisfied population.

"We deal with our customers honesty, courteously, fairly and with integrity," they say.

The impact of the reforms on the company has been tremendous. While water was still provided under the Council, numerous challenges were faced, including inability to raise staff salaries. Today, the company is able to meet salaries of staff and pay on time.

Response time to service delivery has also improved. 'If you wanted something done before the reforms, response time was slow. You had to wait for Councilors to sit and pass the vote.... Today, response time has improved almost to instant levels.'

'There had to be a culture change in staff. They had to realise the need for customer focus and profits', says the management of Eldowas.

Efforts of staff are enlisted in shaping the company's customer focus. Satisfied employees translate into satisfied customers and the organisation's management style determines employees culture and sense of self-confidence. "The company therefore pledges to treat all staff as partners in the success of our business," Tuei says.

The happy customers of Eldowas

But great deeds have turbulent beginnings. The turbulence provides a solid foundation to construct stories of success. This has been the case of Eldowas- a company which, though born in year 1996, took three years of teething, till year 2000.

The start was turbulent because many thought water service provision was being privatised. They did not understand the purpose of reforms in the water sector. Thus, a tag of war was witnessed with the Local Council, which was less willing to let go of water service provision. Three years of push and pull followed, but by year 2000 all had been resolved and company was on its feet. Soon after this, there was no looking back.

Today, the company turnover continues to grow owing to increased connection of both water and sewerage facilities. This is attributed to improvement in efficiency (e.g in billing) as there has been no tariff increase until recently. The company also operates on a gravity system, which ensures that costs are minimized.

It is one of the few WSPs that boast of 100 per cent metering, and this has been growing every year. A strict connection and disconnection policy is observed, with all accounts disconnected at 60 days.

There is, however, no ride that is so smooth without its challenges. Used to a smooth ride, residents of Eldoret found it hard to come to grips with the recent tariff increase announced

by the Water Services Regulatory Board. The tariff adjustment was meant to apply across the country, including Eldoret. The company is still bracing to find the best way to implement the strategy.

Other challenges include institutional consumers, like schools, who take a lot of water but are not able to pay. They comprise the largest percentage of debtors.

There has also been reluctance by the Council to transfer assets to the company.

Local communities where infrastructure resides have also been demanding a share in the proceeds of the company. Vandalism of metres and manhole covers is also a problem.

Despite this, there is no looking back. Tuei's dream is to see Eldowas grow further into a vibrant organisation that gives good quality service. 'Water runs into taps but we also want to see good service,' he says.

'We want Eldowas to grow into a model company from which others can learn,' he says.

Nyeri:

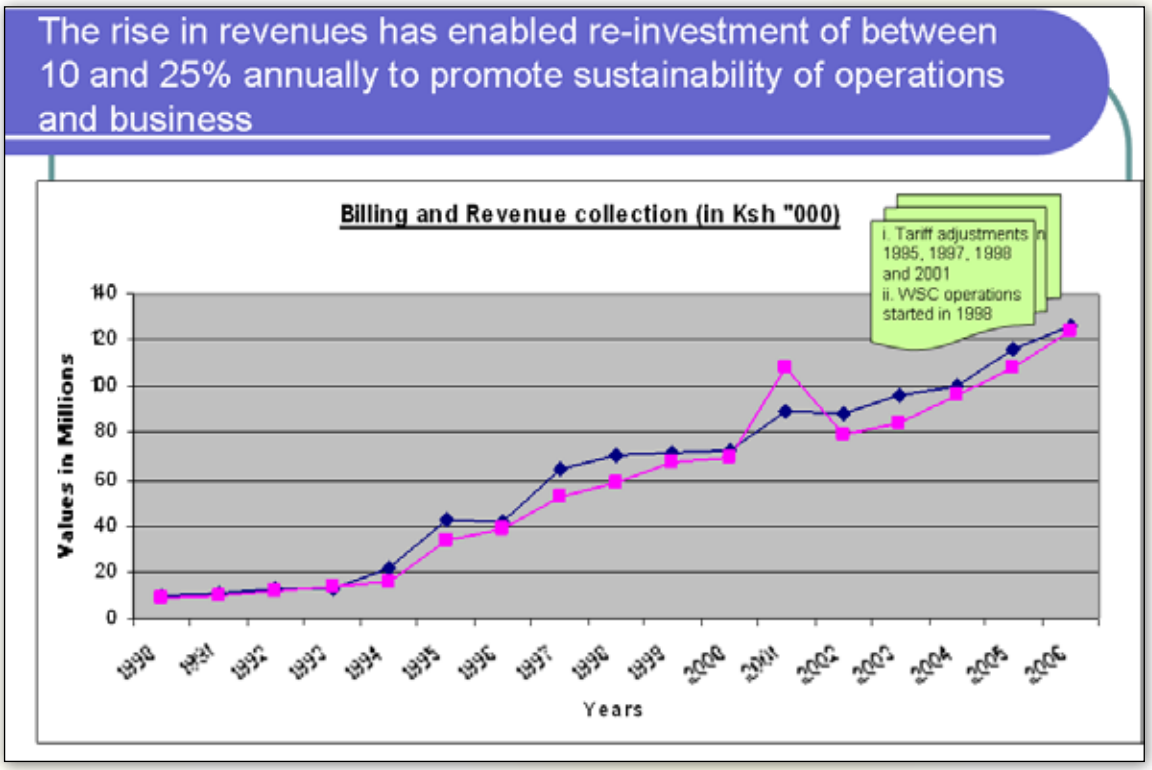
Improvement is the in-thing in Nyewasco

Imagine an institution – no; a water company –where 'improvement' sounds like the main vocabulary. Where "reduction' is only mentioned in relation to inefficiencies.

Since inception 10 years ago, Nyewasco has been growing and growing, positioning itself in the enviable position as a leading water and sewerage services provider in Kenya.

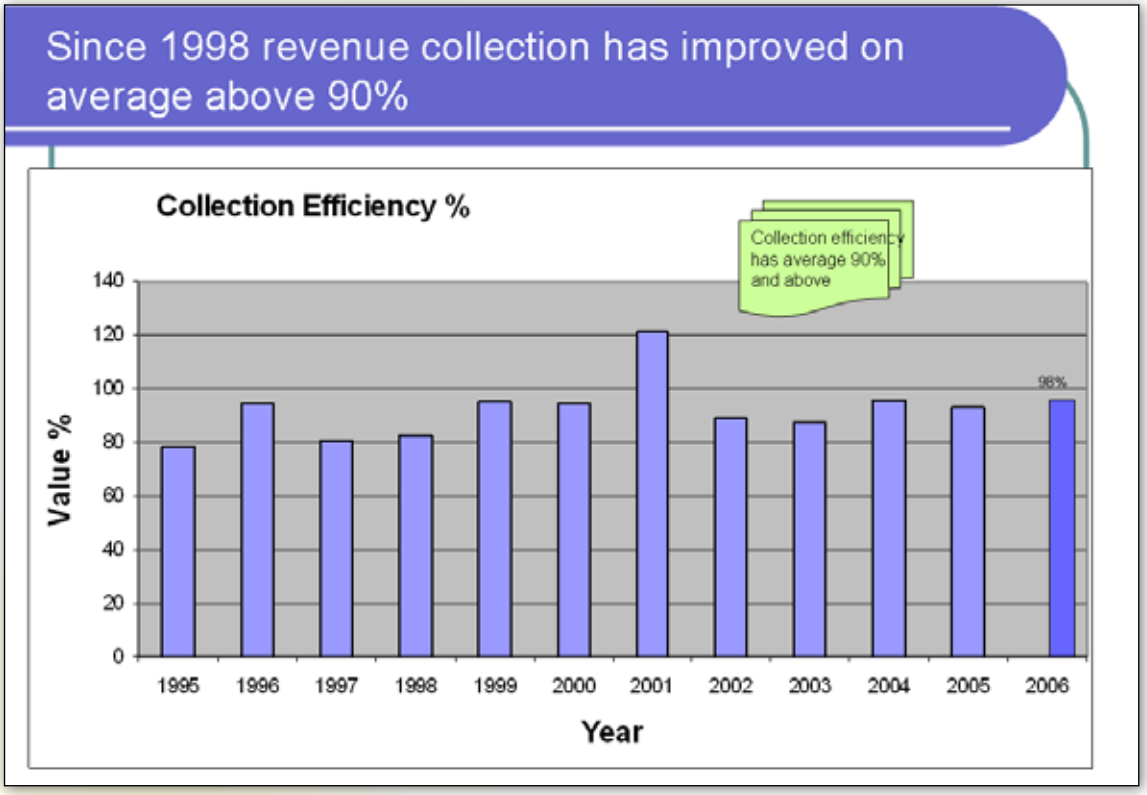
Since inception, Nyewasco's water production capacity has increased by 350 per cent, from 6,000 m^3/day to 27,000m^3/day. The total investment on improvements is over Kshs 1 billion.

Water sold (Billed Volume) has increased by over 100 per cent, from 4,000 m^3/day to 9,800 m^3/day. Annual Billing has increased by over 300 per cent from Kshs 64.9 million to Kshs 288 million. Collection Efficiency has increased from 80 to 95 per cent. Hours of water supply have improved from rationing to 24 hours. Water Supply Coverage has increased from a population-reach of

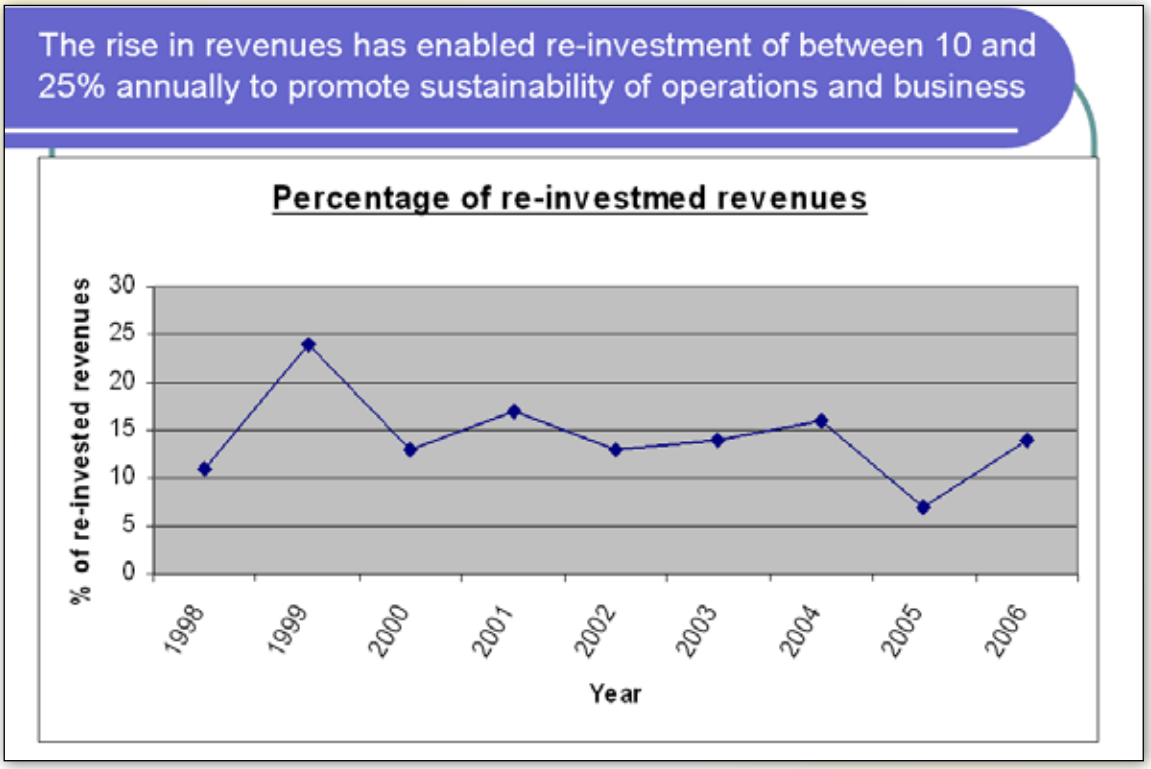


40,000 to 57,600 people. Growth in Water Connections has increased by 170 per cent from 5,000 to 15,979 active connections. Billing Efficiency, which captures the ratio of the number of billed customers to total number of connections, has increased from 87 to 100 per cent. Metering Ratio has increased from 63 to 100 per cent. Compliance to Water Quality Standards has improved to between 90-95 per cent.

And now for the 'reductions'. Uncounted for Water has reduced from 50 to 45 per cent. Staff to 1000 connections ratio has reduced from 22.6 to 8.3. Quantity of coagulant has reduced from 57kg to 19.5kg, by changing from lumps to powder, which is more expensive but with a significant net cost reduction. Quantity of disinfectant has reduced from 7.60 to 1.70 by relocation of intake point from a turbid point to a clearer point towards Aberdare Forest.... These reductions have been done to *improve* performance.

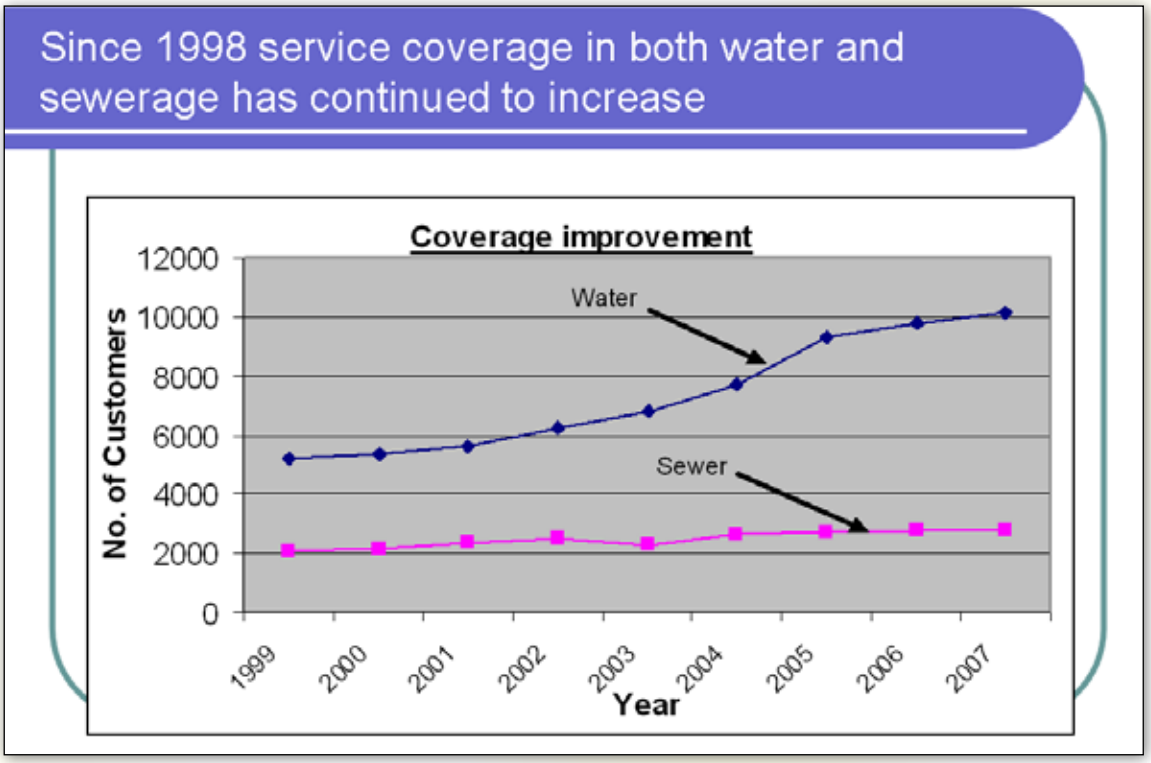


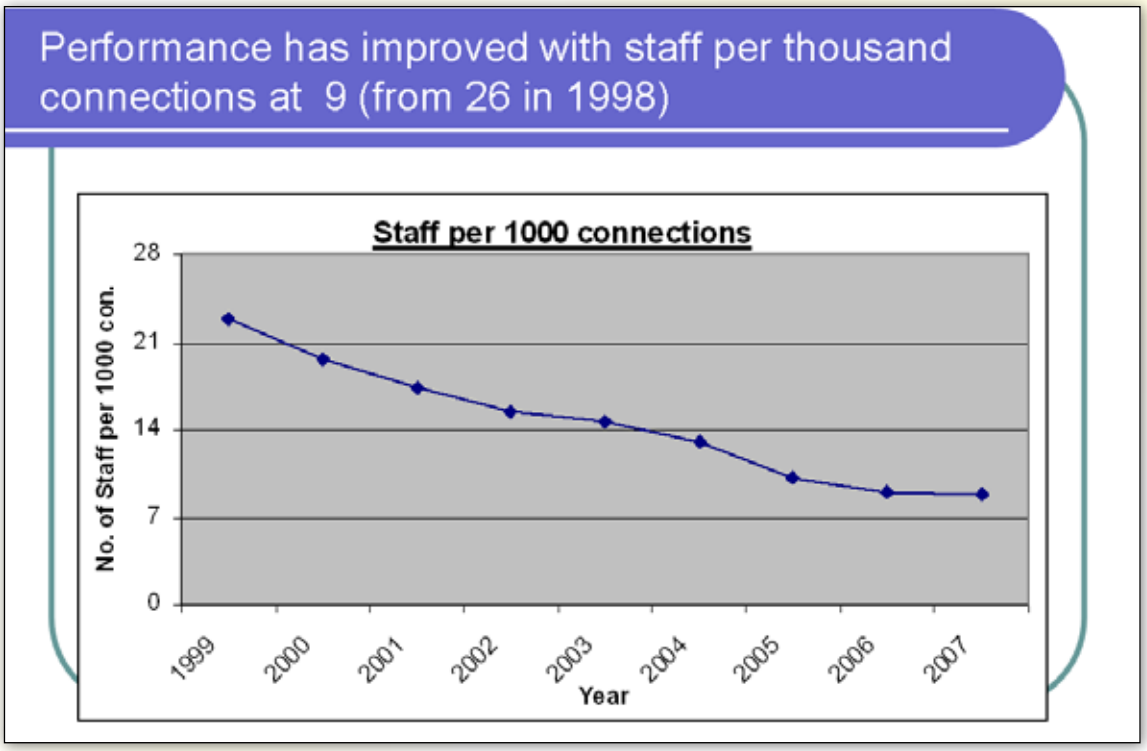
Achievements of this kind are anchored in the sound stewardship the company enjoys, with Eng Joseph Nguiguti, at the helm. Under the MD, the working culture of the company has been transformed. The Local Authority, here, is a partner in Nyewasco's work. Council officials voluntarily withdrew from being signatories to company accounts as a measure of promoting management integrity.



Unlike most WSPs, Nyewasco also operates without Board Committees, except the Audit Committee. All issues are therefore handled by the full Board, resulting in significant cost saving.

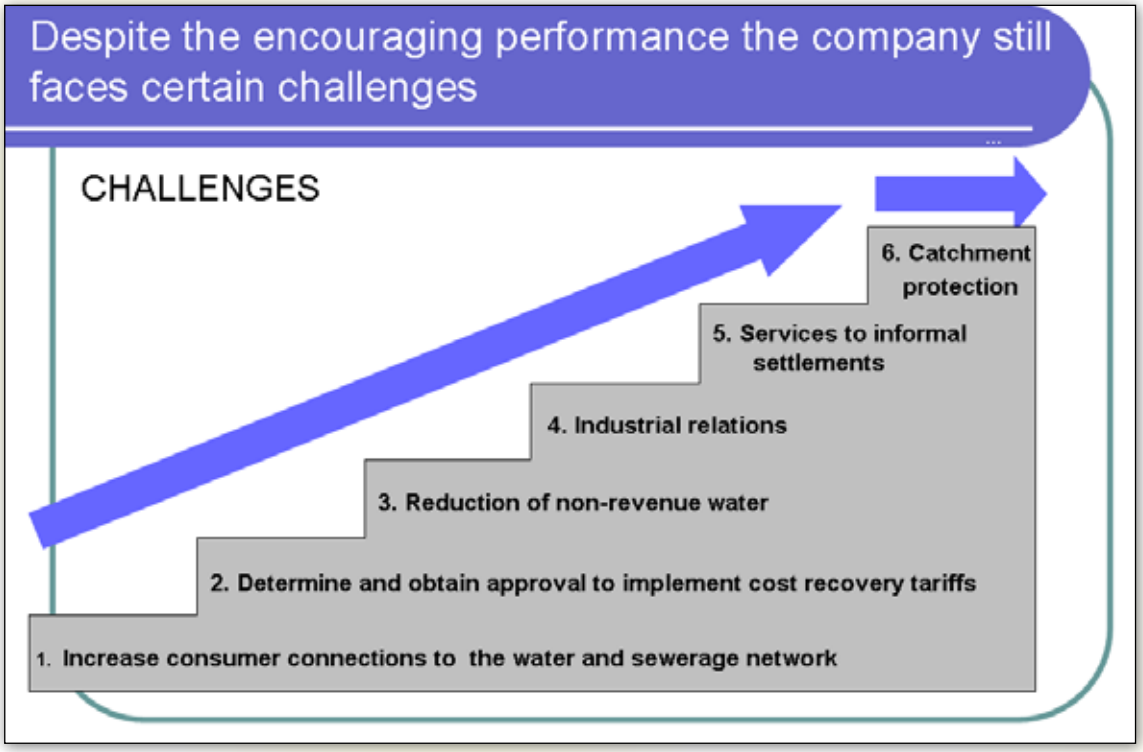
When WASREB approved a regular tariff review, Nyewasco is one of the few WSPs that experienced no problem with their stakeholders. The latter sensitized on the justification for the increase, and given the excellent services the company is associated with, the move was implemented with no hustle.





With a production capacity of 27,000m^3 , however, Nyewasco still has some capacity to exploit. Similarly, the company continues facing the challenge of high UfW, largely due to the recent incorporation of a predominantly rural area into its area of jurisdiction.

Looking into the future, Nyewasco hopes to continue providing water and sanitation services to Nyeri residents in an efficient, effective, affordable and sustainable manner.



Chapter 5

emerging issues and conclusions

Lessons from the past

While WASREB endeavours to improve the performance of the sector through benchmarking exercises as discussed in this issue of *Impact*, the Board's experiences in Regulation provide several lessons the sector may need to pick for the overall good of increasing water access to Kenyans. The challenges derived from WASREB's experience, and recommendations on the way forward, are examined below.

5.1 Funding of WSS

The budget allocated by the Ministry of Water and Irrigation to water supply and sanitation is largely not adequate. This means that problems of reducing unaccounted for water will continue owing to lack of funding for metering purposes. WASREB recommends that external funding be up-scaled to address these issues and to help fix the dilapidated infrastructure which is a major impediment to the sustainability of WSPs.

5.2 Sustainability

It is clear that reliance on tariffs charged is not sufficient to cater for the rehabilitation and expansion of infrastructure in the water sector. The government should therefore continue supporting weak WSPs on a targeted programme of achieving sustainability over a first phase of the current service provision agreements, and facilitate pursuance of a viable clustering programme.

5.3 Multiple taxation

Currently, there are a multiplicity of levies WSPs have to shoulder towards different government bodies. They include the following:

- Water Services (Regulatory) Levy under the Water Act 2002 to fund the operations of the Water Services Regulatory Board
- Licensee Remuneration Levy under the Water Act 2002 to fund the operations of Water Services Boards
- Water Use Abstraction Fee under the Water Act 2002 to fund the operations of the Water Resources Management Authority
- Effluent Discharge Levy under the Environment Management and Coordination Act. It is not clear what NEMA uses it for since it does not have the function of catchment protection.
- Standards Levy under the Standards Act to the Kenya Bureau of Standards
- Local authorities are demanding a resource abstraction levy. It is not clear what this levy is supposed to do.

- The Kenya Forests Service is also proposing to levy a fee on water service providers whose intake points are located in forest areas. It is not clear what this money is supposed to do since WRMA has the statutory job of catchment protection and management.

If water services are to remain affordable and the MDG goals are to be met, then the levies being charged by government bodies on the water services providers need to be reviewed and reduced especially where that levy does not support the enhancement of water service provision. The policy direction is that monies from water are re-invested in water activities.

5.4 Corporate Governance

Most institutions in the sector have directors that have no knowledge of the sector, which situation has resulted in poor management of the institutions with regression or stagnation in performance. There is need to amend the Water Act 2002 to ensure appointment of Directors with defined qualifications, who should also be representative of all the stakeholders. The Governance Guideline has now been finalised and should address this issue.

5.5 Transfer Plan

The transfer plan envisaged the complete sustainability of WSPs and WSBs by June 2008. Todate, the Plan has not fully been implemented and remains one of the main obstacles to sustainability since it stands in the way of cost-effectiveness and accountability in service delivery.

5.5.1 Assets

5.5.2 Assets from Central Government

According to the Transfer Plan the Ministry of Water and Irrigation, acting on behalf of Water Services Boards, was supposed to negotiate with other government ministries, departments and parastatals for the transfer of ownership to Water Services Boards of facilities that they own, so that these facilities can be used for the provision of water and sewerage services.

Public Corporations such as the Export Processing Zones Authority (EPZA) have continued to cling to water assets developed by monies raised by the central government contrary to the provisions of the Transfer Plan. This has led to disputes of service provision because regulation cannot properly be applied to the institutions holding these assets. As such, there is lack of accountability and it is not possible to confirm that services are being provided cost-effectively. For example, EPZA customers pay higher tariffs which are not accounted for according to the framework set up by the Regulator. Until these assets are controlled by WSBs and cease to repose in other government departments, the objectives contemplated by the Water Act 2002 will not be attained.

WASREB proposes the following as the way forward:

(a) All government assets should be vested in the Permanent Secretary to the Treasury. The Ministry of Water and Irrigation (MW&I) needs to coordinate with the asset-holder Ministry to request that a Vesting Order from the Treasury on all water assets held by the government be vested in the different water bodies. This would ensure sustained momentum to entrench reforms in a legal manner and to enable the Water Services Boards to own what by law, they are supposed to own and control.

(b) A cabinet paper emanates from the MWI detailing other parastatals that hold water assets. It should specify that they need to transfer those assets toWSBs under Cabinet direction. Details of payment should be worked out and timelines drawn.

(c) The Permanent Secretary, Treasury, issues a gazette notice on the Vesting Order.

5.5.3 Assets from Local Authorities

Most of the assets that are being used by WSBs under lease arrangements from Local Authorities were developed using loans. It has never been documented from the Local Authorities which loans were paid and which remain outstanding. It is also not clear whether this has been documented the loans that Treasury is paying. This has brought about the problem of the legality of paying for the "lease fee" to Local Authorities for assets which they have never repaid loans for and whose loans are presumably being paid by the Treasury.

This issue is tying down progress in the water services sector because it has to be clear according to the National Water Services Strategy (NWSS) 2007-15, whether payments made to Local Authorities are justified. Only justified payments can be made and in any case they have to be ring–fenced within the sector. *If they are unjustified,* they unnecessarily increase the operational costs of WSPs and will by extension be reflected as higher tariffs in customers' water bills.

Besides this problem, some Local Authorities, such as Thika, have dragged their feet over forming autonomous water entities in violation section of 113 (2) c of the Water Act 2002.

WASREB proposes the following as the way forward:

(a) The MW&I must coordinate with the Treasury detailing this problem in the context of the expiring Transfer Plan and the need to clearly take a position on which loans Treasury is currently paying for water service assets yet they were to be paid by Local Authorities.

(b) A government decision has to be made whether these loans will be paid by Treasury or will be transferred to the Water Services Boards that will then pay them off instead of paying the lease fee to Local Authorities.

(c) A decision has to be made whether Local Authorities can continue to state that they own the assets when they may never have repaid the loans borrowed to develop these assets.

(d) A decision also has to be made on how Local Authorities will continue making investments in the water services sector if they are to continue owning the assets and the ownership modalities between them and WSBs on investment basis.

(e) This problem must also be included in the cabinet paper because there has to be a government decision binding on Treasury, Local Government and the MW&I on the issues high-

lighted. Further, some statutes may need to be made on regulations or amendments to the Water Act.

(f) Gazettement of any Order from the Permanent Secretary Treasury in relation to the assets developed with loans that have been paid by Treasury or are being paid currently by Treasury so that they are vested in the Water Services Boards or the Treasury.

5.5.4 Liabilities

There were liabilities inherited by the water services institutions from the previous water undertakers and they continue to cripple the operations of WSPs.

A decision has to be made on how these liabilities will be handled and whether it is prudent to expect under reforms that new institutions which are cash-strapped are expected to meet the costs of inherited debts or whether the Central government is best placed to deal with this issue. Time is of the essence in dealing with the Transfer Plan because without it, the provisions of section 113 of the Water Act cannot continue to be effected.

It is further recommended that:

- The MWI initiates and finances the valuation of assets to facilitate payment of lease fees commensurate with the value of the assets;
- Rationalization of staff be finalized, to inspire confidence in those who are finally deployed, for better productivity and services delivery.

5.6 Staff

From WASREB's inspections of WSPS, a trend has emerged showing that WSPs with severe governance issues are those managed by staff who are seconded from the Local Authorities or the Ministry. Such staff exhibit no loyalty to WSPs. When they face disciplinary cases they simply return to either the Ministry or the Local Government where they are deployed to other entities, notwithstanding their poor performance.

WASREB recommends that staff issues which are still pending and are hampering the operations of WSPs should be dealt with as follows:

(a) Staff, who are involved in direct water service provision, and are on secondment from the Ministry and NWCPC be seconded to WSBs without prejudice to their pensions and retirement benefits

(b) WSBs should refine their organizational charts, structures and determined their direct staffing needs including those of the agents they plan to appoint.

(c) Seconded staff should be engaged by the respective institutions according to their needs. Competent management staff shoud be recruited in water institutions to efficiently run water operations throughout the country.

(d) Interim WSPs staff should be trained to ensure that they are capable of implementing features of the new service delivery system, under the Water Act, especially its commercial nature.

5.7 Studies

Certain studies need to be undertaken to develop comprehensive plans to improve on future service delivery. Analysis of the business plans submitted by WSBs and WSPs show that they have been developed without reference to five critical studies in the sector. They are:

- Rapid situational assessment of water supplies and sewerage services at each WSB area
- Organization and development study of WSBs
- Detailed technical, financial and performance assessment of schemes, services and facilities transferred from MWI or the NWCPC and those owned by Local Authorities
- Study on financial and economic prospects and implications of providing water supply and sewerage services to residents by each WSB
- Ten year development plans for new schemes and expansion of existing ones.

Conclusion

The improvement anticipated by water sector reforms can only be realized if all institutions commit themselves to the mandate of ensuring water for all as specified in various policy instruments. There is urgent need to facilitate the complete implementation of the Transfer Plan so that institutions can become fully accountable for their output. To mitigate the challenge of sustainability in WSPs, clustering efforts will need to be fast-tracked. For continuous monitoring of the sector, as a trouble-shooting mechanism, both WSBs and WSPs must commit themselves to providing the right information on their operations to facilitate timely intervention.