

WATER RESOURCES AUTHORITY STRATEGIC PLAN

2018 – 2022

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LIST OF ACRONYMS/ABBREVIATIONS

BWRC	Basin Water Resources Committee
BWRMS	Basin Water Resources Management Strategy
CAACs	Catchment Area Advisory Committees
CMS	Catchment Management Strategy
CoK	Constitution of Kenya
CRM	Conflict Resolution Mechanism
CSO	Civil Society Organization
GoK	Government of Kenya
HR	Human Resource
HRIS	Human Resources Information System
ICT	Information, Communication, Technologies
IFMPs	Integrated Flood Management Plans
IT	Information Technology
M&E	Monitoring & Evaluation
MDGs	Millennium Development Goals
MWS	Ministry of Water and Sanitation
NGO	Non-Governmental Organization
NLC	National Land Commission
NRM	Natural Resources Management
NSSF	National Social Security Fund
NWHSA	National Water Harvesting & Storage Authority
ODK	Open Data Kits
RQO	Resource Quality Objectives
SCAC	State Corporation Advisory Committee
SDGs	Sustainable Development Goals
WQMS	Water Quality Management System
WRA	Water Resources Authority
WRMA	Water Resources Management Authority
WRUA	Water Resources Users Association

WSB	Water Service Board
WSI	Water Sector Institutions
WSS	Water Storage Structure
WWDA	Water Works Development Agencies

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CHAIRMAN’S FOREWARD

On behalf of the Board and Management of the Water Resources Authority (WRA), I am pleased to present the Authority’s Strategic Plan for the period 2018-2022. This Plan is as a result of critical synthesis and integration of the mandate of the Authority as envisaged in the Constitution of Kenya 2010, Water Act 2016, Vision 2030 and National Water Master Plan 2030.

This Plan is a statement of intent on how WRA will regulate the management and use of water resources in the country. It identifies the measures of success that will support the delivery of our mission. The Plan also identifies strategic objectives, assesses the Authority’s strengths, weaknesses, threats and opportunities, culminating into a series of strategic initiatives and detailed tasks that will help us realize our vision and achieve our corporate strategic focus areas. During the strategic planning process, the Authority refined its Vision to align them with the aspirations of Vision 2030. The revised vision is to be an exemplary regulator in the management and use of water resources. The four corporate strategic focus areas that will drive the Authority in the realization of its vision include: customer focus, financial perspective, internal processes and organizational capacity.

The successful implementation of a strategic plan is dependent on, senior management and other cadre of staff fully embracing it and committing themselves to its attainment. I therefore call on all of us to work together to effectively regulate the management and use of water resources so that this Plan can be realized. I am confident that we shall effectively tackle any issues that may arise and thus make a visible contribution to the broader MTP III of Vision 2030.

As a Board, we are fully committed to implementing the clearly articulated goals in this Plan. We undertake to work with all stakeholders to continuously develop appropriate policies and review of the regulatory regime to meet the needs of all Kenyans. It is this commitment that underpins our new mission:- “To effectively regulate the management and use of water resources in partnership with stakeholders.”

I take this opportunity to commend all those who gave their invaluable input and more specifically members of staff of the Authority who worked tirelessly to produce this Strategic Plan.

.....,

Captain Joe Mutambu
Chairman, WRA Governing Board

CHIEF EXECUTIVE OFFICER’S PREAMBLE

I am pleased to present the 2nd Strategic Plan of the Water Resources Authority (WRA) for the period 2018– 2022.

This Strategic Plan is the culmination of an all-inclusive consultative process that involved our staff and other stakeholders. The Plan honours the past challenges, the present and creates the future for the Authority.

The Plan articulates a comprehensive roadmap for the next four years, and outlines the short and medium strategies for the Authority. I urge staff to study and internalize the Plan so that we can deliver on the targets set out therein. Going forward, our corporate and individual Performance Contracts as well as resource allocation shall be based on this Plan. To our stakeholders, this Plan will serve as a yardstick for evaluating our performance as the water sector regulator.

In developing this Plan, the Authority considered a number of important documents to ensure that the plan is anchored on the prevailing government policies, national development plans and the law. The most notable were the country’s development blueprint - Vision 2030, Constitution of Kenya 2010, Water Act 2016 and the National Water Master Plan 2030. We shall endeavor to ensure that this Strategic Plan is aligned with any policy and legislative changes that may occur within the planning period.

This Plan takes cognisance of both the internal and external environment that the Authority operates in. It also incorporated contributions from relevant stakeholders and took into consideration the lessons learnt from the 1st Strategic Plan to develop four corporate strategic focus areas. The focus areas have been translated into a matrix that links our strategic objectives with day-to-day activities that will be undertaken.

Successful implementation of this Plan calls for internal transformation in order to enhance efficiency, effectiveness and greater client orientation. Through this process, the Authority has identified a set of values that will build the cultural foundation required to align ourselves to the new strategy.

I am happy that given the consultative process we went through in developing this strategic plan, there is common understanding, common ownership and common commitment to its implementation. As the CEO, I commit to remain the primary custodian and driver of the implementation process. I shall also keep my staff focused on the intended results and provide an enabling environment for success.

On behalf of the Authority, I wish to express my gratitude to all those who participated or supported us as we prepared this Strategic Plan. It was an exacting but nevertheless a fruitful process. I have every confidence that we will deliver on this Plan and thus make a positive contribution to the economy of this country.

.....,

Mohamed M. Shurie
Chief Executive Officer,

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EXECUTIVE SUMMARY

Water Resources Authority (WRA) is a state corporation under the Ministry of Water and Sanitation, established as a corporate body under the new Water Act (2016) that was operationalized on the 21st of April 2017 vide Special Issue Kenya Gazette Notice No. 60. The organization has been in existence for the past 12 years following its establishment as Water Resources Management Authority (WRMA) under the Water Act (2002) that has now been replaced by the new Water Act 2016. The purpose of the Water Act, 2016 is to make provision for the regulation, management and development of water resources, water and sewerage services in line with the Constitution of Kenya, 2010. In this regard, WRA is designated under the Act as an agent of the National Government responsible for regulating the management and use of water resources.

During the last phase of implementation of the 1st Strategic Plan 2012-2017, an evaluation of the Strategic Plan was undertaken to identify new areas of focus during the development of the new Strategic Plan 2018-2022. This was on account of the following developments:

- i. During the implementation of the first strategic plan 2012 -2017, new legal and institutional changes emerged at the national level including among others; the implementation of the devolved system of government whereby although water resources are vested in the National Government, there are administrative as well as development reforms at the County level which have affected the functions of the Authority.
- ii. The launch of the National Water Master Plan (2030) in 2014 which had baselines and set targets relevant for guiding the Authority's direction.
- iii. The Kenya Government's Second Medium Term Plan (MTP-II) lapsed in 2017, and as the country prepares for the third Medium Term Plan (MTP-III) under Vision 2030, there is need to take stock of the Authority's roles, contributions and to plan for the future through the 2018 - 2022 Strategic Plan.
- iv. The lapse of the Millennium Development Goals (MDGs) and the signing of the Sustainable Development Goals (SDGs) in September 2015 ushering in new international obligations, including focus on energy, water resources and climate change, all of which have a bearing on the Authority's roles.

- v. The big four agenda namely; Food Security, Affordable Housing, Affordable Health Care and Manufacturing. Key to the big four agenda is water which is an enabler to realization of the big four.
- vi. The enactment of Water Act No.43 of 2016, which has created new institutions and reformed others including setting guidelines for water resources management.

In formulating this Strategic Plan, the methodology used included; literature review to enable adoption of best practices, participatory approach involving internal and external stakeholder consultations, an assessment of both internal and external operating environment involving assessing internal strengths and weaknesses to ascertain the capabilities of WRA, as well as assessing external opportunities and threats in the political, economic, social, technological, legal, environmental and governance thereby setting customer and stakeholder value proposition with the outcome being summary of WRA's Strengths, Weaknesses, Opportunities and Threats (SWOT). An analysis of crosscutting institutional issues that affect WRA's effectiveness generated WRA's new Vision, Mission, Values and Strategic Objectives using the Balanced Score Card Approach.

Through this 2nd Strategic Plan, the Authority seeks to align itself with the country's development blueprint - Vision 2030, Constitution of Kenya 2010, Water Act 2016 and the National Water Master Plan 2030, each of which places major responsibilities and expectations on the Authority. The Authority procured the services of a consultant to facilitate the development of the Strategy and put in place a framework for its implementation. The 2nd Strategic Plan honours the past and addresses the present to develop the road map into the future.

Vision, Mission and Core Values

This Strategic Plan was developed through a consultative process with WRA's Board, Management team and stakeholders in the water sector. As a result of the expanded mandate of the Authority, the Authority refined its Vision to align it with the aspirations of Vision 2030, hence its new vision: "to be an exemplary regulator in the management and use of water resources."

In order to promote citizens' rights on environment and social rights as provided under Articles 43 and 42 of the Constitution, a thorough scan and situational analysis was undertaken on the internal and external environment of the Authority.

Corporate Strategic Focus Areas and Strategic Themes

To realize its vision and achieve its purpose, this Strategy hinges on four (4) Corporate Strategic Focus Areas namely: customer focus, financial perspective, internal processes and organizational capacity. Six (6) Strategic Themes and numerous strategic objectives and initiatives and detailed tasks. The four corporate strategic focus areas that will enable achievement of the vision are:

- i. Corporate Strategic Focus Area 1: Customer Focus :** This corporate strategic focus area is aimed at strengthening stakeholder collaboration in water resources management. The focus area will be implemented through the following strategic themes:
 - Availability and equitable access to water for all Kenyans
 - Trans boundary water resources
- ii. Corporate Strategic Focus Area 2: Financial Perspective :** This corporate strategic focus area is aimed at enhancing resource mobilization and effective use of the finances. The focus area will be implemented through the following strategic theme:
 - Corporate Strategic Focus
- iii. Corporate Strategic Focus Area 3: Internal Processes :** This corporate strategic focus area is aimed at promoting widespread infrastructure and service delivery. The focus area will be implemented through the following strategic themes:
 - Enhance monitoring and assessment of water resources
 - Facilitate the protection and conservation of water
 - Enhance water disaster management
- iv. Corporate Strategic Focus Area 4: Organizational Capacity :** This corporate strategic focus area is aimed at building the institutional capacity and improving the working environment. The focus area will be implemented through the following strategic theme:
 - Corporate Strategic Focus

Indicators for Measuring Performance

The Authority has developed four (4) indicators for measuring of performance that will be used to track progress of the vision to assess whether it has been achieved or not by June 2022. The measurement of performance will be done on the basis of the following four (4) indicators:

- i. Level of customer satisfaction index
- ii. Level of increase in revenue and cost reduction

- iii. Compliance to internal processes
- iv. Institutional capacity development

Resource Requirements

The implementation of the Strategic Plan 2018-2022 requires financial, physical and human resources. The total cost estimate for implementing the strategy will be based on the annual budget estimates approved by the Board. The cost will be met through WRA's revenue sources including donor funding.

An effective organization structure that is in line with the Strategy; and optimal staffing levels in terms of numbers, skills and motivation will be put in place to ensure successful implementation of this strategy.

Monitoring and Evaluation

In this Strategic Plan, much thought has been given to how day-to-day activities will deliver the high level strategic goals. The Strategic Plan contains the activities that will be undertaken to achieve each of the objectives with specific deliverables and clear time lines. The framework of performance contract requirements will be aligned to the strategic objectives and initiatives for every financial year to ensure compliance with the Strategic Plan WRA Corporate implementation matrix. The plan has proposed the appropriate Organizational Structure and the Financial, Operational and Human Resources to deliver the expected results as well as a Risk Management Strategy for handling the risks that may confront the institution in implementing its mandate. The Strategic Plan contains integrated Monitoring and Evaluation framework for assessment of progress during its implementation.

The Board of Directors will establish monitoring, evaluation, and control systems at all levels to ensure that performance is reviewed and analyzed on a periodic basis.

The Chief Executive Officer will oversee the implementation of the strategy and the monitoring and evaluation of performance. Effective implementation will be achieved by cascading the detailed operational plan for each successive year, ensuring clarity, alignment and focus by the Management Team.

CHAPTER ONE: INTRODUCTION

1.1: Introduction

Water Resources Authority (WRA) is a state corporation established under Section 11 of the Water Act, 2016. Pursuant to Section 6 of the Act, the Authority is an Agent of the National Government responsible for regulating the management and use of water resources amongst others. WRA was operationalized on 21st of April, 2017 vide Gazette Notice No. 60. Thus, the Authority has been in existence for 12 years following its establishment under the Water Act, 2002 as Water Resources Management Authority (WRMA). Under part III section 12 of the water act 2016, the mandate of WRA have been provided for in the act. In execution of its mandate, the Authority is guided by the Constitution of Kenya 2010, country's blue print for development Agenda Vision 2030, National Water Master Plan 2030, Water Act 2016, other National policies, plans and strategies including the Kenya National Adaptation Plan 2015-2030 and Sustainable Development Goals (SDGs). The Authority implements the Integrated Water Resources Management (IWRM) Principles anchored in the Dublin Principles activities with Water Resources Users Association (WRUAs) - local community groups with technical support from the Authority and other stakeholders within the catchment areas. It continuously partners in undertaking its activities locally, regionally and internationally.

The Authority uses a basin-based approach in accordance with the National Water Management Strategy, in management of water resources countrywide. Accordingly, WRA has developed six Catchment Management Strategies (CMS) for the Country's five drainage basins namely: Lake Victoria Basin which is divided into North and South, Rift Valley, Athi, Tana and Ewaso Ng'iro North. The CMS are implemented at community levels through development of Sub catchment Management Plans by WRUAs . The Authority has one national office, six regional offices and twenty-six sub regional offices spread all over the country based on catchment areas.

1.2: Background

The goal of ensuring proper management of our water resources) is to ensure national water security, which underpins social and economic development. The available water resources therefore need to be conserved and protected to guarantee water availability in the future. Kenya is a home to some of the great "water towers" of East Africa which includes the Aberdare Ranges, Mt. Kenya, Mt Elgon, Cherangani Hills and Mau Complex. Over the years, the water towers have

experienced severe degradation leading to reduced forest cover. This has been mainly caused by human settlements encroachment, agricultural expansion, rapid human population growth, illegal logging, charcoal burning and poorly planned tourist facilities. Moreover, increased water pollution and illegal water abstractions by various water users have exacerbated the problem...” The emerging water crisis is boosted by factors such as global warming and climate change, rapid population growth, unplanned urbanization and degradation of water catchment areas. In order to realize Vision 2030, the nation has to develop solutions to mitigate these water challenges, which will negatively impact the social and economic development of the nation. Sustainable management and development of water resources is therefore recognized as a crucial challenge and a fundamental requirement for effective and sustainable service provision.

1.2.1: Mandate & Functions

In order to align the water sector to the provisions of the Constitution of Kenya 2010, the Water Act 2002 was repealed to come up with the Water Act 2016. Section 12 of the Act confers to the Water Resources Authority the following functions:

- a) Formulate and enforce standards, procedures and regulations for the management and use of water resources and flood mitigation;
- b) Regulate the management and use of water resources;
- c) Enforce Regulations made under this Act;
- d) Receive water permit applications for water abstraction, water use and recharge and determine, issue, vary water permits; and enforce the conditions of those permits;
- e) Collect water permit fees and water use charges;
- f) Determine and set permit and water use fees;
- g) Provide information and advice to the Cabinet Secretary for formulation of policy on national water resource management, water storage and flood control strategies;
- h) Coordinate with other regional, national and international bodies for the better regulation of the management and use of water resources; and to
- i) Advise the Cabinet Secretary generally on the management and use of water resources.

1.2.3: Powers

Under section 13, of the act, the authority has the powers to:

1. Source and receive funding for the activities of the authority,
2. Collect, analyze and disseminate information on water resources,
3. Monitor compliance by water users with the conditions of permits and the requirements of the Act,
4. Issue permits for inter-basin water transfers; and
5. Delegate regulatory functions to the basin water resources committees provided for under section 25 .

1.2.4: Vision, Mission, Values

Vision

To be an exemplary regulator in the management and use of water resources

Mission

To effectively regulate the management and use of water resources sustainably in partnership with stakeholders

Core Values

- ◆ Responsiveness and Customer Focus
- ◆ Fairness and Equity
- ◆ Gender and Social Inclusiveness
- ◆ Integrity
- ◆ Innovation
- ◆ Professionalism
- ◆ Transparency and Accountability
- ◆ Teamwork

CHAPTER TWO: THE ROLE OF WATER RESOURCES AUTHORITY IN NATIONAL DEVELOPMENT AGENDA

2.1 Constitution of Kenya 2010

Article 186 of the Constitution of Kenya, 2010 classifies the functions assigned to each level of government as *exclusive*, *concurrent* or *residual*. The Constitution of Kenya, 2010 guarantees the right to clean and safe water in adequate quantities. A new statutory regime necessitated by the need to conform to the Constitution of Kenya 2010, international instruments that Kenya has ratified by virtue of Article 2(6) of the Constitution as well as Vision 2030 and the SDG's culminated to the legislation of the Water Act, 2016. The Authority is a key player in implementation of the Constitution. To this end, the Water Act, 2016 makes extensive provisions on the Authority's role in regulating the management and use of water resources by vesting the Authority with the following functions:

- a). Formulate and enforce standards, procedures and regulations for the management and use of water resources and flood mitigation,
- b). Regulate the management and use of water resources,
- c). Enforce regulations made under the Act,
- d). Receive water permit applications for water abstraction, water use and recharge and determine, issue, vary water permits; and enforce the conditions of these permits,
- e). Collect water permit fees and water use charges,
- f). Determine and set water permit fees and water use charges,
- g). Provide information and advice to the Cabinet Secretary for formulation of policy on national water resources management, water storage and flood control measures,
- h). Coordinate with other regional, national and international bodies for the better regulation of the management and use of water resources; and
- i). Advise the Cabinet Secretary generally on the management and use of water resources.

2.2 Sustainable Development Goals

The role of WRA falls under The establishment of Sustainable Development Goal 6 (SDG 6) - which is to ensure availability and sustainable management of water and sanitation for all, confirms the importance of water and sanitation in the global political agenda.

Building on the relevant SDG 6 addresses the sustainability of water and sanitation access by focusing on the quality, availability and management of fresh water resources. SDG 6 recognizes that social development and economic prosperity depend on the sustainable management and sharing of freshwater resources and ecosystems. SDG 6 acknowledges that ecosystems and their inhabitants, including humans, are water users and that their activities on land can compromise the quality and availability of fresh water. Water-related ecosystems addressed in SDG 6 include wetlands, rivers, aquifers and lakes, which sustain a high level of biodiversity and life.

These ecosystems are also vital for providing multiple benefits and services, such as hydropower, irrigation, humidity and precipitation, habitats for aquatic life and water purification. Well-managed water-related ecosystems contribute to addressing competing demands for water, mitigate climate change risks and help build community peace and trust. They are therefore essential for achieving sustainable development, peace, security and human health and well-being.

Regarding SDG 14, Advancing the sustainable use and conservation of the oceans continues to require effective strategies and management to combat the adverse effects of overfishing, growing ocean acidification and worsening coastal eutrophication. The expansion of protected areas for marine biodiversity, intensification of research capacity and increases in ocean science funding remain critically important to preserve marine resources.

- The global share of marine fish stocks that are within biologically sustainable levels declined from 90 per cent in 1974 to 69 per cent in 2013.
- Studies at open ocean and coastal sites around the world show that current levels of marine acidity have increased by about 26 per cent on average since the start of the Industrial Revolution. Moreover, marine life is being exposed to conditions outside previously experienced natural variability.

- Global trends point to continued deterioration of coastal waters due to pollution and eutrophication. Without concerted efforts, coastal eutrophication is expected to increase in 20 per cent of large marine ecosystems by 2050.
- As of January 2018, 16 per cent (or over 22 million square kilometres) of marine waters under national jurisdiction—that is, 0 to 200 nautical miles from shore—were covered by protected areas. This is more than double the 2010 coverage level. The mean coverage of marine key biodiversity areas (KBAs) that are protected has also increased—from 30 per cent in 2000 to 44 per cent in 2018.

Source: Report of the Secretary-General, [The Sustainable Development Goals Report 2018](#)

2.3 Kenya Vision 2030 and the Big Four agenda

Kenya's Vision 2030 is the country's new development blue print covering the period from 2008 to 2030 with an aim of transforming the country into an industrialized economy. The vision is based on three pillars; the economic, the social and the political. The economic pillar is on improving the prosperity of all Kenyans through economic development, covering all the regions of Kenya. The social pillar seeks to build a just and cohesive society with social equity in a clean and secure environment. The political pillar aims to realize a democratic political system founded on issued-based politics that respects the rule of law and protects the rights and freedoms of every individual in a Kenyan society.

The big four agenda namely; Food security, Affordable housing, Affordable health care and Manufacturing will require a number of inputs. Key to this is water which is an enabler to realization of the big four. In particular, in terms of food security and nutrition, water will be required for supporting irrigated agriculture in order to support food production. With regards to affordable housing and affordable health care, the support will be in terms of providing water to facilitate water supply and also in terms of sanitation in this case waste water management, solid and liquid waste management specifically waste coming from households in order to control effluents that pollute/contaminate water resources and cause water borne diseases. Controlling construction within the riparian land will become a key activity. In terms of manufacturing, water is a key raw material for processing in addition issues of pollution control will be a crucial activity.

2.3.1 How Vision 2030 relates to Water Resources Management

The Authority falls under the Social pillar which uses the social strategy of investing in the people of Kenya through transformation of seven key social sectors: Education and Training; Health; Water and Sanitation; the Environment; Housing and Urbanisation; Gender, Youth Sports and Culture; as well as Equity and Poverty Eradication.

Kenya is a water scarce country and the economic and social development anticipated by Vision 2030 would require more high quality water than at present. The country therefore, aims to conserve water sources and start new ways of harvesting and using rainwater and underground water. The 2030 vision is to ensure improved access to quality water in adequate quantity by all as enshrined in the Constitution of Kenya 2010. Specific strategies are contained in the National Water Masterplan 2030 on how to raise the country's overall water, resource management and assessment, storage and harvesting capability to meet both domestic and industrial demands.

The implementation of the Vision 2030, is in successive five-year Medium Term Plans, with the first covering 2008-2012, 2012-2017 and so forth till 2030. While the flagship projects are expected to take the lead in generating rapid and widely-shared growth, they only set the pace for multiple vessels behind. As the country progresses towards becoming a middle-income economy through development plans it is also expected to meet the Sustainable Development Goals

2.3.2 WRA's Vision 2030 Flagship Projects

WRA has over the last year's implemented Vision 2030 flagship projects related to water resources management. These include:

1. Establishing, Rehabilitating and Up-grading the hydro-meteorological monitoring networks;
2. Groundwater hydro-geological assessment;
3. Review of Catchment Management Strategies;
4. Development of Sub-Catchment Management Plans;
5. Offering technical support in the construction of Earth/Sand dams.

The Authority has further proposed upto 20 projects for implementation toward the realization of its (MTPIII) FOR THE PERIOD (2018-2022). The main objective being to increase proportion of population with adequate safe access to water services from 58% to 75% by 2022

2.3.4 How the Big 4 Agenda relates to Water Resources Management

In order for the big four to succeed it is obvious that water will play an important role. It will be very necessary therefore to secure adequate water resources in terms of quality and quantity to enable this. WRA activities will therefore become very important meaning WRA should be supported to facilitate in this regard, WRA will be expected to undertake deliberately some key interventions in supporting this effort. These are:

a) Provision of data and information for planning: Water Resources Authority as an enabler towards achievement of the Big four agenda has a key role to play with regard to ensuring availability of quality data and information to inform planning and decision making on the type, magnitude and nature of projects to be implemented under the Big Four. Key data that will be required for this purpose will include:

- Trends in River flows and lakes and water flow levels in Rivers and Lakes
- Groundwater yields , water rest levels and trends
- Weather data including rainfall, evaporation and temperature
- Water quality status

All this information will come in the form of time series, tabulated figures, bulletins, reports, year book , public notices and indicative flows from various sections of water bodies (upstream to downstream), databases and trends in terms of graphical representations. Under this data and information planning, Water Resources Authority will carry out water resources assessment including but not limited to the following activities:

- i. Install telemetric monitoring stations to provide real time data
- ii. Monitor, synthesize and package data into information that can be used for planning purposes
- iii. Information dissemination

b) Securing water resources in order to provide sustainable water in good quality and quantity: Under this activity Water Resources Authority will undertake its mandate in catchment conservation in order to ensure that water commencing out the catchments is high quality and adequate quantity, and that the yield can be sustained for a longer period to support the requirement for water. For this purpose, Water Resources Authority will carry out the following activities:

- i. Undertake physiographic studies to formulate development goals, indicators and outputs
- ii. Mobilization of communities living in the catchment areas to form WRUAs and develop responsive sub basin plans - SCMPs
- iii. Implement together with WRUAs and other stakeholders the SCMP activities in terms of increasing tree cover in water catchment areas, control of sediments, protection of the water from pollutants, undertaking riparian land conservation,

development of small scale to medium scale storage facilities within those sub catchments, implementation of incentives to communities through livelihood projects, climate change and flood management activities .

- iv. In addition WRA will provide guidelines, frameworks, standards and procedures on how to protect and conserve water resources.

c) Regulation and enforcement of Water Resources Management Rules for sustainable management and use of water resources.

In this regard the activities that will be conducted are:

- i. Issuance of water use permits
- ii. Awareness creation and sensitization of water users on conditions attached to water permits, roles and responsibilities to water resources management and use
- iii. Carrying out regular enforcement to regulate water use for compliance
- iv. Taking appropriate interventions for those who are not compliant which include fines, orders, prosecutions, cancellation of permits
- v. Undertake Water allocation plans

2.3.4 National Climate Change Action Plan 2018 -2022 *NCCAP 2018-2022*

Climate change is the most serious global change of our time. The impacts of Climate change on societies around the world are increasingly evident. Kenya is one of the most vulnerable countries to climate change, and economic sectors and livelihoods are already frequently experiencing the manifestations of the problem.

NCCAP 2018-2022 seeks to increase annual per capita water availability from 647 m³ to 1000 m³. To achieve this target, the Plan proposes concrete actions to enhance the resilience of the water sector, by ensuring adequate access to, and efficient use of water for agriculture, manufacturing, domestic use, wildlife, and other uses. The planned water-related climate change actions involve women who help to reduce water wastage at the household level, and to some extent, also support water agencies to reduce wastage. The actions also promote the Blue Economy by encouraging low-carbon actions in the maritime sector, ensuring coastal infrastructure that better withstands projected rise in sea level and storm surges, and assisting coastal fisher communities to cope in a changing climate.

To operationalize the strategy and meet Kenya's international obligations the Authority will play a critical role in disseminating information for implementation of the following adaptation mechanisms identified in the **National Climate Change Action Plan 2018 -2022**

- 1) Mainstream adaptations within the broader development context;
- 2) Strengthen governance and improve water management;
- 3) Improve and share knowledge and information on climate and adaptation measures, and invest in data collection;
- 4) Build long-term resilience through stronger institutions, and invest in infrastructure and in well functioning ecosystems;
- 5) Invest in cost-effective and adaptive water management as well as technology transfer;
- 6) Leverage additional funds through both increased national budgetary allocations
- 7) Innovative funding mechanisms for adaptation in water management
- 8) Promotion of afforestation and reforestation programmes for restoration and protection of water catchment areas and other fragile water ecosystems
- 9) involving catchment areas -dependent rural communities in management of water catchment areas.
- 10) Provide information of water resources for better decision making on climate change adaptation and mitigation

Many of the actions planned in this sector will be implemented under existing initiatives, such as the African Initiative for Combating Desertification; the Kenya Integrated Water, Sanitation and Hygiene Project; and the Water Sector Trust Fund. The climate actions are expected to result in:

- 1) Adaptation - Increased water availability through water harvesting and storage, improved water efficiency, and improved water availability;
- 2) The Big Four Agenda - Progress toward the achievement of food and nutrition security; and
- 3) Sustainable development - Reduction in water scarcity through improved water harvesting and greater water use efficiency, improved human health and well-being, and protection of coastal and marine ecosystems.

The Authority will also play a significant role in various climate change mitigation interventions by developing technologies for; creating resilience and adaptability capacity for communities to drought and flood situations, rehabilitation and restoration of degraded ecosystems and riverine vegetation, and sustainable management.

2.4 Water Resources Management Policy

2.4.1 Context of Water Resources Management

The National Water Policy 2017 was developed in line with the mandate, vision and mission of the Ministry responsible for water in Kenya. In particular, the Policy was based on the achievements of the water sector reforms commenced with the enactment of the Water Act, 2002, that was based on the sector principles outlined lined in the Sessional Paper No. 1 of 1999 on National Policy on Water Resources Management. The spirit of the Constitution of Kenya 2010, sector aspirations in Kenya's Vision 2030 and lessons that have been learnt since 1999 necessitated the urgent need for realignment of the Water Policy to enhance delivery of our mandate. Therefore, this Policy aims at moving the sector to the next level of development in order to contribute to the National Goals and Global Sustainable Development Goals.

The country has five major water catchment towers which are faced with severe degradation due to uncontrolled environmental degradation activities. Notable drivers of environmental degradation that has caused this havoc includes high rates of population growth, inappropriate technology, unsustainable consumption and production patterns, increased incidences of poverty and climate change. Without protection and conservation the ecosystem services and enhancing water security in the country this trend would worsen, intensifying negative effects on socioeconomic development of Kenya and reversing gains made in the living conditions of the population.

The Government of Kenya is committed to ensuring the realization of constitutional requirement on the right to water as stipulated in Article 43 of the Constitution as well as promoting the human rights on sanitation and environment espoused in Articles 43 and 42 of the Constitution. The policy also takes into account obligations of the country with regard to regional and international arrangements related to water resources management and environment, such as trans-boundary protocols, arrangements, and treaties; and the Nile Basin Commission Framework.

The management of water resources is the starting point for the water governance cycle, which then shifts to water harvesting and storage, then to water supply services. Sessional Paper No. 10 of 2012 on Kenya Vision 2030 has set the economic trajectory of the country, to attain middle-income economy status by the year 2030, through enhanced economic activities across multiple economic sectors, and human development. This expansion and diversification of the economy, together with population growth, have increased, and will continue to raise the water consumption needs per capita in a context of water scarcity and limited renewable freshwater resources.

The country is 80% arid and semi-arid lands (ASALs), which are open to land degradation, amidst unsustainable water resource consumption patterns. Adverse climate change impacts, such as droughts, delayed onset of rain seasons, insufficient rains; human-induced land use change, especially conversion of water catchment areas for agriculture and settlement, land and forest degradation and erosion continue to exacerbate the water scarcity. There is need for Kenya to increase water harvesting and storage investments and capacity, in order to relieve immediate pressure on water resources.

Kenya continues to experience over-reliance on surface water despite potential for sustainable utilization of ground water in addition to harvesting and storage of rainwater. In addition to lack of updated hydrological data on groundwater resources for up scaling utilization, the ground water exploitation (drilling) services have been expensive. There is need to put in place standards to ensure higher levels of professionalism by practitioners involved in development and abstraction of ground water resources.

2.4.2 Institutional Management of Water Resources

While Kenya has been categorized into basin areas, the existing Catchment Management Strategies have not been harmonized into basin management plans for the country, and as a consequence, the development of basin management plans and likewise subsequent sub-catchment plans has not been comprehensively integrated at basin level. In this context, the role of Basin Water Resource Committees (BWRCs), established under the 2016 Water Act, will be instrumental in enhancing basin-level water resources governance. Currently, the Authority is preparing 6 basin plans which will be integrations of the sub catchment management plans

2.4.3 The Administration of Water Rights

The administration of water rights is guided by the development and application of the law, rules, regulations and guidelines; these include water permitting system, effluent discharge permit system, compliance and enforcement mechanisms, include development a database of permits and recording the compliance history of permit holders. Environmental impact assessment (EIA) may be required prior to issuance of permits for abstractions of falling within the scope of EIA regulations, and an Environmental Management Plan issued to mitigate against adverse effects either to the catchment, the water resource, or ecological functions.

Water rights administration will focus on equity in allocation of water resources, including enhancing the participatory role of WRUAs in making decisions on abstraction rights allocation. The needs of vulnerable members of the society must be upheld, through equitable access to water permit systems for the poor. Further, it is recognized that women play a critical role in access to water for households, and in rural parts of Kenya, limited access to improved water points means it is important to protect domestic water sources when allocating abstraction permits, taking into account quality of water, distance travelled to the water source, among other important factors.

Increasingly, there are competing water demands for increasingly scarce available water resources. This scarcity affects water balances and effective transfers (inter, intra and trans-boundary, inter county), and as such the water resource allocation criteria must be clearly set out, and it is important that the Resource Quality Objectives (RQOs) are clearly stipulated. The challenge of illegal abstractions of water has steadily risen, as regulatory entities continue to experience limited enforcement capacity.

2.4.4 Water Quality and Pollution Control

Water quality and pollution control is the prevention and mitigation of deleterious effects of water resource contamination. Kenya faces pollution challenges not only from conventional pollutants but also emerging contaminants such as microplastics, endocrine disrupting compounds (EDCs) and pharmaceutically active compounds (PhACs). The challenges are driven by many factors including rapid population growth, proliferation of unplanned urban and informal settlements with poor sanitation facilities, poor waste management systems, increasing industrialization and poor agricultural practices. The situation is further exacerbated by the utilization of inefficient wastewater treatment technologies in various sectors. Consequently, both surface and groundwater are continuously facing risk of contamination. To address the challenges, several environmental

protection instruments are applied including effluent discharge control permits, polluter pays and precautionary principles, Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA) and Environmental Audit (EA). It is critical that effective enforcement strategies are put in place to enhance compliance to permit and Environmental Management Plan conditions. Furthermore, to improve water quality and control pollution, regular monitoring and assessment of water resources quality is imperative. Moreover, development and implementation of water resource quality objectives would go along way in ensuring sustainable water resources management.

2.4.5 Water Resource Quality Surveillance and Monitoring

The country continues to experience limited or periodic surveillance and monitoring of water resources, attributed in part to insufficient funding. The development of telemetric monitoring network systems has been poor and at the same time data and information management is weak and uncoordinated. Information generation and sharing is therefore greatly hampered. Water quality assessment and monitoring is also irregular, and continues to utilize unsustainable approaches, without community involvement. The assessment and monitoring of surface and groundwater resources in the country is not carried out regularly.

Given the above prevailing water resources management context in the country, the authority's contribution will be to:

1. Put in place and implement mechanisms to ensure that water catchment areas, and water resources are protected, conserved and managed for improved livelihoods for Kenyans in an integrated, sustainable and participatory manner.
2. Develop effective, efficient and reliable water resources information acquisition, management and sharing systems
3. Put in a place a centralized national ground water resources data and information management including technically and commercially viable options for sustainable utilization
4. Strengthen ground water assessment, research and development, and monitoring
5. Enhance the capacity of relevant institutions on compliance and enforcement with water resources management regulations, rules and standards, including to address pollution of water resources
6. Put in place clearly stipulated Resource Quality Objectives for the various categories of water resources

7. Provide financial and technical means to enhance the capacities of the various national, intergovernmental, county, cross-county, and community-level water resource management institutions
8. Enhance the application of environmental assessment and management tools to make decisions for intensive, and high risk types of water abstractions, and for compliance and enforcement of pollution standards
9. Put in place mechanisms and programs to enhance conservation and protection of water resources and riparian areas outside protected areas, and to promote sustainable livelihood activities by riparian-area landowners
10. Ensure that administration of water rights, and permits is undertaken within sustainable limits of the concerned water resource, and apportioned equitably relative to other uses, and with participation of community-level institutions
11. Put in place systems to ensure that the allocation of water abstraction rights is undertaken equitably, taking into account the interests of local community members, for domestic, agricultural, ecological and other uses
12. Ensure that water resources planning, water rights allocation and compliance to regulation and to enhance access to water rights for all water users including maintenance of reserve and ecological requirements/ functions.

2.4.6 Stakeholder Participation in Water Resource Management

Water Resources Functions between National and County Governments

In the current Constitutional dispensation, some of the Authority's functions are exclusive to the National Government while others are concurrent. The functions currently performed by WRA are as allocated to the National Government under Part I to the Fourth Schedule of the Constitution while those to be undertaken by the County Governments are under Part II of the Fourth Schedule.

Water Resources Management Functions allocated to the National Government

Some of the functions currently performed by WRA as allocated to the National Government under Part I of the Fourth Schedule to the Constitution include the following:

- a) Use of International Waters and water resources;
- b) National statistics and data;
- d) Protection of the environment and natural resources with a view to establishing a durable and sustainable system of development, including in particular, water protection, securing sufficient residual water, hydraulic engineering and the safety of dams;
- e) Disaster management;
- f) Capacity building and offering technical assistance to the Counties.

Water Resources Management Functions devolved to the County Governments

Functions and mandates of the Authority that have been devolved to the County Governments under Part II of the Fourth Schedule are:

- i) Implementation of specific national government policies on natural resources and environmental conservation including:
 - a) Soil and water conservation; and
 - b) Forestry.
- ii) County Public works and services including:
 - a) Storm water management in built up areas; and
 - b) Water and sanitation services.

WRUAs, County Governments and the Basin Water Resources Committees

Basin Water Resources Committees are established under section 25 of the Water Act 2016 to manage water resources within a respective basin area, and shall operate under the regulations made by the Water Resources Authority. The BWRCs shall consist of a maximum of seven members appointed by the Authority in consultation with the Cabinet Secretary, and a representative of each County Government whose area falls within the designated basin area. The Basin Water Resources Committees have the responsibility to facilitate the formation and operation of WRUAs.

WRA Services to the County Governments

Complimentary to the obligations and mandates placed upon the Authority by law, WRA will provide the following crucial water resources information to the County Governments that are sharing a common River Basin or aquifer to enable harmonious resource management and development approach;

- Water Resources availability, use, allocation and viable options for Water resources investments planning to meet any water deficit for the Counties developmental needs;
- Reports on the assessment of water resources to inform the County's water resources investments decision making;
- Share the development and management plans as contained in the National Water Master Plan 2030 and jointly prepare an implementation matrix for each relevant plan;
- Apportion the water resources equitably among the different users and uses sharing the same water body. Environmental sustainability will be a fundamental consideration during the water allocation process. This will ensure preservation of residual flow as provided for in the Constitution.
- Annual Water Resources Reports will be availed to the County Governments if required.
- Information will also be disseminated through the catchment management forums where the County Governments sharing a common water body will be members.

Community

There is need for Kenya to enhance measures to arrest catchment degradation, and enhance weak riparian area protection in non-protected areas. This will be reinforced by putting in place

integrated land use and water resources management planning, alongside water resources basin planning, which are mainstreamed into the functions of changing institutional arrangements at national, county, cross-county, and community level.

Partnerships

It is imperative to take steps to enhance the role of various institutions in development of sub-catchment management plans, and implementation of sustainable livelihoods models for riparian communities. The institutions that are crucial for this role include: Water Resources Users Associations (WRUAs), Community Forests Associations (CFAs), and Irrigation Water Users Associations (IWUAs), county governments, and BWRCs state departments, development partners, research/education institutions,

2.5 Contribution to Other Sectors

Water Resources Authority plays a direct or indirect role in other related areas of the economy which include; Energy, Agriculture, Industrialization, Health, Education and training, and Tourism.

Energy: Biomass energy contributes over 80% of Kenya's national energy needs. This scenario is expected to continue into the foreseeable future. An analysis of supply and demand of wood fuel shows that the country is currently unable to meet its wood fuel requirements. By the year 2020, annual wood fuel demand will be about 53 million tonnes while the supply would only be about 20 million tonnes, occasioning an annual deficit of 33 million tonnes. Water Resources Authority has a role in development of technologies for management of water resources for improved water supply for power generation through development of technologies for conservation and protection of water resources.

Agriculture: Agriculture is the backbone of Kenya's economy. It contributes approximately 25% of the Gross Domestic Product (GDP), and employs 75% of the national labour force. Approximately 80% of the Kenyan population lives in rural areas and makes a living directly or indirectly from agriculture. WRA plays a major role in equitable allocation and apportionment of available water resources. Similarly, WRA's role in securing water resources in terms of quantity and quality is key in supporting agricultural development.

Industrialization: The structural changes in attaining growth rates demanded by various government policies on poverty reduction, MDGs, and Vision 2030 require that ways be found to achieve sustainable industrial development. Small and Medium Enterprises (SMEs) have been recognized in Vision 2030 as the engine to industrialization. WRA plays a crucial role in development and dissemination of appropriate technologies for harvesting and harnessing water resources for enterprise creation that support growth of water-based industries and related SMEs.

Health: Majority of Kenyans living in rural, and to some extent urban areas, depend on medicinal plants for treating various ailments. With increasing exploitation of medicinal plants, demand for scientific information for their sustainable management and utilization is rising. WRA protects and

secures water resources from adverse impacts of pollution thereby reducing the incidences of waterborne diseases.

Education and Training: New information and knowledge in water resources availability and demand is key for planning and decision by various sectors of the economy. Information and data generated by WRA will go a long way in education and awareness creation to help make proper decisions and plan well for investments. This information is particularly important for the investors, county governments and academia. WRA has continued and will continue to share with universities and other training institutions to support teaching and knowledge-building in water resources and allied sciences. WRA provides relevant information through training; student internships and attachments; exchange training programmes; curriculum development; and student supervision.

Tourism: The tourism sector, which largely depends on wildlife, accounts for 10% of Kenya's GDP and 9% of total formal employment. Due to its numerous linkages to other sectors, tourism has great potential to generate employment and wealth. WRA contributes towards promotion of tourism by provision of for fora shared resources management and utilization through the WRUAs where the main agenda is conservation and protection of important ecosystems and other natural forests and woodlands which are habitats for wildlife and other biodiversity. The Institute also participates in building capacity of WRUAs which play a central role in conservation and promotion of eco-tourism activities.

CHAPTER THREE: SITUATIONAL ANALYSIS OF THE WATER RESOURCES AUTHORITY

3.1 Review of WRA Strategic Plan 2012 – 2017

The current WRA Strategic Plan 2012-2017, has come to a close. Stock-taking and evaluation of the achievements was done by the relevant officers from the regions and headquarters. During the implementation of the WRA Strategic Plan 2012-2017, new legal and institutional changes have emerged at the national level, which include among others; the implementation of the devolved system of government – although the Constitution was promulgated in 2010, its implementation came into force after the 11th Parliament of the government of Kenya was elected in March 2013. Although water resources are vested in the national Government, there are administrative as well as development reforms at county level which are affecting the functions of WRA, these could directly or indirectly affect the performance of the Authority and need to be factored in the new Strategic Plan for the period 2017-2022; the launch of the National Water Master Plan (2030) in 2014 which has baselines and set targets which are relevant for guiding WRA’s new Strategic Plan; the Kenya Government’s Second Medium Term Plan (MTP-II) also lapsed in 2017, and as the country prepares for the third MTP under Vision 2030, there is need to take stock of WRA’s roles, contributions and to plan for the future through the 2018- 2022 Strategic Plan; the lapse of the Millennium Development Goals (MDGs) and the signing of the Sustainable Development Goals (SDGs) in September 2015, which has ushered in new international obligations, including focus on energy, water resources and climate change, and which have bearing on WRA’s roles and responsibilities and finally the enactment of Water Act No.43 of 2016, which has created new institutions and reformed others including setting guidelines for water resources management. This means a new Strategic Plan for WRA relevant to the current Water Act 2016 is necessary.

S.No	Strategic Objective	% Implementation	Variance	
1.	Strengthen water resources information gathering and management systems			
2.	Improve water resources planning, allocation and compliance to regulation			
3.	Improve the protection of water resources			
4.	Strengthen stakeholder collaboration in water resources management			
5.	Build institutional capacity and improve working environment			
6.	Enhance resource mobilization and effective use of the finances			

The general overall performance of WRMA in the strategic Plan 2012 – 2017 can be rated as being satisfactory, with over achievement in some areas, while others performing below par. Highlights of the performance over the five year period are presented below:

3.1.1 Strategic objective 1: Strengthen water resources information gathering and management systems

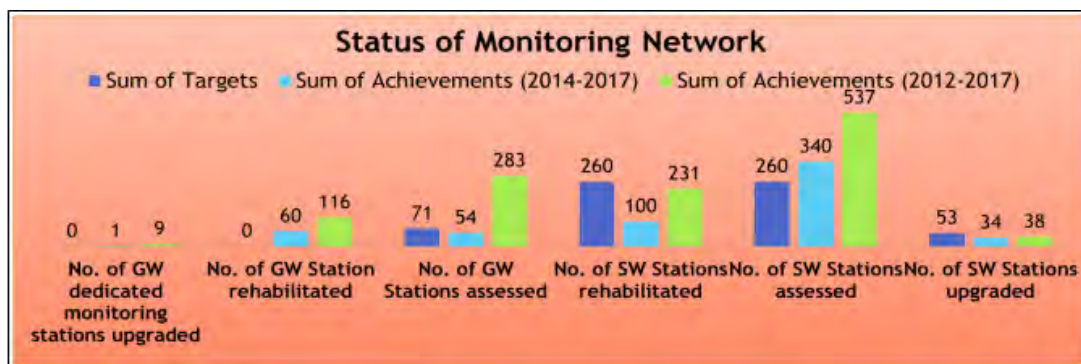
The information gathering in the Authority was envisaged to be done under monitoring programmes, assessment of water resources through carrying out studies and also establishment of management systems for the data to be stored, analysed and disseminated.

3.1.1.1 Monitoring of water resources

The strategy of upgrading the monitoring network as per the CMSes was realized by the number of monitoring stations established, rehabilitated or upgraded.

Surface water monitoring

For monitoring of surface water resources the stations as per the strategic plan 2012-2017 are as tabulated below.



Groundwater monitoring

The number of groundwater stations realized within the Strategic Plan period between 2012 and 2017 were largely composed of production boreholes that were monitored after an agreement was made with the owners. These boreholes were not ideal for monitoring purposes since they did not adequately fulfil the monitoring objectives of the Authority. These are as tabulated in table 3.2. The Authority has embarked on establishing dedicated monitoring boreholes. The dedicated monitoring established by the authority wells are currently 36 in number. 11 have been drilled while 25 were planned for construction within the period.

Water quality and pollution control monitoring

Water quality monitoring was done in all groundwater. However, monitoring network experienced quite a number of challenges. Some of these challenges included vandalism, destruction by natural occurrences such as floods, gaps on data remittances due to data collection challenges such as non-payment to gauge readers, inappropriate equipment and techniques and

low capacities. During this period a number of attempts were also done to modernize monitoring network including automation and real time data transmission. Procurement of modern equipment has also been done to a great extent.

In the case of groundwater there were limited funds to enable further infrastructural development of the dedicated groundwater monitoring network. Besides lack of a budget to enable data collection has constrained groundwater data collection.

Table 3.2:

Region	Strategic	Major	Minor/Poor	Special	Total	% Operational
RVCA	16	1	21	5	43	89
LVNCA	0	6	7	0	13	100
LVSCA	2	4	5	0	11	100
ACA	4	20	11	3	40	98
TCA	7	0	4	0	11	26.8
ENNCA	5	3	4	0	12	75
Total					130	

3.1.1.2 Water resources assessments

During the period under review groundwater and or surface water resources assessments/studies were done for the following area

1. Turkana and Marsabit Counties
2. Isiolo County
3. Garissa County
4. Wajir County

Part of the assessments involved drilling of exploratory boreholes. During the period under review, 16 No. Boreholes were drilled in Turkana, Marsabit and Garissa counties to provide data on groundwater potential in the areas.

3.1.1.3 Water resources information management system

The water resources information is meant to store and enable analysis of collated data. Under groundwater a borehole database system was developed. Under the Kenya Water Security and Climate Resilience Project a water resources information system has been launched.

3.1.2 Strategic objective 2: Improve water resources planning, allocation and compliance to regulation

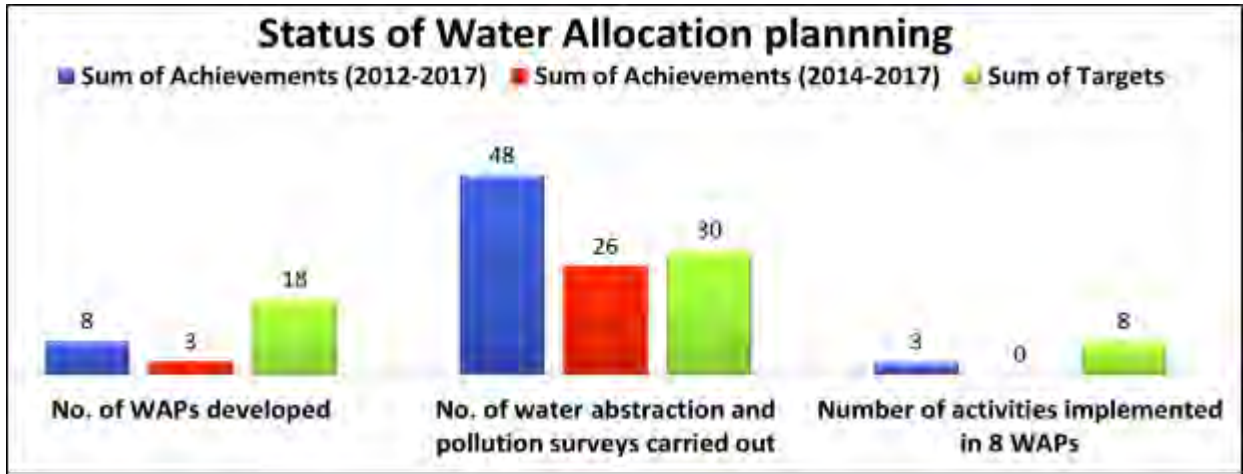


Figure 1: Status of Water Allocation Planning

WRMA generally performed below par with regard to improving tools for water resources planning and allocation over the period 2012-2017 with only 8No. WAPs developed against the set target of 18No. WAPs. Nevertheless, the number of water abstraction and pollution surveys surpassed set targets, which attributed to effectiveness of RRIs. The challenges that faced WRMA during this period under review on water allocation planning included high cost and time consuming abstraction and pollution survey exercises, which are prerequisite to formulation of WAPs. Other challenges included interferences from other factors such as recurrent droughts and floods that prevented effective data collection efforts. Effective stakeholder participation was also hampered by low level of resources availability.

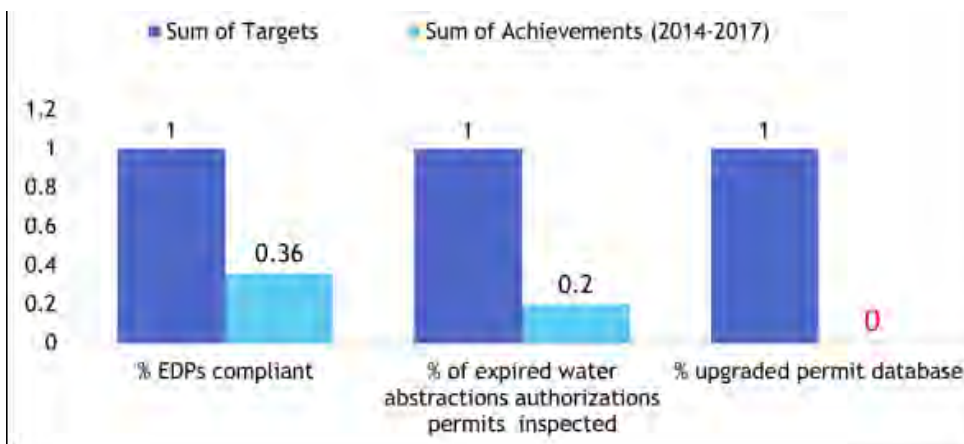


Figure 2: Status of Water Resources Allocation Systems & Compliance to Regulation

With regard to improving water resources allocation systems and compliance to water resources management regulation, the period 2014-2017 registered no success on upgrading permit database, little success with regard to inspections of expired water abstractions, authorizations and permits. However, development of database system was done though not completed. A number of data was collected and populated in the database. Further development of a fully functional Water Resources Information Systems (WRIMS) is required. Compliance has been a big issue in that many of the existing water users have not been registered with WRMA meaning that they are illegally abstracting water. Similarly, many of the effluent discharges have not also been registered resulting in high pollution levels.

3.1.3 Strategic Objective 3: Improve the protection of water resources

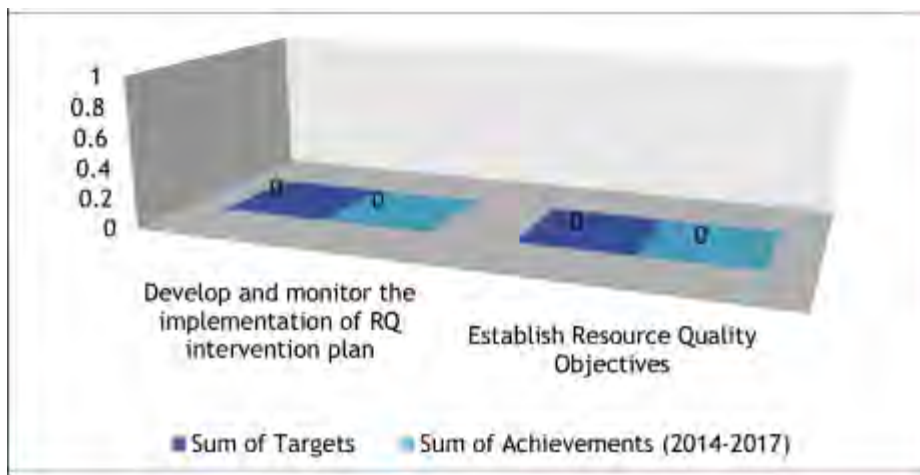


Figure 3: Protection of Water Resources from Pollution

WRMA did not register any success with regard to protection of water resources from pollution through developing and monitoring implementation of Resource Quality intervention plan, since the Resource Quality Objectives were not established. This could be attributed to limited technical knowledge on establishment of RQOs, as well as inadequate finances to facilitate development of the same.

3.1.4 Strategic Objective 4: Strengthen stakeholder collaboration in water resources management



Figure 4: Status of WRUA Engagement

During this period under review, WRMA managed to delineate over 1237 sub-catchment areas in the whole country which are WRUA coverage areas. Out of this 670 WRUAs were formed, 350 SCMPs developed and 200 SCMPs are under implementation. Strengthening of WRUAs to undertake water resources management activities was evident over the five year period as more SCMPs were developed and implemented as compared to WRUA formation. Financing to WRUAs was also done from WSTF, WRA (world bank, treasury) partners and other stakeholders. At the time of this review, WRUAs had received to the tune of KES 1 Billion from various funding sources direct funding and technical assistance

3.1.5 Strategic Objective 5: Build institutional capacity and improve working environment



Figure 5: Construction of Offices

Attempts to improve working environment by providing adequate working spaces resulted in construction of more offices than was planned for. However, most of the offices were constructed on locations other than those that had been identified in the SP 2012-2017 since they were considered as priority.

3.1.6 Strategic Objective 6: Enhance resource mobilization and effective use of the finances



Figure 6: Revenue Collection

WRMA has operated under approved Strategic Plan for period 2012 – 2017, to deliver the various programmes set out in the Strategic Plan. It was estimated that the Authority required approximately **Kshs. 5.5 Billion** over this period. For the **FY 2016/2017** the Authority proposed a total budget estimate of **Kshs.2.1 Billion**. However the amount of funds allocated to the Authority as per Printed Estimates for FY 2016/2017 is **Kshs. 505 Million**, with **Kshs.398 Million** being for development/capital projects’ funds and **Kshs.107 Million** for recurrent grant. Total funds expected from internally generated revenue are **Kshs.500 Million**, thus leaving in a budgetary shortfall of **Kshs.1.1 Billion**.

The current financial status of WRA has led to budget deficits over the years which has accumulated pending bills to the tune of about **Kshs 3 Billion** (*analysis attached in Annex I*) and which needs to be cleared to make the authority become financially sound. The current financial needs for the Authority will therefore amount to **Ksh 4.1 Billion** for the FY 2016/2017 comprising the pending bills and budget shortfall.

Revenue collection has remained relatively steady with an average of about KES 700 Million annually over the five year period.

3.2.4 HUMAN RESOURCES ANALYSIS

Current Staffing Profile as per the HR Department.

Table 3. Current Establishment for WRA per Regions and Sub Regions

Region	Office	Number	Staff Totals	
Nairobi Headquarters	Head Office	104	104	
Tana Catchment Area	Embu RO	27	100	
	Meru SRO	13		
	Kerugoya SRO	14		
	Murang'a SRO	22		
	Kitui SRO	15		
	Garissa SRO	9		
	Lamu Satellite	2		
Lake Victoria North Catchment Area	Kakamega RO	32	82	
	Siaya SRO	12		
	Kitale SRO	19		
	Eldoret SRO	20		
Lake Victoria South Catchment Area	Kisumu RO	30	94	
	Kisumu SRO	23		
	Kisii SRO	20		
	Kericho SRO	21		
Athi Catchment area	Machakos RO	29	144	
	Loitoktok SRO	19		
	Kibwezi SRO	22		
	Mombasa SRO	17		
	Malindi Satellite	2		
	Kiambu SRO	21		
	Nairobi SRO	32		
Rift Valley Catchment Area	Nakuru RO	31	126	
	Naivasha SRO	35		
	Kabarnet SRO	20		
	Narok SRO	15		
	Kapenguria	17		
	Lodwar SRO	8		
Ewaso Ng'iro North Catchment Area	Nanyuki RO	34	95	
	Nanyuki SRO	19		
	Isiolo SRO	15		
	Rumuruti SRO	14		
	Marsabit SRO	8		
	Mandera SRO	5		
Total			756	

Marsabit (8), Mandera (5) and Lodwar (8) SROs have the lowest number of staff and need more staff. Lamu (2) and Malindi (2) satellite offices have low numbers of staff, but the nature of work at the offices does not require large numbers of staff.

Table 4 Summary Staffing by Categories

Staff in category	Total Number	% total
Technical Staff	290	38
Administration and support staff	466	62
Total	756	100

3.2.6 FINANCIAL MANAGEMENT

Financial Management Systems: This is as summarized in figures 1 and 2 below:

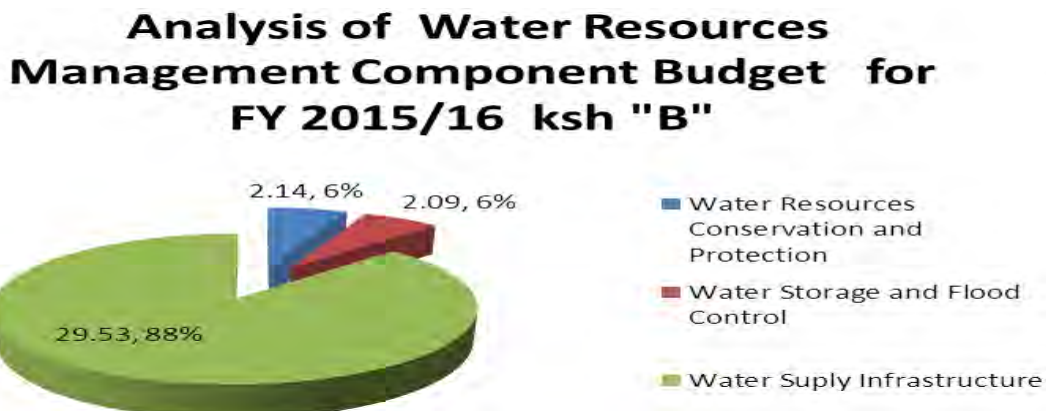


Figure 1: Water Sector Allocations

Analys of GOK Grant to WRMA out of the Ministry's budget for Water Resources for FY 2015/16 Kshs "B"

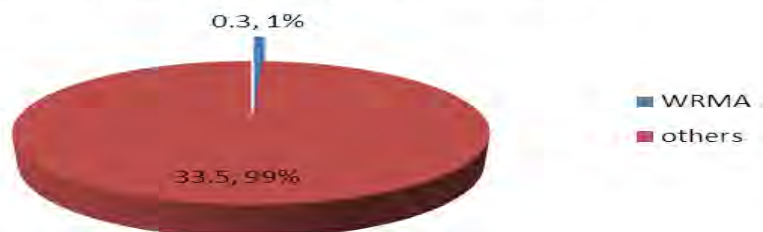


Figure 2: Water Resources

3.3 Review of WRA SWOT Using PESTLEG

In formulating this Strategic Plan an assessment of both internal and external operating environment was made. This involved assessing internal strengths and weaknesses to ascertain the capabilities of WRA, as well as assessing external opportunities and threats in the political, economic, social, technological, legal, environmental and governance setting. This was undertaken to ensure that WRA enhances its internal strengths, maximizes on opportunities, manages the weaknesses and mitigates factors that pose a threat to achievement of its planned programmes and initiatives. An analysis of crosscutting institutional issues that affect WRA’s effectiveness in realizing its mission was also carried out. This analysis included customer and stakeholder value proposition. A summary of the Institute’s Strengths, Weaknesses, Opportunities and Threats (SWOT) and Political, Economic, Social, Technological, Legislative, Environmental and Governance (PESTLEG) assessment is presented in Table 5 below.

Table 5: Assessment of WRA internal and external operating environment using SWOT analysis

No	Item	Strength	Weakness	Opportunities	Threats
1.	Political	Autonomy national and international support Strong	Weak linkage between politics and science	Political goodwill from parent ministry Strong environmental Advocacy Goodwill from global partners Favorable global political agenda Existing East Africa Community block	Uncertain political environment Frequent and unpredictable restructuring of public institutions Insecurity due to political instability in the neighboring countries for trans boundary water resources management
2.	Economic	Increasing financial support from development partners and government Existence of enterprise and resource mobilization units	Weak linkage of WRA products to SMEs and industries Weak capacity in production and marketing of WRA products and services Inadequate resource Allocation	Increasing local water demand and uses Increased interest in water circular economy on grey, green and blue water utilization Increased funding from devolved governments increased availability of funds for green climate adaptation and resilience and also payment for ecosystems services	Scarcity of land Catchment encroachments and degradation. Competition from alternative land use practices High pollution levels
3.	Social	Acceptance of regulation of the management and use of water resources	Inadequate capacity to implement partnerships Low corporate	Water resources as a provider of employment Advocacy of Renewable and alternative water sources and efficient water use technologies	Competition with other land uses High poverty levels Poor reception on water as being God given Insecure land Tenure

		by Communities and water users Strong Partnership with Stakeholders WRA is recognized as a regulator in WRM increased participation of communities and stakeholders under WRUA concept	image Weak laws and regulations Inadequate guidelines and procedures Inadequate gender mainstreaming in water resources management		
4.	Technological	Capacity to generate water resources data and information Long term And costly results of water resources management efforts Availability of technologies & information Regional leader in water resources management and regulation	Inadequate capacity for dissemination of water resources situation information Inadequate information on water resources status weak water resources information management system presence of data gaps Inadequate information and knowledge Inadequate policy outputs to influence political decisions Lack of land for Water resources development	Linkages with partners Favorable GoK IT policy Increasing demand for water regulation and management Existing opportunities in satellite cities (Konza project, Lamu port, Isiolo)	Low IT capacity among stakeholders Loss of staff to other Institutions and through natural attritions Costly emerging technological advances which changes with time.
5.	Legislative	Active contribution to formulation	Weak policy formulation and	Vision 2030 Global support and advocacy	Inadequate and weak Water resources utilization policies Conflict between regulations and

		and legislation of government policies transition period can be used to review and validate regulation, procedures and guidelines in WRM	implementation framework	Favorable constitutional dispensation, legislation and Rules	Constitution e.g. EMCA Conflicting policies and laws fragmentation of water resources regulation and management in different government agencies
6.	Environmental	Increased understanding and appreciation by stakeholders, participation on the need for environmental conservation	Inadequate environmental data e.g. climate change and water resources in general	Favorable global trend for environmental conservation Increased awareness on climate change impacts on water resources Private sector becoming a key player Increasing use of Alternative water sources and types for mitigation and adaptation to climate change	High cost of water resources regulation and management Increased pollution and pollutants Weak enforcement of environmental Legislation
7.	Governance	Strong governance systems in place Strong partnership Arrangements	Weak organizational structure for efficient regulation, management and dissemination	Emerging regional collaboration initiatives Formation of watershed management models e.g. setting up watershed management programmes, projects, funds and schemes	Corruption in public sector Weak enforcement of relevant policies and laws

3.4 Challenges faced and Emerging Issues

3.4.1 Analysis of Customer and Stakeholder Needs and Expectation

A review of customer and stakeholder behavior, value needs, causes of resistance and their influence (Table 6) was used in aligning the strategic objectives to meet the expectation of WRA’s clients as summarized in the table below.

Table 6 Summary of Customer and Stakeholder Needs and Expectations

Customer/stakeholder group	Customers	Behavior WRA wants to see from customers/ stakeholders	Customer/stakeholder needs (value they are asking for)	Resistance Issues	Customer/stakeholder influence
Primary	Ministry of water and sanitation NEMA Kenya Forest Service Kenya Wildlife Service Farmers and Communities National Irrigation Board KENGEN Institutions of higher learning Ministry of Environment, Forestry and Natural Resources Kenya Water Towers Agency Community Forest Associations Regional Development Authorities County Governments WRA Employees	Appreciate WRA technologies, services and products Do business with WRA Give feedback regarding products and services Market and promote WRA ‘s technologies, products and services Commitment to service delivery Integrity Innovation Team work Courtesy Commitment to implementation of WRA technologies	Quality technologies, products and services Quality and timeliness of delivery of technologies, products and services Continuous improvement Innovative and Appropriate technologies, products and services Efficient and effective service delivery Outreach training Favorable terms and conditions of service Clear job descriptions Motivation	Competition for Resources Resistance to change Poor perception regarding WRA mandate Vested interests attached conditionality Unwillingness to cooperate Timely reporting/service delivery Resource control and sharing	Uptake/adoption of technologies, products and services Perception Type of technologies, products and services offered Image and how we conduct business Institutional change Policy, strategies and operations Resource allocation Ownership of resources Wider national coverage Diverse needs Financial strength Performance
Secondary	National government agencies,	Timely payment for goods and services	Clear terms of engagement	Low uptake of professional advice	Institutional governance

	<p>Training and research institutions Non-Governmental Institutions Primary and Secondary Schools Ministry of Energy and Petroleum Kenya Energy Generation Co. Ltd (KENGEN) Banking Sector Lake Victoria Basin Commission (LVBC) United Nations Agencies National Museums of Kenya Large farms/ Estates Private Companies</p>	<p>Increased demand for Water resources Expressed satisfaction with produced products and services offered Active agents of dissemination Commitment to implementation of management prescription Cooperation</p>	<p>Complementarity Competitive prices Timely payment for goods and services Internship opportunities/ students attachments Up to date and accurate information Value for money Partnership and collaboration Access to management guidelines Access to high quality Water resources Appropriately packaged information Outreach training</p>		<p>Implementation of WRA activities Visibility of the Institute Marketing WRA products and services Increased adoption of WRA technologies</p>
Others	<p>Development partners Regulatory bodies National Treasury Suppliers Board of Directors (BoD) CBOs/NGOs</p>	<p>Active participation in WRA programmes Regular feedback Timely delivery of quality goods and services Timely disbursement of funds Advice on how to improve WRA technologies, products and services Provision of resources and equipment Partnership and collaborations Appreciation</p>	<p>Good governance, transparency and accountability Professionalism Innovative and Appropriate technologies Efficient and effective service delivery Value addition in management protocols Value for money Up to date and accurate information Timely implementation of activities</p>	<p>Vested interest Low uptake of professional advice</p>	<p>Institutional governance Policy, strategies and operations Resource allocation from the exchequer Environmental management WRA image Marketing WRA products and services Increased adoption of WRA technologies Contribute and develop policies Resource allocation Implementation governance</p>

3.5 New Mandate in line with the Water Act 2016

The Water Act (CAP 372) was repealed by Water Act, 2002. In order to align provisions of the Constitution of Kenya 2010 to provisions of legislation, it became necessary to develop the Water Act 2016. The Constitution of Kenya 2010 delineates the functions of the national and county governments. Water resource management is a function of the national government while water service provision is a function of the county governments.

The Water Act 2016 establishes a Water Resources Authority which is a regulatory authority mandated to perform the following functions:

- (a) formulate and enforce standards, procedures and Regulations for the management and use of water resources and flood mitigation;
- (b) regulate the management and use of water resources;
- (c) enforce Regulations made under this Act;
- (d) Receive water permit applications for water abstraction, water use and recharge and determine, issue, vary water permits; and enforce the conditions of those permits;

This mandate assigned WRMA the regulatory role of ensuring compliance through inspection or monitoring and enforcement of permit conditions. WRMA therefore ensured compliance to permit conditions using its staff and sometimes through designated agents as provided for by subsidiary legislations. In ensuring compliance, the Authority had powers with the consent of the Attorney-General given under the Criminal Procedure Code, to undertake the prosecution of any offences arising under the Act or in connection with the performance of its other functions.

- (e) Determine and set permit and water use fees; WRA was mandated to develop water use charges that were to be applied for any water resource use based on the guidelines in the NWRMS
- (f) collect water permit fees and water use charges;
- (g) provide information and advice to the Cabinet Secretary for formulation of policy on national water resource management, water storage and flood control strategies;
- (h) Coordinate with other regional, national and international bodies for the better regulation of the management and use of water resources; WRA was required to ensure that it used participatory and consultative approaches and partnerships in ensuring better regulation and management of water resources in Kenya. Consequently, WRMA secured partnerships from public, private and civil society organizations in management of water resources.
- (i) Advise the Cabinet Secretary generally on the management and use of water resources. WRA's role in advising the Cabinet Secretary in aspects of water resources was based on water resources data and information collected for achievement of Kenya's development plans, strengthen existing WR institutional arrangements, and facilitate relevant global trends and emerging issues.

3.6 Role of WRA in National Development

The Water Resources Authority (WRA) is the lead agency for water resources management in Kenya whose mission is; “to effectively regulate and manage water resources for sustainable development”. WRA’s overall development objective is to ensure rational, effective management of the water resources and equitable access for the various competing needs. To achieve this, WRA adopts the principles of Integrated Water Resources Management (IWRM), to coordinate management of water resources from top policy level and on the ground. WRA operates in an environment where a number of stakeholders from other government institutions, the general public and private partners are directly or indirectly involved in activities which affect water resources. The functions of WRA are executed through its 6 regional and 26 sub-regional offices.

Water Resources Authority (WRA) plays the following roles in national development:

- **Regulation**
The Water Resources Authority sustainably and equitably allocates water resources among the various competing needs. WRA also requires that stakeholders are involved in the process. The “water use permit” tool to carry’s out this function.
- **Protection**
The Water Resources Authority controls pollution and improves water quality in the country’s water bodies. This involves integrating land use activities and human activities into WRA Water Quality control programs.
- **Dissemination**
The Authority collects all information on water resources, analyses, stores and disseminates it. This information is critical for water allocation, water resources investment decision making and modelling to enact scenarios to better understand the impact of climate change in future.
- **Climate Change Adaptation.** The Authority undertakes climate actions in terms of mitigation and adaptation to minimizing the effects of global warming and climate change.

CHAPTER FOUR: STRATEGIC DIRECTION OF WATER RESOURCES AUTHORITY

4.1 Corporate Strategic Objective

The authority will promote an inclusive and integrated approach to the regulation of the management and use of water resources by ensuring measures are put in place for water quality management, catchment protection and conservation, exploration and application of appropriate technology, and monitoring and information systems. It will also promote sustainable use of water.

4.2 Water Resources Sector Country Context

Water resource means any lake, pond, swamp, marsh, stream, watercourse, estuary, aquifer, artesian basin or other body of flowing or standing water, whether above or below the ground, and includes sea water and transboundary waters within the territorial jurisdiction of Kenya. The available freshwater per capita is declining amid rising population and demands for sustainable development. The medium and high potential agro-ecological zones are critical ecosystems as water catchment areas, yet due to reliance for agricultural and other productive activities, they are continuously at risk of land use change and degradation. Adverse climate change impacts, such as droughts, delayed onset of rain seasons, insufficient rains; human-induced land use change, continue to exacerbate the water scarcity.

4.2.1 Surface water:

Kenya continues to experience over-reliance on surface water. Surface water resources are becoming increasingly scarce with respect to the growing demand. This situation is exacerbated by catchment degradation, encroachment of riparian and climate change. Besides, the quality of surface water is deteriorating due to pollution. Growing population is affecting demand

4.2.2 Groundwater:

The potential of groundwater in Kenya is underutilized. This is largely attributed to limited exploration, technological constraints and capacity for groundwater development and management. The number of groundwater professionals in the public service is low and procuring these services remains expensive. Falling groundwater levels have also led to increased pumping costs and to increased competition for this common pool resource. Besides, groundwater quality has continued to be affected by pollution. The remediation of this pollution is expensive, and it takes considerably longer to rehabilitate polluted groundwater sources. Nairobi, kabatini, lamu, eldoret,

Integrated land use and water **resource**: Groundwater and surface water use and protection is affected by land use and land use change, including degradation, and encroachment of riparian areas by incompatible land uses. This is because there are land uses that physically disturb aquifers, increase or lower groundwater levels or impede, intercept or divert groundwater flow, as well as interfere with sustainable management of riparian lands.

4.2.3 Trans-boundary water resources:

Kenya is both an upstream as well as a downstream country, and shares substantial proportion of water resources with neighbouring countries. These resources are governed by international laws and treaties which limit exploitation. This is exacerbated by weak capacity to negotiate and harness relevant opportunities on exploitation. In addition, within the country water resources endowment varies across counties. The water catchment cut across thus shared across counties making county collaboration necessary. This also necessitates the need for cross-county water transfers.

4.2.4 Water Rights:

There are competing water demands for increasingly scarce water resources. This scarcity affects water balances and effective transfers (inter, intra and trans-boundary, inter county). This has resulted in dispute and conflicts of access rights. Illegal abstractions have steadily risen, thereby challenging the quality of regulations and enforcement capacity for compliance. Issuance of water permits has faced the challenge of balancing allocation of water resource between domestic and other purposes (like commercial and industry).

4.2.5 Water Quality and Pollution Control:

There is continued pollution of water due to effluent discharge (domestic and industry), adverse land use practices. There is weak framework in surveillance and monitoring of water resources quality leading to low enforcement and compliance. Data and information management is weak and uncoordinated. Water quality assessment and monitoring is also irregular, and continues to utilize unsustainable approaches, without community involvement. The interventions to promote Innovations and best practices in recycling and re-use of water are limited too. Deployment of appropriate technology for water recycling for certain industrial uses as well as incentives for industrial ecology for private sector treatment and recycling are inadequate.

4.2.6 Surveillance and Monitoring:

The sector has weak surveillance and monitoring of water resources, largely attributed to weak system and insufficient funding. The development of telemetric monitoring network systems has been poor and at the same time data and information management is weak and uncoordinated. Information generation and sharing is therefore greatly hampered.

4.2.7 Community and stakeholder participation:

Despite measures taken to promote community participation in water resources management, the facilitation, involvement and engagement have been as desired. Inclusivity is limited with respect to involvement all interest parties in water resource management at community level, since some organized associations and professionals exclude voices of the poor and vulnerable. As a consequence, water catchment areas, riparian lands and ecologically sensitive land have continued to be degraded. The role of private sector is low and not well outlined. This impedes the participation of the private sector in water resource management.

4.2.8 Flood and Drought Mitigation Measures

Kenya has a total area of 582,646km² of which about 97% is land and the remaining 3% is water. Of the land area, approximately 490,000 km² (more than 80% of the land area) is classified as arid and semi-arid land (ASAL).

In order to avoid incidences of drought and flood impacts on Kenyan people, reserve flow and high flows in our Country should be established. It is necessary to formulate a drought and flood response plan. WRA therefore develops plans for each of the sub regions annually.

The activities include monitoring of both surface and ground water bodies to determine high flows and maintain reserve flows, water rationing programs in partnership with WRUAs and other stakeholders with an intention of prioritizing water for environmental and domestic use, water resource conflict resolution meetings, enforcement on illegal abstraction, water quality monitoring, pollution surveillance, supporting WRUAs to desilt water pans, inspection of water intake works and provision of water tanks to the most affected communities through the WRUAs.

WRA developed plans to mitigate against floods. In this regard, effective flood early warning systems, establishment of evacuation centres, development and review of integrated flood Management plans should be enhanced. On Flood mitigation, 16 flood prone have been prioritised and 5 Integrated Flood Management Plans (IFMP) development and are different stages of implementation. However, there is need to develop and implement all the remaining IFMPs. During high flows some dams overtop and breach. This impacts negatively on lives and property of downstream dwellers. It is therefore important to plan for safety management of our water structures. Inventory of dams has been prepared, however most of the dams status needs to be verified to ensure safety of the facilities

Further, a national inventory of all dams in the Country has been done though some data still needs to be verified. To minimise chances of dam failures that may cause sudden flooding, it is therefore important to plan for safety management of our water structures.

4.3 Strategic Objectives

WRA will be guided by the following strategic objectives in the execution of her mandate during the period of this strategic plan. Furthermore, and in order to achieve its mission, WRA has identified strategic initiatives and strategic actions to meet the needs of customers and stakeholders by delivering value through its products and services. Regulation of water resources management and use in WRA during the plan period (2018-2022) will address the above six thematic and development strategic objectives, indicative actions and associated results were formulated

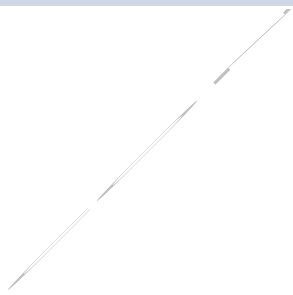
4.3.1 Strategic Objectives, Strategy Map and Implementation Matrix

The SWOT and PESTLEG matrix, customer value proposition and strategic themes formed the basis for developing the 2018 – 2022 strategic plan corporate strategic objectives. The strategic objectives for each perspective presented in form of a strategy map in four operational perspectives as shown in the **Table 7 below**. Each strategic initiative will be achieved as elaborated in the implementation matrix **Annex VI**. The framework of performance contract requirements will be aligned to the strategic objectives and initiatives for every financial year to ensure compliance with the Strategic Plan WRA Corporate implementation matrix.

Table 7 Strategic Objectives

BSC Perspective	WRA Strategic Objectives	WRA Strategic Initiatives
Internal processes	1) Strengthen water resources information gathering and management systems.	<ul style="list-style-type: none"> i. Strengthen and enhance water resources monitoring ii. Assessment of status of the existing monitoring stations (GW&SW) iii. Upgrade existing monitoring networks iv. Enhance WRIMS v. Utilize web based information on water resources vi. Data and Knowledge Management vii. Operationalization of Laboratory Information Management System (LIMS) to the other laboratories
	2) Strengthen water resources planning, allocation and compliance to regulation	<ul style="list-style-type: none"> i. Improve the tools of water resource planning and allocation ii. Enhance capacity on the use of water resources planning tools iii. Improve on the use of WR allocation systems iv. Enhance compliance with WR management regulation
	3) Improve the protection and conservation of water resources to Increase per capita water availability	<ul style="list-style-type: none"> i. Protect and restore existing freshwater ecosystems from pollution ii. Manage and regulate water use in water catchments and aquifers iii. Promote protection, rehabilitation and restoration of degraded water resources and catchments iv. Promote sustainable management of lakes and their basins v. Regulate the development of water storage structures

	4) Strengthen prevention and regulation of water related disasters	i. Regulation of water storage infrastructure ,dam safety & Flood mitigation mechanisms
Customer	5) Strengthen stakeholder collaboration in water resources management and regulation	<ul style="list-style-type: none"> i. Promote WRUAs and stakeholders participation and collective action in water resource planning, use and management ii. Promote structured arrangements with stakeholders to provide finance for water sector research and development iii. Enhance the involvement of WRUAs and other stakeholders in water resource monitoring
Organizational capacity	6) Strengthen institutional capacity and improve working environment	<ul style="list-style-type: none"> i. Improve institutional capacity to support Vision 2030 and the four agenda delivery ii. Enhance customer/stakeholder satisfaction and retention
Financial	7) Enhance resource mobilization and effective use of the finances	<ul style="list-style-type: none"> i. Enhance resource mobilization and effective use of the finances ii. Enhance linkages and partnerships iii. Enhance multi-sectoral and public-private sector participation in WRM iv. Increase revenue collection v. Improve operational efficiency



CHAPTER FIVE: REGULATION AND MANAGEMENT CAPACITY

5.1 Institutional Arrangement for Water Resources Sub-Sector in Kenya

The institutional arrangements for the water resources as a sub-sector are shown below. The linkages and main role of the main water sector players are depicted for the purposes of delineating the functions of each. The role of the BWRCs is presented thereafter for consideration in light of conflicts in relation to their mandate under the WA 2016.

Table 9. Institutional Arrangement for Water Resources Sub-Sector in Kenya

National Level	Ministry of Water & Sanitation	National Policy, Sector Development & Coordination	Water Tribunal
	Water Resources Authority	Subsidiary Regulation, Standards, Data, Permits, Inspection & Compliance	
Cross-County	Basin Water Resource Committees	Service Provision	
County level	County Government WRM initiatives	<ul style="list-style-type: none"> WRM management role of WRM implementation monitoring and reporting across sub-sectors. Advising of WRA, County Governments, WRUAs, CSOs and other key WRM players and development partners. 	
	Civil Society Organizations		
	Private Sector	Service Provision	
County level	Water Resource User Associations (565 unformed, 670 formed, 330-SCMPs, 150 financed).	<ul style="list-style-type: none"> Water Catchment conservation and protection Conflict resolution 	
	Water Abstractors/Harvesters (Irrigation Schemes, WSPs, WSBs, KenGen, Private Sector, Household) Water Users	Water Resource Users	

Table 10. Functional levels for water resources regulation and management in Kenya

No	level	Main Roles and Responsibilities	Specific Roles and Responsibility
1.	WRA Governing Board	<p>The Management Board shall be responsible for overseeing the operations of the Authority with the goal of</p> <p>(a) securing continuing improvements of performance;</p> <p>(b) protecting the long-term viability of the Authority; and</p> <p>(c) ensuring fiscal discipline of the Authority.</p>	<p>Specific powers are:</p> <p>a) Administer the assets of the Authority in such manner as best promotes the purpose for which the Authority is established;</p> <p>b) Ensure protection, where necessary, of the assets and developments of the Authority;</p> <p>c) Determine the provisions to be made for capital and recurrent expenditure and for the reserves of the Authority;</p> <p>d) Receive any grants, gifts, donations or endowments</p> <p>e) and make legitimate disbursements there from;</p> <p>f) Invest any funds of the Authority not immediately</p> <p>g) required for its purposes;</p> <p>h) Delegate any of its powers; and</p> <p>i) Undertake any activity necessary fulfilment of any of the functions Authority.</p>
2.	WRA Management HQ	<p>The general role of the WRA headquarters in the fulfilment of the mandates is strategic direction, administrative coordination, facilitation and oversight, institutional performance, developing and maintaining strategic partnerships of national importance for advancement of water resources priorities. It will also be (a) the frontline regulatory support service delivery in developing WRM and use regulations, standards, procedures and national planning frameworks ;(b) setting water use charges;(c) inter-basin water transfers;(d) strengthening Basin and sub-basin offices especially in support of BWRC and counties and (e.) serving National Government institutional clients in water resources development and safety, water allocation and use permitting , irrigation water, flood</p>	<ol style="list-style-type: none"> 1. <i>Setting policies guidelines and rules for WRM</i> 2. <i>Setting standards for WRM</i> 3. <i>Water resources allocation and apportionment control</i> final approval of all category D permit decisions, management of permits including custody of records, approval of trading of permits, 4. <i>Setting and regulating Permit and water use charges</i>: Ensures adherence to approved water use charges as per regulations. 5. Ensuring compliance to regulations and safety in the planning, development of public water resources infrastructure in Kenya. 6. Ensuring compliance to regulations and safety in the planning, development of public water resources infrastructure in Kenya. 7. Enhancing capacity of counties and stakeholders in regulating the management and use of water resources. 8. Develops and rolls out the use of the national WRM data and information system. Responsible for data acquisition, tracking and issuance to WRA Management and Board. 9. Will spearhead and ensure timely development of national, basin and sub-basin planning frameworks for all the WRM sub-sectors.

		<p>control and (f) leading in GW conservation ; (g) custody & dissemination of WRM data and information (h) ensuring regulatory compliance through inspections and enforcements.</p>	<ol style="list-style-type: none"> 10. Will be in charge of keeping updated and disseminating to other staff the emerging trends, new technologies and advancements on WRM and Use through collaboration at regional and international level. 11. Appoints and issues licenses to drillers and Water resources inspectors or agents. Tracks and reports on performance of WRIs. 12. Development and coordinating implementation of operational policies and procedures in support of the Board of WRA. 13. Will be the direct link to the Ministry, Central Government, Council of Governors and other key partners including development partners. 14. Will ensure that sufficient finances are available for WRA operations including for BWRCs as per board and management decisions made. 15. Oversight and facilitates implementation of special projects and programs in WRA. 16. Coordination, leadership and operational systems of the following <i>cross-cutting institutional functions</i> : <ul style="list-style-type: none"> • Human resources • Procurement • Financing and Accounting • Planning, Monitoring and reporting • Corporate Communications • Legal • ICT • Internal audit • Records management 17. Ensuring that WRA is compliant with all laws and statutes in its operations and to pursue key relationships to resolve outstanding compliance matters. 18. Planning and rolling out communication strategy including development, circulation of critical technical reports and advisories. Primary focal point for publicity of WRA. 19. Management of all assets of WRA.
3.	Regional Basin Level	<p>The overall role of the Basin office will be to drive and report on WRM and Use regulatory support services at basin level in the</p>	<ol style="list-style-type: none"> a) Water use allocation: Reviews, decides and issues permits based on applications from Sub-Basin offices with focus on County government, public, CSO and private sector permit requests.

		<p>following areas (a) Processing of water use permit applications allocation and permits for category all categories of applications apart from category Dthe public, CSOs, private sector etc. with exception of National government institutional clients (b) secretariat duty to BWRCs as delegated through regulations (c) conflict resolution and mediation for all WRA actions at Basin level (d) developing and implementing water allocation plans for the Basin (e.) Support and oversight of sub-basin offices in frontline regulatory support service delivery to county governments and the public on permitting, water catchment conservation and protection and pollution control (f) quality and integrity of WRM data and information at Basin level (g) technical advisory to county governments on WRM and use regulations and standards.</p>	<ul style="list-style-type: none"> b) Implementation of water allocation plans at Basin level as a secretariat duty performed on behalf of BWRC. c) Monitors and reports to HQs on permit and water use charges. Reviews and advises on water use charges to be applied. d) Collection of water permit fees and water use charges: Tracks basin level billing and enforcement actions for outstanding payments for various permit holders. Surrender, disclosure and reporting of related incomes to Head-office. e) Technical Quality Management + Strengthening: Ensures implementation of all WRM standards, guidelines, procedures and regulations at the Basin office and in support of sub-basins. Reports on operational adherence by WRA staff and agents on standards, guidelines, procedures and regulations. f) Technical WRM & Use data and information – Responsible for acquisition and uploading of all WRM sub-sector data and information for the Basin. g) Ensures availability, accessibility and timeliness of data and information for WRM sub-sectors for the basin to HQs. h) Implementation of basin planning frameworks for all the WRM sub-sectors. i) To assess and evaluate and prepare basin water resources status periodically and make information available for planning. j) Implementation of operational policies and procedures at the Basin and Sub-Basin offices. k) BWRC Strategic partner engagement: Will be the secretariat of the Basin Water Resources Committees. l) Will ensure coordinated and smooth operations of WRA actions in the Basin. m) Coordinates and supports day to day implementation of WRM development initiatives and programs financed as per WA Section 132 or through special projects. n) Will be in charge of ensuring positive Basin level consultations and engagement with Counties and key partners for purposes of better regulations for the management and use of water resources. Keeps track of county government WRM initiatives and programs and acts as the technical advisor on WRM regulations. o) implements and reports on the activities of the following cross-cutting institutional functions at Basin level : <ul style="list-style-type: none"> • Human resources • Procurement
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			<ul style="list-style-type: none"> • Financing and Accounting • Planning, Monitoring and reporting • Corporate Communications • Legal • ICT • Internal audit • Records management <p>p) Ensures day to day Basin level operations are within Kenyan laws.</p> <p>q) Prepares Basin level communication products not limited to reports and further as per guidance from HQs.</p> <p>r) Primary focal point for publicity of WRA at Basin level.</p> <p>s) Responsible for management of Basin level assets of WRA.</p>
4.	BWRC Basin Level	The powers and functions of the basin water resources committee shall be to advise the Authority and county governments, at the respective regional office,	<p>conservation, use and apportionment of water resources;</p> <p>the grant, adjustment, cancellation or variation of any permit</p> <p>protection of water resources and increasing the availability of water;</p> <p>annual reporting to the users of its services and the public on water issues and their performance within the basin area;</p> <p>collection of data, analysing and managing the information system on water resources;</p> <p>review of the basin area water resources management strategy;</p> <p>facilitation of the establishment and operations of water resource user associations;</p> <p>flood mitigation activities</p> <p>information sharing between the basin area and the Authority;</p> <p>the equitable water sharing within the basin area through water allocation plans; and</p> <p>any other matter related to the proper management of water resources</p>
5.	Sub Basin Level	Focal point in the preparation of Catchment Management Strategies (CMS) and Sub-Catchment Management Plans (SCMPs) in support of BWRCs and WRUAs. Reports on status of financing and implementation of sub-basin planning frameworks for all the WRM sub-sectors to the Basin office and key stakeholders such as County Governments.	<p>Sub Basin Office</p> <p>1.Front-line service delivery of all permitting request. Receives, records & verifies all sub-basin level permit applications. Issues permits as per Basin level</p> <p>2.Collection of water permit fees and water use charges:</p> <p>3.Implements all WRM standards, guidelines, procedures and regulations at sub-basin including at county level.</p>

		<p>Implements WRA operational policies and procedures at Sub-basin office.</p>	<p>4.Collects and avails data and information for all WSS sub-sectors at sub-basin level including water quality sampling and testing, pollution surveys, abstraction surveys, physiographic studies, water point mappings</p> <p>5.County Governments & BWRC engagement: Will be the direct link to County Governments in the sub-basin on regulatory matters WRM or as otherwise delegated by Basin office. To provide additionally required BWRC secretariat support under guidance and delegation by the Basin office.</p> <p>6.Implements Sub-Basin front-line service delivery, WRM data collection and inspections-enforcement actions in line with approved work plans and budgets.</p> <p>7.Implements special WRM programs or projects as approved by HQs.</p> <p>8.Participates in sub-basin level consultations and engagement for purposes of better regulations for the management and use of water resources. Keeps track of county government WRM initiatives and programs.</p> <p>9.Implements and reports on the activities of the following cross-cutting institutional functions at Sub-Basin office:</p> <ul style="list-style-type: none"> • Human resources • Procurement • Financing and Accounting • Planning, Monitoring and reporting • Corporate Communications • Legal • ICT • Internal audit • Records management <p>10. Ensures day to day sub-basin office operations are within Kenyan laws.</p> <p>11Prepares sub-basin level communication products not limited to reports and further as per guidance from Basin office. Primary focal point for publicity of WRA at Sub-basin level. Is in charge of public sensitization and education on regulations, special programs and WRA services.</p> <p>12. responsible for management of sub-basin office assets of Water Resources Authority.</p>
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5.2 Proposed Implementation Structure for WRM under Water Act, 2016

Table 11. The following implementation structure for WRM under the Water Act 2016 is proposed.

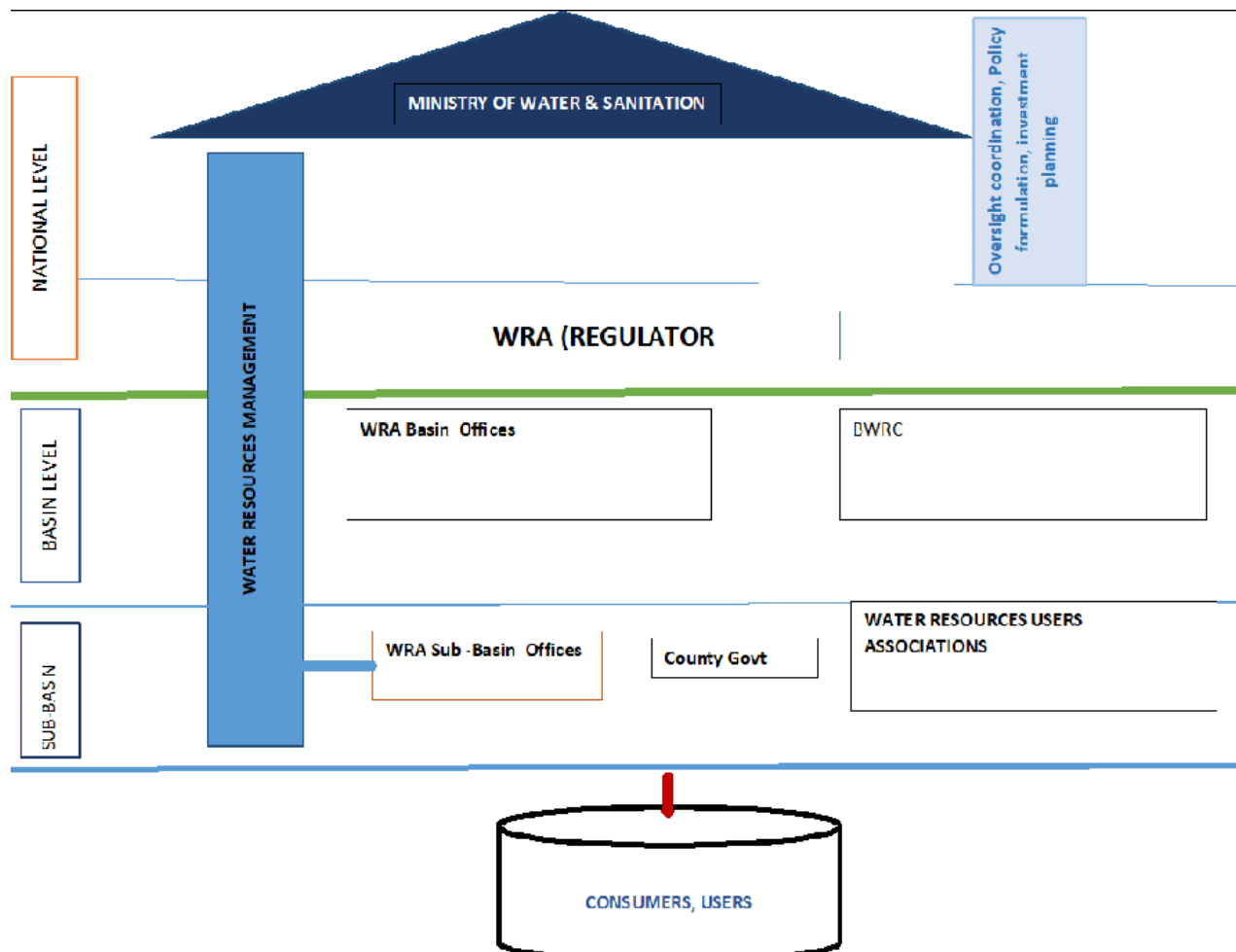


Table 12. County Representation to BWRCs

Name of BWRC & County Membership		
Athi Basin 1. Kiambu, 2. Nairobi 3. Kajiado 4. Machakos 5. Makueni, 6. Kilifi, 7. Taita Taveta, 8. Kwale, 9. Mombasa 10. Kitui	Tana Basin 1. Kirinyaga 2. Nyeri 3. Embu 4. Muranga 5. Tharaka Nithi 6. Garissa 7. Kitui 8. Tana River 9. Meru 10. Lamu	Lake Victoria South Basin 1. Kisii 2. Kisumu 3. Kericho 4. Nyamira 5. Migori 6. Homa Bay 7. Bomet 8. Nandi
Rift valley Basin 1. Nakuru 2. Turkana 3. West Pokot 4. Baringo	Lake Victoria North Basin 1. Trans Nzoia 2. Kakamega 3. Bungoma 4. Siaya	Ewaso Ng'iro Basin 1. Laikipia 2. Samburu 3. Isiolo 4. Mandera

5. Narok, 6. Nyandarua	5. Vihiga 6. Nandi 7. Uasin Gishu 8. Busia 7. Elgeyo Marakwet	5. Marsabit 6. Wajir 7. Nyandarua
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CHAPTER SIX: RESOURCES REQUIRED

6.1 Human Resource Requirements

Human Resources Management (HRM) can be defined as the practice of overseeing an organization's employees. The human resources function has many responsibilities but the key responsibility is that of protecting both the interests of the employer and the employee to ensure that there is a balance. The functions entail Human Resource Planning, Appointments, Promotions and Discipline, Payroll Management, Training and Development, Retirement Benefits Management, Succession Management, Employee Relations, Performance and Change Management as well as Staff Welfare

The optimal staffing required for WRA is 797 while WRA has 756, total of 41 new jobs are required in WRA for various cadres. At senior management level, these include the Finance and Corporate Services Manager, Supply Chain Manager, Company Secretary, Internal Audit Manager, Chief Planning and Monitoring Officer, Chief Resource Mobilization & Partnerships Officer, Human Resources and Administration Manager, Manager, Water Resources Development and Safety.

The current Community Development Department becomes the Stakeholder Engagement and Management Division while the administration Section now be the Asset Management and Security Section. The designation for Secretaries will change to office administrators as outlined in the revised Scheme of Service for Secretarial Personnel.

In the Technical Department there shall be a new division called Water Resources Development and Safety Division, while the Regional Managers become Basin Managers. The Sub-Regional Managers will become Sub -Basin Managers as outlined in the new mandate.

Table 13. Required Staff under WRA

For purposes of implementing this strategic plan, WRA will require staffing levels and capacities as follows:

CADRE	HQs	CWTLab	Basin Offices	Sub-Basin Offices	Established TOTAL
MANAGEMENT					
Chief Executive Officer	1				1
Technical Coordination Manager	1				1
Finance & Corporate Services Manager	1				1
Basin Managers			6		6
Sub Basin Managers				26	26
Total	3		6	26	35
SUPPLY CHAIN MANAGEMENT (SCM) SECTION					
Supply Chain Manager	1				1
Chief SCM Officer	2				2

CADRE	HQs	CWTLab	Basin Offices	Sub-Basin Offices	Established TOTAL
Senior SCM Officer	2				2
SCM Officer	2		6		8
SCM Assistant	2				2
Storekeeper	2		6		8
Total	11		12	0	23
LEGAL AFFAIRS SECTION					
Company Secretary	1				1
Chief Legal Officer	1				1
Senior Legal Officer	1				1
Legal Officer	1		6		7
Total	4		6	0	10
INTERNAL AUDIT AND RISK MANAGEMENT DIVISION					
Internal Audit Manager	1				1
Chief Internal Auditor	1				1
Senior Auditor	1				1
Auditor 1	1				1
Auditor 2	1				1
Audit Assistant	1				1
Total	6		0	0	6
FINANCE AND CORPORATE SERVICES DEPARTMENT					
Finance & Corporate Services Manager	1				1
FINANCE AND ACCOUNTS DIVISION					
FINANCE SECTION					
Chief Finance Officer	1				1
Senior Finance Officer	1				1
Finance Officer 1	1				1
Finance Officer 2	2				2
Finance Assistant	2				2
Total	7		0	0	7
ACCOUNTS SECTION					
Chief Accountant	2				2
Senior Accountant	1		6		7
Accountant 1				26	26
Accountant 2	2				2
Accounts Assistant	2				2
Total	7	0	6	26	39
COMMERCIAL SECTION					
Chief Revenue Officer	1				1
Senior Revenue Officer	1				1
Revenue Officer	1				1
Total	3				3

CADRE	HQs	CWTLab	Basin Offices	Sub-Basin Offices	Established TOTAL
PLANNING AND RESOURCE MOBILIZATION DIVISION					
Manager, Planning and Resource Mobilization	1				1
PLANNING SECTION					
Chief Planning & Monitoring Officer	1				1
Senior Planning & Monitoring Officer	1				1
Planning & Monitoring Officer	1				1
Total	4				4
RESOURCE MOBILIZATION SECTION					
Chief Resource Mobilization & Partnerships Officer	1				1
Senior Resource Mobilization & Partnerships Officer	1				1
Resource Mobilization & Partnerships Officer	1				1
Total	3				3
ICT SECTION					
Chief ICT Officer	1				1
Senior ICT Officer	1				1
ICT Officer 1	1		6	26	33
ICT Officer 2	1				1
ICT Assistant	1				1
Total	5		6	26	37
CORPORATE COMMUNICATIONS SECTION					
Chief Corporate Communications Officer	1				1
Senior Communication Officer	1				1
Communication Officer 1	1				1
Communication Officer 2	1				1
Communication Assistant	1				1
Total	5		0	0	5
HUMAN RESOURCES & ADMINISTRATION DIVISION					
HR & Administration Manager	1				1
HUMAN RESOURCES SECTION					
Chief Human Resources Officer	1				1
Senior Human Resources Officer	1				2
Human Resources Officer & Administration Officer I	1		6		7
Human Resources & Administration Officer II	1			26	27
Human Resources Assistant	1				2
Total	6		6	26	38
RECORDS SECTION					
Chief Records Management Officer	1				1

CADRE	HQs	CWTLab	Basin Offices	Sub-Basin Offices	Established TOTAL
Senior Records Management Officer	1				1
Records Management Officer I	2		6		34
Records Management Officer II	1			26	1
Total	5		6	26	37
OFFICE ASSISTANTS UNIT					
Senior Office Assistant	1				1
Office Assistant 1	1				1
Office Assistant 2	1	2	6	26	35
Office Assistant 3	2				2
Total	5	2	6	26	39
DRIVERS					
Chief Driver	2				2
Senior Driver	2		6		8
Driver 1	3		6	26	35
Driver 2	2			26	28
Driver 3	1				27
Total	10		12	52	74
SECRETARIES (OFFICE ADMINISTRATORS)					
Senior Assistant Office Administrator	2	1			3
Assistant Office Administrator I	2		6		9
Assistant Office Administrator II	2			26	28
Assistant Office Administrator	3				3
Total	9	1	6	26	42
ASSET MANAGEMENT & SECURITY SECTION					
Chief Officer, Asset Management & Security	1				1
Senior Officer, Asset Management & Security	1				1
Asset Management & Security Officer 1	1	1			2
Asset Management & Security Officer 2	1				1
Total	4	1	0	0	5
TECHNICAL DEPARTMENT					
WATER RESOURCES DATA AND INFORMATION DIVISION					
Manager, Data & Information Officer	1				1
Chief Data & Information Officer	1				1
Senior Data & Information Officer	1				1
Data & Information Officer GW	2				2
Data & Information Officer SW	2				2
Data & Information Officer WQ	2				2

CADRE	HQs	CWTLab	Basin Offices	Sub-Basin Offices	Established TOTAL
Data & Information Officer Permitting	2				2
Total	11		0	0	11
SURFACE WATER DIVISION					
Manager, Surface Water	1				1
Chief Hydrologist	1				1
Senior Hydrologist	2		6		8
Hydrologist I	2		6	26	38
Hydrologist II				26	26
Total	6		12	52	70
WATER RIGHTS & PERMITTING DIVISION					
Manager, Water Rights & Permitting	1				1
Chief Water Rights & Permitting Officer	1				1
Senior Water Rights & Permitting Officer	1		6		7
Water Rights & Permitting Officer	1			26	27
Water Rights & Permitting Assistant			6	26	32
Revenue Officer				26	26
Total	4		12	78	94
WATER RESOURCES DEVELOPMENT & SAFETY DIVISION					
Manager, Water Resources Development & Safety	1				1
Chief Engineer, WR Dev	1				1
Senior Structural Engineer	1				1
Snr. Engineer			6		6
Assistant Engineer			6	26	32
Total	3	0	12	26	41
GROUND WATER DIVISION					
Manager, Ground Water	1				1
Chief Geologist	1				1
Senior Geologist	2		6		8
Geologist I			6	26	32
Geologist II				26	26
Total	4		12	52	68
STAKEHOLDER ENGAGEMENT & CATCHMENT MANAGEMENT DIVISION					
Manager, Stakeholder Engagement & Catchment Management	1				
Chief stakeholder engagement Officer (WRUAs)	2				1
Chief stakeholder engagement Officer (other stakeholders)	2		6		8
Senior stakeholder engagement Officer	2				2
County WR Coordinators				30	30

CADRE	HQs	CWTLab	Basin Offices	Sub-Basin Offices	Established TOTAL
Total	7		6	30	43
WATER QUALITY& POLLUTION CONTROL DIVISION					
Manager, Water Quality & Pollution Control	1				1
Chief Chemist	1				1
Senior Chemist	2	1	6		9
Chemist I		4			4
Lab Technologists		10	12	26	48
Total	4	15	18	26	63
Overall Total	136	19	144	498	797

6.2 The Organizational Structure for Water Resources Authority

The organizational structure for WRA that is overleaf denotes the coordination points, supervision lines and core task allocations for various offices. It shows how WRA staff are grouped and to whom they will report to at various levels namely at Section, Division and Department level. It summarizes how the WRA offices will operate on a day to day basis towards the fulfillment of the mandates of the Authority.

Close attention has been paid to expertise and relatedness of various tasks in developing the WRA organizational structure. The organogram is also informed by feedback that was provided by WRA staff during the consultations. It is also intended to enable the provision of frontline WRM regulatory support services at Basin and Sub-Basin offices with clear distinctions on roles undertaken at HQs and Basin offices.

6.2.1 Observations and Summary of the Organizational Structure

The Chief Executive Officer of Water Resources Authority will have day to day direct supervision responsibility over the entire organization including Headquarters, Basin and Sub Basin offices.

Each department will be headed by a Manager, while each of the six (6) Basin Offices will be headed by a Basin Manager who will report to the Technical Coordination Manager. The Technical Coordination Manager will also directly oversee the running of activities in the Sub Basin Offices. Sub Basin Offices will be headed by Sub Basin Managers and who will report to the Basin Managers. Sections will be headed by Chief Officers.

6.3 Financial Requirements

6.3.1 Projected funding requirements

Successful management of water resources is important in contributing to the social, economic and environmental development of the Country. Investments in water resources management activities do not offer immediate gains and therefore not likely to attract private investments. Despite the fact that the sector has enough resources labelled as water resources fund we still have deficit. There is therefore an urgent need for water resources funds to be allocated as per the functions in future.

Due to increased mandate of the Authority in the new act we propose a higher budget of approximately Kshs.5 billion to enable the Authority implement its mandate effectively, an approximate of Kshs.3 billion been recurrent budget and 2 billion been development budget ,this will address the Authority's financing gap.

The country's water resources are continually under threat from encroachment, development and climate change which manifests in the form of frequent droughts and floods. This poses a serious challenge in meeting the water demand for domestic and industrial vis-à-vis the availability. In order to mitigate the effects of these threats, there needs to be a sustained investment in Water Resources Management towards increasing water availability and enhancing food security while at the same time reducing water related conflicts.

WRA will strengthen fundraising from development partners by implementing a framework that integrates resource mobilization options at short; medium; and long term. To ensure sustainability and proper matching of resources to strategic activities, the authority will review its relations to development partners and explore expansion of the pool of partners. WRA will also continuously identify regulation, management and development priorities and financial gaps and link them to existing funding opportunities including;

1. **Targeted fundraising** –The Institute will proactively engage and tap resources from Development Partners and Corporate bodies. The approach will be to collate overarching ideas that enhance strategic targeting of major investors.
2. **Competitive grants** – The Institute will respond to calls for proposals from donors, foundations and other partners and utilize such funds for investment in research and development.

3. **Campaigns** –WRA will identify critical partners, for instance, consulting firms for strategic campaigns to mobilize resources by developing innovative business and investment plans. WRA will therefore launch major campaigns targeting bilateral donors in China, Europe, North America, Asia, and Africa and within a wide range of philanthropies.
4. **Traditional fundraising partnerships** – WRA will consolidate and strengthen existing fundraising partnerships from traditional supporters.
5. **Other fundraising avenues** - The Institute will work closely with main actors in natural resource conservation, for advisory or contracted fundraising capacity. WRA will also engage local corporations and general citizenry for support through Social Responsibility Programmes, promotions, and fundraising activities.
6. **Public Private Partnerships** - The authority will adopt Public Private Partnerships (PPPs) that entail: linking water resources value chain analysis and products to synergy for enhanced cooperation. Business models will be developed showing cost-benefit analysis for investments in water resources products and services. Various private companies, groups and individual entrepreneurs will be targeted through continued provision of necessary water resources information, data and technologies relevant for production of a diverse range of products, processes and services. Institutional and contractual arrangements that benefit all engaged parties, including smallholders and communities, i.e. “win-win” arrangements, will be explored and enhanced. These arrangements will continuously be assessed to identify possible funding opportunities for the Institution.

6.4 Institutional requirements

Water resources management is effectively a concurrent function for the national, and county governments. The national government is responsible for making policy, and water resources are classified as part of public land falling under authority of the national government. County governments have the constitutional role of implementing national policy on soil and water conservation, which at the basin-level of water resources management, means collaborative actions will be required between the two levels of government, to deal with challenges of catchment degradation, pollution, and over-abstraction of water resources.

While Kenya has been categorized into basin areas, there are no basin management plans for the country, and as a consequence, the development of catchment management strategies and subsequent sub-catchment plans have not been comprehensively integrated at basin level. In this context, the role of Basin Water Resource Committees (BWRCs), the intergovernmental basin entities established under the 2016 Water Act, will be instrumental in enhancing basin-level water resources governance.

CHAPTER SEVEN: MONITORING AND EVALUATION STRATEGY

7.1 Monitoring and Evaluation Process

Monitoring and Evaluation (M&E) is one of the powerful performance management tools that could help to achieve national, regional and global commitments in the water sector. AMCOW has commissioned a pan-African M&E system that will push for better country performances in achieving the Africa Water Vision and MDGs.

The Government of Kenya has since Independence been engaged in Development Planning. Prior to the implementation of the ERS for wealth and Employment creation 2003-2007 M&E was not a strong feature in National programmes and projects. Information collection, analysis and reporting of results were done in an ad-hoc manner and decision making was not always based on verifiable evidence due to lack of a comprehensive M&E System.

In 2003 the investment programme for the ERSWEC recognized the important role of M&E in promoting accountability and good governance that led to the establishment of M&E unit to coordinate the implementation of National Integrated M&E system in 2004.

In 2008, the Government of Kenya initiated a long term development blue print, Kenya Vision 2030, whose aim was to transform the country into a modern, globally competitive, middle income country, offering a high quality of life for all citizens by the year 2030. The Vision 2030 was to be implemented through five-year Medium Term Plans (MTP). The vision and its MTPs are monitored, evaluated and reported upon through the annual progress reports, mid and end term reviews that are coordinated by the M&E directorate in the State Department of Planning.

7.1.2 Situation Analysis of M&E in Water Sector

The MWS has the overall mandate for water sector policy and coordination. This responsibility covers the coordination of all sector activities and resources. Sector consultations, planning and monitoring are done based on established dialogue platforms, information systems, performance reporting and the medium-term planning process.

Water resources, access to water supply and sanitation services is measured against specific distance, cost, quality and quantity parameters. The thresholds for these access parameters vary such that data from different sources give different impressions of access levels to water and sanitation. This makes it difficult to compare performance levels across regions, unless a

common standard is adopted. Similarly, the spatial, quality and quantity parameters used to measure access to water and sanitation services are not uniform within the subsectors and regions and may not conform to National and International standards. In addition, collection, reliability and analysis of data to produce usable information and knowledge in the water sector has not been adequately undertaken to inform policy and management decisions.

Harmonized definitions of indicators and frameworks for data capture and spatial disaggregation are required to undertake a comprehensive comparative analysis of performance levels. Monitoring and Evaluation (M&E) is an important management tool that will be used by the authority to ensure that implementation of this Strategic Plan is on course. Monitoring and evaluation will be used to measure accomplishments and detect any deviation, and where there is need for adjustment, appropriate and timely action will be taken. The M&E process will take into account emergent issues, and changes in the environment that affect this Plan. The corporate implementation matrix will help track and monitor progress in implementation of the Plan. The Strategic Plan will be subjected to Midterm and End of Plan reviews to gauge the extent of achievement of intended results. The M&E process will be undertaken at the Board of Directors, management and functional levels.

7.1.2 Monitoring and Evaluation at Board Level

The Board of Directors will establish monitoring, evaluation, and control systems at all levels to ensure that performance is reviewed and analyzed on a periodic basis. Recommendations from quarterly meetings by Executive Committee will form agenda for Board of Director's quarterly meetings. During these meetings, the Board will receive and review reports by the Executive Committee indicating overall progress. The nature and scope of the reporting will include:

- (a) Progress made against the Strategic Plan;
- (b) Causes of deviation from the Plan, if any;
- (c) Challenges that may adversely affect implementation of the Plan; and
- (d) Suggested solutions to these challenges.

7.1.3 Monitoring and Evaluation at Management Level

Monitoring and Evaluation at management level will be carried out by the Executive Committee. The Committee will be meeting quarterly and report on progress made in the

implementation of the Strategic Plan. The Executive Committee shall have two subcommittees: one consisting of Deputy Technical Coordination chaired by the Technical Coordination Manager; and the other consisting of Deputy Directors under F&A chaired by FAM. The two Sub-committees will be meeting quarterly to review progress on implementation of the Strategic Plan under their respective Departments. Recommendations by the two Sub-committees will be submitted to the Executive Committee chaired by the CEO. Results from routine monitoring will be used to inform decision-making, including taking corrective action where deviations in implementation have been noted and inform the Board appropriately.

7.1.4 Monitoring and Evaluation at Functional Level

Monitoring and Evaluation at functional level will involve routine data collection and analysis on progress of the Strategic Plan implementation. The thematic offices, divisions and regions will monitor programmes and projects administered within their respective jurisdiction and submit quarterly M&E reports to the Sub-Committees of the Executive Committee for analysis. These reports will be reviewed regularly against the set targets to measure progress.

7.2 Monitoring and Evaluation Tools

In carrying out M&E, the following tools will be adopted:

- a) Annual implementation matrix review
- b) Annual performance contracts and work plans
- c) Annual budget and quarterly expenditure review
- d) Annual and quarterly research and development reports
- e) Consultative and Executive Committee meetings
- f) Annual staff appraisal

7.3 Indicators for Measuring Performance

Measurement of performance will be done on the basis of the following four (4) indicators:

- a) Level of customer satisfaction index;
- b) Level of increase in revenue and cost reduction;
- c) Compliance to internal processes; and

d) Institutional capacity development.

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CHAPTER EIGHT: RISK MANAGEMENT STRATEGY

Table 14 Risk Management Strategy

RISK	Risk level (National, Institutional)	Risk Rating (high, medium, low)	Control Measure	Mitigating Action	Responsibility	Time Frame
Loss of professional Staff	Institutional	Medium	Staff incentives	Improve terms and conditions of service Recruit and train	CHRO	Annual
Inadequate resources	Institutional	Medium	Increased resource Allocation	Review of budget Allocation Undertake resource mobilization	FAM	Bi-annual
Technological change	Institutional	Medium	Change Management	Policy review Training Procurement	ICTO	Continuous
WRA organizational Culture	Institutional	Medium	Transformative leadership Change Management	Corporate cohesion plans Team building sessions	BoD Director	Continuous
Bureaucratic inertia	National	High	Public Service Reforms Change Management	Transformative leadership	CEO	Plan period
Economic instability	National	High	Appropriate Economic policies Fiscal discipline	Fiscal and monetary reforms	BoD Director	Annual
Political interference	National	High	Dispute resolution Mechanism	Build confidence with public and political class	BoD Director	Continuous
Environmental Risks		High				

ANNEXES

ANNEX I	Overall Institutional Status of WRA against WA 2002 Mandate
ANNEX II	WRA Development Themes and Sub Themes
ANNEX III	Map of Kenya showing Regions and Su Regions
ANNEX IV	Contacts From HQ , regional and Sub Regional Offices
ANNEX V	Results and Implementation Matrix in Balanced Scorecard format

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ANNEX 1: The Overall Institutional Status of WRA against the WA 2002 Mandates

Mandate 6; to manage and protect water catchments;		
Mandate 7; to gather and maintain information on water resources and from time to time publish forecasts, projections and information on water resources;		
Key Sub-Sectors	Core elements	Level
Water Catchment Management Protection and conservation of water catchment areas to avail water in good quantity and quality at all times	Catchment level Planning framework	<ul style="list-style-type: none"> • National Water Resources Management Strategy (2010-2016) • WRA Strategic Plan (2012-2017) • Catchment Management Strategy (LVN, LVS, RVC, Athi, Tana, ENN) • Sub Catchment Management Plans <p>A register of water bodies has been partially developed and , Resource Quality Objectives are yet to be established</p>
	Key Stakeholders	
	MWI	Policy Formulation and resource mobilization
	WRUAs	Implementation of Catchment Management activities through SCMPs
	NLC	Policy and mandate on management of public land
	County Governments	Implementing Soil and Water conservation measures
	NEMA	support to regulation and enforcement
	KFS	support in tree planting
	Kenya Water Towers Agency	protection of water towers
	KMD	data collection and sharing

	NGOs and CSOs	Advocacy, awareness creation, capacity building and support implementation of catchment activities
	Development Partners	Technical Advice and Financing
	<i>Subsidiary Legislative instruments and rules</i>	WRM Rules 2007, WRM Rules 2012.
	<i>Sub-sector standards</i>	WRUA Development Cycle framework
	<i>Service Delivery</i>	Technical support from WRUA formation to SCMP development and technical backstopping for implementation of SCMP activities
	<i>Work system (Procedures & formats)</i>	Quality Management System (QMS) Procedures on: Catchment Gazettement, SCMP Development, WRUA Funding WDC
	<i>Customer care system</i>	Procedure on handling complaints by WRUAs who are the primary customers of WRA in this sub-sector is in place.
	<i>Service Delivery Charter</i>	Service Charter in place and includes water catchment management services along with timelines and some related charges.
	<i>Types of Levies and Charges</i>	<ul style="list-style-type: none"> • Sales of Maps • Data sales • Sale of WDC framework

	<i>National Data and Information Management System</i>	<p>Delineation of the Basin and Sub Basin Areas and Delineation of WRUA boundaries have been done.</p> <p>Physiographic studies provide information to develop SCMPs.</p> <p>A national database on water catchment management not limited to WRUA leadership, formation status, membership summaries, funding level, SCMP implementation status etc. is in place</p> <p>In addressing Mandate 8. to gather and maintain information on water resources and from time to time publish forecasts, projections and information on water resources, the publication of data and information on relevant aspects of water catchment management is done through WR Annual Report.</p>
	<i>Customer Sensitization</i>	<ul style="list-style-type: none"> • <i>Rasilimaji</i> newsletter • Public Barazas • Year Book • Public service week • Customer care week • Catchment fora • Catchment rehabilitation days • Website and social media • WRUAs and CAACs • WRA Brochures.
	<i>Monitoring & reporting</i>	<p>Monitoring and reporting on SCMP implementation and results achieved is done but requires strengthening.</p> <p>Internal audits on catchment projects is done as scheduled.</p>

	Compliance	To realize mandate 4.to monitor and enforce conditions attached to permits for water use; Inspections and scouting , Issuance of orders to compliance and Prosecution, Demolition of illegal structure on riparian areas are done but needs to be enhanced
	Agents (including Inspectors) Capacity Building and oversight	Most catchment management work is done by WRA staff Where delegated, WRUAs and Catchment Area Advisory Committees (CAAC) have acted as agents for capacity building.
	Conflict Resolution Mechanism	CAACs and WRUAs assist in conflict resolution at catchment and sub catchment level respectively. The WRM Rules 2007 and WRA internal complaints handling procedures provide for conflict resolution mechanisms.
	Partners Engagement &Management	Various partners including World Bank, GIZ JICA, IFAD, IGAD, SIDA, DANIDA and WSTF are the main partners supporting water catchment management activities
	Equipment Management	Inventory of catchment management assets is in place

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ANNEX 11 WRA DEVELOPMENT OF THEMES AND SUB THEMES			
Function	Activity	Sub Activities	REMARKS
Formulate and enforce standards, procedures and Regulations for the management and use of water resources and flood mitigation;	Formulate and enforce standards, procedures and Regulations for the management and use of water resources;	<ul style="list-style-type: none"> • Development of Water Resources Management Regulations including Water Quality Standards, Fees and Charges, Guidelines for preparation of Technical Reports, Regulations on development of storage, Delineation of riparian wetlands and vulnerable ecosystems, Effluent Discharge Standards amongst others 	WRA to be lead entity in development of: <ul style="list-style-type: none"> • Terms of Reference OR for the consultant • Submission of Draft Regulations
		<ul style="list-style-type: none"> • Development Codes of practice for Water Professionals 	Give input for the development for Surface Water /Groundwater / Water Quality
		<ul style="list-style-type: none"> • Guidelines for water allocation 	Initiate process after gazettelement of Regulations.
		<ul style="list-style-type: none"> • Review of water allocation thresholds 	Initiate process after gazettelement of Regulations.

	Formulate and enforce standards, procedures and Regulations for flood mitigation;	<ul style="list-style-type: none"> • Develop Integrated Flood Management Plans • Develop Flood Mitigation Strategies 	
Regulate the management and use of water resources;	Designate Basin and sub-basin area	<ul style="list-style-type: none"> • Naming/re-naming Basin and Basin Areas. • Identifying Counties falling within each designated Basin Area. • Develop Regulations for the operation of Basin Water Resources Committee. • Develop tools for competitive appointment of members to the Basin Water Resources Committees. • Prescribe a period within which County Government Assemblies must appoint their Basin representatives • Develop Regulations prescribing terms and conditions of service (including remuneration, allowances and other entitlements) for Basin Committees. • Seek appointment of the members through Gazette. • Nominate 4-7 members for consultation and appointment by CS (ensure that at least three members have technical expertise in matters relating to water). • Liaise with the Cabinet Secretary, Public Service, Youth & Gender Affairs and the SRC to determine the salaries, allowances and other expenses of the Basin Committees. 	<ul style="list-style-type: none"> • Include a vote on the budget for the secretariat on the operations of the Basin Committees this will also guide on the activities and works schedules of the Committees' remuneration/salary structure.

	Develop Policies for implementation by County Governments.	<ul style="list-style-type: none"> • Prescribe requirements for the formulation of Basin Area Water Resources Management Strategy; • Prescribe timeframe for the formulation of Basin Area Water Resources Management Strategy. • Capacity building to Counties for water resources management and for flood mitigation • Identify functions/roles to be delegated to BWRC. 	
	Protection of Catchment Areas	Identification, Mapping and gazettement of vulnerable water resources (and where necessary declaration as Protected Areas)	Vulnerable water resources will cover surface and groundwater
	Classification of water resources and determination of quality objectives.	<ul style="list-style-type: none"> • Prescribe the classification criteria for classifying water resources for determining RQO; • Develop resource quality objectives • Stakeholder consultation on resource quality objective 	
	Regulations governing establishment, administration and operations of WRUAs	<ul style="list-style-type: none"> • Develop operational framework for WRUA operations (Establishment, structure, funding proposal, governance and communication • Develop framework of engagement with WRUAs by BWRC and counties 	
3.Enforce Regulations made under the Act	<ul style="list-style-type: none"> • Develop and enforce Regulations for implementation by the Basin Water Resources Committees. • Develop and enforce Regulations governing permits for water rights and works 	<ul style="list-style-type: none"> • Issue water classification criteria to all state organs; 	

	<ul style="list-style-type: none"> • Develop and enforce Regulations governing establishment, administration and operations of WRUAs 		
4. Receive water permit applications for water abstraction, water use and recharge and determine, issue, vary water permits; and enforce the conditions of those permits	<ul style="list-style-type: none"> • Issuance of permits for water use and effluent discharge permits; • Develop Regulations/standards for effluent discharge 	<ul style="list-style-type: none"> • 	Shall be part of the regulation
5. Collect water permit fees and water use charges	<ul style="list-style-type: none"> • Determine and set permit and water use fees; • Determine schedule of charges • Develop Regulations governing permits for water rights and works • Publish water use charges through the Gazette 	<ul style="list-style-type: none"> • Set water use fees and gazette fees • Review fees for permit ,effluent discharge • Public consultation • Monitor compliance by water users with the conditions of permits and the requirements of the Act • Develop a monitoring program • Carry out field inspections • Installation of smart measuring devices • Self –assessment reports 	Part of the Water Resources Regulation
6. Provide information and advice to the Cabinet Secretary for formulation of policy on National Water Resource Management, water storage and flood control strategies	<ul style="list-style-type: none"> • Identify and prioritize the storage sites • Regulate the development of storage sites • Put in place National Monitoring and information system 	<ul style="list-style-type: none"> • Inventories' the storage site • Map and publish flood prone areas • Develop national flood mitigation strategies • Develop Basin Planning Decision Support Systems (DSS); • Automate water resources network; collect, analyze and disseminate data for Decision Support Systems 	

<p>7. Advise the Cabinet Secretary generally on the management and use of water resources.</p>	<ul style="list-style-type: none"> • Put in place a National monitoring and geo-referenced information system on water resources • Provide input in the development of the Groundwater Conservation Regulations • Input in establishment of Basin Water Resources Committees; • Give input during the development Regulations governing the delegation of functions, abstraction of groundwater and works including licensing of boreholes contractors 	<ul style="list-style-type: none"> • Develop a water resources information system • Map out the water resources including riparian areas and vulnerable water resources • Collect analyze and disseminate information on water resources • Report to the public water resources activities by the Authority 	<p>To be part of Water Resources Regulation</p>
<p>8. Source and receive funding for the activities</p>	<ul style="list-style-type: none"> • Develop proposals for funding • Establish and maintain partnerships • Enhance WRA Visibility in local and international forums 		
<p>9. Issue permits for inter-basin water transfer</p>	<ul style="list-style-type: none"> • Develop Regulations/standards for inter-basin water transfer 		
<p>10. Abstraction of Groundwater</p>	<ul style="list-style-type: none"> • Develop guidelines to determine distance to be left between a new borehole and a new one. 	<ul style="list-style-type: none"> • Develop a groundwater geo-database • Carry out targeted groundwater abstraction surveys 	
<p>Establishment of Basin Water Resources Committee</p>	<ul style="list-style-type: none"> • Identifying Counties falling within each designated Basin Area. • Develop tools for competitive appointment of members to the 	<ul style="list-style-type: none"> • Whereas the Basin Water Resources Committees are established by the Cabinet Secretary through Notice in the Gazette, the appointment of the members to the Committees is undertaken in consultation with the Authority. 	

	<p>Basin Water Resources Committees.</p> <ul style="list-style-type: none"> • Develop regulations prescribing terms and conditions of service (including remuneration, allowances and other entitlements) • Seek appointment of the members through Gazette. • Develop Regulations for the operation of Basin Water Resources Committees. 	<ul style="list-style-type: none"> • Appointments are for a three year term with eligibility for re-appointment for one further term. • Save for their constitution, the Basin Water Resources Committees have been known as Catchment Area Advisory Committees under the Water Act, 2002 dispensation. 	
<p>“Trans-boundary waters”- means:- water resources shared between Kenya and another state.</p>	<p>Identify and document trans-boundary waters.</p>	<ul style="list-style-type: none"> • Liaison with MWI 	<ul style="list-style-type: none"> • The Ministry of Water and Irrigation has a Division responsible for trans-boundary water management and policy. • The Water Act, 2002 was silent on the management of these resources. • The Water Act, 2016 vests the mandate for regulation of management of trans-boundary waters within the territorial jurisdiction of Kenya on the Authority. The Ministry shall remain responsible for Policy formulation
<p>National Public Water Works</p>	<p>A national public water works means water works which has been designated by the Cabinet Secretary,</p>	<ul style="list-style-type: none"> • Identify and document water resources that are cross-county in nature. 	<p>The selection criteria for National Public Water Works include the fact that the water resource on</p>

	by notice published in the Gazette, as a national public water works based on the criteria set out in Section 8.	<ul style="list-style-type: none"> • Formulate and enforce standards, procedures and Regulations for inter-basin water transfer facilities. • Formulate and enforce standards, procedures and Regulations for development of reservoirs for impounding surface run-off and for regulating stream flows • Enforce Regulations developed pursuant to Section 8(7) 	which it depends is of across county in nature.
National Water Resource Strategy	The Cabinet Secretary shall, within one year of the commencement of the Act and every five years thereafter, following public participation, formulate a National Water Resource Strategy.	<ul style="list-style-type: none"> • Provide input in the development and review of the National Water Resource Strategy as follows: <ul style="list-style-type: none"> • Identify and document existing water resources and their defined riparian areas; • Develop measures for the protection, conservation, control and management of water resources and guidelines/Regulations for approved land use for the riparian area; • Formulate standards for minimum water reserve levels at national and county levels; i) Submit to the Cabinet Secretary reports on the state of national water resources strategies in Kenya. 	Since the strategy is to provide the Government's plans and programs for the protection, conservation, control and management of water resources, the Authority's input is crucial.

ANNEX III: MAP OF KENYA SHOWING REGIONS AND SUB REGIONS



ANNEX IV: CONTACTS FOR BASINS AND SUB-BASIN OFFICES

S/N	WRA BASIN OFFICE	SUB- BASIN OFFICE
1.	<p><u>Lake Victoria South Basin Area</u></p> <p>P.O Box 666 Kisumu-Kakamega Road Mambo Leo area, near Lake Basin Authority, KISUMU lvzca@wra.or.ke</p>	<p>Northern Shoreline- Nyando Kisumu-Kakamega Road Mambo Leo area, near Lake Basin Authority, P.O. Box 666 KISUMU</p>
		<p>Southern Shoreline- Gucha Migori P.O. Box 4114 Within Ministry of Public Works Offices KISII</p>
		<p>Mara Sondu P. O Box 563 Isaac Salat Road KERICHO</p>
2.	<p><u>Lake Victoria North Basin Area</u></p> <p>P. O Box 774 Off Kisumu-Kakamega Road Opposite Post Office, within the Provincial Water Offices KAKAMEGA lvnca@wra.or.ke</p>	<p>Elgon-Cherangányi P. O Box 2764-30200 Along New KCC Road, Within Ministry of Water Offices KITALE</p>
		<p>Kipkaren-Upper Yala P. O Box 3040-30100 Adjacent to Deputy Commissioner’s Office ELDORET</p>
		<p>Lower Nzoia Yala P.O. Box 374-40600 Siaya Court Road Opposite Lands Office SIAYA</p>
3	<p><u>Rift Valley Basin Area</u></p> <p>P. O Box 1600 Along Nakuru Prison’s Road NAKURU rvca@wra.or.ke</p>	<p>Lower_Turkwel P. O Box 73 Within the Ministry of Water Offices LODWAR</p>
		<p>Upper Turkwel P. O Box 49 Along Kapenguria-Bendera-Kitale Road Within the Ministry of Water Offices KAPENGURIA</p>
		<p>Lakes Naivasha-Nakuru P. O Box 1577-20117 Within the Deputy County Commissioner’s Offices NAIVASHA</p>

S/N	WRA BASIN OFFICE	SUB- BASIN OFFICE
		<p>South Rift Valley P.O Box 1029 Narok-Mau Road Opposite Narok District Hospital NAROK</p> <p>Lakes Baringo- Bogoria P. O Box 544-30400 Within the Ministry of Water Offices KABARNET</p>
3	<p><u>Tana Basin Area</u></p> <p>P.O Box 1930-60100 Next to Embu West Deputy County Commissioner's Office EMBU tca@wra.or.ke</p>	<p>Upper Tana P. O. Box 460-10200 Within the Ministry of Water Offices MURANG'A</p> <p>Tiva/Tyaa P. O. Box 781-90200 Kitui-Kalawa Road Next to Ministry of Water Offices KITUI</p> <p>Thiba P. O. Box 1291-10300 Kerogoya-Kagumo Road KERUGOYA</p> <p>Kathita/Mutonga P.O Box 3256-60200 Meru-Maua Road Next to County Commissioner's Office MERU</p> <p>Lower Tana P.O Box 31-70100 Within the Ministry of Water Offices GARISSA</p>
5	<p><u>Athi Basin Area</u></p> <p>P.O Box 1159-90100 Machakos-Kitui Road MACHAKOS</p> <p>Office Line: 0718210514 athi@wra.or.ke</p>	<p>Nairobi sub-Basin Industrial Area; Dunga Road, P.O. BOX 18150 – 00500, NAIROBI</p> <p>Headquarters Central Laboratory, Industrial Area; Dunga Road, P.O. BOX 18150 – 00500, NAIROBI</p> <p>Middle Athi P. O Box 176-90137 Kambua Road, Next to D.Os' Office KIBWEZI</p>

S/N	WRA BASIN OFFICE	SUB- BASIN OFFICE
		<p>NoIturesh Lumi P.O Box 53-00209 Next to Sub-County Commissioner’s Office Nolturesh _ Lumi Sub - Basin Near District Commissioner’s Office, P.O. BOX 53 – 00209, LOITOKTOK</p> <p>Upper Athi P.O Box 1864-00900 Hospital Road, Opposite Kiambu District Hospital KIAMBU</p> <p>Coastal Athi P.O Box 85672-80100 Nairobi Highway, Next to Changamwe Water Tanks MOMBASA</p>
6	<p><u>Ewaso -Ngiro North Basin Area</u></p> <p>P.O Box 1331-10400 Nyeri-Nairobi Highway Opposite CMS Petrol Station NANYUKI ennca@wra.or.ke</p>	<p>Engare Narok Melghis P.O Box 631-20300 Next to Rumuruti Livestock Auctioning Centre RUMURUTI</p> <p>Ewaso Daua Laggas P.O Box 308-70300 Next to Jamia Mosque MANDERA</p> <p>Upper Ewaso Ngiro P. O Box 1331-10400 Within the County Commissioner’s Offices NANYUKI</p> <p>Middle Ewaso Ngiro P. O Box 58-60300 Within the Water Services Board Offices ISIOLO</p> <p>North Ewaso Laggas P.O Box 207-60500 Within the Water Services Board Offices MARSABIT</p>

ANNEX V Strategic Objectives, Strategy Map and Implementation Matrix

BSC Perspective	WRA Strategic Objectives	WRA Strategic Initiatives	KPIs/Actions	Target	Timeline	budget In Kshs. Million	WRA Strategic Result	Owner of Objectives / Department
Internal processes	Strengthen water resources information gathering and management systems.	i. Strengthen and enhance water resources monitoring	No. of SW stations assessed and rehabilitated (Assessment and Rehabilitation)	Assessment of No.320 stations	Year 1 - 5	66	Put in place water resources systems for continuous and coordinated surveillance, assessment and monitoring of basin areas, aquifers, and water bodies.	Technical (SW, GW, WQ)
			Determine the national groundwater monitoring network	Report and Plan for roll out	Year 1-5	10		
			Develop standards for GW data collection, processing and analysis	Development of standards for pumping test analysis, water level monitoring, GW quality analysis	Year 1 - 5	20		
			Establish borehole data collection systems (online data delivery for borehole completion records)	Online Borehole completion records system	Year 1-5	10		
			No. of GW stations assessed and rehabilitated (Assessment and Rehabilitation)	Assessment 36 No.	Year 1 - 5	10		

		Development of resource quality objectives (RQOs) which includes criteria and guidelines for developing RQOs	1No. RQO Criteria and guideline; RQOs for 1No.Sub catchment.	Year 1 - 5	20		
ii. Assessment of status of the existing monitoring stations (GW&SW)		• No. of new SW stations established (Establishment).	Assessment No. = 20	Year 1 - 5	50M	Establishment of a national system for acquisition, management and sharing of water resources information and data.	Technical (SW, GW, WQ)
		• No. of new GW stations established (Establishment).	Establishment No. 5	Year 1 - 5	25M		
		Develop guideline & criteria for review, assessing the monitoring network/plan	1No. of regulation, guideline & standards for waste water reuse, recycling for country possibly gazetted.	Year 1 - 5	10M		
iii. Upgrade existing monitoring networks		• No. of Water situation reports published(Publication of reports)	Rehabilitaion No. 200 . Upgrading No. 100	Year 1 - 5	30M		Technical (SW, GW, WQ)
		Put in place the automated and telemetric WQ stations for key strategic areas	36No. 6No. in each Region	Year 1 - 5	500M		
		No. of smart meter measuring devices installed	5,000	Year 1-5	100M		
iv. Enhance WRIMS		No. of GW stations upgraded to automatic/ Telemetry status (Installation of loggers).	Establish 100 No. Upgrading 25 No.	Year 1 - 5	12.5M 3.6M		

		<ul style="list-style-type: none"> No. of SW stations upgraded to automatic/Telemetry status (Upgrading of the stations). 	Rehabilitation No. =200 Upgrading No. 100	Year 1 - 5	10M		Technical (SW, GW,Data)
		<ul style="list-style-type: none"> Designate WRD staff in WRA offices 	20No	Year 1-5	2M		
	v. Utilize web based information on water resources	<ul style="list-style-type: none"> No. of staff trained (Capacity building) 	41 No. SW staff trained	Year 1 - 5	5M		GW
	vi. Data and Knowledge Management	Procure Software and Hardware	Proprietary and Open source softwares	Year 1 - 5	10M		
		<ul style="list-style-type: none"> Secure and Equip the room 	State of the Art National Data Center	Year 1 - 5	20M		
	vi. Operationalization of Laboratory Information Management System (LIMS) to the other laboratories	Put up LIMS in other WRA laboratories.	7No of Laboratories with operationalized LIMS	Year 1 - 5	30M		
	vii) Improving and enhancing the existing Laboratories and field water quality analysis in terms of technical and human capacity.	Relevant current and future technical and human resource capacity needs established; Set up Integrated Water Quality Analysis and other laboratories	30No of personnel trained	Year 1 - 5	60M		

	viii) Involving the Community (WRUA) in the water quality analysis through community science and innovations.	Guideline developed for Community/WRUA on water resources quality monitoring (civic/community science)	1No .	Year 1 - 5	10M		
Strengthen water resources planning, allocation and compliance to regulation	i. Improve the tools of water resource planning and allocation	Hydrogeological assessments of aquifers to determine groundwater balance and aquifer characterisation(yield, potential, water quality)	Assessment in 20 counties	Year 1 - 5	1000M	· Ensure allocation of water abstraction rights observes equity, giving priority to domestic uses, and considering the interests of local community members, vulnerable members of the society, and the ecological reserve.	Permitting
	ii. Enhance capacity on the use of water resources planning tools	Undertake Groundwater modelling for high groundwater use aquifers	20	1-5 years	100M	· Ensuring that administration of water rights and permits is undertaken within sustainable limits, and with sufficient public	WQ
	iii. Improve on the use of WR allocation systems	Develop water allocation plans for aquifers	20	1-5 years	100M		Commercial

	iv. Enhance compliance with WR management regulation					and community level consultations.	Waturu Responsible
Improve the protection and conservation of water resources to Increase per capita water availability	i. Protect and restore existing freshwater ecosystems from pollution	Undertake mapping of vulnerable groundwater recharge areas	No. of aquifers	Year1-5		· Implement activities to ensure that water resources, riparian and catchment areas are well protected, conserved and managed.	WQ, GW
	ii. Manage and regulate water use in water catchments and aquifers	Develop management guidelines and plans for vulnerable aquifers	20No. Groundwater Water allocation plans	Year 1 - 5	60M	· Apply land use planning powers to enhance sustainable land use practices through incentive-based systems for ecosystem protection.	GW
	iii. Promote protection, rehabilitation and restoration of degraded water resources and catchments	Establishment of the water balance for 6No. catchment areas by carrying out hydrological modelling	6No. water balances to be incorporated in the basin plans	Year 1 - 5	60M	· Ensure a sustainable water balance through water conservation, managed aquifer recharge and reduction of peak water demand.	SW

iv. Promote water use efficiency	Undertake aquifer recharge piloting in Nairobi County	1 No. pilot project	year 1-5	20M	Expand and improve the use of alternative water sources,	GW
v. Enhance regulation of water use.	Issue Permits and enforce permit for water use and water permit conditions	500/year	Year 1-5		finalize the water allocation guidelines	
vi. Promote sustainable management technologies and innovations	Installation of smart meters AMI (Automated Metering Infrastructure)	10,000	Year 1-5	600	Realtime metered abstractions and realtime monitoring of water resources	
vii. Promote sustainable management of lakes and their basins	Monitoring lake levels and protecting the riparian land from encroachment		Year 1-5	50	Controlled pollution levels in the lakes and reduced encroachment	
viii. Regulate the development of water storage structures	Inventory of dams, information on safety and stability of dams & establishing the legal status of the dams			20	regulated dam development and coordination and increased per capita storage WC	
ix. Support the development of basin water resources strategies	No of basin water resources strategies reviewed	6No	Year1-5	10	Integrated water resources management at the basin level and enhanced participation of stakeholders in basin water resources	

	x. Review and enforce joint collaborative efforts on prevention of pollution water resources from point and non-point sources and streamline the implementation of the polluter pay principle	Regulation, guideline & standards for waste water reuse, recycling for country; Reviewed Effluent Discharge Control Plan Guideline.	1No. of regulation, guideline & standards for waste water reuse, recycling for country possibly gazetted.	Year 2-5	10M		
	xi. Promote incentives for cost effective technologies and payment for ecosystem services for water protection and catchment conservation such as waste water reduction, recycling and reuse.	Regulation, guideline & standards for waste water reuse, recycling for country; Reviewed Effluent Discharge Control Plan Guideline.		Year 1 - 5	10M		
	xii. Capacity building of the WRA human resource, WRUA, Effluent Dischargers and other stakeholders in the water resources protection activities such awareness creation;	Guideline for civic education on water resources protection and waste water recycling and reuse.	1No. Guideline for civic education on water resources protection, waste water recycling and reuse developed.	Year 1 - 5	10M		
Strengthen prevention	i. Regulation of water storage	Develop codes of practice for dam safety	1	Year 2-3	20M	Reduced water related distaters	Technical - Flood

	and regulation of water related disasters	infrastructure ,dam safety & Flood mitigation mechanisms	Development of standards, procedures and regulations for water structures and dam safety	1	Year 3	20M	and enhanced regulatory framework	Management / Water Conservation
			Enforcement of standards procedures and regulations of water structures and dam safety	100%	Year 1-5	20M		
			Support IFMP Implementation	12 No	Year 1-5	15M		
			Develop an emergency action plan & capacity build communities	1No	Year 2-5	80M		
			Development of IFMPs	5No	Year 3-5	15M		
			Verify the approved designs for water infrastructure	100%	Year 1-5	10M		
			Develop a database of flood and drought events in the country	1No	Year 1-5	20M	Establish flood early warning system for flood prone areas	
			Carryout detailed inspections of dams in the country	Per annum	Year 1-5	20M		
			Collate, establish and maintain a national repository of all dams in the country.	1No	Year 3	50M	streamlined Planning on future infrastructure development	
Customer	Strengthen stakeholder collaboration in water	Improve mechanism for stakeholder collaboration	Develop regulations, procedures, standards, framework for WRUA operations	2	Year 2 - 3	10M	Restored catchment with adequate water quantity and	CD

resources management and regulation	Enforce regulations, procedures, standards, framework for WRUA operations	4	Year 1-5	25M	good water quality through engagement of WRUAs and Stakeholders.	Corporate
	Facilitate establishment and operations of Water Resource User Associations	300	Year 1-5	150M		Diego responsible
	Monitoring and supervision of WRUA activities	400	Year 1-5	400M		
	Review of WRUA boundary	5	Yr 4	5M		
	Develop WRUA materials for publication	10	Year 1-5	8M		
	Capacity building Counties & stakeholders in regulating the management and use of water resources	6	Year 1-5	10M		
	• Review and implement Corporate Communication Strategy	1	Year 1	2M	Strengthen capacity and training of groundwater development professionals for the public and private sector	Corporate
	• Develop and Implement Customer feedback Mechanism	4	Year 2	2M		
	• Review and implement Customer Service Charter	2	Year 2	3M		
	Undertake Customer Satisfaction Surveys	3	Year 1	2M		
	Promote WRUAs and stakeholders	Facilitate Development of SCMPs	300	Year 1-5	60M	

		participation and collective action in water resource planning, use and management	Engage WRUAs and stakeholders in Basin Planning , Abstraction & pollution surveys and Water Allocation plan	100	Year 1-5	5M		
			Engage WRUAs in commenting on permit application	100	Year 1-5	2M		
		Promote structured arrangements with stakeholders to provide finance for water sector research and development	Facilitate funding to WRUA by WRA WSTF and other partners	200	Year 1-5	200		
		Enhance the involvement of WRUAs and other stakeholders in water resource monitoring	Engage WRUAs as gauge readers	60	Year 1-5	36		
Organizational capacity	Strengthen institutional capacity and improve working environment	i. Improve institutional capacity to support Vision 2030 and the four agenda delivery	Trainings and capacity Buiding	200 No.	Year 1-5	50 M	Put in place a strong workforce that is professional, motivated, effective and efficient in-service delivery under all her mandate under this strategic objective.	HR/ Rmobi
			Replace retiring staff by recruitment and internal promotions	100 No	Year 1-5	10 M		
			Undertake Promotions based on performance	200 No.	Year I-5	10 M		
			Put in place a Technical Trainee programme	1 No	Year 1-5	5 M		
		ii. Enhance customer/stakehold	Improve visibility of the Authority	1No.	Year 1-5	5M		Corporate

		er satisfaction and retention	Develop and implement Corporate Branding Strategy	1No.	Year 1-5	2M		
			Undertake perception surveys	2No	Year 1-5	2M		
			Undertake CSR programmes	4No.	Year 1-5	1.5M		
			Develop awareness Strategy on WRA mandate	1No	Year 1-5	2M		
			Implement awareness strategy on WRA mandate	2No.	Year 1-5	2M		
			Improve staff Cohesion	1No	Year 1-5			
Financial	Enhance resource mobilization and effective use of the finances	i. Enhance resource mobilization and effective use of the finances	• Planning and performance monitoring		Year 1-5	20M	Reach out to all partners and supporters to mobilise resources.	Finance
			Adequate funding for water resources regulation					
			Increased investments into water resources					
		ii. Enhance linkages and partnerships	Enter into MoUs and agreements and develop projects			3M	• Participation of private sector and communities in water resource management and development.	RM
			Increased partnerships in water resources management					

	iii. Enhance multi-sectoral and public-private sector participation in WRM	Data Sales	Publicity and consultancy	Year 1 - 5	4M	Strengthen resource mobilization strategies in order to raise more finances. Detailed work plans and implementation matrices will act as tools for monitoring implementation progress of the Strategic Plan.	Commercial
	iv. Increase revenue collection	Enhance compliance on water use regulation.	Kshs. 5Billion	Year 1-5	500M	Improved internal processes Innovation for the systems,	Account
		Replace manual operations with digital systems					
	v. Improve operational efficiency	Modernizing Hardware with softwares					Commercial/ ICT/ Data