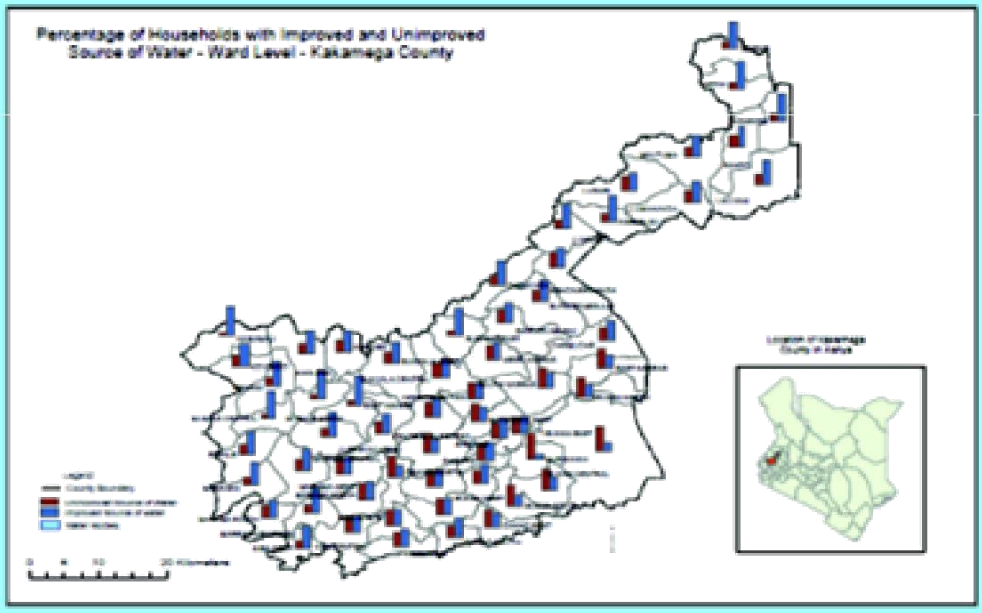
# COUNTY GOVERNMENT OF KAKAMEGA

## MINISTRY OF ENVIRONMENT,WATER, ENERGY,NATURAL RESOURCES AND FORESTRY

## *Kakamega County Water Supply and Urban Sewerage Strategic Plan (2015-2019)*

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**KAKAMEGA**

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# FOREWORD

“Water is life’’ in all aspects in the world. No development activity or human settlement can be effective without water.

Kakamega is one of the Counties one experiencing scarcity of water. The County faces serious challenges with regards to protection of water resources, development of water infrastructure, adoption of appropriate technologies and sustainable provision of water and sanitation facilities.

Existing sources and facilities have continued to deteriorate and fail to meet the demand of the increasing population especially in rural areas. Water being life; it also plays a major part in supporting Agriculture in our County.

The Kenya Vision 2030 and MDGs aspire to transform Kenya and by extension Kakamega county into an industrialized middle income county by 2030. In order for this transformation to be realized, it will be critical to know the County’s water resources in terms of services, conservation, storage and various technologies available for sound and sustainable management. Water availability in terms of quality and quantity has a significant bearing on our County’s development potential.

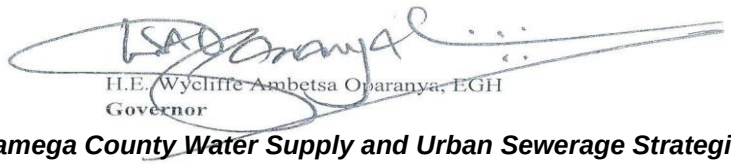
The Strategic Plan will address most if not all issues affecting communities of Kakamega County. Among the issues to be addressed are:-

Reduction in time for fetching/collection and storage of water for domestic use. It takes women and the girl child a lot of time and energy to trek long distance to water sources at the expense of other productive work including school time hence creating obstacles to equity and gender balance in development. This could be done through rehabilitating/expansion of existing water supplies, constructing and drilling of boreholes throughout the county among other interventions.

Increase agricultural activities by adopting irrigation activities in addition to the existing rain fed agriculture commonly practised in the County. Therefore, the strategy will address increase in storage through conservation and retention at the water catchment areas. The increase in retention will improve vegetation cover.

The County Government of Kakamega is putting in place frameworks to ensure that various stakeholders’ interests are put in place for access, utilization and sustainable management of water across the county.

Finally, the department of water will provide necessary legal and policy support, coordination services as well as resource mobilization support locally nationally and internationally to facilitate the implementation of projects as highlighted in the strategic plan. It is therefore hoped that the staff will internalize the plan for effective and efficient implementation.



H.E. Wycliffe Ambetsa Oparanya, EGH
Governor

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Special thanks go to H.E Wycliffe A. Oparanya, the Governor, County Government of Kakamega for his insightful and visionary guidance during the in the entire exercise, Mr. Frederick Atwa, the Coordinator Water Department and all the other key stakeholders who participated in one way or another in this important exercise.

Last but not least, I wish to extend my sincere gratitude to Dr. Temi M. Mutia, PhD of Broadbase Promotions Limited for providing editorial support and publication of this Strategic Plan.

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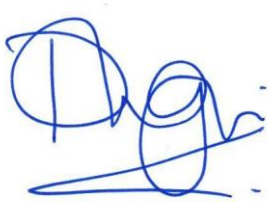

Hon. Peninah Mukabane
**Minister for Environment, Water, Energy, Natural Resources and Forestry**

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| CoK | Constitution of Kenya |
| CWP | Community Water Project |
| CWSUSSP | County Water Supply and Urban Sewerage Strategic Plan |
| GoK | Government of Kenya |
| KNBS | Kenya National Bureau of Standards |
| KWSP | Kenya Water and Sanitation Programme |
| LCCA | Life Cycle Costing Approach |
| LVNWSB | Lake Victoria North Water Services Board |
| MUS | Multi Use Services |
| MWI | Ministry of Water and Irrigation |
| NRW | Non-Revenue Water |
| NWSS | National Water Services Strategy |
| O &M | Operations & Maintenance |
| PPP | Public Private Partnership |
| SNV | Netherlands Development Organization |
| SWAP | Sector Wide Approach to Planning |
| Vision 2030 | Kenya Vision 2030 |
| WAGs | Water Action Groups |
| WARIS | Water Regulation Information System |
| WASH | Water Sanitation and Hygiene |
| WASREB | Water Services Regulatory Board |
| WHO | World Health Organization |
| WMCs | Water Management Committees |
| WPM | Water Point Mapping |
| WRMA | Water Resources Management Authority |
| WSB | Water Services Board |
| WSP | Water Service Provider |
| WUAs | Water Users Associations |

# EXECUTIVE SUMMARY

**Background**

Following the promulgation of the 2010 constitution, access to safe and sufficient water became a basic human right; a responsibility of the newly elected forty seven counties in the Country. Simply put, County governments (including that of Kakamega) are required by law to make budgetary allocations for water and sanitation. It was against this background that the Kakamega County Water Supply and Urban Sewerage Plan (CWSUSSPs) was mooted.

The Kakamega CWSUSSPs seeks to look beyond investment at pure infrastructure level and takes due cognisance of interventions necessary to ensure that: The desired infrastructure is up to date /does not fall into despair; Is able to indefinitely match the population needs for water. The financial focus of this strategic plan is therefore not only directed to building infrastructure but also in supporting budgetary requirements needed to operate, maintain and rehabilitate the systems, support the water service suppliers and water management committees and operators among other things. Hence, the most important characteristic of this CWSUSSP strategic plan is that, it uses the Life Cycle Cost Approach (LCCA) in planning and primarily focuses on impact, while at the same time taking responsibility for sustainability for services as a principle for the financial planning.

**The strategic planning process**

At the start of the strategic planning process, it was generally felt that safe sanitation and hygiene behaviour was linked to access to safe and sufficient water. Additionally, it was also recognised that, the bulk of water services in Kakamega County are generally managed at four levels: Community level; Town level and County level and the national level. At the community and county levels, it was generally agreed that, water and sanitation were the responsibility of the household, with the mandate of improving sanitation being spread out to several different ministries. As a consequence therefrom, leadership of the entire strategic planning process was assigned to the water department of the county government Kakamega and involved holding of numerous consultative meetings; data collection and analysis, stakeholder validation workshops and the development of draft and the final report. It was through this process that the Vision, Mission and strategic outcomes were agreed upon as follows:

**Vision:**

The Vision of the Water Department of Kakamega County is: to be a model county in the provision of quality water and sanitation services in Kenya

**Mission:**

The Mission of the Water Department of Kakamega County is: ensuring the provision of quality, adequate and affordable water and sanitation services in an environmentally sound manner that improves socio-economic status of the citizens of the county.

**Strategic outcomes:**

Under the plan, the strategic outcomes were primarily mapped into the following four (4) key thematic areas: Water governance; Water service management; Water and urban sanitation infrastructure; Capacity development and resource mobilisation and practical approaches towards equity and inclusion in the water sector.

**Strategic entry points for water equity in the County:**

Under this strategic plan deliberate efforts are going to be made upon which Kakamega the county will come up specific interventions geared towards water equity. They will include but not limited to the following: Structured tariffs; specific levies; communal water points; equitable distribution/allocation; water subsidies; citizen participation; performance-based contracts for departments and water service providers; meter boxes/ meter aggregation and prepaid meters.

**Financing arrangements under public private partnerships (PPP)**

Through a public private partnership approach, the private sector will be expected to bring into the sector finances; management efficiency; technology and the filling of capacity gaps. Indeed, when a major breakdown happens, publicly owned and managed water projects rarely have either the technical expertise to repair or the finances to purchase such expertise or equipment. Subsequently, an external partner like NGOs or Governments usually has to come-in to rehabilitate, and the cycle continues. Obviously, community structures are useful constituencies that must be tapped into, but perhaps their roles would need to be limited to those of ownership, oversight and usage, rather than management. Engaging professionals/private sector in such cases for management and operational efficiency would make sense.

Some examples of how the private sector can participate in the professionalizing of management of water services in the county are going to include but will not be limited to the following:

Lease arrangements

The market environment is becoming more responsive and innovative over time. Without the availability of cash to purchase items upfront it is possible for Counties and water providers to acquire equipment and pay over time from sale of water. In some cases maintenance of the equipment can be done by the supplier. This arrangement is gaining attraction especially for water meters and solar pumping equipment.

Management contracts

This in the water sector is being manifested through Private Operator Model (PO). Community management of water, though well intentioned, has proven to have serious gaps in technical capacity, managerial capacity, financial and bookkeeping capacity among others which has threatened sustainability of water schemes. Financial analysis has shown that many schemes when in good working order; if well operated and managed have the capacity to be self-sustaining. In this case then, such schemes can be contracted out to a private operator to run and ensure that service provision indicators continue improving, with the ownership and oversight remaining with the community/ Kakamega County government.

Lease Contracts

In this kind of arrangement, the water scheme is leased out to a private party who pays some agreed amounts of money on regular basis to the asset owner. This is similar to a management contract in regards to the management competence but this arrangement allows the contractor the leeway to mobilize funds to improve the project for better services delivery and improved profitability. These funds could be grants, own funds or credit borrowed from financial institutions so the contract needs to be significantly lengthy to allow turn around and recoup. This arrangement has a high possibility of ensuring continued water supply because risk is transferred to the contractor who has the motivation to make it work and succeed. The lease operator bills and collects revenue directly from the customers and as the contracting authority uses these funds to pay for past and future capital investment.

Build Operate Transfer (BOT)

Recent years have seen a significant growth in the number of BOT contracts for discrete infrastructure projects. This is now being explored in the water sector and is more suitable for large projects that require heavy capital investment, for example multi-purpose dams. In using this approach, it is possible to construct huge projects whose financing was not readily available from public coffers. Even where funding could still be publicly available, this approach has proven to have the capacity to cut project costs by up to two thirds. Additionally, completion time is reduced, quality is usually better, and the risk of non-completion almost eliminated. This type of financing arrangement is particularly suited for water and sewerage projects, and has several variants of the BOT according to the project needs. An advanced variant of this is concession, where the private party designs, finances, constructs and operates a revenue-generating infrastructure in exchange for the right to collect the revenues for a specified long period with ownership of the asset remaining with the public sector.

## Conclusion

This strategic plan document will be subject to annual review with measures deemed necessary being taken to ensure that the initiative remains focused towards the desired objectives.

# PART A: STRATEGIC OVERVIEW – CONTEXT AND PERSPECTIVE

## Introduction

The County Water Supply and Urban Sewerage Plans (CWSUSSPs) are developed to support the organisation of the water supply and urban sanitation sectors, and more specifically to prepare detailed planning and financing of the investments. The CWSUSSPs are looking beyond the pure infrastructure investment requirements and taking into account the interventions needed for ensuring that the infrastructure provides the desired service levels for the whole population. The plans also consider the challenge of safeguarding that the services will last in principle indefinitely and avoid the falling into disrepair of the water and sanitation infrastructure. The financial focus therefore is not only directed to building infrastructure, but also considers what budgets are required to operate and maintain, to rehabilitate the systems and to support the water service suppliers, water management committees and operators. Because significant information gaps exist on: access to services; quality of existing infrastructure; and, unit costs, the data for targets and budgets will need to be considered taking in mind substantial error margins. However, the plans do provide a strong enough basis for directions for planning and investments.

## Background

### Coverage of water and urban sewerage services in Kenya

The Kenya water master plan 2010 states that 53% of the Kenyan population has access to clean and safe drinking water. This is confirmed by KNBS and SDI (2013), which rates access at 52.6%. Access in urban areas is more than double that of the rural areas. The same survey found that 5.9% has piped water into their dwelling and 19.2 percent have access to piped water. Boreholes as point source are also relatively common at almost 12 percent. However, the single most common source of water across Kenya is the river (unimproved) at 23.2 percent. Water vendors (only in urban areas) are used by 5.2 percent of the population, nearly as many as those with water piped into their dwelling. These figures are a clear indication of the inequitable access to clean water.

According to KNBS and SDI (2013), 61.6 percent of the Kenyan population has access to improved sanitation facilities. The percentage for the rural population is 53.5% and for the urban population 78%. In urban areas, 18.1% of the population use sanitation facilities that are connected to a sewerage network. There are no reliable data available about waste water treatment, but in Nairobi, according to Githuku (2009) an estimated 50% of waste water from the sewerage network is treated before disposal.

### Major challenges in the water sector

The Kenya water sector is making progress in terms of organising itself and increasing the investments in the sector. However, the coverage is stagnating around 55%, which is an important indicator that much more needs to be done. The provision of access to basic service levels for this large part of the population is the single biggest challenge for the water and urban sewerage sectors in Kenya. While indeed it is encouraging that investments in the sector are increasing, at the same time a lot of the effectiveness is wiped out because large parts of the infrastructure that is put up, starts slipping into disrepair and becomes dysfunctional within a few years. This lack of sustainability of the services forms the second challenge. The burden of the below standard services come mainly on the shoulders of (poor) women and children and this and other inequalities form a third important challenge to be overcome if Kenya is going to reach its water vision 2030. The fourth challenge of weak capacity at local government and local institutions is

becoming more urgent by the day, although with devolution taking shape on the ground these local players are made responsible for the overall service delivery. A final challenge highlighted here is the lack of accurate information, in particular on the quality of the services accessed by the consumers and on the performance of the Water Service Providers (WSPs). Without such information mitigating actions, targeting investments (for example targeting the poor) and planning in general is very difficult.

The progressive goals of National Water Services Strategy that includes the Medium Term Plan (2012), NWSS (2015) and Vision 2030 and are shown in table A1.

| Target | MTP 2012 | NWSS 2015 | Vision 2030 |
|---|---|---|---|
| Areas with sustainable access to safe water | | | |
| urban [1] | 72% | 80% | 100% |
| rural [2] | 59% | 75% | 100% |
| Average return time to nearest public/ communal outlet - urban | 2hrs | 30 minutes | Instant access |
| Distance to the nearest public/communal outlet – rural | 3kms | 2kms | Instant access |
| Unaccounted for water (economical and technical losses). | <30% | 30% | 25% |
| Access to safe waterborne sewage services[3] | | | |
| urban | 40% | 40% | 100% |
| rural | 10% | 10% | 100% |
| Access to basic sanitation[4] | | | |
| urban | 70% | 77.5% | 100% |
| rural | 65% | 72.5% | 100% |
| O&M cost recovery of all WSS systems achieved gradually by 2010 (except for targeted subsidies to the poor) | | | |

*Table A1: Water Services Targets MTP 2012, NWSS 2015 and Vision 2030*

## Devolution of the water sector

The 2010 Constitution brings a devolution that has strong implications for the water sector. It is important that it explicitly recognises the access to safe and sufficient water as a basic human right and also assigns the responsibility for the water and sanitation services to the 47 counties. The 2013 elected government committed itself to a rapid transfer of devolved functions to the counties, including allocation of funding. This means that the counties now need to ensure the financing of both development and recurrent expenditures related to the water and sanitation services. As long as the Water Bill 2014 has not been approved by Parliament, the sector continues to be governed by the current legislation of which the most important one is the Water Act 2002. In the transition process there are still a number of uncertainties:

- Exact roles and responsibilities of National and County governments for making investments, overseeing and management of the services;

[1] Comply with the Kenya standards such as drinking water quality (formal service provision).
[2] Comply with the Kenya standards such as drinking water quality (formal service provision).
[3] Effluent discharge shall meet the relevant Kenyan standards including Environmental Management and Coordination Act.
[4] In collaboration with the other concerned ministries, particularly the MoH (lead for sanitation).

The future of the current asset holder, the Water Services Boards ( WSBs) , as well as Water Works Board(s) and if all functions (asset management and licensing) will be devolved to the county governments

What will the considered model of water service management of all services in a county by one or two water companies mean for existing structures like the Water Management Committees and the Water User Associations.

Clarity about applying tariffs based on a cost- recovery principle and the ring-fencing of monies to ensure sustainability of the services

This CWSUSSP has been drafted from the perspective of county governments towards the anticipated changes:

The National and county government are under the obligation to gradually work towards the right to water for all their citizens, which will require a firm regulation mechanism

Water Service Providers are answerable to the county government instead of the Water Services Boards

Water Services Boards will change in function or merge in newly defined functions.

### Nature and boundaries of CWSUSSP

The most important character of this CWSUSSP is that it plans for impact. Starting points for defining the targets expressed in numbers of people to be reached are the Vision 2030, aiming at access to a minimum service level by all, and the current situation. In addition it also takes sustainability of the services as a principle for the financial planning, using the Life Cycle Cost Approach (LCCA)[5].

The word “strategic” in the context of the CWSUSSP means that the plans aim to define the core areas and types of interventions that will lead to achieving the targets for the whole planning period. The period that is covered by the plans is five years and runs form 2015 - 2019. This means that the CWSUSSP mainly serves as a framework for defining the annual plans that will include more details. For example the CWSUSSP has identified the present inequitable access to services between the different wards and has set a target to reduce this inequality for this planning period. However, the annual plans will define which new infrastructure and rehabilitation works will be prioritised for which wards.

The focus of the CWSUSSP has been subject of discussion at the start of the process. On the one hand it is generally felt that safe sanitation and hygiene behaviour is linked to access to safe and sufficient water, it is on the other hand recognised that water services are managed at community, town or even at county level where sanitation is mainly a responsibility of the household. In addition is the mandate for improving sanitation spread over different ministries. It was therefore decided that the focus for these CWSUSSPs are on water services and urban sewerage, because the water departments in the counties are combining these two mandates. Rural sanitation therefore is explicitly excluded from the plans. A second discussion on focus of the plans has been around the fact that water is used by most users for different purposes: next to domestic consumption, water is used for livestock and kitchen gardening. It was agreed that in general the focus of the Plan is on domestic use, and it will be explicitly mentioned when planning for other uses is included. The main consideration has again been that the mandate for water for other purposes is often shared between different ministries.

[5] See http://www.ircwash.org/washcost

## Process of developing the Strategic Plan

The development of this CWSUSSP is supported by SNV Kenya and forms part of the larger WASH programme of SNV that focuses on the following areas:

a. Improving functionality, equity and inclusion (e.g. through water point mapping and evidence based advocacy)
b. Improving sustainability and commercial viability through professional management and introduction of PPPs
c. Improved sector coordination and enabling environment for SWAP

In the context of the devolution, county governments will need to focus on sustainable investment and management strategies. The CWSUSSP aims at providing the basic framework for sustainable investments, including opening up for investments by the private sector. The CWSUSSP is therefore an early and necessary step towards realising the water vision 2030 in the county.

Partnerships are an important part of the strategy to realise the targets in the water sector. The sector is characterised by having many different stakeholders from political, government and civil society institutions and increasingly also from the private sector. It is therefore crucial that the strategic plan is owned as much as possible by all these stakeholders.

## Organisation and process steps

The lead of developing the plan has been with the water department of the county government, supported by a technical team of international and national consultants. The following steps for developing the plan have been followed:

1. First county consultative meetings. These were 2 workshops where 5 counties participated to: decide on the scope of the plan; develop detailed vision and strategic objectives; and, share the results with the other participating counties.
2. Information collection and situational analysis. The county forms teams, which with support from the technical team collect and analyse information from national and county sources to have a good understanding of the current situation.
3. Second consultative meetings. Based on the situational analysis and the vision a first outline of the plan was developed by the technical team and discussed in each county separately in detail with a broad representation of stakeholders from the counties.
4. The County and the technical team revised and improved the information used for the situation analysis and fine-tuned the long term targets.
5. A first full draft of the CWSUSSPs were drafted for all the counties
6. A broad validation meeting in each county separately with a broad representation from the counties, and a technical meeting with the county team and the technical support team to integrate the latest developments in the counties into the CWSUSSPs.
7. Final CWSUSSPs developed.

## Reliability of information and assumptions

The quality of the CWSUSSPs is defined by a number of parameters. One such parameter will be the level of ownership of the plan. An important parameter is the accurateness of the data used. For example, only when it the numbers and spread of people without access to a minimum service levels is known, a strategy and planning can be designed to lessen this. Unfortunately, little reliable information that

describes the present situation of the water sector is available. For the development of the CWSUSSPs, use has been made from both national and international sources, like the KNSB and JMP; regional sources (WSBs) and local sources, in particular the sub-county water offices. In order to set impact targets and indicative budgets for the plans, a number of assumptions and simplifications have been made.

**Population data:** population data are based on the 2009 Census with an average population growth of 2.7% as used by the World Bank – unless the County advised a revised figure. The differentiation, including future trends, between rural and urban is based on estimates by the counties.

**Service levels:** a water service level received by the consumer is ideally defined by water quality, quantity, reliability and accessibility. The information available in Kenya is mainly defined as access to improved or improved sources. The 5-year planning targets are therefore mainly based on access to improved sources.

**Costs:** for the calculation of the point source technologies, an average figure for different technology types has been taken. All initial unit costs for the different technologies initially are based on data form MWI (2005) – extrapolated to 2014. These unit costs have been reviewed and adjusted by the county water department.

**Urban sanitation and sewerage:** planning estimates only take into account initial capital investments as no data or reference data for rehabilitation, O&M and support costs are available.

### Key principles and concepts

The CWSUSSPs are targeting impact in terms of number of people with access to at least the minimum level of services. The strategies aim to address a number of the key challenges: sustainability, equity and financing of the sector.

### Equity

The equity principle is directly referring to a rights-based approach as is also promoted by the new Constitution 2010. In practical terms the CWSUSSP incorporates this principle by:

- Accountability in terms of clarity on (separation) of roles and responsibilities and transparency on performance of the different stakeholders
- Cost-recovery and affordability of services, which means that people in principle pay for the service in order to keep the service running indefinitely and that the level of payment is dependent on both the service level received and income.
- To decrease inequity in terms of % of people that have access between the different wards of the county.
- To decrease the burden of water fetching of in particular women and children by prioritising the reduction of fetching time/distance to the water point and crowding around water points.
- To prioritise access of the urban poor to both water and sanitation minimum levels. For the urban sanitation sector traditionally a large amount of the public funding goes to sewerage and waste water management, of which only is used by a relatively wealthy minority, which in general is used by a relatively wealthy minority only.

Annex A1 discusses in summary options and principles for improving equity in water and sanitation service delivery.

## Sustainability

For far too many people in rural and urban areas, water services are unreliable and substandard. Lack of local management capacity, poor maintenance of infrastructure, and inadequate financing mean that the initial gains of water supply are often not sustained.

Recent discussions[6] on the topic have led to a general agreement on a number of key points, which are taken on board in the discussions for the development of the CWSUSSPs.

**Focus on service delivery** is fundamental to improving rural water supply in terms of both the sustainability and level of service. A service delivery approach focuses on the long-term provision of water services at scale as opposed to the implementation of discrete, one-off projects at the community level. The approach thus includes both the physical infrastructure required to provide water and the management systems and capacities required at multiple levels. This requires on-going support for those providing the service—whether they be community-based organisations or small private operators—and for local government institutions that can carry out planning, coordination and oversight functions.

The IRC study[7] suggests that ten critical factors are pivotal to the shift to the service delivery approach for rural water services. These building blocks are listed in table A2.

| TABLE 1: BUILDING BLOCKS FOR SUSTAINABLE SERVICE DELIVERY* | |
|---|---|
| **Professionalisation of community management** | Community management entities supported to move away from voluntary arrangements towards more professional service provision that is embedded in local and national policy, legal, and regulatory frameworks. |
| **Recognition and promotion of alternative service provider options** | A range of management options beyond community management, such as self-supply and local private operators, formally recognised in sector policy and supported. |
| **Monitoring service delivery and sustainability** | Monitoring systems track indicators of infrastructure functionality, service provider performance, and levels of service delivered against nationally agreed norms and standards. |
| **Harmonisation and coordination** | Improved harmonisation and coordination among donors and government, and alignment of all actors (both government and nongovernment) with national policies and systems. |
| **Support to service providers** | Structured system of direct (post-construction) support provided to back up and monitor community management entities and other service providers. |
| **Capacity support to service authorities** | On-going capacity support provided to service authorities (typically local governments) to enable them to fulfil their role (planning, monitoring, regulation, etc.) in sustaining rural water services. |
| **Learning and adaptive management** | Learning and knowledge management supported at national and decentralised levels to enable the sector to adapt based on experience. |
| **Asset management** | Systematic planning, inventory updates, and financial forecasting for assets carried out, and asset ownership clearly defined. |
| **Regulation of rural services and service providers** | Regulation of the service delivered and service provider performance through mechanisms appropriate for small rural operators. |
| **Financing to cover all life-cycle costs** | Financial frameworks account for all life-cycle costs, especially major capital maintenance, support to service authorities and service providers, monitoring and regulation. |

*Table A2: building blocks for sustainable service delivery*[8]

## Life Cycle Costing Approach

The aspect of sustainable financing of the services is part of the above mentioned building blocks for sustainability, but has received special attention for the CWSUSSPs, in particular by linking the impact

[6] See for example:
[7] Lockwood, Smits (2011)
[8] IRC (2012)

target not only to required financing for initial capital investments, but also for O&M, rehabilitation and support costs. Figure A1 shows the basic LCCA framework.

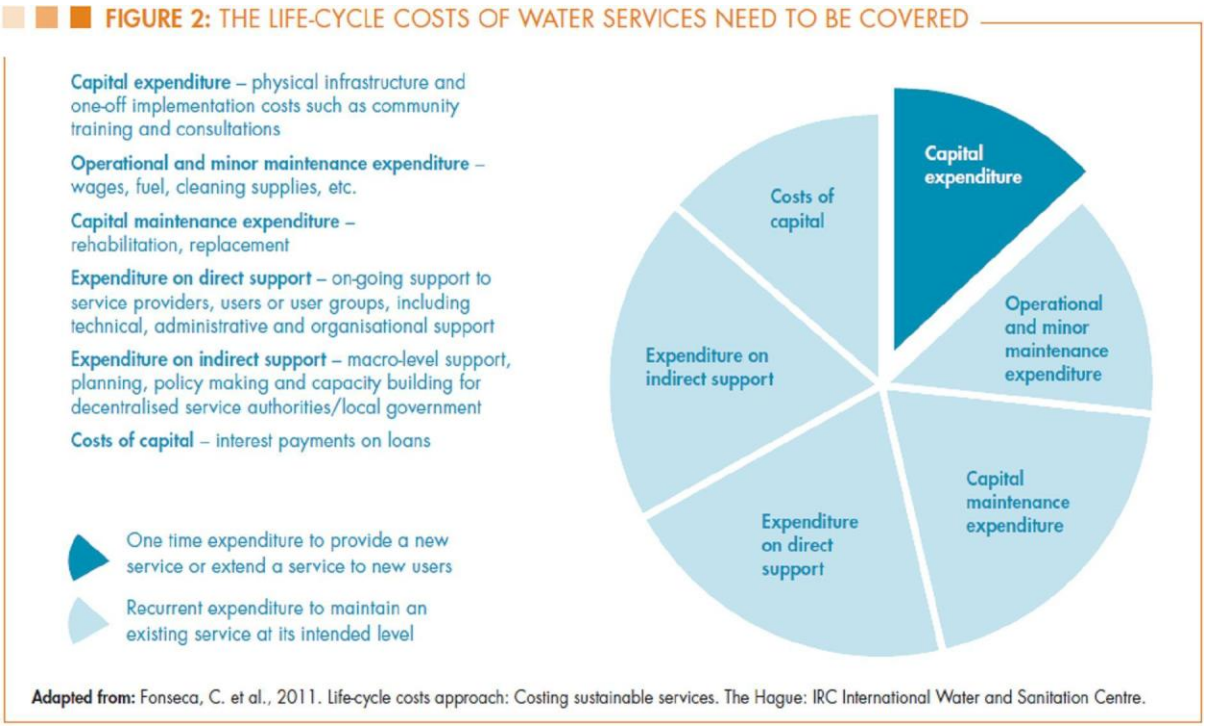


*Figure A1: Life Cycle Costing Approach*[9]

## Public Private Partnership

Currently the funding by government and international aid is not sufficient to meet the targets of vision 2030 for the water sector. This means that other sources of funding need to be found. The Public Private Partnership (PPP) is often mentioned in this context and PPPs for water can roughly be looked at s two types of partnerships. One is attracting private funding to the sector as investments and the second is by providing private sector efficiency and professionalism to service management.

The success of attracting private funding to the sector is almost solely dependent on the fact if a reasonable return on the investments can be made with acceptable risks. If this condition cannot be met, the capital will always be directed to more attractive sectors. The role of the water sector and in particular the government is to prepare the ground for these investments. An important element in this is to ensure willingness and practise of paying for water and sanitation services, as this will be the basis for the financial return. Another and related element is the condition of the assets. When the assets are in a relative good condition, chances for a profitable operation of the system are much better. Therefore an important role for both the water department and the service providers is to bring the assets to an attractive level of quality.

Consumer payment for the services to the water operators will need to cover at least for daily O&M, but also for major repairs and small system extensions. This requires from the operator a professional management of the services, including revenue collection. Thirty years of community management that is largely based on voluntarism has shown that cost recovery under this management model is very difficult.

[9] Fonseca C, et al. (2011).Life-cycle costs approach. Costing sustainable services. IRC, The Netherlands

The PPP thinking is that the private sector has the required skills and experience to make service management more professional and cost efficient.

Annex A2 elaborates on some mechanisms to engage the private sector in water.

### Legislative context

The new Constitution and the devolution vest the mandate for water service provision at the county governments. National government has a duty and mandate to support county governments. The main roles of the Ministry of Environment, Water and Natural Resources are to:

develop and oversee national sector policy and legislation
support counties in the provision of water services
facilitate funding for the sector (capital and subsidies)
oversee sector coordination, strategy and planning.

The water sector in Kenya still lacks a fully clear sector-specific policy and legal framework to operationalise the devolution. The existing policy uncertainties need to be resolved to enable devolution to proceed smoothly. The draft Water Policy and Water Bill 2014 that were under discussion shortly before the devolved system came into effect contain a number of aspects that are relevant for future development of the water sector: promotion of the right to water; ensuring sustainable provision of water services; and an enabling environment for involvement of the private sector.

Key provisions of the Water Bill 2014 are:

**Right to water.** The constitutional right to water is explicitly recognised.
**Allocation of responsibility.** County governments will be responsible for establishing water service providers or alternative provision arrangements for urban and rural areas for both the development and management of water services.
**Definitions.** The draft Bill distinguishes between "national public works" (water infrastructure of National or strategic importance and cross-county infrastructure) and county water infrastructure. **Transfers**. Provision for the transfer of assets, rights, liabilities, obligations, agreements and other arrangements from Water Services Boards to either the County Service Providers (county infrastructure) or the proposed Water Works Development Boards (national public works infrastructure).
**Licensing.** Provision for the licensing of Water Service Providers by a national regulator.
**Cost-recovery and ring-fencing.** Provision of water services on a cost-recovery basis wherever feasible and for ring-fencing of water revenues for purposes of operating and maintaining assets and contributing to capital costs.
**County water services providers.** Formation of county-level water services providers, set up as companies under the Companies Act and the merging of multiply water companies in a county into a single county water services provider.

In addition to the existing legislation, there are a number of laws that have been passed by Parliament to facilitate achievement of the objectives of devolution. Those relevant[10] to the water sector include:

Constitution of Kenya 2010

[10] WSP(2013)

County Government Act (No. 17 of 2012)

County Governments Public Finance Management Transition Act (No. 8 of 2013) Division of Revenue Act (No. 31 of 2013)

Intergovernmental Relations Act (No. 2 of 2012)

National Government Co-ordination Act (No.1 of 2013)

Public Finance Management Act (No. 18 of 2012)

Transition County Allocation of Revenue Act (No. 6 of 2013)

Transition to Devolved Government Act (No. 1 of 2012)

Transition County Appropriation Act (No. 7 of 2013)

Urban Areas and Cities Act (No. 13 of 2011)

Water Act (No. 8 of 2002) The PPP Act 2013

Annex A3 summarises a number of development in legislation for the water sector.

# PART B: STRATEGIC OVERVIEW – KAKAMEGA COUNTY

## Vision, Mission and Strategic Objectives

Starting from the general vision for the development of the County, key stakeholders for the water sector have formulated their vision for the water and urban sanitation services sector.

**Vision:** The Vision of the Water Department of Kakamega County is: to be a model county in the provision of quality water and sanitation services in Kenya

**Mission:** The Mission of the Water Department of Kakamega County is: ensuring the provision of quality, adequate and affordable water and sanitation services in an environmentally sound manner that improves socio-economic status of the citizens of the county.

Looking towards 2030, the County has made estimates for a number of general development targets (table B1). Some of these figures have been revised during later discussions.

| **County water vision: estimated changes between 2015 and 2030** | | **2015** | **2030** |
|---|---|---|---|
| **General** | % of population living below poverty level | 47 | 30 |
| | % pop. Living in urban settlements | 20 | 40 |
| | % of County with adequate road and communication Infrastructure | 35 | 60 |
| | % of overall services that are meeting minimum standards | 40 | 70 |
| **Domestic service levels** | % of population accessing adequate domestic water services | 30 | 85 |
| **Multiple Use Services** | % basic MUS | 25 | 60 |
| **Rural Sanitation** | % access to adequate sanitation | 94 | 100 |
| **Urban sanitation** | % access to adequate sanitation | 80 | 95 |
| | % of urban area covered with sewerage | 20 | 40 |

*Table B1: Summary of Kakamega County water vision (County Consultative Meeting 23 and 24 July 2014, Kisumu)*

The County has also set targets for the relative improvement of water service levels for both the rural and urban areas (table B2). The guidelines of the Kenya Water and Sanitation Programme for service levels has been the guidance for the definition of water service levels (see Annex B1)

| % of **rural** people accessing water service level in 2030 | **Basic** | **Middle** | **High** |
|---|---|---|---|
| *Quantity* | 70 | 25 | 5 |
| *Quality* | 55 | 25 | 20 |
| *Accessibility* | 20 | 25 | 55 |
| *Reliability* | 60 | 15 | 25 |
| % of **urban** people accessing water service level in 2030 | **Basic** | **Middle** | **High** |
| *Quantity* | 70 | 20 | 10 |
| *Quality* | 60 | 25 | 15 |
| *Accessibility* | 70 | 20 | 10 |
| *Reliability* | 60 | 20 | 20 |

*Table B2: Kakamega County water service level targets 2030 (County Consultative Meeting 23 and 24 July 2014, Kisumu)*

**Strategic Objectives:** The strategic objectives are based on the discussion by County stakeholders during the first County Consultative Meeting of 23 and 24 July 2014 in Kisumu and further detailed during the second County Consultative Meeting of 23 September 2014 in Kakamega. The objectives for Kakamega are summarised below and worked out in more detail in the strategic outcomes of part C.

**Water and urban sanitation service governance**

1. Agreed water service delivery model, which is based on the Water Act 2002 and that defines structure and formalises mechanisms, roles and relations of the stakeholders that are jointly responsible for access to safe water and urban sanitation in the county.
2. Improved equity in access to water and urban sanitation services

**Water and urban sanitation service management**

3. All water services are managed by Water service management contracts between the water service authority and the Water Service Provider, of which an increasing number is from the private sector.

**Water and urban sanitation infrastructure**

4. County population targets for coverage of rural and urban water services and urban sanitation services are met.
5. Increase in service levels of the water and urban sanitation services are responding to the demand and improve the financial sustainability of the service delivery.

**Capacity development**

6. Capacities of the organisations and staff are aligned to the new water service delivery model of the County.

**Resource mobilisation**

7. All internal and external partners are aware of and align their water and urban sanitation investments with the Kakamega County Water and Urban Sanitation Strategic Plan, of which an increasing share is taken by the private sector.

## Present situation

### Socio-economic environment and livelihood

| **Population projections** | | | | |
|---|---|---|---|---|
| Year | 2009 | 2015 | 2019 | 2030 |
| Population | 1,660,651 | 1,929,401 | 2,132,035 | 2,718,344 |

*Table B3: population projections: Kakamega population*

Kakamega County boarders Vihiga County to the south, Busia and Siaya Counties to the West, Bungoma and Trans Nzoia Counties to the North, Uasin Gishu to the North East and Nandi County to the East. The County covers an area of approximately 3050.3 Km2. The County has 12 sub-counties, and 60 wards

According to the 2009 Population and Housing Census, the county population was 1,660,651 with a population distribution of 48 percent male and 52 per cent female. The projected 2015 population is 1,929,401 while the County population is projected to be 2,132,035 and 2,718,344 by 2019 and 2030 respectively. The population growth rate for the County is estimated at 2.5%. This has put great pressure on socio-economic facilities; especially on health, education and land.

| **Education Level** | **Work for pay** | **Family Business** | **Family Agricultural Holding** | **Intern/Volunteer** | **Retired/ Home-maker** | **Fulltime Student** | **Incapacitated** | **No work** | **Number of Individuals** |
|---|---|---|---|---|---|---|---|---|---|
| **Total** | 17.5 | 10.4 | 43.7 | 1.3 | 6.3 | 14.0 | 0.6 | 6.3 | 815,361 |
| **None** | 16.8 | 9.8 | 53.1 | 2.2 | 8.4 | 0.5 | 2.2 | 7.1 | 75,719 |
| **Primary** | 15.4 | 10.3 | 47.1 | 1.0 | 6.5 | 13.3 | 0.5 | 5.9 | 479,317 |
| **Secondary** | 21.7 | 10.8 | 34.6 | 1.4 | 5.2 | 19.3 | 0.3 | 6.6 | 260,325 |

*Table B4: Overall Employment by Education Levels in Kakamega County (KNBS and SDI (2013))*

In Kakamega County, 17% of the residents with no formal education, 15% of those with primary education and 22% of those with secondary level of education or above work for pay. Work for pay for those with a secondary level of education or above is highest in Nairobi at 49%, this is twice the level in Kakamega.

The County is predominantly a crop -farming economy, with livestock farming being done on small scale. The County has many self-help groups, women groups, and youth groups who undertake specific community development activities including water provision. Many of these organizations are cash-strapped due to inadequate sustainability measures. The main crops grown in Kakamega County are sugarcane, maize, beans, cassava, finger millet, sweet potatoes, bananas, tomatoes, tea and sorghum. Maize, tea and sugarcane are the main cash crops. Most people also engage in fishing. Other income generating activities include commercial forest farming practiced as an alternative source of income through the sale of timber, wood fuel, and construction in the northern parts of the County. The main mining activity in the County is quarrying.

The County has a number of sugar factories with Mumias sugar factory being the largest. Others are: Butali Sugar Company and West Kenya Sugar Factory. In terms of urbanization, there is expected increased pressure on the existing infrastructure with the influx from the rural areas. In Kakamega County, most wage earners are in agriculture and rural development, water resource management, housing, and infrastructure sectors. The County has a large percentage of people in self-employment mainly in Agriculture. There is also a large percentage of the unemployed, who are therefore not contributing to the economy of the County.

Despite the fact that a larger proportion of the County's population is in the rural areas and consists mainly of women, (whose main livelihood is agriculture), their contribution to the County's economy is negligible. This is mainly due to socio-cultural values and practices which limit their full participation in economic generating activities. The poverty level in the County is estimated at 51.3 % compared to the National level which is s at 45.9 % according to the report on the Wellbeing in Kenya of April 2007, Kenya National Bureau of Standards. The high level of poverty has a negative impact on the development agenda of the County as most of its citizens are at the basic subsistence level

## Sector status and issues

### *General*

Kakamega County (Water department) has finalized the Kakamega County Water Bill 2014 and water policy which details how the County will organise the sector. The Water Policy goal and objective is to guide efficient supply and utilization of water; to achieve sustainable water availability for the attainment of cultural and socio-economic development.

According to the County Water Bill 2014, one of the functions of the County water department is to formulate and publish the County water and sanitation ten year sector plan. The Bill allows the County or a Water Service Provide to enter into a Public Private Partnership (PPP) and allows for delegation of some or all of its functions by another person as a licensee with respect to a part or the whole of its area of water service. The PPP framework will also apply to sewerage infrastructure. A second important development is how the water service delivery will be organised in future. The County will have only one

Water Service Provider (WSP) – Kakamega County Water and Sewerage Company. It is possible that a second one will be formed to deal with water provision in the rural areas.

### *Water*

Improved sources of water comprise protected spring, protected well, borehole, piped into dwelling, piped and rain water collection while unimproved sources include pond, dam, lake, stream/river, unprotected spring, unprotected well, water vendor and others.

According to KNBS and SDI (2013), in Kakamega County, 61% of residents use improved sources of water, while the rest rely on unimproved sources. In use of improved sources there is no gender differential in the 61% of both male-headed and female-headed households that use the facilities.

Mumias West constituency has the highest share of residents using improved sources of water at 78%.This is twice of Shinyalu constituency, which has the lowest share using improved sources of water. Mumias West is 17 percentage points above the County average of residents using improved sources of water. Namamali ward has the highest share of residents using improved sources of water at 89%.This is almost five times Murhanda ward, which has the lowest share using improved sources of water. Namamali ward has 28 percentage points above the County average of residents using improved sources of water. See also figure B1.

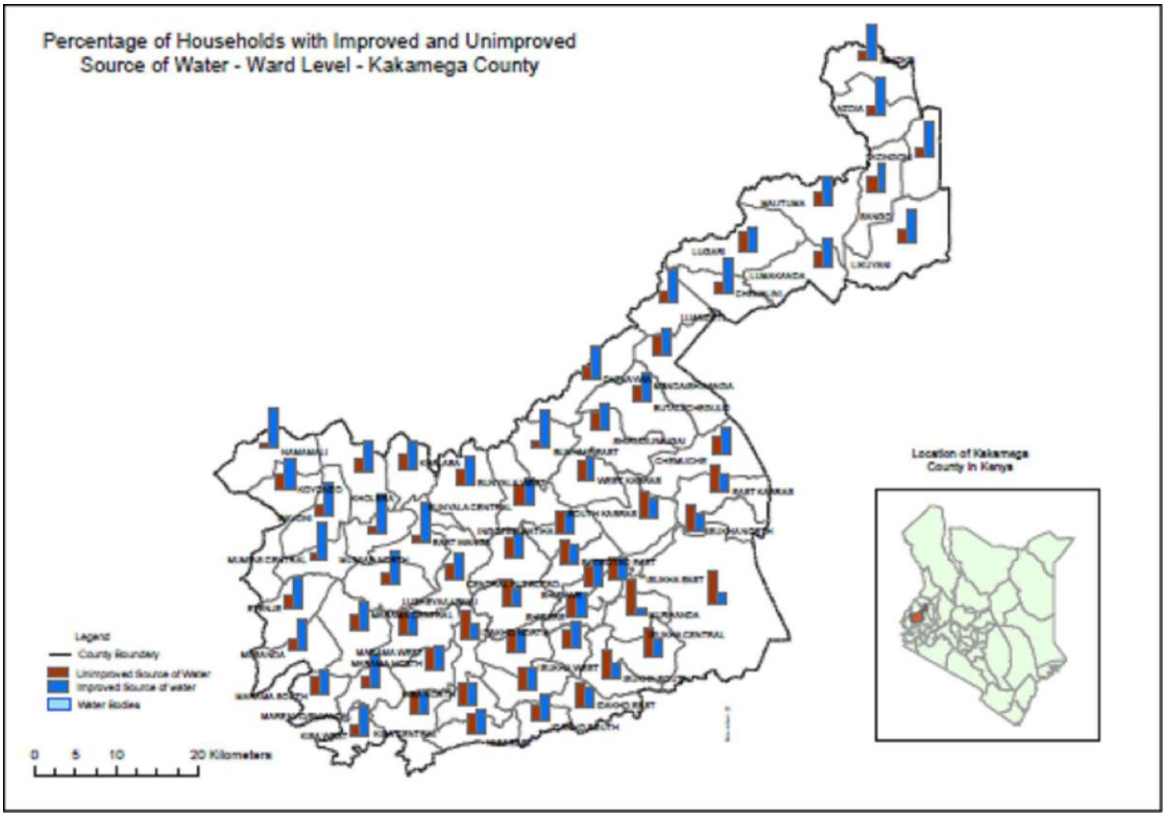


*Figure B1: Households with Improved and Unimproved Source of Water (KNBS and SDI 2013)*

The water catchments have been interfered with through the cutting of the forest for livelihood. The rivers are also drying up due to uncontrolled human activities such as deforestation in the water catchment areas and riparian areas.

The County has only one Water Service Provider (WSP) – Kakamega County Water and Sewerage Company. There are however five (5) water supply schemes namely: Kakamega Water Supply; Mumias

Water Supply; Shitoli Water Supply; Tindinyo Water Supply; Butere Water Supply. Besides, Malava Water Supply; Lumakanda Water Supply; and Soi Water Supply which were originally managed by the national government, are now under the management of the county government. The County is yet to decide whether to put them under the Management of the WSP or under rural water co-operatives.

Apart from Kakamega and Mumias Water Supplies, the rest of the schemes are dilapidated and require massive rehabilitation. Due to their state, O&M cost is high. The water production from all these water projects in a year is 4.5 million m3. But only 2.1 million m3 is sold in a year. The difference represents Non –Revenue Water (NRW) which stands at 53%

There are also small Community Water Projects, like Navakholo Community Water Project (CWP), currently managed by a Lease Operator. Most of the CWPs are poorly managed, register high NRW, and are not metered and therefore unsustainable. The concept of Water Action Groups is slowing taking root and this will help compliment the community efforts in managing the CWPs. There is a plan by the County government to form partnership with Water Agencies to strengthen Water Users Associations (WUAs) for effective water management.

Water infrastructure development is done by the Water Services Board (WSB), Lake Victoria North Water Services Board. With the water provision now devolved to the county governments, it is not clear who will handle asset development. The Water Resources Management Authority (WRMA) is responsible for the management of water resources.

A number of projects have stalled due to political interference, for example Sidindi Water Project while others due to land ownership problems like the rehabilitation of Misango Hills project. The Misango Hill project, if pursued, will be a viable gravity project. A number of water projects are on-going while new programmes are underway.

### *Estimated water service levels*

Based on the scattered sources of information, the Kakamega CWUSSP will calculate with values for the present service levels, presented in tables B5 and B6. The following assumptions have been taken into account for making the estimates:

Data sources have been the national census of 2009; KNBS and SDI (2013); WASREB (2013); and WHO/UNICEF (2014).

For reliability no data are available. Therefore, the average functionality percentage for seven out of eight covered counties that was found from the SNV Water Point Mapping is used as an approximation, which comes to 83% functionality

Quality is not used because of absence of data

The values have been verified with Kakamega County and adapted when applicable.

| Quantity (Coverage) | Reliability (functionality) | Accessibility | %Point sources/piped schemes |
|---|---|---|---|
| 36 % | 83% | Average distance 500m | 57/43 |

*Table B5: estimated rural water supply service levels 2015*

| Quantity (coverage) | Accessibility % HC | % UFW | Accessibility Urban poor % Piped with Taps/Point source |
|---|---|---|---|
| 73% | 6 | 53 | 10/90 |

*Table B6: estimated urban water supply service levels 2015*

### *Sanitation*

A total of 84% of residents in Kakamega County use improved sanitation, while the rest use unimproved sanitation. Use of improved sanitation is equal by gender as 84% in households headed by either gender utilize these facilities.

Two constituencies, Shinyalu and Mumias East, have the highest share of residents using improved sanitation at 90% each. This is 14 percentage points above Malava constituency, which has the lowest share using improved sanitation. The two constituencies are therefore 6 percentage points above the County average of residents using improved sanitation. Isukha North ward has the highest share of residents using improved sanitation at 96%. This is twice Kongoni ward, which has the lowest share *using* improved sanitation. Isukha North ward is 12 percentage points above the County average of residents using improved sanitation

The County has no proper solid waste collection system, nor a good dumping site. This is therefore still a major source of environmental pollution and degradation in the County. Main causes of environmental pollution and degradation include improper waste disposal; poor land use; sand harvesting and pollution of rivers and springs .See also figure B1 for sanitation access values for the different wards. In view of the waste disposal challenges, the Water department has drafted a water policy which aims at ensuring that efficient waste water disposal measures are incorporated in urban and rural settlement planning. This includes development of sewerage systems, open channels, septic tanks, soak pits and eco-scan systems.

### *Financial*

The County largely relies on funding by the National government, which also has limited financial resources. The county government however, can also raise funds through taxes, rates, levies etc. The expected support from the Development Partners has not been forth coming so far due to lack of a conducive environment for investments as politics takes centre stage. The County has a weak financial base and therefore a serious financial gap at county level can be expected. The department of Water did not get any financial allocation initially and it is only after lobbying that it was allocated KES 50 million. The county government has however now approved the allocation of KES 602 million from the next financial year. This mount will consist of KES 452 million for development and KES 150 million for recurrent expenditure. The amount for development will be used to expand the distribution net works of Mumias Water Supply and Kakamega Water Supply; drilling of bore holes and elevation of water tanks to ensure water distribution to all the Wards in the County.

There are no data on people paying for rural water services. The WPM studies of SNV show wide variations (between 13 - 82 % not paying for water). It is safe to assume an average non-payment of at least 60% for rural water services. The financial sustainability of the WSP in the past depended on the subsidies for the costs of electricity and chemicals. It is not clear how the County will handle this in future particularly as the allocation of the County budget to the water sector is minimal. One of the key financial challenges in Kakamega is financing daily O&M and in particular the electricity bills require subsidies with the risk of disconnection. Currently a lobby is on-going to increase the water budget.

# PART C: STRATEGIC OUTCOME AREAS

The strategic outcomes are organised around five themes: water service governance, water service management, water service infrastructure, capacity development and resource mobilisation. They are derived from the strategic objectives of Part B and defined in terms of outputs for the period 2015-19.

## 1. Water Service Governance

Water governance refers to the range of political, social, economic and administrative systems that are in place to regulate the development and management of water resources and provision of water services at different levels of society. Water governance depends not only on specific institutions that are mandated to govern water, but also the overall governance context in which water issues are placed.

In Kakamega County, there is one Water Service Provider, the Kakamega County Water and Sewerage Company. The WSP has an organization structure that deals with water governance, following the broad –based parameters of water governance designed by WASREB, the Regulator and WRMA, the Authority responsible for management of water resources.

Lake Victoria North Water Services Board (LVNWSB) oversees the water governance at the WSP by demanding that the WSP completes designed performance indicator reporting system on a quarterly basis on matters of: water production, water quality; state of the infrastructure; demand levels, and accessibility to water by the consumers. The tariff used by the WSP is approved by WASREB to ensure that it is not only a cost – recovery tool, but also that the price of water is affordable to the residents.

The focus of Kakamega County in terms of water governance is at the first place on implementing the Water Act 2012 and Water Bill 2014, bringing the water institutional home in order. The County has already made a start with drafting of the County water policy that will formulate by-laws and provide necessary details where the Water Act 2002 does not.

The County has also drafted the County Water Bill 2014, that will borrow heavily from the National Water Bill 2014 and which will reflect the stipulations of the Water Bill 2014 when enacted. The WSP is in the process of implementing a social connection program that subsidises the cost of first-time connection in informal settlements. Majority of the households in Mumias sub-county informal settlements depend on water vendors and kiosks for their daily water supply and only about 16% of the informal settlement population has access to clean piped water through public stand pipes. In this policy, the WSP intends to improve water accessibility within the sub-county by targeting the bulk of the households that are willing to have piped water connections, but cannot afford the connection cost because of their low income.

Secondly, the County will put up a monitoring system that will keep track of both the quality of the water services that people can access and the performance of the WSPs. The information from this monitoring system will also help the County to improve their planning as it will be based on more accurate information. Equitable access to water services is an important governance area where the county wants to improve and therefore equity indicators will be included in the monitoring framework. To counter the

bad physical condition of much of the water service infrastructure the County will start with asset management.

**1.1. All water users are served by water service providers that have formalised their relation with the water service authority with water service contracts in 2019.**

The following outputs are identified:

1.1.1 Agreed water service delivery framework stipulating: institutional home and roles and responsibility of the water service authority; models for water service providers, including institutional embedding of water committees and Water User Associations; role of private sector participation; tariff system and metering policy for both rural and urban; formats for water service provision agreements, etc… in 2015.
1.1.2 Process and plan for agreements with all water service providers
1.1.3 100% of the population is served by of water service providers with a water service provision agreement in place in 2019

**1.2 Monitoring system is measuring performance of all water service providers and water services accessed by 2019**

The following outputs are identified:

1.2.1 Monitoring framework for water services and water service provider performance: indicators; methods for measuring; links with water service provision agreements realised in 2015
1.2.2 First annual monitoring report realised in 2016
1.2.3 For all county wards at least once on water services delivered and the performance of the relevant water service providers is reported in the planning period 2015-2019.

**1.3 Disparities between wards in terms of access to water services has been reduced by 20% in 2019 compared to 2015**

The following outputs are identified:

1.3.1 Equity monitoring framework developed: indicator; methods for measuring; links with water service management contracts; integrated with overall monitoring framework
1.3.2 Equity monitoring implementation plan
1.3.3 20% reduction water service disparities between wards in 2019

**1.4 Accessibility of water services in terms of time for fetching water has been reduced to less than 30 minutes for 20% of all rural users that in 2015 need more than 30 minutes to fetch for their domestic water needs**

The following outputs are identified:

1.4.1 See 1.3.1
1.4.2 See 1.3.2
1.4.3 20% of all rural users that in 2015 need more than 30 minutes to fetch for their domestic water needs have their fetching time seen reduced to less than 30 minutes.

**1.5 All urban poor have access to basic water service levels in 2019.**

The following outputs are identified:

1.5.1 Water service provision agreements with water service providers have performance clauses for service levels to urban poor.
1.5.2 See 1.3.2
1.5.3 All urban poor have access to minimal basic water service levels in 2019.

**1.6 All urban population is served by a safe urban waste water management system in 2019.**

The following outputs are identified:

1.6.1 A county urban sanitation framework in place by 2016 stipulating: institutional roles and responsibilities of urban sanitation authority, service providers and users; role of private sector; financial obligation users; urban sanitation monitoring framework; links with water service contracts
1.6.2 Urban sanitation implementation plan
1.6.3 All urban population is served by a safe urban waste water disposal system in 2019

**1.7 Asset management plan for long-term operational for the whole county in 2018.**

The following outputs are identified:

1.7.1 Framework for water and urban sanitation asset management defined by 2015, including the organisational and financial model for asset management.
1.7.2 Inventory of all water and urban sanitation assets that are owned by the water service authority finalised in 2017.
1.7.3 Budget of 2018 takes into account financial requirements for asset management.

**1.8 Water service authority is leading sector coordination and sector learning at county level that includes representation of all sector stakeholders in 2016.**

The following outputs are identified:

1.8.1 Framework for county water and urban sanitation sector coordination and learning defined and agreed by sector stakeholders in 2015 that includes: mechanisms and platform for coordination, communication and learning
1.8.2 Yearly public report about joint sector progress

**1.9 Revised county water and urban sanitation policy available in 2016.**

The following outputs are identified:

1.9.1 Revised county water and urban sanitation policy, taking into account at least the following themes: equity, sustainability, water service levels, multiple use services, urban sanitation options, household level technologies (rain water harvesting, water treatment) available in 2016

## 2. Water Service Management

Kakamega County is at present considering different mid-tem solutions for both water and urban sanitation. These solutions have both infrastructure and organisational aspects. It is therefore important that a new model for service delivery will be developed that provides guidance on the new Water Service Providers and their relation with and future of the existing WSPs, Water User Associations (WUA s) and Water Management Committees (WMCs). The model will also provide details on operational modalities for the WSPs, including their geographical service areas and financial or cost-recovery models. There is need to involve the Ministry of Health to sensitize the people on the risks they are exposed to by drinking unsafe water so that more people can turn to drinking safe water and be willing to pay for it.

The model will also provide clarity on the options for contracts that will be available for private sector participation, both in terms of service delivery and in investments for new schemes, rehabilitation and system extensions. In addition it will be clearly defined what type of support the WSPs and the delegated bodies like the WMCs or WUAs can still expect for either the County government or the umbrella rural or urban WSPs.

**2.1 Model for water service providers decided in 2016 that provides clarity on: appropriate service areas and scale; level of public/private ownership of the WSP; position of Water Management Committees and WUAs and scale.**

The following outputs are identified:

2.1.1 Feasibility study that outlines options for service provision models in Kakamega finalised in 2015

2.1.2 All county is covered by operating water service providers based on water service management agreements with the water service authority by 2019

2.1.3 100% service delivery on the basis of water service agreements in 2019

**2.2 20% of water services operated by private sector in 2019.**

The following outputs are identified:

2.2.1 Awareness raising plan in collaboration with other stakeholders (NGOs, WSPs, financial partners) for opportunities of (small) private operators in the water and urban sanitation sector in 2015

2.2.2 In 2019 20% of the water service management contracts are with private sector operators.

**2.3 All WSPs receive package of (post-construction) support services to enable them to provide professional service delivery in 2019**

The following outputs are identified:

2.3.1 Post-construction support package to WSPs defined in 2015 that includes: differentiation by size of service area and linkage to the implementation of the monitoring framework.

2.3.2 All WSPs and their service areas are visited at least once by the water service authority in 2019.

## 3. Water service Infrastructure

An important element of the Strategic Plan is to quantify the ambition of the County in terms of infrastructure. The starting point is not the concrete proposals for new schemes, rehabilitation works and extensions, but the target population that needs to be served by new or improved water and urban sanitation facilities. In that way the planning is directly for impact. To be able to achieve these targets, the County will consult and negotiate with the WSPs how best investments can be made.

The County has strategically chosen to rehabilitate infrastructure whenever this is possible as a priority to improve equitable access to water services. The county government has approved 12 water projects for rehabilitation/development in all sub-counties. A second strategic choice is that the County will focus on moving people up on the service ladder. This responds to a genuine demand by large parts of the population that they want a better service, in particular a reduction in the time it will cost to fetch water. This parameter affects directly the health impact as an increase in fetching time reduces the quantity of water consumed and therefore increases health risks. In addition it is expected that a reduction of the fetching time will improve the convenience experienced and this and the quantity factors will improve chances of cost – recovery by tariffs.

For sustainability of the water services a crucial measure will be to start implementing an asset management plan. One of the main reasons for the poor condition of the infrastructure is the lack of such plan and the inadequate reservation of funds both at the county and at the WSP level to implement such a plan.

The urban sanitation sector will develop a framework that provides clarity on governance and service delivery roles, as well as on the possible role of the private sector. This may be part of the County water bill or come as a separate county document, depending on which County ministries will be involved. The ambition in Kakamega is that the water department will lead urban sanitation and therefore it is part of this strategy.

To make this planning realistic it is crucial to have good information of the current situation for a number of key parameters. This is at present still an enormous challenge and therefore an important output is to develop a (equity) monitoring framework for the sector. To be able to make the planning, a number of estimates and assumption have been made, which are summarised in Table C1.

| |
|---|
| **Water coverage 2015:** for both urban and rural a differentiation is made between three types of technologies, each representing a different service level (basic – middle – high): point source, piped scheme with tap stands, piped scheme with house connections. The estimated number of people using the service in 2015 are based on data from: KNBS and SDI (2013), LVNWSB (2013), LVSWSB (2013), Majidata (2014) and CIDP Kakamega. These data are verified and adapted by the County water department. |
| **Water coverage 2030**: this represents the ambition of the County, keeping in mind the Kenya Water Vision 2030 and values have been set by the stakeholders during the first and second county consultative meetings. |
| **Water coverage 2019:** is the interpolation between the values of 2015 and 2030. |
| **Urban sanitation coverage 2015:** a differentiation is made between two types of technologies: (1) on-site sanitation like double-pit VIP latrines, Ecosan toilets and septic tanks; and, (2) off-site sanitation through sewerage system. Estimates are based on KNBS and SDI (2013) and verified and adapted by the water department of the county |
| **Urban sanitation coverage 2030**: this represents the ambition of the County, keeping in mind the Kenya Water Vision 2030 and values have been set by the stakeholders during the first and second county consultative meetings. |
| **Urban sanitation coverage 2019:** is the interpolation between the values of 2015 and 2030. |
| **Target population:** is the % of people that have access to a certain service level multiplied with the projected (rural or urban) population in the County. For population growth the average of 2.5% is used. The divide between urban and rural numbers for 2015 is based on the CIDP and verified by the county; for 2030 it reflects the vision of the County |
| **Rehabilitation factors water:** the assumption is made that part of the target population can be reached by rehabilitation and/or extension of existing infrastructure – the remaining part need to be reached by new infrastructure. The factors have been chosen based on the following considerations:<br>*Point sources:* 20% by rehabilitation – estimated based on functionality reports of LVNWSB and LVSWSB and experiences elsewhere in the region and verified by the water department of the county<br>*Piped schemes with tap stands:* 30% by rehabilitation – put slightly higher than for point sources as in addition to rehabilitation, some extra population can be reached by making extensions and extra tap stands on existing schemes<br>*Piped schemes with house connections:* 50% by rehabilitation – put even higher as next to rehabilitation extra population can be reached to increase the density of the network and add service line to households. |
| **Rehabilitation factors urban sanitation:** has not been taken into account as no reference estimates are available. |

*Table C1: estimates and assumptions for planning tables*

The tables C2, C3 and C4 represent the estimated water and urban sanitation target populations for the period 2015-2019.,

In Annex C1 the current infrastructure plans and priorities for Kakamega are listed. These need to be evaluated against the priorities in terms of equity targets and available funding and subsequently incorporated in the annual plans.

The tables C2, C3 and C4 represent the estimated water and urban sanitation target populations for the period 2015-2019.

| Rural coverage (%) | | | | Total target population | | | % can be realised by rehab/extension | Justification | Population access by rehabilitation/ upgrading | Population by access by new systems |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2030* | 2015 | 2019** | 2015 | 2019 | 2019-2015*** | | | | |
| Point sources | 30 | 57 | 48 | 883,424 | 744,871 | 0 | 20 | Only rehab | 0 | 0 |
| Piped schemes with sp | 50 | 2 | 18 | 28,194 | 279,327 | 251,132 | 30 | Rehab + extension | 75,340 | 175,793 |
| Piped scheme with hc | 20 | 2 | 8 | 28,194 | 124,145 | 95,951 | 50 | 50% by service lines to existing systems | 47,975 | 47,975 |
| Total | 100 | 61 | 74 | 939,813 | 1,148,343 | 347,083 | | | 123,315 | 223,768 |

*Table C2: estimated rural water infrastructure targets Kakamega county 2015-19*

| Urban coverage (%) | | | | Total target population | | | % can be realised by rehab/extension | Justification | Population access by rehabilitation/ upgrading | Population by access by new systems |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2030* | 2015 | 2019** | 2015 | 2019 | 2019-2015 | | | | |
| Point sources | 0 | 24 | 16 | 92,506 | 91,833 | 0 | | | 0 | 0 |
| Piped schemes with sp | 50 | 43 | 45 | 164,824 | 258,282 | 93,458 | 30 | Rehab + extension | 28,037 | 65,420 |
| Piped scheme with hc | 50 | 6 | 20 | 23,844 | 114,792 | 90,948 | 50 | 50% by service lines to existing systems | 45,474 | 45,474 |
| Total | 100 | 73 | 81 | 281,174 | 466,926 | 184,406 | | | 73,511 | 110,894 |

*Table C3: estimated urban water infrastructure target Kakamega county 2015-19*

| Urban sanitation coverage (%) | | | | Total target population | | | % can be realised by rehab/extension | Justification | Population access by rehabilitation/ upgrading | Population by access by new systems |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2030* | 2015** | 2019*** | 2015 | 2019 | 2019-2015 | | | | |
| No service | 5 | 31 | 22 | 119,402 | 126,271 | 6,869 | | | 0 | 6,869 |
| Other than sewerage connection | 55 | 49 | 51 | 188,733 | 292,719 | 103,986 | | | 0 | 103,986 |
| Sewerage connection | 40 | 20 | 27 | 77,034 | 154,969 | 77,935 | 0 | | 0 | 77,935 |
| Total | 100 | 100 | 100 | 385,169 | 575,978 | 188,790 | | | 0 | 188,790 |

*Table C4: estimated urban sanitation infrastructure targets Kakamega county 2015-19*

### 3.1 Agreements between service authority and concerned WSPs about county water and urban sanitation investment plan in 2016 in place.

The following outputs are identified:

3.1.1 Prioritise registration of WSPs and water service management contracts in identified locations for investments for rehabilitation, upgrading and new water facilities.

3.1.2 Agreements with WSPs about planned investments in 2016.

### 3.2 74% rural coverage achieved with minimal basic services for at least 347,000 rural population, reached with upgraded, rehabilitated or new water infrastructure in 2019.

The following outputs are identified:

3.2.1 Upgraded or rehabilitated piped schemes with tap stands for 75,000 people and 176,000 rural population reached by new piped schemes with tap stands

3.2.2 Additional house connections realised for 48,000 people using existing piped schemes and 48,000 house connections realised on new piped schemes.

### 3.3 81% urban coverage achieved with minimal basic services for at least 184,500 urban population, reached with upgraded, rehabilitated or new water infrastructure in 2019.

The following outputs are identified:

3.3.1 Upgraded or rehabilitated piped schemes with tap stands for 28,000 people and 65,500 population reached by new piped schemes with tap stands

3.3.2 Additional house connections realised for 45,500 people using existing piped schemes and 45,500 house connections realised on new piped schemes.

### 3.4 Use of roof rainwater catchment by at least 40,000 rural and urban households in 2019 realised.

The following outputs are identified:

3.4.1 Define roof rainwater catchment plan, including: technologies and user guidelines, awareness raising campaign, local market development, linking to water service monitoring framework, etc. in 2015.

3.4.2 First progress report on roof rainwater use in 2016

3.4.3 At least 40,000 rural and urban households in 2019 use roof rainwater harvesting

### 3.5 100% save urban sanitation coverage achieved, by connecting at least 78,000 urban people to a sewerage connection and 104,000 people by alternative technologies realised in 2019.

The following outputs are identified:

3.5.1 Define urban safe sanitation plan, including: technology options that cover complete sanitation chain (up to safe disposal) with norms and standards; organisational model (roles sanitation service authority, WSPs, private sector); tariffs, etc. in 2016

3.5.2 First annual urban sanitation monitoring framework report in 2017

3.5.3 Sewerage connections realised for at least 78,000 urban people in 2019.

3.5.4 Safe sanitation waste water disposal using other than sewerage technologies realised for 104,000 urban people in 2019.

3.5.5 Access to safe sanitation facilities and practices realised for all urban population in 2019 (100% ODF).

# 4 Capacity Development

The planning period 2015-2019 will see many changes in responsibilities and roles for all stakeholders. It is expected therefore that organisations will change in mandate, systems and structure. This will also include transfers of staff from and to other organisations. The County therefore will develop as soon as possible and in line with the outlines of the Kakamega County water bill a comprehensive capacity development plan that will both look at organisational development of in particular the water department, but also of the newly created WSPs, and human resources development.

### 4.1 Organisational structure and systems and staff capacities of both water service authority and WSPs in good operational condition in 2019.

The following outputs are identified:

4.1.1 Capacity development plan that includes: organisational development (structure and systems), staff of water service authority and WSPs finalised in 2015.

4.1.2 First capacity development annual progress report in 2016.

4.1.3 All WSPs and water service authority staff, systems and structure are aligned and operational with required capacities in 2019

# 5 Resource mobilisation

Financing of water and sanitation services comes traditionally from three types of sources. For Kakamega it will be important to ensure that the WSPs will start to recover as soon as possible at least the daily O&M and on a mid-term also the expenditures for major repairs as part of the asset management planning. The County will therefore have to make the public, politicians and technical staff aware of the way the sector should and can be financed and work hard to get the support from all the stakeholders. Next to the traditional sources: government funding (often tax based); donor agencies (transfers); consumers (tariffs), private sector funding will be sought as a new source of financing.

The PPP Framework intends to provide Kakamega County with an opportunity to do business with private investors. The County will therefore explore new and innovative financing methods in which private sector investment can be attracted through a mutually agreed arrangement. Key for successful attraction of private sector investment will be that the County water department, WSPs and consumers create the environment where investors can expect reasonable returns with acceptable risks.

**5.1 The CWSP is discussed with all relevant stakeholders for ownership at county and national levels in 2015.**

The following outputs are identified:

5.1.1 Records of meetings with county level stakeholders, including county government, WSPs, INGOs, etc. in 2015.

5.1.2 Records of meetings with national level stakeholders, including line ministries, WASREB, WSTF, INGOs in 2015.

5.1.3 Annual report 2015 and annual plan 2016 published and available for county level stakeholders

**5.2 The CWSP budget is discussed with relevant potential funding agencies in 2015.**

The following outputs are identified:

5.2.1 Records of meetings with potential financing organisations, like line ministries, WSTF, Water Service Board, county government, donor agencies and level stakeholders in 2015.

5.2.2 See 5.1.3

**5.3 10% of sector investment for rehabilitation, system extensions and new systems in the water and urban sanitation sector is realised by private sector investments in 2019.**

The following outputs are identified:

5.3.1 Private sector investment plan that has been put together jointly by the county government and key representatives of the private sector

5.3.2 Yearly public reports about progress in private sector participation

5.3.3 10% of sector investment for rehabilitation, system extensions and new systems is realised by private sector investments in 2019

# PART D: BUDGET AND FINANCING

As has been elaborated in Part A financial sustainability of water services can only be ensured when a right mix of finances for all key expenditure categories (CapEx, OpEx, CapManEx, ExpDS) can be ensured. The first step is to identify and to estimate how big the expenditures for these categories will be for the planning period. The second step is to identify the expected costs related to the outcome areas, which all fall in the categories of CapEx , CapManEx and ExpDS. The third step is to identify how and by who the expenditures of these different categories can be financed.

## Budgeting for sustainability

Based on the infrastructure targets an estimate is made of how much one-off capital investments will be required for new infrastructure and an estimate is made for the recurrent cost, which are calculated on a yearly basis and cover daily operation and maintenance, the support cost incurred by the water service authority (County water department) and the expenditures for major repairs and rehabilitation. The latter will be an important component of the asset management plan and are yearly reservations based on the life time of system components.

Ideally the budgets for these different expenditures are based on a good analysis of the costs of running the water services in Kakamega County. Unfortunately, the required detailed information is not directly available and requires too much time and resources to retrieve in the context of this Strategic Plan. For water the initial budgets were based by using the unit costs as have been calculated in MWI (2005) and translated to the values of 2014, but were recalculated by using the unit costs as defined by the water department of Kakamega County. The unit costs proposed by the County water department are substantially higher than the unit costs that are calculated in the MWI (2005) study (see table D1).

| | Point Source | Rural Piped Scheme < 5000 | Rural Piped Scheme > 5000 | Urban Piped Scheme < 5000 | Urban Piped Scheme > 5000 |
|---|---|---|---|---|---|
| KES/p | **Unit Costs based on MWI (2005)** | | | | |
| CapEx | 2,189 | 2,259 | 2,224 | 6,790 | 5,907 |
| KES/p/y | | | | | |
| CapManEx | 58 | 65 | 66 | 197 | 174 |
| OpEx | 19 | 153 | 148 | 492 | 431 |
| ExpDs | 200 | 200 | 200 | 200 | 200 |
| KES/p | **Unit costs based on Kakamega county water department** | | | | |
| CapEx | 5,426 | 5,658 | 6,165 | 6,274 | 6,165 |
| KES/p/y | | | | | |
| CapManEx | 217 | 246 | 182 | 182 | 182 |
| OpEx | 39 | 308 | 440 | 880 | 440 |
| ExpDs | 200 | 200 | 200 | 200 | 200 |

*Table D1: unit costs by MWI (2005) and Kakamega County water department*

For the calculation a number of assumptions have been made:

The same assumptions as were made for the target population calculation (see PART C)

For direct support costs (ExpDS) no data are available and the value of US $ 2/person/year has been selected. This is the average that comes from the WASHCost[11] benchmark that ranges between 1-3 USD.

Tables D2 summarises the required budgets for Kakamega County for rural and urban infrastructure. For urban sanitation the unit costs as provided by the County water department have been used, but only for the one-off initial capital investments as other data are lacking. The unit costs are presented in table D3 and budgets in table D4.

| | Technology type | Average **populatio n** served 2015-2019 | Investment target **population** rehab + | Investment target **population** new | **KES** CapEx | **KES** CapManEx | **KES** OpEx | **KES** ExpDS |
|---|---|---|---|---|---|---|---|---|
| Rural | Point sources | 800,112 | 0 | 0 | 0 | 173,671,454 | 31,260,862 | 159,862,456 |
| | Piped schemes with SP | 153,868 | 75,340 | 175,793 | 1,122,516,067 | 37,851,471 | 47,314,338 | 30,742,780 |
| | Piped schemes with HC | 76,934 | 47,975 | 47,975 | 384,516,294 | 13,991,709 | 33,850,909 | 15,371,390 |
| | **TOTAL** | **1,030,914** | **123,315** | **223,768** | **1,507,032,361** | **225,514,634** | **112,426,109** | **205,976,625** |
| Urban | Point sources | 97,180 | 0 | 0 | 0 | 21,093,699 | 3,796,866 | 19,416,493 |
| | Piped schemes with SP | 213,795 | 28,037 | 65,420 | 463,248,309 | 38,882,223 | 188,139,788 | 42,716,284 |
| | Piped Schemes with HC | 63,167 | 45,474 | 45,474 | 364,468,984 | 11,487,929 | 27,793,378 | 12,620,720 |
| | **TOTAL** | **374,142** | **73,511** | **110,894** | **827,717,292** | **71,463,851** | **219,730,031** | **74,753,496** |
| | **GRAND TOTAL** | **1,405,056** | **196,826** | **334,662** | **2,334,749,654** | **296,978,485** | **332,156,140** | **280,730,122** |

*Table D2: estimated required expenditures for rural and urban water infrastructure Kakamega County 2015-19*

| KES/pers | On-site | Off-site |
|---|---|---|
| CapEx | 15,000 | 83,333 |

*Table D3: unit costs for urban sanitation based on MWI (2005)*

| **Urban Sanitation** | Technology type | Investment target **population** new systems | CapEx **KES** |
|---|---|---|---|
| | On-site | 103,986 | 1,559,791,862 |
| | Off-site | 77,935 | 6,494,562,336 |
| | **TOTAL** | **181,921** | **8,054,354,198** |

*Table D4: estimated required investments for urban sanitation infrastructure Kakamega County 2015-19*

[11] See:

| Kakamega County Water and Urban Sanitation Budget | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Outputs and budget 2015-19 | | | | | | | | | |
| Date: 17/10/2014 | | | | | | | | | |
| **Output numbers** | **Output** | **Timing** | **Total for period 2015-2019 (KES)** | **2015** | **2016** | **2017** | **2018** | **2019** | **Cost category** |
| | A - Water Service Governance | | | | | | | | |
| 1.1.1 | Water service delivery framework | 2015 | 3,000,000 | 3,000,000 | | | | | *ExpDS* |
| 1.2.1 + 1.3.2 | Service, provider performance and equity monitoring framework | 2015 | 3,000,000 | 3,000,000 | | | | | *ExpDS* |
| 1.2.2 + 1.3.2 + 1.4.2 + 1.5.2 + 4.1.2 | Annual technical monitoring progress report | annual | 75,000,000 | 15,000,000 | 15,000,000 | 15,000,000 | 15,000,000 | 15,000,000 | *ExpDS* |
| 1.6.1 + 3.5.1 | Urban sanitation framework | 2016 | 3,000,000 | | 3,000,000 | | | | *ExpDS* |
| 1.7.1 | Asset management framework | 2015 | 3,000,000 | 3,000,000 | | | | | *ExpDS* |
| 1.7.2 | County assset inventory | 2017 | 50,000,000 | | 25,000,000 | 25,000,000 | | | *ExpDS* |
| 1.8.1 | Coordination and sector learning framework defined | 2015 | 3,000,000 | 3,000,000 | | | | | *ExpDS* |
| 1.8.2 | Annual county public sector progress report | annual from 2016 | 8,000,000 | | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 | *ExpDS* |
| 1.9.1 | Revised county water and urban sanitation policy | 2015 | 3,000,000 | 3,000,000 | | | | | *ExpDS* |
| | | *sub-total A* | 151,000,000 | | | | | | |
| | B - WATER SERVICE MANAGEMENT | | | | | | | | |
| 2.1.1 | Feasibility study service provision models | 2015 | 2,000,000 | 2,000,000 | | | | | *ExpDS* |
| 2.2.1 | Awareness raising plan for opportunities for private operators | 2015 | 8,000,000 | 8,000,000 | | | | | *ExpDS* |
| 2.3.1 | Post-construction support to WSPs and delegated service management operators package defined | 2015 | 3,000,000 | 3,000,000 | | | | | *ExpDS* |
| | | *sub-total B* | 13,000,000 | | | | | | |
| | C - INFRASTRUCTURE | | | | | | | | |
| 3.2.1 + 3.2.2 | Rural water capital investments | 2015-19 | 1,507,032,361 | | | | | | *CapEx* |
| 3.3.1 + 3.3.2 | Urban water capital investments | 2015-19 | 2,334,749,654 | | | | | | *CapEx* |
| 3.4.1 | Roof rainwater catchment plan | 2015 | 5,000,000 | 5,000,000 | | | | | *ExpDS* |
| 3.5.3 + 3.5.4 | Urban sanitation capital investments | 2015-19 | 8,054,354,198 | | | | | | *CapEx* |
| | | *sub-total C* | 11,901,136,212 | | | | | | |
| | D - CAPACITY BUILDING | | | | | | | | |
| 4.1.1 | Capacity development plan | annual | 200,000,000 | 40,000,000 | 40,000,000 | 40,000,000 | 40,000,000 | 40,000,000 | *ExpDS* |
| | | *sub-total D* | 200,000,000 | | | | | | |
| | E - RESOURCE MOBILISATION | | | | | | | | |
| 5.1.1 + 5.2.1 | County level strategic plan discussions | 2015 | 2,000,000 | 2,000,000 | | | | | *ExpDS* |
| 5.1.2 + 5.2.2 | National level strategic plan discussions | 2015 | 2,000,000 | 2,000,000 | | | | | *ExpDS* |
| 5.3.1 | Private sector investment plan | 2015 | 4,000,000 | 4,000,000 | | | | | *ExpDS* |
| | | *sub-total E* | 8,000,000 | | | | | | |

*Table D5: Kakamega County Water and Urban Sanitation Outcomes Budget 2015-19*

## Kakamega County Water and Urban Sanitation Budget

The Kakamega County budget for water and urban sanitation is shown in table D5. As stated earlier this budget is based on a desired impact and not on planned infrastructure projects. A next step would be to set priorities both in time, but also related to financing that will be become available. For example for the infrastructure choices can be made about which wards will be prioritised for investments; focus on rehabilitation and upgrading first to reduce fetching time; priority to increasing number of house connections to make the service delivery more financially viable.

Observations with the outcomes budget of table D5 are:

- D5 budget items include all capital investment for hardware development including rehabilitation and the policy frameworks for the different prioritised themes (which comes under direct support expenditures)
- The budget therefore hasn't incorporated all recurrent expenditures of the County water department that consists of salaries, housing, transport and admin.
- The estimated direct support expenditures for sustainable water service delivering is approximately 280,000,000 KES/year (see table D2), excluding support for urban sanitation services. This amount includes all recurrent expenditures and the identified direct support expenditures (ExpDS) of table D5.
- The budget has not incorporated the 300,000,000 KES/year (table D2) for capital maintenance expenditures of all water infrastructure, excluding urban sanitation services.
- The budget has not incorporated the estimated 330,000,000 KES/year (table D2) required for daily O&M of all water services, excluding urban sanitation services.

With these observations in mind, table D6 shows the total aggregated budget for Kakamega for the period 2015-2019, independent from the sources of funding. In this table all recurrent costs, capital maintenance, O&M costs and direct support costs of the County water department, including salaries, housing, transport and admin (direct support) are included, only related to the water infrastructure. The costs for daily operation and maintenance, capital maintenance and direct support for urban sanitation are not included due to lack of information.

| Expenditure | Sub-sector | KES 2015 - 2019 | Remarks |
|---|---|---|---|
| Capital investments | Rural water | 1,507,032,361 | |
| | Urban water | 2,334,749,654 | |
| | Urban Sanitation | 8,054,354,198 | |
| Total | | **11,896,136,212** | |
| Operation and maintenance | Rural water | 562,130,545 | |
| | Urban water | 1,098,650,157 | |
| | Urban Sanitation | no data | |
| Total | | **1,660,780,702** | +Urban Sanitation |
| Capital maintenance | Rural water | 1,127,573,169 | |
| | Urban water | 357,319,256 | |
| | Urban Sanitation | no data | |
| Total | | **1,484,892,425** | +Urban Sanitation |
| Direct support | Rural and urban water | 1,403,650,609 | |
| | Urban Sanitation | no data | |
| Total | | **1,403,650,609** | +Urban Sanitation |
| Total water | | *8,391,105,751* | |
| Total urban sanitation | | *8,054,354,198* | +O&M, CM, DS Urban Sanitation |
| GRAND TOTAL | | **16,445,459,948** | +O&M, CM, DS Urban Sanitation |

*Table D6: Kakamega County Water and Urban Sanitation Total Budget 2015-19*

## Financing

For the discussion on how the different expenditures ideally should be financed, the cost categories of WASH Cost are used:

**Capital Expenditures (CapEx):** for a large part the funding for capital expenditures will have to come from traditional sources, which are:

the different government programmes, usually financed through taxes. donor programmes

In addition some may be financed through philanthropy (both national and international) and investments by the private sector.

**O&M Expenditures (OpEx):** the overall OpEx for all water services for Kakamega is 1,660,000,000 KES for the period 2015-19. At full cost recovery and a payment rate of 70% this would lead to a tariff range from 5 – 105 KES/head/month, depending on the service level.

**Capital maintenance expenditures (CapManEx):** the overall CapManEx for all water services (infrastructure) for Kakamega is estimated at 1,490,000,000 KES for the period 2015-19. At full cost recovery this would add approximately 20-30 KES/month per head, depending on the service level.

**Direct Support Costs:** the total annual direct support costs are estimated at 1,400,000,000 KES/year. The largest part of the recurrent expenditures will have to come from the government budget. Some support for studies, developing a monitoring system and capacity building might be raised from development partners as well.

Key challenge for the County is to reach agreement on if an average water tariff between 25 and 135 KES/head is a reasonable and achievable tariff level and if a joint effort can be made to convince the

public, technical staff and politicians to work towards such a level in order to achieve a sustainable water service delivery. If OpEx and CapManEx cannot be recovered (fully) from the tariffs, it will have to come mainly from the government budget. Major repairs (CapManEx), like the replacement of a pump or generator, might on an incidental basis be provided by development partners, in particular in emergency conditions. If even OpEx has to be subsidised (e.g. electricity bills of the WSPs), sustainable service delivery for the County will be impossible. The most viable way out on the longer term from poor sub-standard services and frequent breakdowns is increasing the quality of service provision to at least the minimal demand level, leading to better payment for water. Government and other external support can then be guided to CapEx and ExpDS.

# PART E: MONITORING FRAMEWORK

| Outcome number | Outcome | Indicator | Means of Verification |
|---|---|---|---|
| **Water Governance** | | | |
| 1.1 | All water users are served by Water Service Providers that have formalised their relation with the water service authority with water service contracts in 2019. | % of water users served by WSPs with a water service contract (SPA) | Water service contract or SPAs |
| 1.2 | Monitoring system is measuring performance of all Water Service Providers and water services accessed by 2019 | % of water users covered by operational monitoring system | Annual sector progress report |
| 1.3 | Disparities between wards in terms of access to water services has been reduced by 20% in 2019 compared to 2015 | % of water users that have access to improved sources per ward | Annual sector progress report |
| 1.4 | Accessibility of water services in terms of time for fetching water has been reduced to less than 30 minutes for 20% of all rural users that in 2015 need more than 30 minutes to fetch for their domestic water needs | % of water users that have fetching time less than 30 minutes form an improved source | Annual sector progress report |
| 1.5 | All urban poor have access to basic water service levels in 2019. | % of urban poor that have access to improved source | Annual sector progress report |
| 1.6 | All urban population is served by a safe urban waste water management system in 2019. | % of urban population with access to safe sanitation | Annual sector progress report |
| 1.7 | Asset management plan for long-term operational for the whole county in 2018. | % of county that has assets listed | Asset registers |
| 1.8 | Water service authority is leading sector coordination and sector learning at county level that includes representation of all sector stakeholders in 2016. | Number of county multi-stakeholder sector coordination and learning meetings | Minutes/proceedings of meetings |
| 1.9 | Revised County water and urban sanitation policy available in 2016. | County Water and Urban Sanitation Policy/Bill available | County Water and Urban Sanitation Policy/Bill document |
| **Water Service Management** | | | |
| 2.1 | Model for Water Service Providers decided in 2016 that provides clarity on: appropriate service areas and scale; level of public/private ownership of the WSP; position of Water Management Committees and WUAs and scale. | County water service providers model available | County water service providers model document |
| 2.2 | 20% of water services operated by private sector in 2019. | % of water services operated by private sector | Annual sector progress report |
| 2.3 | All WSPs receive package of (post-construction) support services to enable them to provide professional service delivery in 2019 | % of WSPs (including their delegated operational units) that have received post-construction support services | WSP reports |
| **Water and Urban Sanitation infrastructure** | | | |
| 3.1 | Agreements between service authority and concerned WSPs about county water and urban sanitation investment plan in 2016 in place. | Number of investment agreements between WSP and county water department | Investment agreement documents |
| 3.2 | 74% rural coverage achieved with minimal basic services for at least 347,000 rural population, reached with upgraded, rehabilitated or new water infrastructure in 2019. | % of rural coverage with improved sources | Annual sector progress report |
| 3.3 | 81% urban coverage achieved with minimal basic services for at least 184,500 urban population, reached with upgraded, rehabilitated or new water infrastructure in | % of urban coverage with improved sources | Annual sector progress report |

| | | | |
|---|---|---|---|
| | 2019. | | |
| 3.4 | Use of roof rainwater catchment by at least 40,000 rural and urban households in 2019 realised. | Number of household roof rainwater catchment facilities | Annual sector progress report |
| 3.5 | 100% save urban sanitation coverage achieved, by connecting at least 78,000 urban people to a sewerage connection and 104,000 people by alternative technologies realised in 2019. | % of urban sanitation coverage with improved sources | Annual sector progress report |
| **Capacity Development** | | | |
| 4.1 | Organisational structure and systems and staff capacities of both water service authority and WSPs in good operational condition in 2019. | % of capacity development plan implemented | Annual progress report of capacity development plan |
| **Resource Mobilisation** | | | |
| 5.1 | The CWSP is discussed with all relevant stakeholders for ownership at county and National levels in 2015. | Number of meetings with county and national sector stakeholders | Minutes/proceedings/reports of meetings with county and national sector stakeholders |
| 5.2 | The CWSP budget is discussed with relevant potential funding agencies in 2015. | Number of discussions with potential funding agencies | Minutes/proceedings/reports of meetings with potential funding agencies |
| 5.3 | 10% of sector investment for rehabilitation, system extensions and new systems in the water and urban sanitation sector is realised by private sector investments in 2019. | % of sector investment realised by private sector funding | Annual sector progress report |

*Table E1: Kakamega County Water and Urban Sanitation Monitoring Framework 2015-1019*

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# ANNEXES

## Annex A1: Equity

# TOWARDS EQUITY AND INCLUSION IN THE WATER SECTOR: SOME PRACTICAL APPROACHES

The human right to water contemplates access to safe adequate water to all which is also affordable, with mechanisms to ensure that somehow everyone can get access to water. The practically of this is however usually different. The poorer people who purchase water per jerrican pay much more than those who have household connections. The water quality of water from vendors is also suspect. Additionally they cannot afford to access as much water as they really need.

Skewed and sometimes unrealistic investments in water have further led to inequalities especially from the geographical perspective. Whereas some areas have abundance of water or water points, others have hardly any at all. This is as a result of many reasons, but perhaps the biggest influence has been the political influence. And therefore County Governments have a moral obligation to address these inequalities.

The third major concern in regards to equity in access is in regards to those who are excluded or deprived because of poverty, disease, age, deformity and such like reasons. These people too have the right to receive water. Our safety net mechanisms are not well developed to cushion such people so Counties must try different and innovative approaches.

### 1. Tariff Structures

In water, tariff structures are graduated in such a way that they cushion the poorer people. Depending on consumption, less money is charged on the first level of volumes, and increases as consumption increases. Ideally then, the poorer (or those who consume less water) are cushioned. However, this advantage is diminished where consumers do not have meters and pay on flat rates. The richer people tend to use more water even for their gardens and metering all connections would avail more money to extend water connections.

### 2. Specific levies

It is possible to levy certain charges in order either to support those less privileged or to expand water connections. For example, sewerage levy charged on people who are connected to the grid is used to expand sewerage services to those areas without.

### 3. Kiosks/communal points

People purchasing water from communal water points still pay more money that those with household connections, but this still remains one of the fairest ways of making water available to those without connections. County governments should ensure that there are legal community water points in all areas of need that are regulated to avoid overcharging. This is an area which needs close monitoring since it is vulnerable to collusions and hijack by cartels.

### 4. Equitable distribution/allocation

Many Counties have taken Wards and Sub-Counties as the basis for allocating development projects. Whereas this approach may make sense initially since most areas have relative depravation, this approach needs to be complimented by an approach that seeks to channel some investments guided by actual needs and logic as opposed to political persuasion and perceptions of entitlement.

## 5. Subsidies

Already we have national subsidy programmes by the government and NGOs, for example for the elderly. The voucher system has been researched for a long time and is now fairly refined.

County governments should consider such initiatives especially for the elderly or those chronically ill. However, this should not be used to hinder operations of water providers and whenever a government feels that some groups should access water for free or at subsidized rate these associated funds should be remitted promptly to Water Service Providers to avoid derailing or crippling their operations.

## 6. Citizen Participation

Citizens have lots of insights that can be tapped into. County governments need to avoid the bureaucracy trap and involve citizens in development planning. People know their needs and what needs to be prioritised. For example, do county sector allocations reflect people's needs and priorities? Citizens can also monitor and provide feedback on timeliness, quality of workmanship and suchlike. Citizens as such need to be involved in the budget planning cycle rather than being invited to give comments on completed documents.

## 7. Performance-Based Contracts for departments and Water Service Providers

Performance-based indicators are an important means of ensuring that contract obligations are being met. Performance-based contracts hold great promise for a range of stakeholders. For example, if designed correctly, they can assist in ensuring that service improvements reach marginalised and poorer communities. Reduced revenues in poorer areas contribute to private sector reluctance to expand into these areas. Performance-based contracts can overcome this by building in financial incentives to ensure that services are delivered more equitably across all income groups. These contracts can ensure that achieving the contracted performance targets actually results in improved service delivery. A practical example is KPIs like building kiosks and providing stand pipes.

## 8. Meter Boxes/ Meter Aggregation

This is a unique pro-poor water management initiative and innovation which is mainly applicable in the informal settlements of urban centre. Due to regular vandalism of meters, the meters are installed in one location preferable on the periphery of the settlement in a secure location with easy access then the rest of the household connections are connected from there. It is pro-poor since it allows for better revenue collection and water management reducing disconnections and interrupted supply.

## 9. Prepaid Meters

In the informal and rural areas, prepaid meters could be installed at public stand pipes to ensure equitable access to water to the poor. This is due to the fact that tokens could be bought for as little as KES 5, which allows for affordability of the resource and also better financial management.

## Annex A2: Private Sector Participation

## PUBLIC PRIVATE PARTNERSHIP APPROACHES IN WATER

The drinking water sector in Kenya has received increased attention among government as well as donors. As such, the total approved water sector budget has grown more than six fold over the last nine years from 2004/05 to 2012/2013.[12]

On the other hand, increment of the access to improved water supply was slow; the percentage of Kenyans with improved access marginally increased from 52% in 2000 to 62% in 2012[13]. The situation in the rural areas is even worse, only 13% of rural Kenyans had access to piped water services in 2012. What is clear from the above trends is that huge capital investments made in the water sector is not resulting in improved services to the citizens.

The reasons behind this are varied. Firstly, the rate of urbanization and population growth is higher than the rate of infrastructure development to accommodate this surge in population. Secondly, lots of money has to go to rehabilitate dilapidated water and sewerage infrastructure, and rehabilitate/support unviable schemes that do not break-even or which keep collapsing even after rehabilitation. Thirdly, although increase in funding to the sector has happened, it is still insignificant in consideration of financial requirements for the sector. It is estimated that the Country requires in the excess of KES 300 billion to meet its investment requirements in water.

Counties therefore need innovative ways of filling this financing gap. Obviously, funding allocation to the water sector by Counties would need to increase significantly over the years. Still, County allocations are unlikely to be adequate and partnering with the private sector in Public Private Partnerships (PPPs) would be productive. PPP project financing for infrastructure projects is already popular in the Country in the road sector and this avenue can be exploited in the water sector also. With the PPP Act 2013 now in force, and County PPP regulations being finalized, the formal framework to support this is more or less in place. A PPP node in the water sector has also been created and it is hoped that Counties will also form PPP nodes and committees.

Private Sector Participation does not only bring finances to projects, but very significantly management efficiency. It is already one year since Counties took up the function of provision of water services. Many of them have grappled with capacity gaps, technology gaps and management challenges. Many water schemes are run in economically unviable ways and cannot meet their operational costs. There has been well documented extreme failure of the current community managed water and sanitation supply especially in the rural areas. Assumptions were made that community projects would be based on the principles of ownership, participation and willingness and ability to carry out O&M most of which was on voluntary basis which has not been the case, hence the need for better approaches. Some would thus benefit from private sector management practices. Community schemes run by committees have proven to be managerially and financially unviable with wrangles and collapse of schemes. When a major breakdown happens, these schemes rarely have either the technical expertise to repair or the finances to purchase such expertise or equipment. An external partner like NGOs or Governments usually has to come-in to rehabilitate, and the cycle continues. Obviously, community structures are useful constituencies that must be tapped into, but perhaps their roles would need to be limited to those of

[12] 2013 Annual Water Sector Review Report, MEWNR 2013

[13] WHO and UNICEF - JMP, Progress on Drinking Water and Sanitation 2014 Update, WHO.

ownership, oversight and usage, rather than management. Engaging professionals/private sector in such cases for management and operational efficiency would make sense. However, Counties must be alive to the fact that many of these schemes do not make lots of money, and whereas they can possibly meet their costs if managed well, initial costs of rehabilitation and expansion to operational levels would in most cases need to be borne by the County Government.

Some examples of how the private sector can participate, and of professionalizing management of water services include the following:

### 1. Lease arrangements

The market environment is becoming more responsive and innovative over time. Without the availability of cash to purchase items upfront it is possible for Counties and water providers to acquire equipment and pay over time from sale of water. In some cases maintenance of the equipment can be done by the supplier. This arrangement is gaining attraction especially for water meters and solar pumping equipment.

### 2. Management contracts

This in the water sector is being manifested through Private Operator Model (PO). Community management of water, though well intentioned, has proven to have serious gaps in technical capacity, managerial capacity, financial and bookkeeping capacity among others which has threatened sustainability of water schemes. Financial analysis has shown that many schemes when in good working order; if well operated and managed have the capacity to be self-sustaining. In this case then, such schemes can be contracted out to a private operator to run and ensure that service provision indicators continue improving, with the ownership and oversight remaining with the community/government. The PO can be paid a fixed monthly sum with penalties and bonus depending on performance, or he can be paid as a percentage of the revenues collected. Infrastructure development remains with the asset owner so it is important for County Governments to rehabilitate schemes first before contracting them out in order to foster viability. Most of the risks are on the public party (County Government of Community) the PO will mainly bear responsibility on the management risks i.e. staff recruitment, meter reading and billing, procurement, production and treatment and O&M.

### 3. Lease Contracts

In this kind of arrangement, the water scheme is leased out to a private party who pays some agreed amounts of money on regular basis to the asset owner. This is similar to a management contract in regards to the management competence but this arrangement allows the contractor the leeway to mobilize funds to improve the project for better services delivery and improved profitability. These funds could be grants, own funds or credit borrowed from financial institutions so the contract needs to be significantly lengthy to allow turn around and recoup. This arrangement has a high possibility of ensuring continued water supply because risk is transferred to the contractor who has the motivation to make it work and succeed. The lease operator bills and collects revenue directly from the customers and as the contracting authority uses these funds to pay for past and future capital investment.

### 4. Build Operate Transfer (BOT)

Recent years have seen a significant growth in the number of BOT contracts for discrete infrastructure projects. This is now being explored in the water sector and is more suitable for large projects that require heavy capital investment, for example multi-purpose dams. In using this approach, it is possible to construct huge projects whose financing was not readily available from public coffers. Even where funding could still be publicly available, this approach has proven to have the capacity to cut project costs by up to two thirds. Additionally, completion time is reduced, quality is usually better, and the risk of non-completion almost eliminated. In this case the private sector designs and builds an asset, operates it and then transfers it to the government when the operating contract ends or at a specified time, and may

further lease the asset in future depending on mutual agreement. The private party therefore bears the financial risk, and thus brings finances to the infrastructure project. This type of financing arrangement is particularly suited for water and sewerage projects, and has several variants of the BOT according to the project needs. An advanced variant of this is concession, where the private party designs, finances, constructs and operates a revenue-generating infrastructure in exchange for the right to collect the revenues for a specified long period with ownership of the asset remaining with the public sector.

# Annex A3: Legislative developments and mandates

## National Policy and Constitutional Order

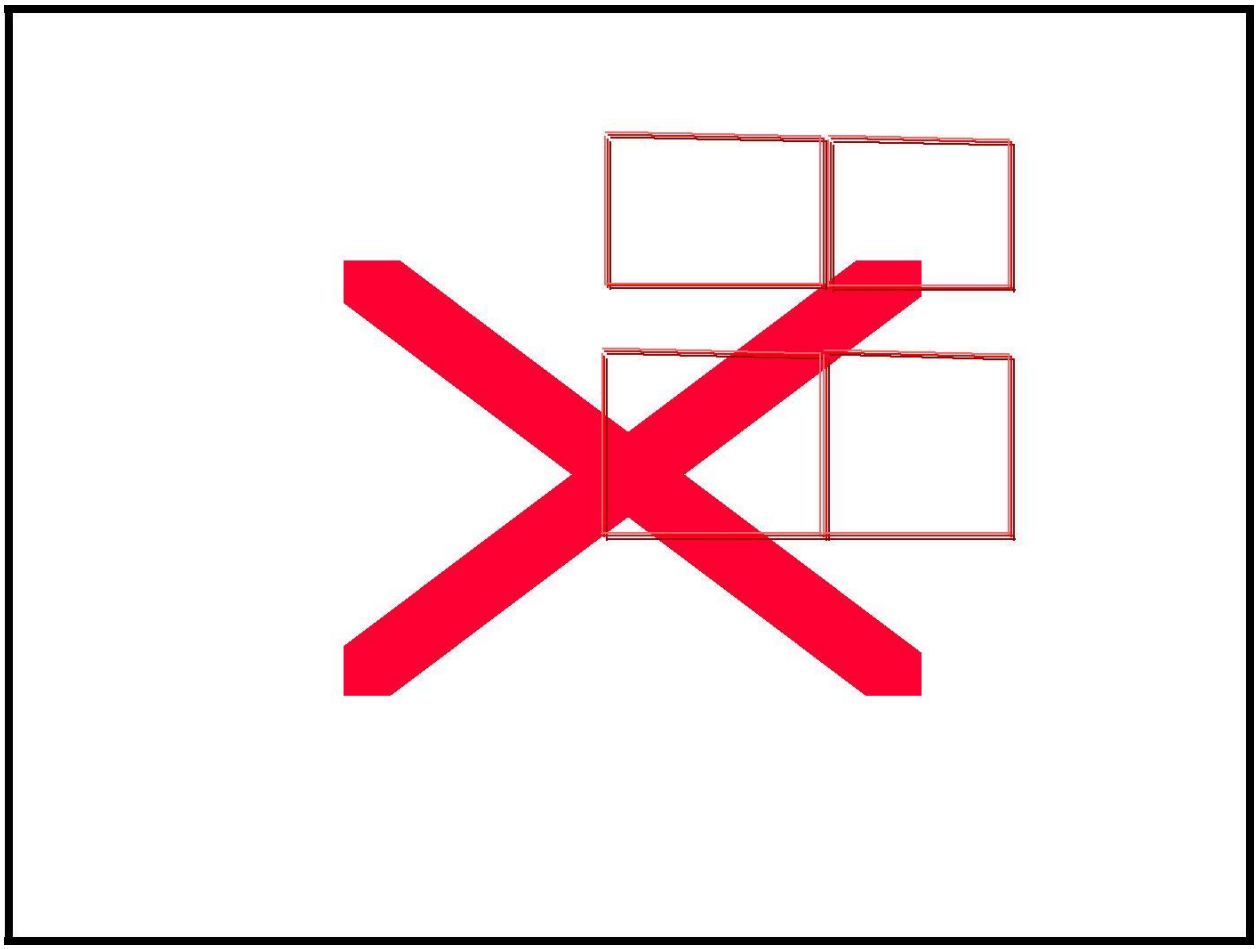
***National Context – Vision 2030***

Kenya's development process is currently being guided by the "Kenya vision 2030" which is the Country's new development blueprint covering the period 2008 to 2030. The blueprint aims at transforming the Country into a newly industrializing, "middle-income Country providing high quality life to its entire Citizen's by 2030.

The vision is based on three "pillars": the economic, social and political. The economic pillar aims to improve the prosperity of all Kenyans through an economic development program, covering all regions of Kenya, and aiming to achieve an average GDP growth rate of 10% per annum beginning 2012. The social pillar seeks to build a just, cohesive society with social equity in a clean and secure environment. The political pillar aims to realize a democratic political system founded on issue-based politics that respects the rule of law and protects the rights and freedoms of every individual in Kenya.

Vision 2030 presentation for water sector goals, strategies and targets are as shown in figure 1 below.

*Figure 1: Vision 2030, Water and Sanitation Goals with Targets*



***Water Services and Constitution of Kenya (COK) 2010***

The new institutional framework for the sector under the COK 2010 is being guided and informed by the following provisions of the constitution:

*i) Article 62 of the new constitution which provides for the water resource ("water catchment areas", "all rivers, lakes and other water bodies as defined by an Act of Parliament") to be vested in and be held by national government in trust for the people of Kenya and be administered on their behalf by the National Land Commission.*

*ii) Articles 43 which entrenches water as a constitutional right by establishing a right to "reasonable standards of sanitation" and "clean and safe water in adequate quantities" and Article 21 which places an obligation on the government to take steps to progressively realize this right.*

*iii) Articles 6, 174, 175 and 176 which creates a system of devolved government with a two-tier system of government comprising of the national and county government. Pursuant to this, the functions of the sector are allocated between the two tiers of government. The responsibility to manage water resources is retained by national government, but the responsibility to provide water supply and sanitation services is allocated to county government. The function of 'public investment' is allocated to national government but, at the same time, county government has the responsibility for 'public works'.*

*iv) Articles 202 and 203 which provide for equitable sharing of the National revenue raised from national and county governments, and which requires that not less than 15% of national revenue shall be allocated to county governments. Additional conditional and unconditional allocations may be made.*

*v) Article (204) which provides for reduction of inequality in service provision through establishment of an equalization fund into which 0.5% of national revenue shall be paid. The fund shall only be used to provide basic services including water, roads, health facilities and electricity to marginalized areas to the extent necessary to bring the quality of those services in those areas to the level generally enjoyed in the rest of the nation, so far as possible'.*

***Water Act 2002 (under review – see Water Bill 2013 below)***

The Government of Kenya (GoK) has undertaken wide ranging reforms of the water sector which has been guided by the national policy on Water Resources Management and Development (Sessional paper no 1 of 1999).The policy paper culminated with the enactment of Water Act 2002. The Act aimed at providing harmonised and streamlined management of water resources, water supply and sewerage services provision.

The key reform features included: separation of policy from other functions; separation of water resources management and water services provision; separation of regulatory functions from investments and operations; separation of asset holding from operations; increased user participation; enhanced pro poor orientation; socially responsible commercialization in the provision of water supply and sanitation services.

The institutional framework set out in the Water Act 2002 aims at ensuring that policy formulation, regulation, ownership of assets and service delivery roles are clearly delineated with each role being carried out by separate entities.

## Aligning Water Sector with COK (2010)

### *Proposed Water Sector Policies and Legislation*

To align the Water Sector with CoK (2010), the government in consultation with stakeholders has developed the following Draft Policies: **National Irrigation Policy 2012, National Land Reclamation Policy 2012 and National Water Policy 2012;** which are in the process of being approved.

The Water Act 2002 is also being revised to harmonize the sector with CoK (2010). Therefore, the government and stakeholders have prepared **Draft Water Bill 2013** which is the process of being approved.

As the country moves to the new Constitutional Dispensation, the water sector actors and stakeholders have developed a **Water Sector Transition Plan** to guide transition into the new dispensation of transferring water services delivery to the County Governments and specifically to maintain momentum of reforms without any compromises on quality of services; to create **strong institutions** including those at the County Level to **safeguard and upgrade gains** of reforms.

### *Changes in Institutional and Legal Framework*

Pursuant to the above legal and policy changes, foreseen proposals on a possible institutional framework and mandates for the sector are shown in Table 1.

The implication of this set-up is that the Water Services Boards as currently constituted shall have no role in water service provision as their role will be taken over by the County Government. The most likely scenario is that Water Services Boards will be transformed into **Water Works Development Boards.**

As seen from Table 1, under the proposed institutional framework, water services shall be provided by or on the basis of an agreement with water services providers (WSPs) established by County Governments. However, in the establishment of WSPs, the County Government shall comply with standards of commercial viability set by the Regulatory Board for various categories of water service providers. WSPs shall be a body corporate with power in and by its name to sue and be sued and to do all things as may lawfully be done by a body corporate in furtherance of its objects.

Under this proposed institutional arrangement, besides provision of water supply and sanitation services, WSPs will be responsible for developing county assets for water supply and sanitation services; and receive handed over national assets for water supply and sanitation services developed by Water Works Development Boards.

**Urban Areas and Cities Act, 2011**

This legislation guides on service delivery by County Governments as follows:

**Clause 32**(1)-(3): Empowers the County Governments to provide services specified under various legal and constitutional instruments and further directs the County Governments on modalities of formation of service delivery entities.

**Clause 33(3):** authorizes and gives directions to the County Governments on partnerships with private sectors to enhance service delivery and efficiencies. Under Clause 33(4), the direction is to procure the private investor under the Public Procurement and Disposal Act, 2005 which contrary to expectations of many, this provision does not draw reference to the PPP Act 2013.

## The PPP Act 2013

Through the PPP Policy 2012 and the PPP Act 2013, Kenya is commitment to further boost its economy and sector performance through private sector participation. They provide an environment that is instrumental and opens opportunities in realizing the Vision 2030 goal of engaging private sector as key towards reducing the infrastructure deficit and to delivering high quality services to the Kenyan citizens. The PPP Act 2013 provides a framework for the participation of private sector in financing to accelerate development, construction, operation and maintenance as well as private sector management efficiencies and disciplines in infrastructure or development projects for public service delivery through various PPP models; and the establishment of the institutions to regulate and supervise the Project Agreements on infrastructure and service delivery to optimize value for public resources. Recently the National Treasury and key stakeholders developed PPP Guidelines which are being customized to be sector specific such as the Water Sector both for the National Government and County Governments.

| No. | Proposed Institutions | Roles and Responsibilities |
|---|---|---|
| 1. | **MWI (Cabinet Secretary)** | Formulate and publish a national water resource and water services policies and strategies<br>Ensure the effective exercise and performance by any authorities or persons of powers and duties granted or imposed under this Act.<br>Inform and advise the National Land Commission on all matters of water resource management<br>Coordinate of all water sector institutions and whose activities have an impact on the development of water resources<br>Undertake national water sector planning<br>Establish a national water sector data base and information system which shall be provided by the sector institutions and all relevant other institutions<br>Publish definition on coverage for water services based on criteria for the right to water<br>Publish the report on the achievement of the right to water<br>Management of all matters related to trans-boundary waters<br>Ensure that the use and sustainable management of water resources stored in multi-purpose dams is in conformity with the rules developed by the Water Resources Regulatory Authority<br>Provision of technical assistance to the County Government in provision of water services in consultation with the County Government<br>In performing its duties the Cabinet Secretary shall be assisted by the Principal Secretary. |
| 2. | **Water Resources Regulatory Authority** | Formulate and implement standards, procedures and rules for the management and use of water resources and flood mitigation.<br>Regulate the management and use of water resources in consultation with the National Land Commission established under Article 67 of the Constitution of Kenya.<br>Issue rules on water resources allocation including the issuance of permit.<br>Monitor compliance by water users with the conditions of permits and the requirements of the Act.<br>Delegate regulatory functions to the Basin Water Resources Board established by the Cabinet Secretary.<br>Determine and set permit and water use fees for water resources.<br>Collect and provide information for formulation by the Cabinet Secretary of the national water resource management, water storage and flood control strategies. |

| | | |
|---|---|---|
| | | Collect, analyze and disseminate information on water resources.<br>Report to the public annually on water issue and performance of water resource institutions.<br>Ensure access to information on water resources.<br>Liaise with other regional, national and international bodies for the better regulation of the management and use of water resources.<br>Issue permits for inter-basin water transfer; and<br>Advise the Cabinet Secretary on management and use of water resources.<br>Ensure that there is in place a national monitoring and information system on water resources. |
| **3.** | **Basin Water Resources Boards** | Shall be responsible for the management of the water resources within their basin area through:<br><br>Protecting water resources and increasing water availability<br>Receive water permit applications for water abstraction, for water use and recharge, determine, issue and vary water permits and enforce the conditions of those permits<br>Enforcing regulations<br>Reporting to the users and public on water issues and their performance within the basin annually<br>Collecting water resources data, analyzing and managing the information system<br>In accordance to the rules, provide information to the Water Resource Regulatory Authority<br>Reviewing the basin area water resources management strategy<br>Facilitate the formation of Water Resource User Associations and their activities<br>Collecting water permit and water use charges<br>Carry out flood mitigation activities<br>Facilitating information sharing within the basin<br>Ensuring equitable water sharing within the basin through water allocation plans. |
| **4.** | **Water Resource Users Association (WRUAs)** | Community based associations for collaborative management of water resources and resolution of conflicts concerning the use of water resources. |
| **5.** | **National Water Storage Authority** | Undertake on behalf of the national government the development of national public water works for water resources storage<br>Maintain and manage national public water works infrastructure for water resources storage<br>Collect and provide information for the formulation by the Cabinet Secretary of the national water resources storage and flood control strategies<br>Make rules and enforce water harvesting strategies<br>Advise the Cabinet Secretary on any matter concerning national public water works for storage. |
| **6.** | **Water Works Development Boards** | Develop national public water works for water services.<br>Formulate development and investment plans for rural and urban areas aggregated from the county development plans and established by the county water service providers and through the County Government water services institutional structure for their designated areas.<br>Provide input to the national development and financing plan established by the Cabinet Secretary.<br>Provide technical assistance to the water services providers as County Government agents for County asset development in consultation with the respective County Governments.<br>Hand over developed public assets to the licensed county water services providers, cross-county water services providers or to the county water department according to the rules of the Cabinet Secretary.<br>Facilitate the establishment of cross-county water service providers.<br>Employ staff to carry out its functions and activities as per the rules and regulation set by the |

| | | |
|---|---|---|
| | | regulator and public service commission. |
| **7.** | **Water Services Regulatory Commission** | Principal object of the Commission shall be to protect the interests and rights of consumers in the provision of water services.<br>Determine and prescribe national standards for the provision of water services and asset development for water service providers.<br>Validate the water and sewerage tariffs proposed by the county water service providers and approve their imposition in line with consumer protection.<br>Issue licences for the provision of water services.<br>Monitor and regulate licensees and enforce licence conditions.<br>Develop a model Memorandum and Article of Association to be used by all water companies applying to be licensed by the Water Services Regulatory Commissions to operate as water service providers.<br>Monitor compliance with standards including for the design, construction, operation and maintenance of facilities for the provision of water services.<br>Propose to the Cabinet Secretary the nature, extent and conditions of financial support to be accorded to water service providers for providing water services.<br>Monitor progress in the implementation of the national water services strategy and make appropriate recommendations.<br>Maintain a national data base and information system on water services.<br>Establish a mechanism for handling complaints from consumers regarding the quality or nature of water services.<br>Develop guidelines on the establishment of consumer groups and facilitate their establishment. Carry out inspections at water service providers.<br>Report annually to the public on issues of water supply and sewerage services and performance of relevant sector institutions.<br>Issue rules on water services and asset development which shall include business, investment and financing plans; in order to ensure efficient and effective water services and progressive realization of right to water services; and<br>Advise the Cabinet Secretary on any matter in connection with water services. |
| **8.** | **Water Action Groups (WAGs)** | Advocate for the interests of consumers and the non-served.<br>Assist water service providers and the Regulatory Board in resolving consumer complaints.<br>Sensitize consumers on consumers' rights and obligations regarding water services and facilities, including the protection of infrastructure, identification and reporting of illegal connections, and other pertinent issues which affect the provision of water services. |
| **9.** | **Water Service Providers** | Provision of water services within the area specified in the license and<br>Development of county assets for water service provision. |
| **10.** | **Water Sector Trust Fund** | Manage the resources of the Fund<br>Mobilize additional resources for the Fund<br>Formulate and implement principles, rules and procedures for financing projects, including efficiency and effectiveness of funds<br>Implement measures to ensure efficient and equitable sharing of the resources of the Fund giving priority in resource allocation to:<br>o Areas in rural and urban which access to basic water services is below the national average.<br>o Rural areas which are vulnerable to the degradation or depletion of water resources. |

| | | |
|---|---|---|
| | | Provide support to local communities in the identification of projects and formulation of project proposals<br>Provide support to local communities to build capacity in project implementation and management<br>Pay out of the Fund such grants as the trustees may authorize from time to time<br>Monitor the implementation of projects<br>Maintain and make publicly available information on the projects financed and project impact; and<br>Elaborate national implementation concepts which ensure efficient use of water and sustainability of developed infrastructure<br>To receive grants for on-lending to water service providers, counties, and communities for the underserved areas and urban poor<br>In order to manage loans, the Fund shall create a separate entity with its own management, accounting and supervision structure under the guidance of the cabinet secretary that ensures harmony with the functions the Water Asset Development Boards. |
| **11.** | **Water Tribunal** | Hear and determine any dispute concerning water resources or water services if the parties so agree |

***Table 1: Proposed Institutional Framework under Water Bill 2012***

## Annex B1: Definition of water and sanitation service levels – Kenya Water and Sanitation Programme (KWSP) Communities Projects

An important parameter for the base information map is the service level. This is a measure of water availability and accessibility, which therefore measures the extent of hardship for a given community. Water availability refers to general reliability while accessibility relates to proximity, ease of fetching and affordability. The two are mutually exclusive depending on the type of water use. The basic service levels for point water sources are influenced by several factors, including:

- The walking distance influences the amount of water people can carry home on daily basis; the longer the walking distance the less water used per capita.
- The effort needed at the water source to fetch water; for example, it is easier to fetch water from a spring than from a hand-pump, which requires pumping effort.
- The duration taken at the water point filling containers, which is dictated by the yield of the water point and the number of people using the water point.
- Seasonality, whereby competition at the source increases as alternative water sources diminish, causing people to wait longer and often carry less water to the homes.
- The price of water determines how much people are willing to pay for clean, safe water, with several using poorer quality water for non-critical water uses.

**Categories of service coverage in RWSS and their indicative definition**

| PARAMETER / ISSUE | | | | |
|---|---|---|---|---|
| COVERAGE STATUS | (highest/best) | | | (lowest/poorest) |
| KEY CRITERIA (WITH REFERENCE TO NATIONAL TARGETS AND MDG) | | | | |
| Quantity of water available (l/cap/d) | Enough for all needs > 40 | Enough for basic needs | Limitations with quantity | Not enough (long waiting time, etc.) |
| Quality of water (need for treatment)<br>domestic use<br>livestock use | Very good (does not need any further treatment) | 25 – 40<br>Good/Fair (e.g. treated by WSP) | 10 – 25<br>Poor (e.g. treated by user, boiling etc.) | < 10<br>Very poor (not treated) |
| Access: Distance to source (km) | < 1 | 1 – 2 | 2 – 5 | > 5 |
| Access: Time taken to fetch water, incl. waiting (minutes) | 0 – 60 | 60 – 120 | 120 – 180 | > 180 |

| ADDITIONAL Information | | | | |
|---|---|---|---|---|
| Reliability of service (max. period without service, days / month) | Max. 4 | 4 – 6 | 6 – 8 | > 8 |
| Cost of service to user (KES per 20-Litres container); also ask for cost per month | Max. 1 | 1– 2 | 2 – 5 | > 5 |

**Criteria for sanitation service level**

| | **Sanitation Service Level Category** | | | |
|---|---|---|---|---|
| **Parameter** | Level 1 - Good | Level 2 - Fair | Level 3 - Poor | Level 4 - very poor |
| Number of people sharing (Dignity and hygiene) | Household 8 - 10 | Homestead 10 - 15 | Shared among several families 15 -20 | Shared among homesteads >20 |
| Type of facility | VIP latrine | Improved traditional pit latrine, stable roofing | Traditional pit latrine | None |
| Depth of the pit (ft) | > 20 | 15 - 19 | Shallow pit 8 – 14 | Small hole - as need arises and bury < 8 |
| Super structure material used (Privacy) | Concrete/ bricks - with stable roofing | Wooden with stable roofing | Thatching Grass with temporary roofing | Plastic material all round |
| Hygiene levels – (determined ease to clean) | Slab with concrete plastering | Wooden slab or floor with dung and ash | Logs with soil | Logs |

## Annex C1: Kakamega proposed infrastructure interventions

The County has only one Water Service Provider (WSP) – Kakamega County Water and Sewerage Company. There are however seven (7) water supply schemes namely: Busia water supply; Mumias water supply; Shitoli water supply; Shinyalu water supply; Tindinyo water supply; Butere water supply; and Nambale water supply and Matayos water supply. Apart from Kakamega and Mumias Water Suplies, the rest of the schemes / water supplies are dilapidated and require massive rehabilitation and alignment. Due to their state, O &M cost is high.

Water infrastructure development is done by the Water Services Board (WSB), Lake Victoria North Victoria Water Services Board. With the water provision now devolved to the County governments, it is not clear who will handle asset development.

A number of projects have stalled due to political interference, for example Sidindi Water Project while others due to land ownership problems like the rehabilitation of Misango Hills project. A number of water projects are on-going while new programmes are underway

**Detailed analysis of the infrastructure:**
From the tables here below, the infrastructure consists of rehabilitating the staled projects (table 1); construction and rehabilitation of boreholes (table 2). Most of these are Community Water Projects (CWPs), which generally are poorly managed due to the lack of capacity of the management in place. Most of them suffer from lack of funds, water, and ineffective management. Despite these shortcomings, the Community is reluctant to let go of the management because they view the projects as owned by them and should not be managed by any outsiders. In a number of cases, the springs have to be protected to reduce the incidence of infection by water –borne diseases

These projects could be better managed by Private Operators, who would manage them more effectively and increase access to water; increase revenue collection and create capacity in the management. It is possible for the County government to embrace the principle of Public Private Partnerships, in which it would enter into a mutual agreement with private investors who would inject capital and improve the management of these water schemes. The only problem is that before this can be possible, it is important that the water schemes or the WSP is viable to attract PPPs.
There are two projects namely, Mwendo Murefu Urban Water project under planning , design and construction of intake treatment plans , and the other , Masungu Rural Water Project, estimated to cost KES 30 million and KES 50 million respectively.

**Table 1: Stalled projects**

| Project Name Location/County/Constituency | Location | Description of Activities | Reason for Stalling |
|---|---|---|---|
| Sidindi water project | Butere | Rehabilitation of Water infrastructure | Political interference |
| Rehabilitation of Misango Hills | | | Land ownership problems |
| Mwihila-Eshiunya water project | Khwisero | Rehabilitation of Water infrastructure | |

## Table 2: Construction and rehabilitation of boreholes

| Project Name | Objective | Description of Activities |
|---|---|---|
| Mukulusu community Boreholes | Reduce cases of waterborne diseases within the community | Construction and rehabilitation of 6 boreholes. |
| Shamakhubu Health center(water supply) | Increase no of people accessing clean water in the health centre and surrounding areas | Construction and rehabilitation of 2 boreholes Within the health centre |
| Malava W/S (Malava) | Supply adequate portable water to Malava and the surrounding community. | Cleaning of borehole.<br>Installation of submersible pumping set and generator;<br>Repairs on rising mains and distribution lines;<br>Installation of new rising mains; distribution lines and metering. |
| Samitsi water project. | Supply adequate portable water to Samitsi and the surrounding community. | Cleaning of borehole;<br>Installation of submersible pumping set and generator;<br>Repairs on rising mains and distribution lines;<br>Installation of new rising mains, distribution lines and metering. |
| Khalaba Community water supply | Supply adequate portable water to Khalaba and the surrounding community. | Cleaning of borehole;<br>Installation of submersible pumping set and generator;<br>Repairs on rising mains and distribution lines;<br>Installation of new rising mains, distribution lines and metering. |
| Makunga Community Water Supply | Supply adequate portable water to Makunga and the surrounding community. | Cleaning of borehole;<br>Installation of submersible pumping set and generator;<br>Repairs on rising mains and distribution lines;<br>Installation of new rising mains, distribution lines and metering. |
| Bungasi Community Water Supply | Supply adequate portable water to Bungasi and the surrounding community. | Cleaning of borehole;<br>Installation of submersible pumping set and generator;<br>Repairs on rising mains and distribution lines;<br>Installation of new rising mains, distribution lines and metering. |
| Etenje Community Water Supply | Supply adequate portable water to Etenje and the surrounding community. | Cleaning of borehole;<br>Installation of submersible pumping set and generator;<br>Repairs on rising mains and distribution lines;<br>Installation of new rising mains, distribution lines and metering. |
| Bulimbo Community water Supply | Supply adequate portable water to Bulimbo and the surrounding community. | Cleaning of borehole;<br>Installation of submersible pumping set and generator;<br>Repairs on rising mains and distribution lines;<br>Installation of new rising mains, distribution lines and metering. |
| Koyonzo Community Water Supply | Supply adequate portable water to Koyonzo and the surrounding community. | Cleaning of borehole;<br>Installation of submersible pumping set and generator;<br>Repairs on rising mains and distribution lines;<br>Installation of new rising mains, distribution lines and metering. |
| Mukulusu Sec. school | Reduce cases of water borne diseases in Mukusulu school and the surrounding areas | Enable 1000 school children and other community members' access clean drinking water. By 2014 |
| Mukulusu community Boreholes | Reduce cases of waterborne diseases within the community | Enable 2000 community members access clean drinking water by 2014 |
| Shamakhubu Health center(water supply) | Increase no of people accessing clean water in the health centre and surrounding areas | Enable 1000 community members access clean drinking water by 2014 |
| Malava W/S (Malava) | Supply adequate portable water to Malava and the surrounding community. | Access 65,000 people by 2017 with portable water |
| Samitsi water project. | Supply adequate portable water to Samitsi and the surrounding community. | Access 65,000 people by 2017with portable water |

| Name of Programme/ Projects | Objectives | Constituency | Rank | Indicators | Description of Activities |
|---|---|---|---|---|---|
| Mwendo Mureru Gravity Water | Supply of clean water in Malava | Malava | | No. of household | -Planning and design<br>-Construction of intake |

| | | | | | |
|---|---|---|---|---|---|
| Project(urban) | and its environment | | | supplied with safe and clean water. | -Treatment plant<br>-Piping works<br>-Construction of storage tanks<br>-Distribution lines and metering |
| Masungutsa Water Project(rural) | Increase access of quality water to 5, 000 persons in Shitirira and Chimoroni | Malava | | No. of household supplied with safe and clean water. | -Planning and design<br>-Construction of intake<br>-Treatment plant<br>-Piping works<br>-Construction of storage tanks<br>-Distribution lines and metering<br>Provision of solar panels<br>Purchase of Land |

***Source: Kakamega County Integrated Development Plan.***