



**REPUBLIC OF KENYA**

**ENVIRONMENT, WATER AND IRRIGATION SECTOR REPORT 2010**

**MEDIUM TERM EXPENDITURE FRAMEWORK  
2011/12 – 2013/14**

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## List of acronyms

ACP-EU	The African, Caribbean and Pacific Group of States – European Union
ADB	African Development Bank
AFD	French Development Agency
AWOS	Airport Weather Observation System
AWS	Automatic Weather Stations
BADEA	Arab Bank for Economic Development in Africa
CAACs	Catchment Area Advisory Committees
CBF	Community Broadcasting Foundation
CCK	Communication Commission of Kenya
CDM	Clean Development Mechanism
CFAAs	Community Forest Associations
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COP	Conference of Parties
DANIDA	Danish International Development Agency
DCPC	Data Collection and Production Centre
DEAP	District Environmental Action Plan
DEC	District Environmental Committees
DIDWS	Directorate of Irrigation, Drainage and Water Storage
DLR	Directorate of Land Reclamation
DOE	Directorate of Environment
DRSRS	Department of Resource Survey and Remote Sensing
DWR	Directorate of Water Resources
DWS	Directorate of Water Services
E.A	Environmental Audits
E.I.A	Environmental Impact Assessment
EMCA	Environment Management and Coordination Act 1999
ERS	Economic Research Strategy for employment and Wealth Creation
ESD	Education for Sustainable Development
FAO	Food and Agricultural Organization
FCCs	Forest Conservation Committees
FITC	Forest Industrial Training Center
FRA	Forestry Resource Account
GDP	Gross Domestic Products
GHG	Green House Gases
GIS	Geographical Information Systems
GTZ	German Technical Cooperation
HOCs	Heads of Forest Conservancies
IDA	International Development Association of the World Bank
IFAD	International Fund for Agricultural Development
IGAD	International Governmental Authority In Development
IMTR	Institute for Meteorological Training and Research
IPPD	Integrated Payroll and Personal Database
JICA	Japan International Cooperation Agency
JKIA	Jomo Kenyatta International Airport
KEFRI	Kenya Forestry Research Institute
KFC	Kenya Forestry College

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KFS	Kenya Forest Service
KFW	German Development Bank
KKV	<i>Kazi Kwa Vijana</i>
KMD	Kenya Meteorological Department
KWS	Kenya Wildlife Service
LVEMP	Lake Victoria environmental Management Programme
MDGs	Millennium Development Goals
MEAs	Multilateral Environmental Agreements
MIA	Moi International Airport
MPER	Ministerial Public Expenditure Review
MRV	Monitoring, Reporting and Verification
MTEF	Medium Term Expenditure Framework
MTP	Medium Term Plan
NEAP	National Environmental Action Plan
NEC	National Environmental Council
NEMA	National Environmental Management Authority
NEPAD	New Partnership for African Development
NETF	National Environment Trust Fund.
NET	National Environment Tribunal
NCCRs	National Climate Change Response Strategy
NGOs	Non Governmental Organizations
NRM	Natural Resource Management
NWCPC	National Water Conservation and Pipeline Corporation
OPEC	Organization of Petroleum Exporting Countries
PCC	Public Complaints Committee
PEAP	Provincial Environmental Action Plan
PEC	Provincial Environment Committee
PFMPs	Participatory Forest Management Plans
PWD	Public Weather Display
RANET	Radio Internet
SANA	Situation Analysis and Needs Assessment
SEA	Strategic Environmental Assessment
SERC	Standard Enforcement Review Committee
SIDA	Swedish International Development Cooperation Agency
SLMP	Sustainable Land Management Project
SOE	State of Environment
TPU	Tourist Police Unit
UN	United- Nations
UNICEF -WASH	United Nations Children's Fund -Water, Sanitation and Hygiene
USAID	United State Agency for International Development.
VER	Voluntary Early Retirement
WASSIP	Water and Sanitation Service Improvement Project
WMO	World Meteorological Organization
WRA	Wildlife Resource Account
WRMA	Water Resources Management Authority
WRUA	Water Resources Users Association
WSB	Water Services Boards
WSP	Water Services Providers
WSTF	Water Services Trust Fund

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## EXECUTIVE SUMMARY

The Environment, Water and Irrigation Sector forms the bedrock for a clean, secure and sustainable environment by promoting the quality of the country's environment and natural resources in addition to forming critical linkages with the other sectors. The country's natural resources play a vital role in economic growth and poverty reduction. Prospects for the country's long-term growth are therefore dependent on effective management of these resources. It is estimated that 42% of GDP is derived from natural resource based on: agriculture, forestry, wildlife tourism, mining, water and energy. This Sector also contributes to about 37% of wage employment and 49% of total export earnings. In addition, sector provides a foundation for human survival and livelihood through provision of food, water, air, soil and other life support materials including early warning information for disaster risk reduction. The sustainable management of resources in this sector is, therefore, of priority in the country's development process.

The Sector's Vision is *"A clean, secure environment and sustainably managed natural resources"* with a Mission *"to promote, conserve and protect the environment and natural resources sustainably for national development."*

The strategic objectives of the sector are: Develop and review policies, legislation, regulations, standards, strategies and guidelines pertaining to the natural resources; Enhance sustainable management and development of environment, water and natural resources; Generate, manage and disseminate timely, efficient and accurate meteorological services, environment and natural resources data; Increase access to water and sewerage services; Promote Sustainable Utilization of Forestry and Wildlife Products; and Build capacity for sustainable environmental and natural resource management.

The programmes and projects that will be implemented in the MTEF period to address the challenges include: Water Supply and Sewerage/Sanitation Services; Water Resources Management and Water Storage; Irrigation and Drainage Infrastructure; Environment Management and Protection; Natural Resource Data and Information; Mineral Resources Management; Meteorological Services and Climate Change; Forestry Development, Research and Management; Wildlife Conservation and Management. These programmes will be implemented by the three Ministries and the SAGA's in the sector.

The sector's key policy priority areas in the medium term include:

- Expansion of water coverage and sewerage facilities;
- Scaling up water storage to improve water security in the climate variability;
- Scaling up irrigation to reduce dependence of rain fed agriculture;
- Catchment conservation as a source of water;
- Mitigation and adaptation measures on climate change impacts;
- Enforcement of environmental laws and regulations;
- Nairobi Rivers Rehabilitation and Restoration;
- Modernization of Meteorological Services;
- Mineral exploration and Mining Cadastre System;
- Restoration of forest cover in the five water towers and other forest areas from approximately 2% to 4% by 2012;
- Reduction of human wildlife conflict;

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- Upgrading premium parks to increase earnings and number of tourists

A review of the Sector performance and achievements for the period 2007/08 to 2009/10 shows that major achievements were made in increasing access to clean drinking water to an additional 2.5 million consisting of 1.5 million and 1.0 million in rural areas and urban respectively. This was through: the rehabilitation and expansion of Mzima Pipeline by 50 km to produce 10,000 m<sup>3</sup>/day of water, rehabilitation and expansion in 26 medium size towns, drilling and equipping 482 boreholes, construction and rehabilitation of 272 small dams and water pans in ASAL areas. In addition, over 100 urban water supplies were undertaken and another 350 small schemes in rural areas underwent rehabilitation and augmentation to increase access to the underserved. Construction of the 5 medium size dams namely Kiserian, Umaa, Chemususu, Badasa and Maruba which commenced within the period under review is progressing well. In terms of irrigation, during the last two years include 5200 hectares put under irrigation (NIB schemes 2300 hectares and small holder schemes 2900 hectares); 12900 farmers trained on efficient water use and management; 105 Irrigation Water Users Associations formed.

In the Environment and Mineral Resources sub-sector four major programmes addressing environmental issues as well as flagship projects in the Vision 2030 were implemented. These are Environment Management and Protection; Meteorological Services; Mineral Resources Management; and Environment Policy Development and coordination. The achievements for the period under review include; a National Climate Change Response Strategy (NCCRS) was formulated; a draft National Multilateral Environmental Agreement Strategy (MEAs) formulated, domesticated a number of ratified MEAs which include Rotterdam Convention where a country chemical profile and Situation Analysis and Needs Assessment (SANA) on environment and health has been done. Other achievements include environmental management, the programme has rehabilitated water catchment areas around the Lake Victoria Basin through the Lake Victoria Environment Management Programme II (LVEMP-II). In addition, some parts of the Mau forest complex were rehabilitated in collaboration with other government agencies such as Ministry of Forestry and Wildlife and Department of Defense by planting indigenous tree seedlings. Further, the Ministry put extra resources in key environmental programmes e.g. Nairobi River Programme which involved rehabilitation and restoration of Nairobi rivers basin.

Further, under the review period the Ministry undertook an assessment of the five (5) water towers as a priority in line with the vision 2030. In addition to raise awareness on environmental education at all levels a strategy on 'Education for Sustainable Development (ESD) was developed. On Mineral Resources Management, geological field surveys including geo hazard and geological mapping, mineral exploration, geo sites inventory, and inspection of mines and explosives were undertaken. In addition, a number of sensitization workshops/seminars were held in field stations to promote small scale mining operations. Under the Meteorological Services programme the Ministry established, among other facilities, a national observation network comprising 24 synoptic and Agro-meteorological manned meteorological observing stations, additional 1,000 rainfall stations, 1 upper-air observing station, 24 Automatic Weather Stations (AWS), 3 Airport Weather Observing Systems (AWOS), 4 tidal gauges with meteorological sensors, 17 Automatic Hydro-meteorological stations in River Zoia and Upper Tana basins, commenced construction of Weather Observatories at Ngong', Kakamega and Emb. The Ministry also, through KMD, hosted the 1<sup>st</sup> Conference of African Ministers responsible for Meteorology. In terms of

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weather and climate forecasts produced 4 seasonal forecasts, acquired and installed Meteofactory and VisuMet systems for sector specific weather products, acquired 3 Public Weather Display (PWD) boards. The Department also established urban climatology and pollution monitoring station for climate change detection at Chiromo.

The Forestry and Wildlife sub-sector runs three programmes which facilitate the achievements of the goals of the vision 2030. The programmes are Forestry and Wildlife Policy Regulation and Coordination, Forestry Development and Wildlife Conservation. Key activities include rehabilitation and protection of indigenous forests in the water towers of Mau escarpment, Mt. Kenya, Aberdare Ranges, Cherangany Hills and Mt. Elgon; securing and identification of wildlife corridors and their migratory routes among others.

The overall Actual Expenditure for the sector increased over the years from Kshs 19 billion to Kshs. 32 billion of which 69% of the funds went to Water and Irrigation sub-sector, 21% to Forestry and Wildlife and 10% to Environment and Mineral Resources sub-sector. However the actual expenditures fell below the approved estimates. In FY 2007/08 the absorption rate for the sector was 77%, 85% and 81% in FY 2008/09 and 2009/10 respectively. Some of the reasons were due to the unpredictability and slow release of Donor Funds hampering the implementation of planned development projects and also technical issues in the procurement of goods and services.

For the Sector to achieve its objectives and outputs, it will require Kshs. 99.6 Billion in the FY 2011/12 against available allocation of Kshs. 49.5 Billion (Kshs. 25.9 Billion from GoK and Kshs. 23.6 Billion from Donors). This shows that Sector programmes, projects and activities are half funded.

Emerging Issues arising in the Sector include Constitutional Requirements-The bill of rights in the new constitution guarantees every person the right to a clean and healthy environment. It also enshrines the right to clean and safe water in adequate quantities and also to reasonable standards of sanitation. The provision of the basic rights has to be funded from this sector despite the enormous resources beyond the ceilings required to attain them.

Despite steps taken to stabilize human population, Kenya's population has showed a steady increase and is projected to continue increasing over-time. The population patterns display migrations from rural areas into urban areas. In rural areas, increase in human population has resulted in increased economic activities as well as livestock populations with the net consequences of intense resource use competitions, human wildlife conflicts and environmental degradation.

The quality of land in the country is generally declining due to poor farming practices. Soil erosion resulting from deforestation and inappropriate agricultural practices are the main forms of land degradation. Soil cover and relevant canopy which are crucial for prevention of erosion and flash floods are gone.

The sector faces challenges in the implementation of programmes. Some of the key challenges are Water Scarcity-Renewable fresh water per capita stands at 647 cubic meters

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and is projected to fall to 235 cubic meters by 2025 if supply does not keep up with population/demand increase. The sector is also faced with the challenge of addressing the consequences arising from the climate change.

Low level of funding has also lead to Low Transfers to SAGAs as allocation remain constant, Insufficient funds for delinking programmes, insufficient counterpart funds, Implementation of the Cabinet Memorandum on Enhancing Sustainable Forest and Environmental Management in Kenya.

Other challenges include, late exchequer releases, mitigation of effects of human wildlife conflict, low staffing levels, low investments in the economic instruments in conservation and low investments in exploited minerals and forestry resources:

In conclusion, in order to achieve the targets Vision 2030, the sector requires finalising the pending policies and developing the necessary legal and institutional frameworks. These policies include Irrigation and Drainage Policy, Water Harvesting and Storage policy, Land Reclamation Policy, Forest Policy and Mineral Development Policy.

There is a low level of investment in the environment and mineral resources which needs to be addressed. For instance, the mineral sector contributes is just over 1% to the GDP yet there is immense mineral potential which needs to be developed. There is need for investments in minerals and other natural resources to be enhanced through research and development. It provides baseline information followed by aggressive marketing and promotion in local, regional and international forums such as trade fairs, exhibitions and conferences.

Low staffing levels in technical cadres in the Mines and Geological Department, Kenya Meteorological Department and DRSRS is a major challenge affecting implementation of sector projects and programmes. NEMA staffing level is low for both technical and support staff in the field. The police unit is currently having ten (10) personnel and cannot cover the whole country in enforcement. There is need for recruitment of additional technical staff be undertaken to alleviate the shortages.

Development of economic instruments in sustainable development and conservation of natural resources has been inadequate and need to be enhanced. For instance, in the energy sector instruments such as Clean Development Mechanisms (CDMs), Carbon Credits , polluter pays principle are not fully exploited. Thus economic instruments in conservation need to be promoted and marketed effectively.

The sector generally has inadequate databases for environmental management, policy development and reporting. The sector is in the process is establishing databases through their sub-sectors. To effectively establish and maintain the databases, the sector requires adequate funding.

The period under review, points to the fact that most of the sector budget is directed to SAGAs to address priority areas of the sector. However, funding need to be increased in line with the number of listed programmes in support of Vision 2030. The new Kenyan economic blue-print, recognises the sector to spearhead the country's journey into the category of middle-income status by 2030. High targets have consequently been set for the sector towards this goal and the achievement of these goals needs financial commitment from the

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Government as well as cooperation from other stakeholders. For the sector to remain on course a number of projects have to be initiated immediately and the sector needs enough funds to implement its component of the flagship projects. During the review period, the SAGAs actual receipts were less than the revised budget.

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## CHAPTER ONE: INTRODUCTION

### 1.1 Background

The Environment, Water and Irrigation Sector forms the bedrock for a clean, secure and sustainable environment by promoting the quality of the country's environment and natural resources in addition to forming critical linkages with the other sectors. The country's natural resources play a vital role in economic growth and poverty reduction. Prospects for the country's long-term growth are therefore dependent on effective management of these resources. It is estimated that 42% of GDP is derived from natural resource based on: agriculture, forestry, wildlife tourism, mining, water and energy. This Sector also contributes to about 37% of wage employment and 49% of total export earnings. In addition, sector provides a foundation for human survival and livelihood through provision of food, water, air, soil and other life support materials including early warning information for disaster risk reduction. The sustainable management of resources in this sector is, therefore, of priority in the country's development process.

The overall Sector objective of attaining sustainable development and management of the resources in the Sector will be achieved through targeted activities that aim at economic and ecological development that ensures equity. The Government has projected economic growth of 10% by the year 2012. The Environment, Water and Irrigation Sector is expected to play a significant role in the attainment of the targeted economic growth through the supply of key goods and services. Some of these include: provision of clean and safe water; irrigation infrastructure; wood and wood products; wildlife; clean and safe environment; data for weather and climate prediction; minerals; catchment conservation, management and protection; biodiversity resources. The Government is therefore committed to improving the management and protection of resources under the management of this Sector in efforts towards attainment of the Vision 2030 aspirations.

This Sector report reviews the performance and achievements of the programmes and analyses the trends in expenditures in the last three financial years (2007/08 - 2009/10). It also presents the priorities and the financial requirements to implement priority programmes geared towards delivering the Medium Term Plan priorities that will be executed through the flagship projects and ongoing programmes across all the sub sectors. This report has been prepared through a sub-sector wide consultation process involving all sub-sectors namely, Ministry of Environment and Mineral Resources (MEMR), Ministry of Water and Irrigation (MWI) and the Ministry of Forestry and Wildlife (MFW).

As already analyzed in the Medium Term Plan (MTP, 2008-2012), the sector however faces a number of challenges as already mentioned. These include:- environmental degradation, water scarcity, food insecurity, impacts of climate change, habitat and biodiversity loss, reduced forest cover and wildlife populations amid increasing human populations and changes in land use.

The Sector's key policy priority areas to address the challenges in the medium term include:

- Expansion of water coverage and sewerage facilities
- Scaling up water storage to improve water security
- Scaling up irrigation to reduce dependence of rain fed agriculture;
- Promoting efforts to increase forest cover in the country
- Reduction of human wildlife conflict;

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- Catchment conservation, protection and management
  - Mitigation and adaptation measures on climate change
  - Enforcement of environmental laws and regulations
  - Restoration of Nairobi Rivers
  - Modernization of meteorological services
  - Mineral exploration and mining cadastre system
  - Upgrading premium and less visited parks

This report is divided into seven chapters. The first chapter gives a broad overview of the sector and the purpose of the sector plans. The second chapter addresses performance and achievement of the sector programs for the period 2007/08 - 2009/10; the third chapter outlines the medium term priorities and financial plan for the MTEF period 2011/12 - 2013/14; chapter four deals with cross-sector linkages; chapter five addresses the emerging issues and challenges, while chapter six gives conclusions while chapter seven highlights the recommendations on how to address the challenges identified. The report outlines priority programmes and sub-programmes to be implemented over the 2011/12-2013/14.

## **1.2 Sector Vision and Mission**

**Sector Vision** *‘A clean, secure environment and sustainably managed natural resources’.*

**Sector Mission** *is to promote, conserve and protect the environment and natural resources sustainably for national development.*

## **1.3 Strategic Goals/Objectives of the Sector**

The Strategic objectives of the Sector are outlined below.

The strategic objectives of the sector are:

1. Develop and review policies, legislation, regulations, standards, strategies and guidelines pertaining to the natural resources;
2. Enhance sustainable management and development of environment, water and natural resources;
3. Generate, manage and disseminate timely, efficient and accurate meteorological services, environment and natural resources data;
4. Increase access to water and sewerage services;
5. Promote Sustainable Utilization of Forestry and Wildlife Products; and
6. Build capacity for sustainable environmental and natural resource management

## **1.4 Sub-sectors and their Mandates**

The following are the subsectors and their mandates,

### **Water and Irrigation**

To conserve and manage water resources, water storage, provision of water and sewerage services, development of irrigation and drainage, reclamation of wastelands, and capacity building.

### **Environment and Mineral Resources**

To protect, conserve and manage the environment and natural resources for socio-economic development.

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## **Forestry and Wildlife**

To protect, conserve and manage the forestry and wildlife resources through sustainable management for posterity

### **1.5 Autonomous and Semi Autonomous Government Agencies (SAGAs)**

The sector has a total of 19 SAGAs and four other institutions created by the various Acts of Parliament. Their roles are as follows;

## **Water and Irrigation**

The sub-sector has 15 SAGAs:

- a. **Water Appeal Board (WAB)** which is mandated to deal with conflict resolution within the sub-sector management under the Water Act 2002.
- b. **Water Services Regulatory Board (WASREB)** was established under the Act to regulate water and sewerage services provision including issuing of licenses, setting service standards and guidelines for tariffs and prices.
- c. **Water Resources Management Authority (WRMA)** was established under the water Act 2002 to be responsible for regulation of water resource issues such as water allocation, source protection and conservation, water quality management and pollution control as well as international waters.
- d. **Water Services Trust Fund (WSTF)** is responsible for the mobilization of financial resources for development and rehabilitation of water and sewerage services infrastructure, especially to poor and under-served areas.
- e. **Water Services Boards (WSBs)**, eight WSBs were established under the Water Act 2002 to manage water and sewerage service provision in their respective areas of jurisdiction. These are: Tana, Athi, Tanathi, Lake Victoria South, Lake Victoria North, Rift Valley, Coast and Northern Water Services Boards. Their role is to ensure efficient and economical provision of water and sewerage services, contracting Water Services Providers (WSPs), developing water and sewerage facilities, regulating water services and tariffs and procuring and leasing water and sewerage facilities.
- f. **The National Water Conservation and Pipeline Corporation (NWCPC)** established under the State Corporations Act in 1988 is an autonomous agency reporting to the Ministry. It is mandated under the Water Act 2002, to contract construction of dams and pans, bore holes and rehabilitation of flood canals on behalf of the Ministry.
- g. **Kenya Water Institute (KEWI)** was transformed in to a semi-autonomous institution in July 2002 under the Kenya Water Institute Act 2001. KEWI provides training, research and consultancy services in the water and irrigation sector.
- h. **National Irrigation Board (NIB)** established in 1966 through an act of Parliament, Irrigation Act is mandated to develop, promote and improve irrigated agriculture through sustainable exploitation of available irrigation and drainage potential in Kenya. Its key responsibility is development and management of the National Irrigation Schemes in Kenya.

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## Environment and Mineral Resources

The sub-sector has one SAGA and three other institutions:

- a) **The National Environment Management Authority (NEMA)**  
The Authority was established to exercise general supervision and coordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of policies, regulations and standards relating to the environment.
- b) Other EMCA institutions include,
  - **National Environment Trust Fund (NETFUND)**- Facilitates research intended to further the requirements of environmental management, capacity building, environmental awards, environmental publications, scholarships and grants
  - **National Environment Tribunal (NET)** responsible for reviewing administrative decisions made by NEMA relating to issues of revocation or denial of licenses, provide legal opinions to NEMA and carry out investigations.
  - **Public Complaints Committee (PCC)** responsible for investigating any allegations in relation to the condition of the environment.

## Forestry and Wildlife

This subsector has three SAGAs whose roles are highlighted below

- a. **Kenya Wildlife Service (KWS)**  
Its overall mandate is to conserve and manage wildlife and its habitats. It also has the sole jurisdiction over 26 national parks and an oversight role in the management of 33 national reserves and sanctuaries and 125 stations outside protected areas (representing 10% of Kenya landmass). Additionally, KWS has the legal mandate to enforce wildlife laws and regulations, provide visitor security, undertake research, translocation in wildlife conservation, developing and implementing management plans for national parks, promote tourism and wildlife conservation education and manage human wildlife conflict.
- b. **Kenya Forest Service (KFS)**  
It is responsible for the management, conservation and protection of all forests in gazetted forest areas, private and trustland; development of forest management plans in conjunction with other stakeholders; provision of technical training in forestry; provision of forest extension services and the development of industrial forest plantations
- c. **Kenya Forestry Research Institute (KEFRI)**  
The mandate of KEFRI is to: conduct research in forestry; Disseminate research findings; Co-operate with other research bodies within and outside Kenya carrying out similar Research; and establish partnership with other organizations and institutions of higher Learning in training and on matters of forestry

## 1.6 Role of Sector Stakeholders

The sector has a wide cross section of stakeholders. The major stakeholders and their roles are as presented in Table 1.6.

**Table 1.6: Stakeholders in the sector**

<b>Stakeholder</b>	<b>Role</b>
<b>Parliamentary Committee on Lands and Natural Resources (PCLNR)</b>	Provide support to the sector through lobbying and mobilization of parliamentary support to sector issues
<b>Other Government Agencies</b>	
KIPPRA	Provide technical support to sector policy development
KNBS	Development and preparation of national economic data
<b>Development Partners</b>	
World Bank, AfDB, GTZ, KFW, Finnish Government, JICA, AFD, DANIDA, Italy, BADEA, IFAD, SIDA, IDA, EDF/EEC, USAID, UNEP, UNDP, NEPAD, Switzerland	All have special projects they are implementing in collaboration with the government especially in Natural Resources Management
<b>Institutions of Higher Learning and Specialist Institutes</b>	
Universities, ILRI	Joint MOU in research relevant areas, support capacity building in related disciplines especially through short term trainings
Regional Center for Mapping of Resources for Development (RCMRD)	Support towards capacity development for mapping and natural resources development
<b>Non-Governmental Organizations, Community Based Organizations</b>	Community mobilization and engagement to support implementation of government policies
<b>Private Sector</b>	Resource mobilization and joint implementation of relevant projects
<b>Wildlife Clubs of Kenya (WCK)</b>	Provision of conservation education to the Kenya youth.

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## **CHAPTER TWO: PERFORMANCE AND ACHIEVEMENTS OF THE SECTOR DURING THE PERIOD 2007/08-2009/10**

### **PERFORMANCE OF PROGRAMMES**

This section highlights the performance of sub-sector programmes within the Environment, Water and Irrigation Sector for the period 2007/08 to 2009/10. The achievements of the programme priorities within the Medium Term Plan 2008 – 2012 are geared towards attainment of Vision 2030 goals of ensuring a clean and safe environment as well as spur economic growth.

#### **2.1. Water and Irrigation**

The programmes under the Water and Irrigation sub-sector's main activities are geared towards increasing water and sanitation coverage through rehabilitation and /or construction of water and sewerage infrastructure in both urban and rural areas, drilling of boreholes in areas where surface water availability is meagre and construction of water pans/small dams in ASAL areas. The sub-sector is also concerned with management of water resources through construction of large and medium size dams for water storage, water resources monitoring through rehabilitation and installation of hydro-meteorological stations and water quality assessments. Through development of irrigation and drainage infrastructure, and land reclamation, the subsector is able to contribute to agricultural production and food security by increasing the land under irrigation both in high potential and ASAL areas.

##### **2.1.1 Water Policy and Management**

In the period under review, the programme finalized the review of the water sector Transfer Plan to replace the old plan. The transfer plan provides a road map for the delinking of staff, assets and liabilities, to the water sector institutions. To ensure that there is smooth movement of staff within the sector, a pension scheme for the employees in the water sector institutions has been approved and will commence operations in 2010/11 financial year (FY). In addition, the inventory of Assets held by the water sector Institutions was finalized and their valuation will be finalized in the 2010/11 financial year.

The programme is also involved in the coordination of activities in the water sector. During the review period a water sector conference was held following the preparation of a sector review paper. This conference provides a reporting mechanism for the activities undertaken in the sector; challenges faced in the implementation of programmes and provide a way forward for the achievement of the water sector goals and objectives.

##### **2.1.2 Water Supply and Sewerage**

The Ministry provided access to clean drinking water to an additional 2.5 million people consisting of 1.5 million people in rural areas and 1.0 million people in urban areas through rehabilitation and expansion of urban and rural water supplies, drilling of boreholes, and construction/desilting of water pans and dams. This was mainly through:- (i) Design of Mzima Pipeline and Baricho intake were completed within the year under review and implementation will commence in the current Financial Year (ii) Urban water supplies infrastructure put under rehabilitation and expansion in more than 26 small and medium size towns like Machakos, Maralal, Wajir, Hola, Ruiru, Athi River, Siaya, Ol Kalou, Matuu,

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Maua, Kapsowar, Maseno, Kitui, Kilgoris and Kehancha), (iii) over 300 boreholes were drilled and equipped mainly in ASAL areas, (iv) 272 small dams and water pans constructed and rehabilitated in ASAL areas, (v) rehabilitation of over 100 urban water supplies was undertaken and another 350 small schemes in rural areas underwent rehabilitation and augmentation to increase access to the underserved.

During the same period, sanitation intervention measures resulted to additional 800,000 people being covered. This was due to intervention measures in Kisumu, Garissa and Wajir together with other onsite sanitation programmes by UNICEF and WSTF. During the period under review, Construction of Nakuru Water supply, Kakamega Water Supply and the Nzoia Cluster were completed. Works on Ol-Karao and greater Nakuru water supplies commenced within the same period.

### **2.1.3 Water Resources Management and Water Storage**

Construction of flood control dykes, multipurpose water conservation structures (reservoirs) along Nzoia and Nyando are underway and feasibility studies and detailed designs are currently ongoing. Construction of the 5 medium size dams namely Kiserian, Umaa, Chemususu, Badasa and Maruba which commenced within the period under review is progressing well. The projects are at the following completion stages; 15% for Chemususu, 33% for Badasa, 51 % for Kiserian, 50% for Umaa and 100% for Maruba. Kiserian and Umaa will be completed within the 2010/11 financial year while Badasa and Chemsusu dam will be completed in the 2011/12 financial year. The rehabilitation of Sasumua dam was also finalized. These dams will increase the national storage capacity by 21 million m<sup>3</sup> (raise per capita storage capacity by 0.6 m<sup>3</sup>). Other 9 large dams identified and whose designs are being reviewed are Koru, Kiteta, Mwache, Bonyunyu, Siyoi, Munyu, Itare, Thwake, and Rare.

A Cabinet Memorandum on water storage whose objective is to increase water storage from the current per capita of 5m<sup>3</sup> to 16m<sup>3</sup> targeting water supply for domestic, livestock, irrigation development and other uses has been prepared and submitted to cabinet for consideration and approval

The Ministry has also been undertaking the protection of existing water sources such as rivers, lakes and water aquifers through catchment management, pollution control equitable water allocation. This had also involved the formation and strengthening of Catchment Area Advisory Committees (CAACs) and Water Resources Users Association (WRUAs) for the protection and management of water catchment areas. The rehabilitation of 230 hydro-meteorological stations have been undertaken and data collection and routine maintenance of the stations was undertaken in the course of the year.

### **2.1.4 Development of Irrigation and Drainage Infrastructure**

The ministry has developed a draft irrigation policy to guide the country in the exploitation of its irrigation potential by recognizing various stakeholders' roles especially the small-holder farmers and the private sector. The draft policy has been presented to the Cabinet for consideration and approval. A total of 15,000 hectares were put under irrigation (NIB schemes 2,300 hectares and small holder schemes 2,900 hectares); 12,900 farmers trained on efficient water use and management; and 105 Irrigation Water Users Associations formed.

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Under Economic Stimulus Programme (ESP), a total of 158,000 bags of maize were produced thereby cushioning the country against food insecurity.

A total of 1,862 water conservation and rain water harvesting structures were constructed in the arid and semi arid lands thereby reclaiming and putting in food production a total of 1,500 hectares.

## **2.2 Environment and Mineral Resources**

The sub-sector is implementing four major programmes addressing environmental issues as well as flagship projects in the Vision 2030. These are Environment Management and Protection; Meteorological Services and Climate Change; Mineral Resources Management; and Environment Policy Development and coordination. Their performances are highlighted below.

### **2.2.1 Environment Policy Development and Coordination**

During the period under review, the programme, focused on a number of issues pertaining to environment. One such area is on climate change where a National Climate Change Response Strategy (NCCRS) was formulated. This was completed with a clear road map on how the country should tackle climate change issues.

In respect to Multilateral Environmental Agreements (MEAs) the Ministry has formulated a draft National MEAs strategy. In addition, the programme has domesticated a number of ratified MEAs which include Rotterdam Convention where a country chemical profile and Situation Analysis and Needs Assessment (SANA) on environment and health has been done; Stockholm Convention on Persistent Organic Pollutants (POPs); United Nations Framework Convention on Climate Change (UNFCCC) where a strategy on climate change has been developed; United Nations Convention on Biological Diversity (UNCBD); United Nations Convention to Combat Desertification (UNCCD); Nairobi Convention on Land – based Sources of Pollution and Coastal Zone of East Africa Region .

### **2.2.2 Environment Management and Protection**

On environmental management, the programme has rehabilitated water catchment areas around the Lake Victoria Basin through the Lake Victoria Environment Management Programme II (LVEMP-II). In addition, some parts of the Mau forest complex were rehabilitated in collaboration with other government agencies such as Ministry of Forestry and Wildlife and Department of Defense by planting indigenous tree seedlings. Further, the Ministry put extra resources in key environmental programmes e.g. Nairobi River Programme which involved rehabilitation and restoration of Nairobi rivers basin. Similarly, the Ministry has committed extra resources to rehabilitate Lake Naivasha catchment.

Further, under the review period the Ministry undertook an assessment of the five (5) water towers as a priority in line with the vision 2030. In addition to raise awareness on environmental education at all levels a strategy on 'Education for Sustainable Development (ESD) was developed. The strategy has been rolled out through training of Provincial and District Directors of Environment and the sensitization of lead agencies and educational institutions. Other initiatives include reduction effects of solid waste in Nairobi city focused

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on inventorying and reduction of illegal dumping sites within Nairobi. Baseline surveys on illegal dumpsites and effluent discharges were completed for Nairobi River Basin and a number of activities carried out to create environmental awareness under the Nairobi River Basin Programme. A transfer station was established, waste transporters were licensed, a baseline survey of illegal dumpsite revealed sixty four (64) illegal sites of which thirteen (13) were removed against a target of seven (7).

Under this programme NEMA's environmental information management capacity was strengthened by the appointment of five (5) officers to the authority's Multilateral Environmental Agreements (MEAs) unit. Training sessions were held to build capacity and awareness information disseminated through the website. Enforcement levels were enhanced through establishment and training of a police unit. All district and provincial environmental inspectors were gazetted as environmental inspectors and trained on prosecution procedures. In addition, a prosecution manual is being developed, while hundreds of licenses have been issued. A number of non-complying cases were also prosecuted.

Other initiatives include annual reporting State of Environment for 2009; the development of the mandatory Environmental actions Plans; land use guidelines together with Policy frameworks on wetlands; and integrated coastal zones management coupled with a national action plan for implementation. Further, gazetting of District Environment Committees (DEC), Provincial Environmental Committees (PECs) and National Environment Council

### **2.2.3 Mineral Resources Management**

The programme mainly focused on increasing investment in mining; geological field surveys including geo hazard and geological mapping, mineral exploration, geo sites inventory, and inspection of mines and explosives. In addition, a number of sensitization workshops/seminars were held in field stations to promote small scale mining operations. The Ministry also conducted Phase 1 of geotechnical investigation of thirteen (13) sites spread across all the regions to enable the construction and expansion of laboratory facilities.

### **2.2.4 Meteorological Services and Climate Change**

Under this programme, the Ministry established, among other facilities, a national observation network comprising 37 synoptic and Agro-meteorological manned meteorological observing stations, additional 1,000 rainfall stations, 1 upper-air observing station, 24 Automatic Weather Stations (AWS), 3 Airport Weather Observing Systems (AWOS), 4 tidal gauges with meteorological sensors, 17 Automatic Hydro-meteorological stations in River Nzoia and Upper Tana basins, commenced construction of Weather Observatories at Ngong', Kakamega and Embu. The Ministry also, through KMD, hosted the 1<sup>st</sup> Conference of African Ministers responsible for Meteorology. In terms of weather and climate forecasts produced 4 seasonal forecasts, acquired and installed Meteofactory and VisuMet systems for sector specific weather products, acquired 3 Public Weather Display (PWD) boards. The Department also established urban climatology and pollution monitoring station for climate change detection at Chiromo.

In addition, the Kenya Meteorological Department (KMD) continued to operate a communication network comprising of 3 Global Telecommunications Systems (GTS) namely: the Main Telecommunication Network (MTN), Regional Meteorological

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Telecommunication Network (RMTN) and National Meteorological Telecommunication Network (NMTN). The Institute for Meteorological Training and Research (IMTR), which is a designated World Meteorological Organization (WMO) Regional Training Centre (RTC), has continued to train Kenyans and trainees from other English-speaking African countries and hosted International workshops and seminars through the sponsorship of WMO and others countries.

## **2.3 Forestry and Wildlife**

The forestry and wildlife sub-sector has three programmes: Forestry and Wildlife Policy Regulation and Coordination; Forestry Development, Research and Management; and Wildlife conservation and management.

### **2.3.1 Forestry and Wildlife Policy Regulation and Coordination**

The programme has undertaken reforms within the forest and wildlife sectors especially the development and the enactment of the Forest Act 2005, development of Draft Wildlife Policy, Draft Forest Policy, and the creation of the institutional framework guiding the operations of KFS. Currently, the Ministry is coordinating the transitional process involving KFS and the forest department and also development and harmonization of subsidiary legislations for the Operationalisation of the Forest Act 2005. Much progress has been achieved in creating awareness on the Government's approach to participatory management of natural resources. Empowerment of local communities through facilitating their organization into legally recognized management groups has advanced.

### **2.3.2 Forestry Development, Research and Management**

The programme worked towards intensified conservation and sustainable management of all strategic forest resources especially the five water towers: Mt. Kenya, Aberdares, Mt. Elgon, Cherangani and the Mau complex resulting to environmental protection, economic growth and support to other sectors of the economy particularly agriculture and tourism. A total of 168,400 ha degraded gazetted natural forests were put under rehabilitation out of which 3,109 ha were rehabilitated through enrichment planting while the rest was through protection for natural regeneration. The year witnessed the commencement of recovery and rehabilitation of Mau Forest where over 19,000 hectares of forest land was recovered in the first phase of the recovery process. Over 238,000 hectares of degraded forest areas were put under rehabilitation programme through enrichment planting as well as protection for natural regeneration.

The programme also maintained and enhanced productivity of industrial forests plantation leading to increased wood production for the construction and industrial use, wealth and employment creation. The prolonged rainy season during the year enabled plantation establishment of 5,936 ha, out of which 4,040 ha was through the Plantation Establishment and Livelihood Improvement Scheme (PELIS). By the close of the year, the forest management inventory which had been going on since 2007/08, had inventoried a total of 124,866 hectares of plantation forests. The Service has continuously improved its revenue generation capacity over the past three years. This has seen the revenue grow to over Ksh 674 million during the year compared to 558 million during 2008/09

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Forest extension services on farm and dry lands resulted to increased tree cover to support sustained timber, wood fuel, non-wood forest products and environmental conservation. Over 99 million tree seedlings were produced for on farm planting which translates to about 99,000 hectares of farm forests. Tree growing and management in the farmlands and in the dryland are vital for controlling desertification and the improvement of livelihoods.

Other initiatives included: Fencing of Karura Forest and the Aberdares which significantly reduced illegal activities, human-wildlife conflicts in the forest and hence ensuring good forest health and promoted ecotourism; 15 participatory forest management plans were approved and officially launched. These included; 6 in Mt. Kenya, 6 in Aberdares, 2 in Mau and 1 in Coast conservancies. Three Subsidiary legislations were gazetted; Forests (sustainable forest management) Rules 2009, Forests (Harvesting) Rules 2009 and Forests (Charcoal) Rules 2009. These will go a long way in the implementation of the Forest Act 2005. During the year, 389 staff were recruited; 744 km of forest boundary realigned and 7,000 Km of forest roads maintained.

### **2.3.3 Wildlife Conservation and Management**

The programme was able to enhance response to wildlife and visitor security threats. The achievements included; enhanced law enforcement through surveillance and intelligence network which contributed to arresting of 2,962 poachers; combating of illegal trade was enhanced and 3,016 trophies recovered compared to 1,939 previous year; snares lifted decreased from 6,187 to 1,567 due to sustained bush meat operations; law enforcement in Mau Forest and intensified patrol contributed to 13,076 recoveries which discouraged forest destructions and the situation has hence stabilized.

Further on wildlife governance, the institution played a major role in developing new wildlife sector guidelines, represented Kenya in international conventions and treaties deliberations such as CITIES, disseminated information through publications, reports circulated through the internet and intranet.

A total of 3 management plans for protected areas were developed covering Samburu Isiolo, Hells Gate National Park and Kisumu Impala. In addition, two wildlife corridors and migratory routes (flagship project under Vision 2030) were mapped during the period. They are the Kitengela critical wildlife and pastoral zone and Mt. Kenya Ngare Ndare Corridor. Six management and conservation strategies for endangered species were developed and are under implementation. These include the Wild dog, Cheetah, Lion and Spotted Hyenas strategies, Black and White Rhino strategy, and Sea Turtle conservation strategy and sandal wood guidelines.

To address human wildlife conflict problems, construction of an electric fence began in Mt. Kenya and equipment was procured for rapid response Problem Animal Control and Management Unit (PAMU).

The institution contributed to Vision 2030 underutilized parks and Niche products Initiatives. Four parks were branded namely Hellsgate N. Park, Mt. Longonot N. Park, Kisumu Impala Wildlife Sanctuary and Ndere Island N. Park. Measures were taken to attract new investment to develop tourists' accommodation facilities in the parks through Public Private Partnership. 9 new lodges identified.

In conservation and management of Kenya's biodiversity, research was conducted in collaboration with other scientists and recommendations implemented. Areas of collaboration included a MoU with ICIPE research on products development; development of Biotechnology guidelines and Biodiversity indicators. KWS is also collaborating with Kenya Institute of Administration (KIA) in developing curriculum for the Strategic Leadership Development Programme.

KWS collaborated with other stakeholders (Rhino Ark) in conserving water catchment areas and indigenous forests, resulting in construction of the 400km Aberdare Ecosystem electric fence.

#### 2.4 Key Output of Sector and Sub-Sector Programmes

The performance of programmes and Sub-programmes in the Environment, Water and Irrigation Sector is presented in Table 2.3.1:

##### 2.3.1 Water and Irrigation

**Table 2.4.1: Sub-sector Performance –Water and Irrigation**

Programme/ Sub-Programme	Intended Output	Output Achieved	Remarks
<b>Programme 1: Water Policy and Management</b>			
<b>Outcome: Well coordinated water and irrigation sub sector</b>			
SP 1.1:Water Policy and Management	<ul style="list-style-type: none"> <li>- Well coordinated water sub-sector</li> <li>- Two key policies on Irrigation, drainage and land reclamation developed</li> <li>- Annual water sector conference held</li> </ul>	<ul style="list-style-type: none"> <li>- Irrigation and drainage policy prepared</li> <li>- Zero draft on land reclamation policy prepared</li> <li>- Recommendation of annual water sector conference prepared and rolled out</li> </ul>	<ul style="list-style-type: none"> <li>- Water Act 2000 Requires the Ministry's to provide sector coordination</li> </ul>
<b>Programme 2: Water Supply and Sewerage</b>			
<b>Outcome: Access to adequate and reliable water supply increased by 4% and sewerage increased by 2%</b>			
SP 2.1:Urban water and sewerage	- Urban water supplies in 26 medium size towns expanded	- 26 medium size towns urban water supplies infrastructure under expansion.	- Expansion in 26 medium size towns' urban water supplies infrastructure is MTP target.
SP 2.2:Rural water supply	- Construction /Rehabilitation of 180 water and sanitation projects in rural areas.	- 108 new water and sanitation projects constructed in rural areas.	- There is lack of sufficient funds

<b>Programme/ Sub-Programme</b>	<b>Intended Output</b>	<b>Output Achieved</b>	<b>Remarks</b>
SP 2.3: Water for informal settlements	- 100 boreholes drilled and 56 boreholes equipped.	- 105 new boreholes drilled and 131 existing boreholes equipped.	The boreholes drilled during 2008/09 were equipped in 2009/10 through emergency drought mitigation fund
<b>Programme 3: Water Resources Management and Water Storage</b>			
<b>Outcome: Water storage capacity increased by 10 million m<sup>3</sup></b>			
SP 3.1: Water Resources Management	- 600 hydro- meteorological stations rehabilitated.	- 230 Hydro-meteorological stations rehabilitated and operational.	- Limited funding - The 600 is for MTP period
SP 3.2: Water Storage and Flood Control	- 5 medium size dams and 88 small dams and water pans constructed.	- 1 medium size dam completed and 4 under construction - 111 small dams and water pans constructed.	- Extra dams and pans undertaken through emergency drought mitigation fund (2009/10)
<b>Programme 4: Provision of Irrigation and Drainage Infrastructure</b>			
<b>Outcome: Land utilization increased by 40,000 hectares per annum</b>			
SP 4.1: Development of Irrigation and Drainage Infrastructure	- 200 small-holder community irrigation schemes constructed. - 6 public irrigation schemes rehabilitated - 5,000 hectares of land under irrigation	- 113 small-holder community irrigation schemes constructed - 6 public irrigation schemes rehabilitated - 5,200 hectares put under irrigation	- The MTP annual target is 40,000 Ha/annum. The target was not met because of inadequate budgetary provision and water storage.
SP 4.2: Land Reclamation	- 1,700 water conservation and rain water harvesting structures constructed in ASALs annually	- 1,862 water conservation and rain water harvesting structures constructed.	- The additional achievement was due to additional funding by WFP to the beneficiary communities

**Table 2.4.2: Sub-sector Performance –Environment and Mineral Resources**

<b>Programme/ Sub-Programme</b>	<b>Intended Output</b>	<b>Output Achieved</b>	<b>Remarks</b>
<b>Programme 1: Environment Policy Development and Coordination</b>			
<b>Outcome: Improved environmental governance</b>			
SP 1: Environment Policy Development and Coordination	- Climate change secretariat	- Secretariat in place	
	- Climate change strategy	- A national climate change response strategy prepared	
	- Education for Sustainable Development (ESD) Policy finalized and implemented	- Draft ESD policy has been developed	
	- Chemical and Waste Policy in place	- National chemical profile developed	
<b>Programme 2: Environment Management and Protection</b>			
<b>Outcome: Sustainably managed environment and natural resources</b>			
SP 2.1. Resource Surveying and Remote Sensing	- Land use/cover database for the entire country in place and updated	Land use/cover database created 4 study reports produced	This is a flagship project
	- Wildlife/livestock database	Wildlife/livestock database created	
	- Vegetation database	Database created	
	- Sample units in the target districts completed	- Sample units in target districts completed	
	- Human/wildlife conflict map, satellite imagery report	- Maps and satellite imagery report produced	
	- Land use map, settlement patterns	- Maps & Reports	
SP 2.2: National Environment Management	- Multilateral Environmental Agreements (MEAs) Action Plans prepared	- National MEAs Strategy formulated	
	- Coastal and Marine resources conservation and biological resources inventory	- Two Inventories prepared	
	- Baseline surveys report and reduced illegal discharges into water bodies	- Baseline survey report prepared - 64 illegal discharges identified out of which 13 were removed against a target of 7	

Programme/ Sub-Programme	Intended Output	Output Achieved	Remarks
	- Environmental guidelines, regulations and standards developed and operationalized	- National Noise and Vibration Pollution standard Regulations operationalized - 59 cases prosecuted and finalised - 2,676 licences processed against a target of 948 on gazetted regulations	
	- National Inventory on green houses gases (GHG)	- National inventory on green House gases (GHG) prepared	
	- State of Environment (SOE) finalized and published	- State of Environment Report produced	
SP 2.3: Lake Victoria Environment Management Programme (LVEMPII)	- Harmonization of water and fisheries policies	- Water and fisheries policies harmonized	
SP 2.4 : Nairobi Rivers Rehabilitation and Restoration	- 60 km Nairobi River rehabilitated and restored	- 18 km of Nairobi rivers rehabilitated	Total length rehabilitated is 36KM which is 60% of total length targeted.
	- Total area of delineated reserve	- 30 M riparian reserve delineated	
	- Awareness creation	- Awareness creation Pamphlets/Posters and brochures developed - 48 campaigns held 3,000 pieces of awareness material printed and distributed	
	illegal discharges and dumping sites identified and stopped	- 64 illegal dump sites identified - 39 illegal discharges stopped	
SP 2.5: Catchment Rehabilitation and	- Number of seedlings planted - Area rehabilitated	- 700,000 seedlings	

<b>Programme/ Sub-Programme</b>	<b>Intended Output</b>	<b>Output Achieved</b>	<b>Remarks</b>
conservation		planted - 687.5 ha of Mau catchment rehabilitated	
<b>Programme 3: Mineral Resources Management</b>			
<b>Outcome: Enhanced Geological and Mineral information</b>			
SP 3.1: Mineral Resources Development	- Mining Law enacted and New Mining Policy developed	- Draft Mining Bill and Mining Policy prepared	
SP 3.2: Geological Survey and Mineral Exploration	- 700km <sup>2</sup> of Kimangau area geological map revised - Five (5) Geohazard areas mapped - Six (4) mineral prospects investigated - Geotechnical investigations conducted on Thirteen (13) sites for construction and/or expansion of laboratory facilities	- 700km <sup>2</sup> Kimangau area, Kitui County re-mapped and preliminary report produced - Five (5) geo hazard areas mapped - Six mineral prospects investigated and preliminary reports on iron ore, thorium, clay, dolomite, marble, and gypsum; - Thirteen (13) sites investigated and preliminary report prepared	
<b>Programme 4: Meteorological Services</b>			
<b>Outcome: Improved Meteorological Services</b>			
SP 4.1: Meteorological Systems modernization	- Automatic Weather Stations Network Established	- Phase I & II completed with installation and operationalisation of 24 AWS	- The project require a total of 300 AWS for its completion
	- Airport Weather Observing Systems Established	- Three (3) AWOS installed at JKIA, Wilson Airport and Moi International Airport	-
	- 4 Weather and Climate Info Centre for vulnerable rural communities - RANET FM stations Established	- 2 FM stations established at Kwale and Budalangi	- Kwale studio established awaiting frequency from the CCK

Programme/ Sub-Programme	Intended Output	Output Achieved	Remarks
	- weather and climate information disseminated	- 4 seasonal forecasts disseminated - 12 monthly forecasts made each year - Meteofactory and VisuMet systems installed at KMD HQs and IMTR - 3 PWD Board acquired	-
	- Provincial/ District weather bureaux established	- Constructed Ngong' Observatory. - Construction of Embu and Kakamega office block still on	- Process of acquisition for land suitable for establishing weather observatories still a major challenge
	- KMD transformed into a WMO Data Collection and Production Centre	- Process of acquiring equipment for IMIS started - Installed Sector specific products system at KMD HQs - Installed Automatic Message Switching System (AMSS) at KMD HQs and Moi International Airport - Installed 3 satellite ground receiver stations - installed internal telephone network, structured cabling & LAN at KMD HQs and IMTR-RTC	- IMIS is part of the WMO WIGOS/WIS project. - Treasury released only Kshs. 100 Million out of Kshs. 270 as part payment for the project
	- National and Regional Integrated Hydrometeorological Information and Decision Support System (IHymIDSS) established and operationalised	- 17 Hydromet stations installed	- This project is to cover all major watershed/ catchment areas

Programme/ Sub-Programme	Intended Output	Output Achieved	Remarks
	- Urban climatology established, pollution monitoring & climate stations for change detection and attribution	- Station established at Chiromo Campus - Mobile air-samplers acquired	-
SP 4.2: Adverent Weather Modification Programme (WeatherMod)	- Pre-feasibility Conducted and project proposal prepared	- Project proposal finalized and submitted to Treasury for consideration and approval	- The programme still awaiting for Treasury approval and full funding
SP 4.3: Human Capacity Development & Research	- National Meteorological Research Centre established	- Improved data collection and dissemination	-
	- WMO-RTC Hostels converted into self contained rooms	- Efficient and effective delivery of services	-
SP 4.4: Disaster management and early warning system	- National Seismological Network established and operationalized	- Kibwezi and Lodwar site completed	-

**Table 2.4.3: Sub-sector Performance- Forestry and Wildlife**

Programme/ Sub-Programme	Intended Output	Output Achieved	Remarks
<b>Programme 1 : Forestry and Wildlife Policy Regulation and Coordination</b>			
<b>Outcome: Enhanced protection, management and conservation of forestry and wildlife for national development</b>			
SP 1.1: Forestry and Wildlife Regulations	- Conservation Secretariat at Ministry HQ Established	- Secretariat established and Operationalized	- Strengthen secretariat by recruiting more technical personnel
	- All settlers in all the water towers and Gazzeted forests evicted	- Settlers in water towers evicted in Western Mau by Interim coordinating Committee appointed	- Hasten eviction to enhance conservation efforts
	- Wildlife Compensation Policy in place	- Wildlife Compensation Policy established in November 2009 Mau, Embombut	- It is on-going
	- Forest Policy in place	- Forest policy reviewed	-

Programme/ Sub-Programme	Intended Output	Output Achieved	Remarks
	-	- of forest plantation Coordinated	-
<b>Programme 2: Forestry Development and Management</b>			
<b>Outcome: Increased forest cover</b>			
SP 2.1: Institutional strengthening and provision of skilled manpower	- Institutions operationalised/functioning - 5,000 staff employed.	- 389 staff employed on parastatal terms	- Additional finances required for employment of staff to reach the 5000 target and to conduct trainings.
	- Forest officers trained	- trained 102 forest officers on paramilitary skills	- More resources needed for media activities
	- Forest policy finalized	- Draft prepared and reviewed by the Parliamentary Committee on Lands and Natural Resources and submitted to the ministry for further action in April,2010	-
	- 1000 staff sensitized on HIV&AIDS, drug and substance abuse and gender mainstreaming	- Awareness created	- Reduced infection rates among staff.
SP 2.2: Natural Forest Conservation	- Five water towers rehabilitated	- Community based management system in place through FCCs - 2,919.5 ha planted i.e. Mau, Mt Elgon, Aberdares, Mt Kenya and Cherengani Hills.	- Additional resources required for improved infrastructure and planting of water towers
	- Natural Forests protected	- 1,200,000 ha entire forest estate protected using 2,400 rangers	- Improved forest protection and monitoring facilities

Programme/ Sub-Programme	Intended Output	Output Achieved	Remarks
	- Natural tree seeds reproduced	- 600 kg of natural tree seed collected	- Support to management of flagship program
	- Forest management plans prepared.	- 15 plans completed	- To enable Community participatory Forest Management
SP 2.3: Industrial Plantation	- Exotic plantations established.	- 30,000 ha of exotic plantation planted	- Vision 2030 support initiative.
	- Industrial Forest plantation cover increased.	- 4,529.6 ha established and maintained. - Central Highlands, 1659.8 ha - Western, 509.0 ha - Eastern, 290.0 ha - Mau, 710.5 ha	- Backlog of 30,000 ha established and planted. - -
SP 2.4: Farm and private commercial forestry	- revenue generation from mature plantations increased	- North Rift, 1360.3 ha Kshs 516,279,100 collected from sales of timber products	- Lift of ban on logging to enable KFS collect revenue
	- farm and commercial forests established	- 150,000 ha of farm and commercial forestry established.	- Vision 2030 support initiative for 10% tree cover.
	- Tree seedlings produced and tree growing promoted in schools	- 500,000 seedlings produced.	- Additional resources required to produce not less than 150M seedling
SP 2.5: Dry land forest conservation and management.	- dry land forest conserved and master plan developed on dry land forests	- 150,000 ha of woodland conserved - 2300 ha of degraded sites rehabilitated	- Additional resources needed in line with Vision 2030.

<b>Programme/ Sub-Programme</b>	<b>Intended Output</b>	<b>Output Achieved</b>	<b>Remarks</b>
SP 2.6: Road infrastructure and maintenance.	- roads in the forests developed and maintained	- 3,000km of forest roads maintained.	- Resource constraints for maintaining 7,000km of forest roads.
<b>Programme 3 : Wildlife Conservation and Management</b>			
<b>Outcome: Enhance wildlife conservation for national development and vision 2030</b>			
SP 3.1: Conservation & Protection and of Wildlife	- 100 % response rate to poaching incidences	- 4,316 offenders prosecuted in various courts of law	- Flagship
	- Recovery of trophies	- Recovery of 1,939 assorted trophies comprising of 487 pieces of ivory and 618 pieces of bush meat.	
		- Recovery of 46 firearms and 773 ammunitions.	
	- 1000 officer trained.	- 1,049 officers trained	
	- Border patrols conducted.	- 6 cross border wildlife security operations (Kenya – Tanzania – Uganda)	
	- 70 kilometers of fence in Mt.Kenya done. - 30 kilometers of fence done in Tsavo	- 35 km of fence done in both Mt.Kenya and Tsavo.	Flagship
	- Create a baseline on Wildlife migration corridors.	- Corridors identified	
	- 80% Response rate to human wildlife conflict issues	- 100% response rate to human wildlife conflict cases	
	- 100 schools and colleges to be visited	- Conservation education equipment procured	Flagship
		- 112 schools and colleges visited	

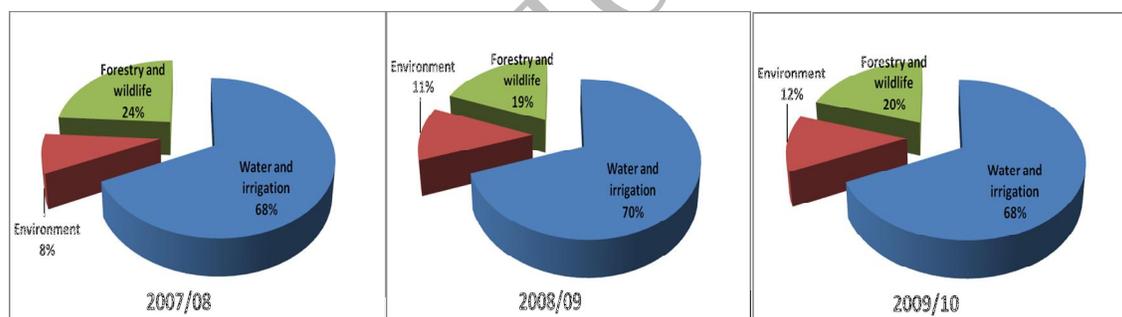
Programme/ Sub-Programme	Intended Output	Output Achieved	Remarks
	- 3 MEAs multilaterals to be signed and Wildlife agreement to be updated	- Participated in wildlife multilateral agreements (CITES, Ramsar, Lusaka Taskforce)	Flagship
	- Enhance Financial sustainability	- Endowment fund set up with trustees	Flagship
	- Habitat areas of Mt. Kenya, Tsavo and Meru restored	- 10 Translocations done	Flagship
	- Species specific management plans.	- Lion, Zebra, Rhino strategy done	
	- 2 park management plans developed	- 2 park management plans done (Amboseli and Nairobi)	
SP 3.2: National Parks & Reserves Management	- Improve forest cover and habitat value	- Generation of scientific information for decision making.	Flagship
		- Rehabilitating degraded forests areas with appropriate species(Mt.Kenya)	
	- Maintaining integrity of the ecosystems and landscapes.	- Assessment of status of ecosystems and landscapes done.	
	- Branding of national parks and reserves	- 2 parks branded	flagship
	- International marketing of the parks.	- Participate in World Tourism Market International exhibition participation (London, Milan, Russia),	
	- 400 km of road routinely maintained	- 350 Km done in various parks	Flagship
	- 1 airstrips uplifted to bitumen level	- 1 airstrip upgraded to bitumen (Nakuru)	
SP 3.3: Youth Conservation education	- Sensitizing youth groups in wildlife conservation and protection	- 9,000 youths sensitized country wide.	Flagship

## 2.5 Expenditure Analysis

The overall Actual Expenditure for the sector increased over the years from Kshs 19 billion to Kshs. 32 billion of which 69% of the funds went to Water and Irrigation sub-sector, 21% to Forestry and Wildlife and 10% to Environment and Mineral Resources sub-sector. However the actual expenditures fell below the approved estimates. In FY 2007/08 the absorption rate for the sector was 77%, 85% and 81% in FY 2008/09 and 2009/10 respectively. Some of the reasons were due to the unpredictability and slow release of Donor Funds hampering the implementation of planned development projects and also technical issues in the procurement of goods and services. Appendices 1 – 3 give details of the expenditure analysis per programmes/sub-programmes as well as economic classifications for the sector. Table 2.5.1 gives the analysis of sector expenditure while figure 2.1 gives the percentage expenditure allocation as per sub-sectors.

**Table 2.5.1 Analysis of Sector Expenditure 2007/08-2009/10 (Kshs. millions)**

Sub-Sector	Revised Estimates			Actual Expenditure		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Water and Irrigation	16,789	24,074	27,789	12,902	19,545	21,748
Environment and Mineral Resources	2,288	3,418	4,554	1,539	3,168	3,740
Forestry and Wildlife	5,490	5,587	6,977	4,547	5,347	6,389
<b>Total Expenditure.</b>	<b>24,567</b>	<b>33,079</b>	<b>39,320</b>	<b>18,988</b>	<b>28,060</b>	<b>31,877</b>



**Figure 1 Percentage Expenditure Allocation as per Sub-sectors, 2007/08 – 2009/10**

### 2.5.1 Analysis of Recurrent Expenditure

Table 2.5.2 shows the analysis of recurrent expenditure (Approved and Actual) by subsectors in the Environment Water and Irrigation Sector for the period 2007/08 to 2009/10. Analysis indicate that the total Sector's actual recurrent expenditure increased from Kshs. 8,475 million in 2007/08 to Kshs. 10,337 million in 2009/10. The proportion of recurrent expenditure in relation to the sector expenditure decreased from 55% to 41%, indicating a shift in priority to development programmes.

**Table 2.5.2: Analysis of Sector Recurrent Expenditure 2007/08-2009/10 (Kshs. millions)**

	Revised Estimates			Actual Expenditure		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Water and Irrigation	3,609	4,677	4,536	3,574	4,128	4,012
Environment and Mineral Resources	1,836	2,164	2,221	1,743	1,978	2,061
Forestry and Wildlife	3,289	3,705	4,285	3,158	3,697	4,264
<b>Total Recurrent Exp.</b>	<b>8,734</b>	<b>10,546</b>	<b>11,042</b>	<b>8,475</b>	<b>9,803</b>	<b>10,337</b>
<b>Recurrent as % of Total Sector's Expenditure</b>	<b>50%</b>	<b>46%</b>	<b>38%</b>	<b>55%</b>	<b>45%</b>	<b>41%</b>

In the Water and Irrigation Sub-Sector, recurrent actual expenditure increased by 15.5% from Kshs 3.6 billion in 2007/08 to Kshs 4.1 billion in 2008/09. This was due to salary increase for officers in Job Groups A-L in the Civil Service.

The recurrent expenditure analysis in the Environment Sub-Sector indicates that the total actual recurrent expenditure increased from Kshs. 1,743 million in 2007/08 to Kshs 2,061 million in 2009/10.

The expenditure analysis for Forestry and Wildlife sub-sector Ministry for the 2007/2008 Financial Year was done from former forest department and KWS which were hived from other Ministry's. The increase between 2008/09 and 2009/10 was mainly due to the relocation of the Ministry headquarters and set up costs.

### 2.5.2 Analysis of Development Expenditure

Table 2.5.3 presents data on the sector and subsector Development Expenditure (approved and actual) for 2007/08 to 2009/10 financial year. The total actual development increased from Kshs. 6,969 million in 2007/08 FY to Kshs. 14,659 million in 2009/10 FY. The proportion of Development Expenditure in relation to the sector expenditure increased from 45% to 59%, indicating a shift in priority to development programmes.

**Table 2.5.3: Analysis of Sector Development Expenditure 2007/08-2009/10 (Kshs. millions)**

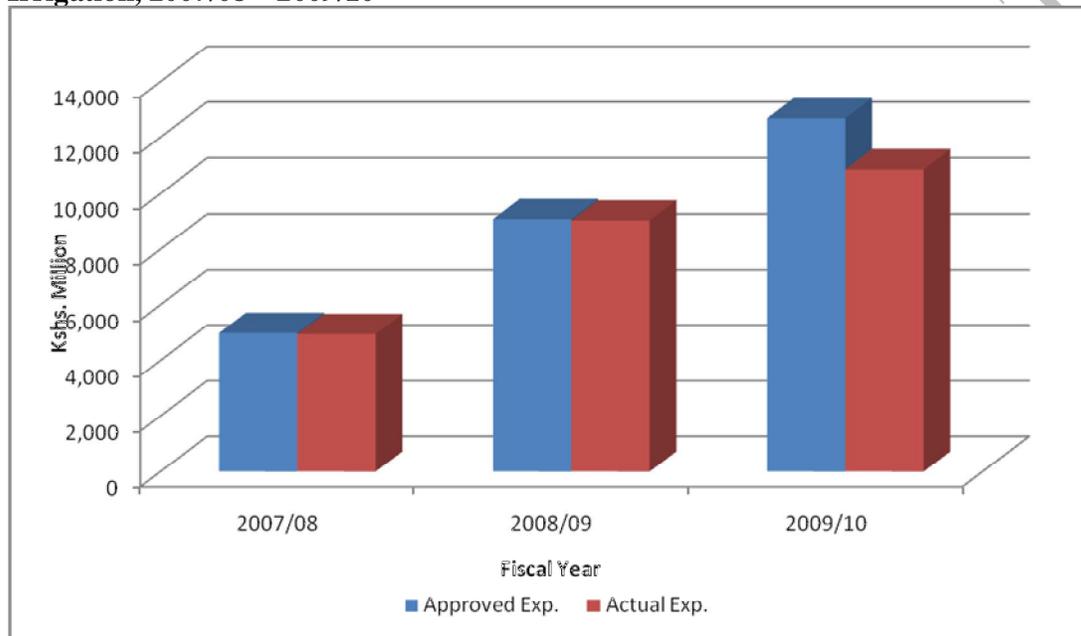
Sub-Sector	Approved Estimates			Actual Expenditure		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Water and irrigation	3,609	4,677	4,536	3,574	4,128	4,012
Environment and Mineral Resources	1,836	2,164	2,221	1,743	1,978	2,061
Forestry and wildlife	3,289	3,705	4,285	3,158	3,697	4,264
<b>Total Recurrent Exp.</b>	<b>8,734</b>	<b>10,546</b>	<b>11,042</b>	<b>8,475</b>	<b>9,803</b>	<b>10,337</b>
<b>Recurrent as % of Total Sector's Expenditure</b>	<b>50%</b>	<b>46%</b>	<b>38%</b>	<b>55%</b>	<b>45%</b>	<b>41%</b>

### Water and Irrigation

In the Water and Irrigation subsector, there was significant increase in development expenditure (see Figure 2.2). The increased total development expenditure in 2008/09 was

due to increased GoK development funding by 45% to Kshs 9.1 billion in 2008/09 from Kshs 5.0 billion in 2007/08. The extra funding was for the implementation of *Kazi Kwa Vijana* Programme and emergency water provision through drilling of boreholes in Nairobi City and other areas. Figure 2.2 also shows that there was minimal variance between the Approved and Actual Development expenditure. This is due to high absorption of GoK funds which was estimated at 95.6 percent in 2008/09 financial year (FY) and 99 percent in 2007/08 FY. Overall, the absorption of funds was 81.2 percent in 2008/09 with development partners (*Appendix 1.1*) contributing 61.9 percent.

**Figure 2.2: Trends in Approved and Actual Development Expenditure-Water and Irrigation, 2007/08 – 2009/10**

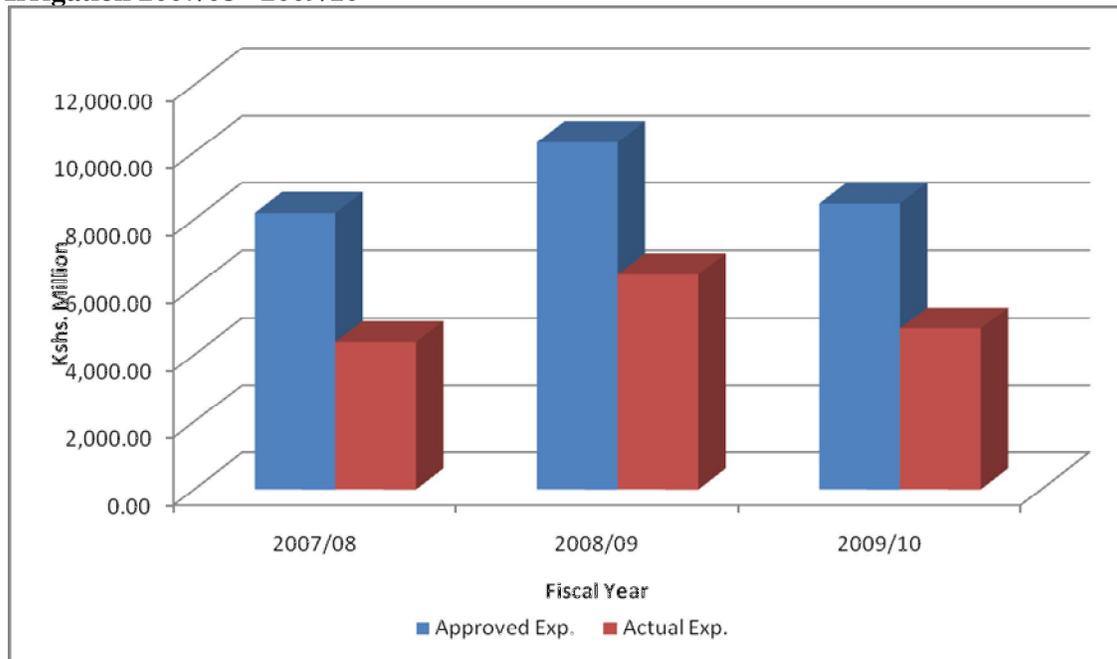


There was also considerable increased funding from development partners by 21% to Kshs 10.3 billion from Kshs 8.2 billion in 2007/08 (*Appendix 1.1*). The increased funding were mainly for the implementation of water and sanitation projects. Overall, the funding increased by 72.9% from Kshs 16.8 billion in 2007/08 to Kshs 24.1 billion in 2008/09.

During the period under review, the unpredictability and slow release of Donor Funds hampered the implementation of planned development projects. In 2008/09, the actual receipts were Kshs 6.4 billion out of the approved estimates of Kshs 10.3 billion, which is 61.8%. (*Appendix 1.1*)

The trend in the expenditure of Donor funds is presented in Figure 2.3. The gap between approved and actual expenditures is mainly due to low disbursement of funds from development partner which was 61.8% as compared to GOK at 95.6%. In order to narrow the gap, there is need to harmonize disbursement of donor funds through deepening of SWAP. On GOK funds, there is need to ensure timely exchequer releases since this has strong bearing on implementation of infrastructural project

**Figure 2.3: Trends in the Donor Approved vs. Actual Expenditure -Water and Irrigation 2007/08 - 2009/10**



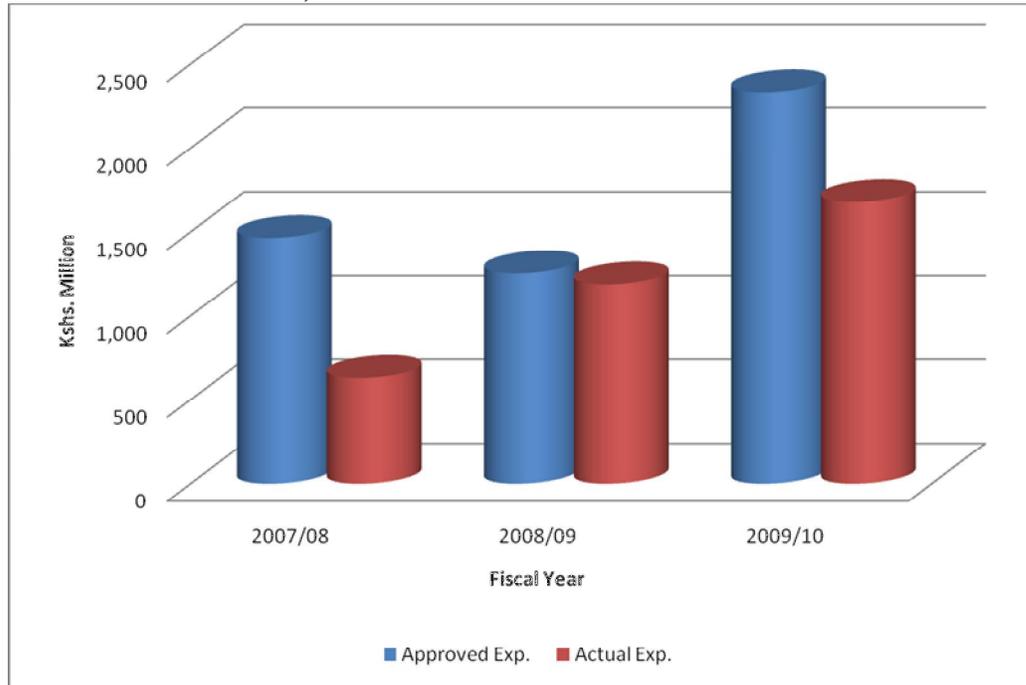
### Environment and Mineral Resources

The trend in the sub-sector's Approved and actual expenditures from 2007/08 to 2009/10 as presented in Table 2.5.3 shows that the actual expenditure grew from 67% in 2007/08 to 82% in FY 2009/10. A critical examination indicates that the disparity between actual expenditure and revised estimates for 2007/08 was Kshs 749 Million which is attributed to Sustainable Land Management

Project which was included in the printed estimates yet its activities did not take off. The disparity between the actual expenditure and revised estimates was especially high in 2009/10 financial year (Kshs 814 million). This is attributed to late release of funds for implementation of Lake Victoria Environment Management Programme (LVEMP) by World Bank . In addition, financial processes were affected by unused GoK funds because donor counterpart project funds were not released, limited of capacity to operate the IFMIS in the Ministry and due to continuous power outages at its headquarters . Delays in procurement process especially for plants and machinery to be imports also led to low expenditure. Nevertheless, the Ministry is putting in place measures to sustain an increasing trend in development expenditure.

The figure 2.4 below shows a general trend on expenditures in the Ministry.

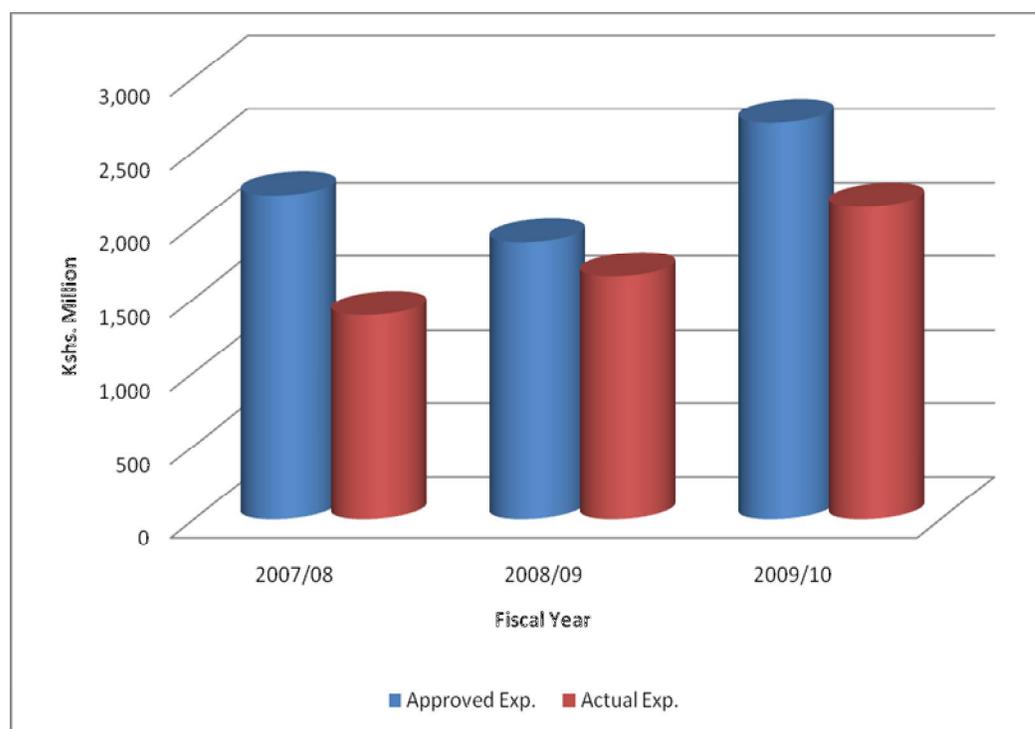
**Figure: 2.4: Trends in Approved and Actual Development Expenditure- Environment and Mineral Resources, 2007/08 – 2009/10**



### **Forestry and wildlife**

The absorption of development funds was averagely 73% in 2007/2008 Financial Year while there was a significant improvement in 2008/2009 Financial Year to 90%. The low absorption in 2007/2008 was mainly due to low disbursement of donor funds which could be associated to the effects of post election violence during the last two quarters of FY 2007/2008. Local revenue collections were also low hence not all exchequers were released during the same period. In FY 2008/2009, the improvement in political climate saw the donor community enhance their disbursement and also local revenue collections improved. The decline of absorption rate in 2009/10 (Figure 2.5) was mainly due to the austerity measures to fund the ESP and the mild drought experienced during the FY. Figure 2.5 shows the expenditure trends for the sub-sector.

**Figure: 2.5: Trends in Approved and Actual Development Expenditure-Forestry and Wildlife, 2007/08 – 2009/10**



### 2.5.3 Analysis of Externally Funded Programmes

Table 2.5.4 presents the total of resources for externally funded programs. The sector received a total of Kshs. 5,404 Million against expected donor funding of Kshs. 9,247 Million in 2009/10 financial year, representing a surplus/deficit of Kshs. 3,843 Million. The average percentage release of external funds was 59% over the period 2007/08 to 2009/10.

**Table 2.5.4: Analysis of the Externally Funded Programmes (Kshs. millions)**

Sub-Sector	Approved Estimates			Actual Expenditure		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Water and Irrigation	8,189	10,307	8,468	4,378	6,376	4,780
Environment and Mineral Resources	790	305	779	448	316	487
Forestry and Wildlife	1,137	0	0	629.6	31	137
<b>Total Donor Exp.</b>	<b>10,116</b>	<b>10,612</b>	<b>9,247</b>	<b>5,456</b>	<b>6,723</b>	<b>5,404</b>

### Water and Irrigation Sub-Sector

Table 2.5.5 highlights the sources of externally funded in the Water and Irrigation sub-sector during the year 2009/10. During the year 2009/10, approved funding from external resources was Kshs 8.5 billion which is a decrease by 17.8% from Kshs 10.3 billion in 2008/09. In 2009/10, Kshs 4.8 billion was expended which is 56.4% of the approved expenditure. This indicates a lower absorption capacity than in 2008/09 where Kshs 6.4 billion was expended which is 61.9% of the approved expenditure.

The following are the key externally Funded Programmes during the year under review:

**Table 2.5.5: Analysis of the Externally Funded Programmes (Water and Irrigation)**

PROGRAMME	Donor	Approved Estimates			Actual Expenditure		
		2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Mount Kenya East Pilot Project	IFAD	268	383	338	130	314	265
Water services improvement for the urban poor	EU/KfW	-	50	482	-	50	440
Nairobi Water and Sanitation Emergency Physical Investment Project	IDA/AFD	670	2941	924	530	1613	326
Water and Sanitation improvement in Informal settlements in AWSB	EU	-	-	67	-	-	47
Water and Sanitation improvement in Informal settlements in TWSB	EU	-	-	159	-	-	89
Water Services Support Project in CWSB	AFD	11	344	300	8	337	34
Kisumu Water and Sewerage Project	AFD/ADB	840	650	725	155	145	157
Water Governance in Lake Victoria south	ACP-EU	-	-	161	-	-	61
Lake Victoria Region Water and Sanitation Initiative	UN-Habitat						
Nyeri water and sanitation project	KfW	431	238	-	408	102	-

PROGRAMME	Donor	Approved Estimates			Actual Expenditure		
		2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
CETRAD	Switzerl and	12	12	12	11	17	6
Water Sector Development Program Phase I and II	KfW/G ER	-	2434	2415		1862	1059
Rift Valley Water and Sanitation Project	ADB	811	813	586	590	743	476
Water and Sanitation Services Improvement Program	World Bank/A FD	-	650	-		145	-
Water Services Boards Support Project in NWSB	ADB	-	254	280	-	191	23
Garissa Sewerage Project	BADEA /OPEC	-	-	375	-	-	88
Capacity Building for Rural Water Services Providers in Northern Kenya	ACP- EU	-	-	41	-	-	25
Kenya Italy Debt for developmet Pro.gramme	Italy	-	-	615	-	-	397
Kenya Water and Sanitation Program (KWSP)	SIDA/D ANIDA	-	315	380		295	380
UNICEF WASH Programme	Govern ment of Netherla nds	-	-	389	-	-	336
Natural Resources Management Project (NRM)	World Bank	-	390	1348	-	364	933
Water Sector Reform Program	GTZ	-	-	220	-	-	143
Small Holder Irrigation Program for Mt. Kenya Region	KfW	135	153	150	59	108	143

PROGRAMME	Donor	Approved Estimates			Actual Expenditure		
		2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Project for Sustainable Smallholder Irrigation and Management (SIDEMAN)	JICA	33	44	61	33	44	61
Bura Irrigation Project	BADEA /KUWA IT / OPEC	-	10	200	-	10	133
Hola Irrigation Project	BADEA	150	240	25	138	202	2
<b>TOTAL</b>		<b>3,361</b>	<b>9,921</b>	<b>10,255</b>	<b>2,064</b>	<b>6,541</b>	<b>5,624</b>
<b>% of funds released</b>					<b>61%</b>	<b>66%</b>	<b>55%</b>

#### Environment and Mineral resources Sub-Sector

Table 2.5.6 highlights the sources of externally funded in the Environment and Mineral sub-sector during the year 2009/10. Funding support was received from IDA, DANIDA, UNEP and EDF/EEC. The sub-sector expected a total of Kshs 778.5 billion but received Kshs 487.4 billion in the 2009/10 financial year. This represents 63% of the total funds that were received.

**Table 2.5.6: Analysis of the Externally Funded Programmes (Environment and Mineral resources)**

Programme	Donor	Approved Estimates			Actual Expenditure		
		2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Preparation of the second phase management of LVEMP- Loan-Rev	IDA	74	49	379	31	5	281
Environment Sector programme support-Headquarters-Grant-AIA	DANIDA	0	60	105	52	50	105
Environment Sector programme support-NEMA- Grant-AIA	DANIDA	153	60	132	54	48	65
(CDEMP) Capacity Building Facilities NEMA (CBF)-Grant-AIA	EEC	382	91	111	308	174	19

Programme	Donor	Approved Estimates			Actual Expenditure		
		2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Capacity building and technology Assistance- Grant-AIA	UNEP		8	5			5
Phasing out ozone depleting substances project -Grant-Rev	UNEP	2	9	9	1	4	
Capacity building and bio-carbon fund-Grant-Rev	IDA	12	10	10	0	33	2
Mt Elgon Regional Ecosystem Conversation Mgt-Grant-Rev	EDF/EE C	17	18	28	0	1	11
Climate Change enabling activities	UNEP	11	0	0	0	0	0
Natural Resource Management	World Bank	15	0	0	0	0	0
State of Environment	UNDP	7	0	0	0	0	0
Nakuru Environment Project	JAPAN	111	0	0	0	0	0
Enabling activities for implementation of Stockholm Convention(POPs)	UNEP	6	0	0	2	1	0
<b>Total Donor Exp.</b>		<b>790</b>	<b>305</b>	<b>779</b>	<b>448</b>	<b>316</b>	<b>488</b>
<b>% of funds released</b>					<b>57%</b>	<b>104%</b>	<b>63%</b>

### Forestry and Wildlife Sub-Sector

Table 2.5.7 highlights the sources of externally funded in the Forestry and Wildlife sub-sector during the year 2009/10. Some donors never released funds at all, some projects were fully funded. In general release of donor funds has been relatively low averaging 28%.

**Table 2.5.7: Analysis of the Externally Funded Programmes (Forestry and Wildlife)**

Programme	Donor	Approved Estimates			Actual Expenditure		
		2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Miti Mingi Maisha Bora & Intensified Social Forestry	Finland Republic	63	0	150	39	0	0
National Forest Programme	World Bank	7	0	0	0	0	0
Mt Kenya East Pilot Project	IFAD/GEF	108	52	16	80	31	9

FAO Netherlands partnership Acacia Operation	Netherlands	45	0	0	0	0	0
Preparation for readiness plan(FCPF)	IDA	0	183	18	0	94	18
Natural Resources Management-KWS	USAID	50		174	24.6		106
Support to Community Based Farm Forest	IDA	0	39	15	0	17	15
Institutional Strengthening -KFS	Finland	16	0	0	0	0	0
Natural Resources Management-KFS	World Bank	352	0	250	16	0	242
Meru Conservation Area	FRANCE	393	0	0	64	0	0
Green zones Devpt Project	AfDB	103	0	263	91	0	190
<b>TOTAL</b>		<b>1137</b>	<b>274</b>	<b>886</b>	<b>314.6</b>	<b>142</b>	<b>580</b>
<b>% of funds released</b>					<b>28%</b>	<b>52%</b>	<b>65%</b>

## 2.6 Review of Pending Bills

The total pending bills for the sector during 2009/10FY was Kshs 270 Millions which comprised Kshs 205M due to lack of liquidity and Kshs 65M due to lack of provision. The total pending bills in 2007/08FY was Kshs 1,737 Millions which declined by 84% compared to the 2009/10FY.

**Table 2.6.1: Review of Pending Bills – Environment, Water and Irrigation Sector**

	Due to lack of liquidity			Due to lack of provision		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Water and irrigation	96	0	67	1,212	0	0
Environment and Mineral Resources	429	284	138	0	0	65
Forestry and wildlife	0	12	0	0	0	0
<b>Total</b>	<b>525</b>	<b>296</b>	<b>205</b>	<b>1,212</b>	<b>0</b>	<b>65</b>

### 2.6.1 Recurrent Pending Bills

The total Recurrent Pending bills for the sector during 2009/10FY was Kshs 103 Million which comprised Kshs 38M due to lack of liquidity and Kshs 65M due to lack of provision.

The total pending bills in 2007/08FY was Kshs 353Millions which declined by 70% compared to the 2009/10FY.

### Water and Irrigation

During the 2009/10 the total recurrent pending bills were Kshs 1.6 million. The pending bills occurred were due to nonpayment of suppliers of goods and services as a result of lack of liquidity.

**Table 2.6.2: Review of Pending Bills - Water and Irrigation**

Recurrent Pending Bills	Due to lack of liquidity			Due to lack of provision		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Utility telephone	0	0	0	0	0	0
Electricity	0	0	0	0	0	0
Water	0	0	0	0	0	0
Personal claims	0	0	0	0	0	0
Others-specify (unpaid suppliers)	55.8	0	1.6	283.5	0	0
<b>Total</b>	<b>55.8</b>	<b>0</b>	<b>1.6</b>	<b>283.5</b>	<b>0</b>	<b>0</b>

### Environment and Mineral Resources

During the Revised Estimates, the sub-sector's recurrent budget (2007/08) was cut by the Treasury through the austerity measures but commitments had already been effected. While the exchequer was adjusted downwards, the commitments which had already been made could not be honored.

**Table 2.6.3: Review of Pending Bills - Environment and Mineral Resources**

Recurrent Pending Bills	Due to lack of liquidity			Due to lack of provision		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Utility telephone	0.8	41	0	0	0	65
Electricity	0	6	0	0	0	
Water	0	5	0	0	0	0
Personal claims	0.2		0	0	0	0
Others-specify	12	132	36	0	0	0
<b>Total</b>	<b>13</b>	<b>184</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>65</b>

### Forestry and Wildlife Resources

The Ministry did not have pending bills in the 2007/2008. Recurrent pending bills were due to of liquidity in 2008/09FY. The pending bills are already settled.

**Table 2.6.4: Review of Pending Bills - Forestry and Wildlife Resources**

Type/Nature	Due to lack of Liquidity			Due to lack of provision		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
<b>Recurrent Pending Bills</b>						
Purchase of office furniture and equipment	0	1.9	0	0	0	0
<b>Total Pending Bills</b>	<b>0</b>	<b>1.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### 2.6.2. Development Pending Bills

The sector's total development bills were Kshs 110 Million and Kshs 167 Million due to lack of liquidity in 2008/9 and 2009/10 FY respectively. In 2007/08 Kshs 1385 Million which comprised of Kshs 457 M due to lack of liquidity and Kshs 928M due to lack of provision.

**Table 2.6.5: Development Pending Bills**

Development Pending Bills	Due to lack of liquidity			Due to lack of provision		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Water and irrigation	41	0	65	928	0	0
Environment	416	100	102	0	0	0
Forestry and wildlife	0	10	0	0	0	0
<b>Total</b>	<b>457</b>	<b>110</b>	<b>167</b>	<b>928</b>	<b>0</b>	<b>0</b>

**Water and Irrigation**

During the 2009/10 the total development pending bills were Ksh 65.3 millions. The pending bills occurred were due to nonpayment of suppliers of goods and services as a result of lack of liquidity. There were no pending bills during the year 2008/09. The pending bills in 2007/08 amounting to Ksh 928 millions for National Water Conservation and Pipeline Corporation was paid in 2008/09.

Development Pending Bills	Due to lack of liquidity			Due to lack of provision		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Utility telephone	0	0	0	0	0	0
Electricity	0	0	0	0	0	0
Water	0	0	0	0	0	0
Personal claims	0	0	0	0	0	0
Others-specify (unpaid contractors/suppliers)	40.6	0	65.3	928	0	0
<b>Total</b>	<b>40.6</b>	<b>0</b>	<b>65.3</b>	<b>928</b>	<b>0</b>	<b>0</b>

## Environment and Mineral Resources

The Kenya Meteorological Department had inherited bills going back since the breakup of East African Community (EAC). This debt has accumulated to over Ksh 37 Millions in the years and the current allocation to the Ministry cannot service the debt. The allocation under this item was reduced by almost half (2009/10). This affected payment (Ksh. 28 Millions) of satellite link access resulting in data gaps occasioned by regular disconnection of telecommunication dedicated lines. The Department therefore is unable to clear its bills impeding its mandate of rapid exchange of weather & climate data and information efficiently and effectively national, regionally and internationally.

Development Pending Bills	Due to lack of liquidity			Due to lack of provision		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Utility telephone	0.6	41	0	0	0	0
Electricity	0	12	0	0	0	0
Water	0	7	0	0	0	0
Personal claims	1		0	0	0	0
Others-specify	414	39.7	102	0	0	0
<b>Total</b>	<b>416</b>	<b>100</b>	<b>102</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Forestry and Wildlife

The Ministry did not have pending bills in the 2007/2008. In the financial year 2008/2009 the Ministry had development pending bills totalling Ksh 10 Millions due to lack of liquidity. The development bill was due to refurbishment of the Ministry headquarter.

Type/Nature	Due to lack of Liquidity			Due to lack of provision		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
<b>Development</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Refurbishment of Buildings	0	10	0	0	0	0

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## **CHAPTER THREE: MEDIUM TERM PRIORITIES AND FINANCIAL PLAN FOR THE MTEF PERIOD 2011/2012-2013/2014**

### **3.1 Prioritization of Programmes and sub-programmes**

The sector has three sub-sectors with a total of eleven major programmes and thirty-two sub-programmes being implemented.

#### **3.1.1 Programmes and their Objectives**

##### **Water and Irrigation**

###### **Programme 1: Water Policy and Management**

Objective: Formulate policies to guide water resources management, supply and sewerage, storage and irrigation development.

###### **Programme 2: Water Supply and Sewerage/Sanitation Services**

Objective: Increase access to adequate and reliable water supply and sewerage/sanitation services to the nation.

###### **Programme 3: Water Resources Management and Water Storage**

Objective: Increase availability of sustainable water resources through effective management and protection of water sources.

###### **Programme 4: Provision of Irrigation and Drainage Infrastructure**

Objective: Increase utilization of land through irrigation, drainage and land reclamation.

##### **Environment and Mineral Resources**

###### **Programme 1: Environment Policy Development and Coordination.**

Objective: To provide policy and legal guidance for efficient and effective management for the environment and mineral resources sub-sector.

###### **Programme 2: Environment Management and Protection;**

Objective: To protect, conserve, and sustainably manage the environment

###### **Programme 3: Mineral Resources Management.**

Objective: Development of geological and mineral resources databases and formulation, implementation and review of the existing mining policies and legislation

###### **Programme 4: Meteorological Services**

Objective: To provide accurate and timely weather, climate and early warning information for risk reduction.

##### **Forestry and Wildlife**

###### **Programme 1: Forestry and Wildlife Policy Regulation and Coordination**

Objective: To provide policy and legal guidance for efficient and effective management for Forestry and Wildlife sub-sector.

### **Programme 2: Forestry Development and Management**

Objective: To enhance the role of forest in social economic development of the country and disseminate forestry research findings to the Kenya People.

### **Programme 3: Wildlife Conservation and Management**

Objective: To enhance wildlife conservation and management for national heritage and socio-economic development.

### **3.1.2 Programmes, Sub-Programmes, Expected Outcomes and Key Performance Indicators for the Sector**

This section looks at various programmes and sub-programmes that will be undertaken in the 2011/2012 financial year by the sector with their expected outputs, outcomes and key performance indicators.

**Table 3.1.1: Programmes, Sub-programmes, Expected Outcomes and Key Performance Indicators for the Sector**

<b>Sub Programme (SP)</b>	<b>Delivery Units</b>	<b>Key Outputs</b>	<b>Key Performance Indicators</b>
<b>PROGRAMME1: Water Policy and Management</b> <b>Outcome: Well coordinated water and irrigation sub sector</b>			
	<ul style="list-style-type: none"><li>Ministry of water and irrigation headquarters</li></ul>	<ul style="list-style-type: none"><li>Irrigation and drainage policy formulated</li><li>Draft land reclamation policy finalized</li><li>Annual Water Sector conference held and implemented.</li></ul>	<ul style="list-style-type: none"><li>- 2 No. of policies formulated</li><li>- 1 conference report</li></ul>
<b>PROGRAMME 2: Water Supply and Sewerage Services.</b> <b>Outcome: Increased access to safe and reliable water in urban and rural areas</b>			
SP 2.1: Urban water and sewerage	<ul style="list-style-type: none"><li>DWS</li><li>WSB</li></ul>	<ul style="list-style-type: none"><li>- Urban water supplies infrastructure in medium size towns expanded</li><li>- Sewerage schemes constructed</li></ul>	<ul style="list-style-type: none"><li>- 26 urban water supplies infrastructure rehabilitated</li><li>- 4 Sewerage schemes</li></ul>
SP 2.2: Rural water supply	<ul style="list-style-type: none"><li>DWS</li><li>WSB</li><li>Water Services Trust Fund.</li></ul>	<ul style="list-style-type: none"><li>- Water and sanitation projects constructed/rehabilitated in rural areas</li></ul>	<ul style="list-style-type: none"><li>- 110 water and sanitation projects</li></ul>
SP 2.3: Water for informal settlements	<ul style="list-style-type: none"><li>DWS</li><li>WSB</li><li>Water</li></ul>	<ul style="list-style-type: none"><li>- Water and sanitation projects constructed/rehabilitated</li></ul>	<ul style="list-style-type: none"><li>- 580 Water and sanitation projects undertaken</li></ul>

Sub Programme (SP)	Delivery Units	Key Outputs	Key Performance Indicators
	Services Trust Fund.	in informal settlements	
<b>PROGRAMME 3: Water Resources Management and Water Storage</b>			
<b>Outcome: Increased availability of sustainable water resources through effective management and protection of water sources.</b>			
SP 3.1: Water Resources Management	<ul style="list-style-type: none"> <li>• DWR</li> <li>• WRMA</li> </ul>	- Water resource monitoring stations rehabilitated and operationalized	- 100 monitoring stations rehabilitated and operationalized
SP 3.2: Water Storage and Flood Control	<ul style="list-style-type: none"> <li>• DWR</li> <li>• WRMA</li> <li>• DIDWS</li> <li>• NWCPC</li> </ul>	<ul style="list-style-type: none"> <li>- Large dams constructed</li> <li>- Medium size dams constructed</li> <li>- Small dams and water pans constructed annually</li> </ul>	<ul style="list-style-type: none"> <li>- 1 large dams constructed(ground breaking)</li> <li>- 1 large dam designed</li> <li>- 4 Medium size dams completed</li> <li>- 88 small dams and water pans constructed</li> </ul>
<b>PROGRAMME 4: Provision of Irrigation and Drainage Infrastructure</b>			
<b>Outcome: Increased utilization of land through irrigation, drainage and land reclamation.</b>			
SP 4.1: Development of Irrigation and Drainage Infrastructure	<ul style="list-style-type: none"> <li>• DIDWS</li> </ul>	- Ha developed for irrigation	- 6,000 Ha developed
SP 4.2: Land Reclamation	<ul style="list-style-type: none"> <li>• DLR.</li> </ul>	- Water conservation and rain water harvesting structures constructed in ASALs	- 1,700 water conservation and rain water harvesting structures constructed

Sub Programme (SP)	Delivery Units	Key Outputs	Key Performance Indicators
<i>- Environment and Mineral Resources</i>			
<b>Programme 1: Environment Policy Development and Coordination</b>			
<b>Outcome: Improved environmental governance</b>			
SP 1: Environment Policy Development and Coordination	DOE	- Education for Sustainable Development (ESD) finalized and implemented	- ESD policy
		- Climate change mitigation and adaptation strategies implemented - Climate change Information Education and Communication (IEC) materials developed	- 3 strategies implemented - 4 climate change IEC material developed
<b>Programme 2: Environment Management and Protection</b>			
<b>Outcome: Sustainably Managed Environment and Natural Resources</b>			
SP 2.1: Resource Surveying and Remote Sensing	DRSRS	- Land use/cover database established - Wildlife/livestock database established - Vegetation database established	- 3 databases established With their corresponding maps and reports - spatial distribution maps, statistics, trends, report - Human/wildlife conflict map, satellite imagery report - Land use map, settlement pasterns - One ecological map
SP 2.2 National Environment Management	NEMA	- Multilateral Environmental Agreements (MEAs) domesticated - Coastal and Marine resources conservation inventory - Reduced illegal discharges in water bodies - Inventory of biological resources - Baseline survey on National Noise and Vibration Pollution	- No. of MEAs domesticated - One inventory - One survey conducted - 5 No. of illegal discharges to water bodies stopped - An inventory carried out - A baseline survey report -
SP 2.3 Lake Victoria Environment	LVEMP	- EIA licenses issued	- 3,000 EIA licenses issued
		- Ecosystem management plan for Mau water catchment and Nyando	- Management plan

Sub Programme (SP)	Delivery Units	Key Outputs	Key Performance Indicators
Management		basin. - Rehabilitated waste water facilities.	- 3 No. of waste water facilities rehabilitated.
SP 2.4 Nairobi River Rehabilitation	DOE	- Nairobi River rehabilitated and restored	- 18 km rehabilitated and restored - 30 metres of the riparian reserve delineated - 48 campaigns held 3,000 pieces of awareness material printed and distributed - 4 Evaluations undertaken - 3 illegal discharge points closed.
SP 2.5: Catchment Rehabilitation and Conservation	DOE	- Catchment and wetland master plans - Area of catchment rehabilitated.	- 2 management plans done - 937.5 Ha catchment rehabilitated.
<b>Programme 3: Mineral Resources Management</b>			
<b>Outcome: Improved Sustainable Management of Natural Resources</b>			
SP 3.1: Mineral Resources Development	M&G	- Area of mineral resources mapped.	- 500 km <sup>2</sup> mapped
		- Additional mining entities engaged in mineral developed	- 4 additional mining entities engaged
		- Geo-data base developed	- One database established
SP 3.2: Geological Survey and Mineral Exploration	M&G	- Mineral explored and assessed	- 3 minerals explored and assessed
		- Geo-hazard prone areas in selected districts mapped	- 5 geo-hazard prone area mapped
		- Geo-tourism sites documented	- 10 sites documented
<b>Programme 4: Meteorological Services</b>			
<b>Outcome: Improved Meteorological Information and Services</b>			
SP 4.1: Meteorological Services	KMD	- Meteorological Information collected and disseminated	- 12 dissemination outlets/tools - 3 RANET FM stations established - Integrated Meteorological Information System installed
		- Meteorological observations networks improved	- 2 upper air observatories established - 12 AWS installed - 2 AWOS installed

Sub Programme (SP)	Delivery Units	Key Outputs	Key Performance Indicators
		- Human capacity building in meteorology	- 200 students trained
		- Disaster management and early warning system established	- 3 broadband seismic equipment installed - 5 floating buoys in Lake Victoria installed - 6 Automatic Hydromet stations installed - 3 research report on advent weather modification
<b>Forestry and Wildlife</b>			
<b>PROGRAMME 1: Forestry and wildlife policy regulation and coordination</b>			
<b>Outcome: Enhanced policy regulation and implementation of sub sector programmes</b>			
SP 1.1: Forestry and wildlife policy regulation and coordination	Ministry Headquarters	- Policies and strategies in Forestry and wildlife conservation developed. - Forestry and wildlife Monitoring and Evaluation Systems established. - A REDD implementation strategy for the country developed.	- 2 policies Forestry and wildlife developed - Monitoring and Evaluation systems established. - Rare species Conservation strategy developed. - Bamboo strategy developed - Climate change mitigation strategy developed - Reduction of Emissions for Degradation and Desertification (REDD) strategy developed
<b>PROGRAMME 2: Forestry Development and Management</b>			
<b>Outcome: Increased Forest Cover</b>			
SP 2.1: Institutional strengthening and provision of skilled manpower.	KFS	- KFS institutions strengthened	- 2 institutions strengthened - 2 offices constructed / refurbished - ICT system improved - ISO Certification - KFC refurbished - Forestry Curriculum reviewed
SP 2.2: Natural Forests Conservation, Management and Protection	KFS	- Five (5) water towers (Mt. Kenya, Aberdares, Cherangani, Mau, Mt. Elgon) and all other natural forests rehabilitated and protected	- 3,000 hectares (ha) rehabilitated - 3,000 of hectares regenerated. - 1,200,000 ha planted and protected - 64,000 HAMangroves forests protected
SP 2.3: Industrial Forest Plantations Establishment and	KFS	- Industrial forest plantations planted. - Revenue generation from	- 7,700 ha planted and maintained. - 100 No. of maps developed

Sub Programme (SP)	Delivery Units	Key Outputs	Key Performance Indicators
Management		industrial forest plantations increased.	for planted areas. - Kshs 530 million in revenue generated.
SP 2.4: Farm forestry	KFS	- Commercial farm forests established - Area of farmlands under tree cover established - Private forests registered - On farm riverine and catchment conservation developed	- 75,000ha under tree cover on farms - 3 registered private forest. - Guidelines on nurseries and seedlings production - No of registered tree nurseries - Strategy for bamboo development
SP2.5:Dry Land Forest Conservation and Management	KFS	- Management plan on dry land forests developed - Forest resources in the dry lands mapped and delineated - Dryland non wood forest product programmes established and supported - Guidelines on sustainable charcoal production operationalised	- Management plan developed - 100 of mapped dry lands - Non wood forest product Programme in place - Survey report on sustainable charcoal production
SP2.6:Road infrastructure and maintenance	KFS	-Roads in the forests maintained	- 7,000 km maintained
<b>PROGRAMME 3: Wildlife Conservation and Management</b>			
<b>Outcome: An increase in wildlife population and park earnings</b>			
SP3.1:Conservation and Protection of Wildlife	KWS	- Poaching reduced	- Poaching reduced by 20 %
	KWS	- Electric fences rehabilitated - Wildlife corridors secured - Incidence of human wildlife conflict reduced	- 64 kilometers of electric fence rehabilitated - 2 Corridors identified - Incidence of human wildlife conflict reduced by 20%
	KWS	- Wildlife agreement domesticated.	- 3MEAs multilaterals signed and domesticated. -
	KWS	- Endowment fund established	- Kshs. 400 Million.
		- Habitat areas restored - Park management plans developed	- 3 Habitat areas restored - 2 park management plans developed
		- Forest cover and habitat value rehabilitated  - Integrity of the	- Ha of degraded forests rehabilitated areas with appropriate species  - Assessment report on status of

Sub Programme (SP)	Delivery Units	Key Outputs	Key Performance Indicators
		ecosystems and landscapes maintained.	ecosystems and landscapes.
SP3.2: National Parks and Reserves Management	KWS	- Parks and reserves branded	- Marketing of parks, - 9 Parks branded - International exhibition participation
	KWS	<ul style="list-style-type: none"> <li>• Airstrip upgraded</li> <li>• Road routinely maintained</li> <li>• Foot bridge built</li> </ul>	<ul style="list-style-type: none"> <li>• One airstrip upgraded to bitumen level</li> <li>• 260 km of road routinely</li> <li>• 1 Foot bridge built</li> </ul>
SP.3: Conservation Education to the Youth	WCK	- Youth groups sensitized on wildlife conservation and protection.	- 10,000 youth sensitized on wildlife

### 3.1.3 Programmes by Order of Ranking

#### Water and Irrigation

- i) Water Policy and Management
- ii) Water Supply and Sewerage/Sanitation Services
- iii) Water Resources Management and Water Storage
- iv) Provision of Irrigation and Drainage Infrastructure

#### Environment and Mineral Resources

- i) Environment Management and Protection;
- ii) Meteorological Services
- iii) Mineral Resources Management.
- iv) Environment policy development and coordination.

#### Forestry and Wildlife

- i) Forestry and Wildlife Policy Regulation & Coordination
- ii) Forestry Development & Management
- iii) Wildlife Conservation & Management

### 3.2 Analysis of Resource Requirement

The following section shows analysis of resources as required by the sector for the MTEF period 2010/11 – 2013/14.

#### 3.2.1 Analysis of Resource Requirement by Sector

For the Sector to achieve its objectives and above detailed outputs, it will require Kshs.99.6 billion in the 2011/12 FY. This is increase of 88.6% increase from FY 2010/11 budget of Kshs.46.7 billion.

**Table 3.2.1: Analysis of Resource Requirement by Sector**

<b>Sector- Environment Water and Irrigation</b>				
<b>Sector</b>	<b>2010/11</b>	<b>2011/12</b>	<b>Projected Estimates</b>	
			<b>2012/13</b>	<b>2013/14</b>
<b>Environment Water and Irrigation</b>	<b>52,695</b>	<b>99,561</b>	<b>106,072</b>	<b>112,758</b>

#### 3.2.2 Resource requirement by Sub-sector

The following table 3.2.2 shows resources requirement by the three sub-sectors.

**Table 3.2.2: Analysis of Resource requirement by Sub Sector**

<b>Sector – Environment, Water and Irrigation</b>				
<b>Sub Sector</b>	<b>2010/11</b>	<b>2011/12</b>	<b>Projected Estimates</b>	
			<b>2012/13</b>	<b>2013/14</b>
Water and Irrigation	38,199	60,933	65,209	69,104
Environment	6,827	15,238	16,390	18,044
Forestry	7,669	23,390	24,473	25,610
<b>TOTAL</b>	<b>52,695</b>	<b>99,561</b>	<b>106,072</b>	<b>112,758</b>

#### 3.2.3 Resource requirement by Programmes and Sub-programmes

The below paragraphs shows the purpose of the resources required

##### **I. Water Policy and Management**

Additional resources are required for this programme are for expansion of Kenya Water Institute's Chiakariga campus to enable intake of extra students especially in irrigation and land reclamation courses; installation of a VIP lift; rehabilitation of Maji house to comply with the open space office arrangement.

##### **ii. Water Supply and Sewerage/Sanitation**

The Ministry has been funding rehabilitation and augmentation of urban/rural water supplies and sewerage schemes throughout the country. The government has also been executing major urban water and sewerage projects with assistance from donor funding. The Water Services Trust Fund has also been instrumental in assisting rural communities and

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communities in informal urban settlement with implementation of various schemes. Additional Water Supply to informal settlements, rural areas and ASAL areas needs to be adequately funded. The staff currently deployed in the state corporations is scheduled to be transferred to the institution. This has an impact of raising the wage bill of State Corporation. The water sub-sector has a registered pension scheme for the staff in the state corporations. The employer's contribution has to be funded from the exchequer. All these activities will necessitate an increase of Kshs 4 billion

### **iii. Water Resources Management and Water Storage**

One of the goals under Vision 2030 is the expansion of Kenya's per capita water storage from 5,300 litres to 16,000 litres per capita by 2012. This goal translates into expansion of the national storage capacity from the current 0.18 trillion litres to 0.56 trillion litres by 2012. An additional Kshs 6 billion is required for completion of 5 large dams that are under construction.

### **iv. Provision of Irrigation and Drainage Infrastructure**

Additional resources are required for this programme to meet the MTP annual target of 40,000 Ha to be established annually and comply with the Parliament resolution of developing 2000 acres of irrigation in each constituency with irrigation potential. It is therefore requested that funding for irrigation development is increased by Kshs 5 billion so that an additional 5,000 ha can be put under small holder irrigation annually and construct gravity water intakes in Ahero and Bunyala to increase the hecterage under public irrigation schemes and cut on the cost of pumping water.

### **v. Environment Policy Development and Coordination**

This programme requires Kshs. 565 Million in the FY 2011/12. The additional fund of Kshs. 145 Million is required to boost operation and maintenance as well as to cater for Environmental Diplomacy which requires a lot of international cooperation.

### **vi. Environment Management and Protection;**

The Environment Management and Protection Programme will require Kshs. 11.5 Billion in the FY 2011/12. This is an increase of Kshs. 6.5 Billion or by 133%. This requirement accounts for 76% of the total sub-sector requirements. The National Environment Management Authority proposed budget increase from 714 Million to Ksh. 5,962 Million is to improve physical infrastructure, purchase motor, motor boats. Kshs. 900 Million will be utilized to undertake devolution to the Counties. A further Kshs. 1,450 Million will be utilized to construct NEMA offices countrywide. Ksh 2,147 Million will be utilized to construct training and information centres, constructions and equipping of laboratories. To enhance human resources and also retain them, the Authority proposes staff a further Ksh. 1,127 Million. Some of the funds will be used to upscale Nairobi river rehabilitation activities which include clean-up and compensation. Others will be used for Climate change, awareness creation, domestication of MEAs and solid waste management.

The budget allocation projections for the Environment Protection and Management programme have increased steadily from the year 2010/2011 printed estimates. This can be attributed to a number of factors. These include the introduction of new projects geared towards rehabilitation of the various degraded water catchment areas that the Ministry is going to focus on in the next three years; as opposed to rehabilitation of Mau Forest Complex alone. Green Schools Initiative that the Ministry will collaborate with the Ministry of

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Education to plant tree seedlings in selected schools nationally that are next to catchment areas is another focal point of the Ministry.

Wetlands are increasing becoming important ecosystems due to their unique biodiversity and their role water cycle. The Ministry will focus on these areas with a few of taking their stock status and eventually rehabilitating them.

New donor funded programmes for example Natural Resources Management Programme and Africa Adaptation Programme have come on board. While the former will be dealing with natural resources management issues, the later will focus on climate change adaptation and mitigation measures.

The Ministry will also advocate for green economy where it will try to sensitize and mainstream environmental issues into all spheres of the economy. This will involve entering into partnership for example with entrepreneurs and jointly formulate projects that will ensure the protection and sustainable management of the environment. These will involve energy saving jikos and other innovations.

A work load analysis that was conducted for the Directorate of Environment (DoE) recommended that more recruitment be done to counter the increasing work load. Though the process was initiated, some posts are yet to be filled and this has been factored in the projections.

#### **vii. Mineral Resources Management**

The search for mineral resources has for a long time been hampered by inadequate financing. Countries that have heavily invested in mineral exploration have had their economies greatly improved and the pace of their industrialization accelerated. Kenya has several occurrences of precious and non-precious minerals that require detailed assessment of their potential as economic mineral deposits for purposes of exploitation.

The Mines and Geological department is currently involved in the search for mineral resources that are geared towards making the country achieve the Vision 2030. Such minerals include iron ore, gold, manganese and radioactive minerals (uranium and thorium). Iron ore is the basic raw material for a steel industry. Manganese is a necessary ingredient in the steel industry. Thorium and uranium are used as fuels in nuclear power reactors. Kenya plans to set a nuclear reactor and a steel industry. The two industries are intended to make Kenya industrialized and a medium income country by the year 2030.

The Department is keen on setting up a National Seismological Network in collaboration with the Kenya Meteorological Department that will enable the country monitor events such as the onset of earth tremors, volcanic eruptions (e.g the Oldonyo Lengai that erupted recently), landslides and tsunamis, among others. These events have a bearing on the status of major construction works such as hydroelectric dams, highways and the highrise buildings. The Department plans to improve its technical and physical infrastructure so as to modernize its operations as a research institution.

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The Department, therefore, requests for a dramatic increase in funding to enable it meets the above tasks with a view to enabling the country harness its mineral resources for national development. The increase in the proposed expenditure is as outlined below.

The increase in expenditure on Personnel Emoluments is attributed to the expected recruitment of new staff and the staff to be hired to fill vacant positions in the Department. There is a serious shortage of staff in the Department, a factor that has impacted negatively on its overall performance and service delivery.

The increase in expenditure on the use of goods and services is due to (i) expected increase in the number of staff, (ii) expected increase in the number of vehicles to be purchased to facilitate field operations, and (iii) expected increase in the number of new offices to be opened in the country to serve the various regions in accordance with the devolved system of government.

Funds for the purchase of items such as laboratory equipment, instrumentation and calibration equipment have been increased to modernize the laboratory as it endeavors to attain the ISO 17025 standard. The expenditure on purchase of software has been increased to enable acquisition of the relevant scientific software that will facilitate data reduction, processing and interpretation, a critical aspect of research.

The proposed development expenditure has been drastically increased. The increase has, in the main, been brought about by the physical state of Madini House, its facilities and the need for the Department to extend its coverage in the country in line with the devolved system of government.

#### **viii. Meteorological Services**

The Ministry while decentralizing meteorological services to provided essential services and information to the vulnerable communities, KMD established Provincial Meteorological Officers and posted officers to the provincial headquarters headed by Provincial Directors of Meteorology. These offices lack office space and basic office furniture and equipment. The Department services heavily depend on field work, data observation, instrument installation and inspection. Current it is faced with an acute shortage of transport vehicles due to the Government policy on transport. KMD last year established 8 Provincial Meteorological offices in order devolve services closer to the people. There is, therefore, an urgent need to provide adequate funds to purchase at least 45 robust vehicles that can work in tough and remote terrain. KMD currently has a fleet of only 18 old vehicles (a number of which are unserviceable).

In terms of staff, no recruitment has taken place since 1995 thus, the department has continued to face acute shortage of staff. In addition, Staff rightsizing through natural attrition has reduced the number of technical staff at KMD from 956 to 531. The department is likely to face succession management challenges as it is estimated that in the next 10 years close to 50% and within next 5 years 19% of the total workforce will have retired. However, the Government has allocated Ksh. 30 million in the FY 2010/11 to recruit 49 graduate staff. The Department still needs to employ at least 240 meteorological technicians to man its observatories on a 24 hour basis.

Weather, climate and environment have no administrative boundaries, and therefore international networking is inevitable. This requires a lot of regional and international

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collaboration and cooperation. The Department has regional responsibilities such as hosting WMO Regional Training Centre, Regional Telecommunication Centre, Regional Instrument calibration Centre, Global Atmosphere Watch, Tsunami Information Centre and being a governing member of Africa Centre for Meteorological Application and Development (ACMAD) among other responsibilities. The Director of Meteorological Services is the Permanent Representative of WMO in Kenya and also a member of the Executive Council of WMO. This means that there are a lot travel to attend meetings, conferences, workshops and seminars organized by WMO, ICAO, UNFCC, and other organization. The fund allocated to this vote is too little to the Departments international travel cost.

As a WMO regional Specialized Meteorological Centre (RSMC) for monsoonal flow along the coast and forecast of tropical cyclone in the southwestern part of the Indian Ocean, Kenya has been designated by WMO to host the service weather forecast demonstration project (SWFDP) for the seven countries in IGAD. The SWFDP will forecast high-impact weather events like hailstorms, thunderstorms, tropical cyclone, east waves etc and issue forecast. Kenya and morocco are also test-beds for the new concept of the world meteorological organization (WMO) titled, "the WMO Integrated Global Observing System (WIGOS) and WMO information system (WIS)". Kenya has not applied for upgrade to a data collection and production centre (DCPC) because of lack of an Integrated Meteorological Information System (IMIS) and climate data base management system.

One of the Flagship programme, Adverent Weather Modification, is yet to take shape as no funds has been availed to undertake the Phase I of the programme which entail the initial feasibility study approximated to cost Kshs. 600 Million.

#### **ix. Forestry Policy Regulation and Management**

This Sub Sector's require more resource to: continue developing policies, which are consistent the current constitutional order through consultative workshops in the forty seven counties, increased monitoring and evaluation on forest cover, continually coordinate the various programmes and combat climate change for the programme will require Kshs.904 million.

#### **x. Forestry Management and Protection**

Kshs.17.7 billion will be required for the supporting government efforts of increasing national tree cover in support of the provisions for the New Constitution which provides that efforts be made to raise tree cover to 10%. Specific forestry flagship projects with a key focus to the five water towers will be implemented. This will be achieved through protection and management of the 1.2 million Ha of state forests, establishment and development of 6,000 ha of industrial forest plantations for the supply of industrial wood; implementation of farm and dryland forestry activities in the farmlands and the drylands; finalization of the delinking process involving the employment of 5,076 forestry staff who are currently on secondment from the government; staff capacity building for enhancing service delivery; paramilitary training; construction and maintenance (7,000 Km) of forest roads which are vital for supporting forest protection and management; completion of the ISO certification process; preparation of forest management plans and support communities to prepare participatory forest management plans; finalization of the REDD (reducing emissions from deforestation and forest degradation) preparation proposal and implementation of the proposal; construction and maintenance of forestry offices throughout the country; fencing of

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key forest ecosystems and the procurement of major capital items including boats for mangroves management and protection.

**xi. Wildlife Conservation and Management**

There is a critical need to enhance the security of wildlife and its habitats, tourists inside the protected areas and safeguard KWS assets. With the emerging challenges in conservation especially poaching and human wildlife conflict, the service needs to invest in new equipment, training and response time to incidences.

This requires specialized training, equipment and ranger units to be able to conserve our national pride and world heritage. Particular areas that have been identified for urgent intervention are: Strengthen Law enforcement to combat poaching inside and outside protected areas and security for visitors, modernization of security equipment, upgrading the Ranger Field Training School, specialized training for intelligence and investigation officers, and construction of barracks in various field stations and crisis response units/

The Kenya Wildlife Service Training Institute (KWSTI) has developed and provided specialized training and research in various areas of natural resource management in an effort to enhance the management and sustainability of wildlife biodiversity. As a training and research arm of Kenya Wildlife Service, KWSTI has the mandate to promote and facilitate the training of Kenyans and others in Natural Resources Management and Tourism related areas.

Apart from enhancing our training products, research has become an important component of this training. Expanding our research profile will contribute to capacity building of our teaching staff as well as improving our collaboration with other research Institutions who we work with including Kenya Marine Fisheries research institute, Kenya Forest Research Institute, Kenya Agricultural Research Institute and a number of local Universities. Further to this research will empower the staff to participate in conferences and workshops in which they will disseminate timely and quality scientific information to enhance the management and utilization of natural (wildlife) resources in Kenya.

We have laboratories and equipments which are currently being used to facilitate research. Allocation of funds to KWSTI will enhance research activities and further strengthen our training and financial profiles. Just like Kenya Forestry Research Institute supports Kenya Forest Service, Kenya Marine Fisheries Institute supports Fisheries department KWS is supported by KWSTI. In line with the Government (Treasury) decision to have a specific sector for Research Institutions we seek to be considered in this area. For the sector to achieve all these it will need Kshs.1.7billion

**Table 3.2.3(a) Resource Requirement by Programmes**

<b>Sub Sector- Environment and Mineral Resources</b>				
<b>Programme</b>	<b>2010/11</b>	<b>2011/12</b>	<b>Projected Estimates</b>	
			<b>2012/13</b>	<b>2013/14</b>
Water Policy and Management	873	973	1,026	1,085
Water Supply and Sewerage/Sanitation	27,770	38,371	40,757	43,242
Water Resources Management and Water Storage	5,518	11,675	12,381	13,119
Provision of Irrigation and Drainage Infrastructure	4,038	9,914	11,044	11,658
Environment policy development and coordination	420	565	685	795
Environment Management and Protection	4,909	11,459	11,910	13,189
Mineral Resources Management	281	511	587	592
Meteorological Services	1,217	2,703	3,208	3,468
Forestry and Wildlife policy regulation & Coordination	673	904	955	1,013
Forestry Development & Management	5,319	17,956	18,770	19,662
Wildlife Conservation & Management	1,677	4,530	4,750	4,910
<b>TOTAL</b>	<b>52,695</b>	<b>99,561</b>	<b>106,072</b>	<b>112,758</b>

**Table 3.2.3: (b) Resource Requirement by Sub-Programmes**

	<b>Printed Estimates 2010/11</b>	<b>Estimates 2011/12</b>	<b>Projected Estimates</b>	
			<b>2012/13</b>	<b>2013/14</b>
Water Policy and Management	873	973	1,026	1,085
Urban water and sewerage	24,088	28,977	30,712	32,478
Rural water supply	2,895	8,046	8,562	9,134
Water for informal settlements	787	1,348	1,483	1,631
Water Resources Management	344	763	869	1,030
Water Storage and Flood Control	5,174	10,912	11,512	12,089
Development of Irrigation and Drainage infrastructure	3,904	9,527	10,600	11,148
Land Reclamation	134	387	445	510
<b>Sub-Total (Water and Irrigation)</b>	<b>38,199</b>	<b>60,933</b>	<b>65,209</b>	<b>69,104</b>
Planning, Coordination, Policy and	420	565	685	795

	Printed Estimates 2010/11	Estimates 2011/12	Projected Estimates	
			2012/13	2013/14
Administrative Services				
Environment management and Protection	1522	6685	6404	7093
Nairobi Rivers Rehabilitation and Restoration programme	290	370	550	570
Lake Victoria Environment Management	745	1,010	1,045	1,070
Catchment Rehabilitation	2000	3000	3500	4000
Resource Survey and Remote Sensing	352	394	411	456
Mineral Resources Development	172	459	537	531
Geological Survey and Mineral Exploration	109	52	50	61
Meteorological Services	1,217	2,703	3,208	3,468
<b>Sub-Total (Environment)</b>	<b>6,827</b>	<b>15,238</b>	<b>16,390</b>	<b>18,044</b>
Forestry and Wildlife policy regulation & Coordination	673	904	955	1,013
Institutional strengthening and provision of skilled manpower.	1,768	6,677	6,842	7,038
Natural Forests Conservation, Management and Protection	1,350	4,059	4,262	4,575
Industrial Forest Plantations Establishment and Management	1,257	4,000	4,200	4,410
Farm Forestry Development	0	970	1,053	1,106
Dry land forest conservation and management	815	1,000	1,100	1,155
Road infrastructure development and Maintenance	129	850	893	937
Climate Change Response	0	400	420	441
Conservation & Protection of Wildlife	815	2,217	2,325	2,460
National Parks & Reserves Management	812	1,990	2,200	2250
Kenya Wildlife Service Fund	0	300	200	200
Youth Conservation Education	50	23	25	25
<b>Sub-Total (Forestry and Wildlife)</b>	<b>7,669</b>	<b>23,390</b>	<b>24,473</b>	<b>25,610</b>
<b>TOTAL</b>	<b>52,695</b>	<b>99,561</b>	<b>106,072</b>	<b>112,758</b>

**Table 3.2.4: Devolved Levels Resource Requirement by the Sector**

<b>Sector – Environment, Water and Irrigation</b>				
<b>Sub-Sectors</b>	<b>2010/11</b>	<b>2011/12</b>	<b>Projected Estimates</b>	
			<b>2012/13</b>	<b>2013/14</b>
Water and Irrigation	2,198	4,458	5,180	6,040
Environment	122	1082	704	688
Forestry	3,109	13,390	14,556	15,214
<b>TOTAL</b>	<b>5,307</b>	<b>18,930</b>	<b>20,440</b>	<b>21,942</b>

**Table 3.2.5: Analysis of Resource Requirement by Economic Classification. Water and irrigation sub-sector**

<b>Expenditure Classification</b>	<b>Estimates</b>	<b>Estimates</b>	<b>Projected Estimates</b>	
	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>
<b>Current Expenditure</b>	<b>5,669</b>	<b>6,992</b>	<b>8,227</b>	<b>8,987</b>
Compensation of employees	1,570	1,794	1,893	1,999
Use of goods and services	1,009	1,411	1,562	1,678
Transfers to Gov't Agencies.	2,584	3,115	3,913	4,263
Other Recurrent	506	672	859	1,046
<b>Capital Expenditure</b>	<b>32,530</b>	<b>53,941</b>	<b>56,982</b>	<b>60,117</b>
Acquisition of non-financial assets	23,634	44,053	46,029	48,171
Capital Transfers to Gov't Agencies	6,805	7,973	8,715	9,577
Other development	2,091	1,915	2,237	2,369
<b>TOTAL EXPENDITURE VOTE 20</b>	<b>38,199</b>	<b>60,933</b>	<b>65,209</b>	<b>69,104</b>

**Environment and Mineral resources sub-sector**

<b>Expenditure Classification</b>	<b>Approved Estimates</b>	<b>Estimates</b>	<b>Projected Estimates</b>	
	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/2014</b>
<b>1. Current Expenditure</b>	<b>2,397</b>	<b>5,997</b>	<b>6,604</b>	<b>6,922</b>
Compensation to Employees	913	1,112	1,149	1,177
Use of goods and services	559	927	1,097	1,336
Current Transfers Govt. Agencies	717	3,670	4,010	4,000
Other Recurrent	208	288	348	409
<b>2. Capital Expenditure</b>	<b>4,430</b>	<b>9,241</b>	<b>9,786</b>	<b>11,122</b>
Acquisition of Non-Financial Assets	1,164	2,573	3,214	3,330
Capital Transfers to Govt. Agencies	150	2,300	1,670	2,360
Other Development	3,116	4,368	4,902	5,432
<b>Total Expenditure</b>	<b>6,827</b>	<b>15,238</b>	<b>16,390</b>	<b>18,044</b>

### Forestry and wildlife sub-sector

	2010/11	2011/12	Projected Estimates	
			2012/13	2013/14
<b>Recurrent Expenditure</b>				
Compensation to Employees	82	90	90	91
Use of goods & Services	363	554	610	686
Current Transfers Govt Agencies	2,662	4,421	4,566	4,671
Other Recurrent	30	43	27	23
<b>Total</b>	<b>3,138</b>	<b>5,110</b>	<b>5,295</b>	<b>5,474</b>
<b>Development Expenditure</b>				
Acquisition of Non-Financial Assets	1,629	12,439	13,061	13,714
Capital Transfers Govt Agencies	20	20	5	5
Other development	978	5,819	6,110	6,416
<b>Total</b>	<b>2,628</b>	<b>18,279</b>	<b>19,177</b>	<b>20,136</b>
<b>Total Expenditure</b>	<b>5,767</b>	<b>23,390</b>	<b>24,473</b>	<b>25,610</b>

### 3.3 Analysis of resource Requirement versus Allocation

The Sector requires a total of Kshs. 99.6 Billion in the FY 2011/12 against available allocation of Kshs. 49.5 Billion (Kshs. 25.9 Billion from GoK and Kshs. 23.6 Billion from Donors). This shows that Sector programmes, projects and activities are half funded. Details are given in the following tables.

**Table 3.3.1: Summary of Resource Allocations by sub-sector- Water and Irrigation sub-sector**

Expenditure Classification	Resource Allocation		
	2011/12	2012/13	2013/14
<b>1. Recurrent Expenditure</b>			
Gross	5,829	6,393	6,954
A-in-A	1,889	2,256	2,247
Net	3,940	4,137	4,707
<b>2. Development Expenditure</b>			
Gross	32,901	32,901	32,901
GoK	12,387	12,387	12,387
Loans	15,333	15,333	15,333
Grants	5,181	5,181	5,181
Local A-in-A			
<b>Total Expenditure</b>	<b>38,730</b>	<b>39,294</b>	<b>39,855</b>

### Environment and Mineral Resources sub-sector

Expenditure Classification	Resource Allocation		
	2011/12	2012/13	2013/14
<b>1. Recurrent Expenditure</b>			
<b>Gross</b>	<b>2,466</b>	<b>2,643</b>	<b>2,790</b>
A-in-A	138	138	138
<b>Net</b>	<b>2,328</b>	<b>2,505</b>	<b>2,652</b>

Expenditure Classification	Resource Allocation		
	2011/12	2012/13	2013/14
<b>2. Development Expenditure</b>			
Gross	4,545	4,545	4,545
GoK	3,375	3,375	3,375
Loans	755	755	755
Grants	415	415	415
Local A-in-A	0		
<b>Total Expenditure</b>	<b>7,011</b>	<b>7,188</b>	<b>7,335</b>

#### Forestry and Wildlife sub-sector

Expenditure Classification	Resource Allocation		
	2011/12	2012/13	2013/14
<b>1. Recurrent Expenditure</b>			
Gross	4,005	4,138	4,558
A-in-A	801	841	882
Net	3,204	3,297	3,676
<b>2. Development Expenditure</b>			
Gross	2,488	2,488	2,488
GoK	689	689	689
Loans	588	588	588
Grants	1,211	1,211	1,211
Local A-in-A	0	0	0
<b>Total Expenditure</b>	<b>6,493</b>	<b>6,626</b>	<b>7,046</b>

**Table 3.3.2: Analysis of resource Requirement versus Allocation by Sub-Sector**

Sub Sector	Requirement 2011/12	Allocation		Total	Variance
		GoK	Donor		
Water and Irrigation	60,933	16,327	20,597	36,924	24,009
Environment and Mineral Resources	15,238	5,841	1,170	7,011	8,227
Forestry and Wildlife	23,390	3,893	1,799	5,692	17,698
<b>TOTAL</b>	<b>99,561</b>	<b>26,061</b>	<b>23,566</b>	<b>49,627</b>	<b>49,934</b>

**Table 3.3.3: Analysis of resource Requirement versus Allocation – Recurrent Expenditure**

Sub Sector	Requirement 2011/12	Allocation		Total	Variance
		GoK	Donor		
Water and Irrigation	6,992	3,940	1,889	5,829	1,163
Environment and Mineral Resources	5,997	2,328	0	2,328	3,669
Forestry and Wildlife	5,110	3,204		3,204	1,906
<b>TOTAL</b>	<b>18,099</b>	<b>9,472</b>	<b>1,889</b>	<b>11,361</b>	<b>6,738</b>

**Table 3.3.4: Analysis of resource Requirement versus Allocation – Development Expenditure**

Sub Sector	Requirement 2011/12	Allocation		Total	Variance
		GoK	Donor		
Water and Irrigation	53,941	12,387	20,514	32,901	21,040
Environment and Mineral Resources	9,241	3,375	1,170	4,545	4,696
Forestry and Wildlife	18,279	689		689	17,590
<b>TOTAL</b>	<b>81,461</b>	<b>16,451</b>	<b>21,684</b>	<b>38,135</b>	<b>43,326</b>

### 3.3.3: Devolved levels-Counties/Districts

The sector will require Kshs.38.5 billion for the county. The table below shows the sub sector requirements at county level.

**Table 3.3.5: Analysis of resource Requirement versus Allocation by Devolved levels-Counties/Districts**

Sub Sector	2010/11	Requirement 2011/12	Allocation	Variance
Water and Irrigation	12,016	23,997	12,016	11,981
Environment and Mineral Resources	122	1082	218	864
Forestry	464	13,390	4,455	8,935
<b>TOTAL</b>	<b>15,774</b>	<b>38,469</b>	<b>16,689</b>	<b>21,780</b>

### 3.3.4 Sectors Semi Autonomous Government Agencies (Ksh. Millions)

The SAGAs in the Environment, Water and Irrigation Sector are the implementing Agencies for development projects, thus the high budgetary requirements. Recurrent expenditure transfers requirements will remain at the current levels. The table shows resource required by the different semi autonomous government agencies

**Table 3.3.6: Analysis of resource Requirement versus Allocation - Semi Autonomous Government Agencies**

	Resource Requirements 2011/12	Allocation 2011/12	Variance
Water Appeal Board	31	15	16
Water Services Regulatory Board	109	8	101
Water Resources Management Authority	1,366	14	1,352
Water Services Trust Fund	260	307	253

Athi Water Services Board	2,369	351	2,018
Tana Water Services Board	1,566	302	1,264
Tanathi Water Services Board	2,299	485	1,814
Rift Valley Water Services Board	2,486	571	1,915
Lake Victoria North Water Services Board	1,708	1,125	583
Lake Victoria South Water Services Board	1,730	732	998
Northern Water Services Board	2,223	631	1,592
Coast Water Services Board	1,839	430	1,409
National Water Conservation and Pipeline Corporation	18,932	3,658	15,274
National Irrigation Board	4,915	1,278	3,637
Kenya Water Institute	180	113	67
<b>Sub-Total Water and Irrigation</b>	<b>42,013</b>	<b>10,020</b>	<b>31,993</b>
National Environment Management Authority	5,962	794	5,132
National Environment Trust Fund	50	50	0
Public Complaints Committee	35	20	15
National Environment Tribunal	30	16	14
<b>Sub-Total Environment and Mineral Resources</b>	<b>6,077</b>	<b>880</b>	<b>5,197</b>
Kenya Forest Service	17,956	4,455	13,501
Kenya Wildlife Service	4,407	1,137	3,270
<b>Sun-Total Forestry and Wildlife</b>	<b>22,363</b>	<b>5,592</b>	<b>16,771</b>
<b>Total Grand for the Sector</b>	<b>70,452</b>	<b>16,492</b>	<b>53,960</b>

### 3.3.5 Analysis of resource Requirement versus Allocation by Programmes and Sub-programmes

Table 3.3.7: (a) Economic Classification by programme

Programme	Requirement	Allocation	Variance
	2011/12	2011/12	2013/14
Water Policy and Management	973	928	45
Water Supply and Sewerage/Sanitation	38,371	27,967	10,404
Water Resources Management and Water Storage	11,675	5,676	5,999
Provision of Irrigation and Drainage Infrastructure	9,914	4,159	5,755
Environment policy development and coordination	565	415	150
Environment Management and Protection	11,459	5,137	6,322
Mineral Resources Management	511	298	213
Meteorological Services	2,703	1,312	1,391
Forestry and Wildlife policy regulation & Coordination	904	851	53

Forestry Development & Management	17,956	4,455	13,501
Wildlife Conservation & Management	4,530	1,187	3,343
<b>TOTAL</b>	<b>99,561</b>	<b>52,385</b>	<b>47,176</b>

**Table 3.3.7: (b) Resource Requirements by Sub-Programmes**

Sub-Programmes	Requirements	Allocation	Variance
	2011/12	2011/12	
Water Policy and Management	973	928	45
Urban water and sewerage	28,977	24,202	4,775
Rural water supply	8,046	2,978	5,068
Water for informal settlements	1,348	787	561
Water Resources Management	763	372	391
Water Storage and Flood Control	10,912	5,304	5,608
Development of Irrigation and Drainage infrastructure	9,527	4,015	5,512
Land Reclamation	387	144	243
<b>Sub-Total (Water and Irrigation)</b>	<b>60,933</b>	<b>38,730</b>	<b>22,203</b>
Planning, Coordination, Policy and Administrative Services	565	415	150
Environment management and Protection	9459	1,781	7,678
Nairobi Rivers Rehabilitation and Restoration programme	370	325	45
Lake Victoria Environment Management	1,010	795	215
Resource Survey and Remote Sensing	394	236	158
Catchment Rehabilitation and Conservation	2,000	2,000	0
Mineral Resources Development	459	181	278
Mineral Survey and Exploration	52	117	(65)
Meteorological Services	2,703	1,312	1,391
<b>Sub-Total (Environment)</b>	<b>15,238</b>	<b>7,157</b>	<b>9,850</b>
Forestry and Wildlife policy regulation & Coordination	904	851	53
Institutional strengthening and provision of skilled manpower.	6,677	1,984	4,693
Natural Forests Conservation, Management and Protection	4,459	903	3,556
Industrial Forest Plantations Establishment and Management	4,000	374	3,626
Farm Forestry Development	970	394	576
Dry land forest conservation and management	1,000	600	400
Road infrastructure development and Maintenance	850	200	650
Conservation & Protection of Wildlife	2,517	910	1,507

<b>Sub-Programmes</b>	<b>Requirements</b>	<b>Allocation</b>	<b>Variance</b>
National Parks & Reserves Management	1,990	248	1,742
Youth Conservation Education	23	29	(6)
<b>Sub-Total (Forestry and Wildlife)</b>	<b>23,390</b>	<b>6,493</b>	<b>16,897</b>
<b>TOTAL</b>	<b>99,561</b>	<b>45,223</b>	<b>48,950</b>

### 3.3.6 Economic Classification

Table below shows the resource requirement according to economic classification.

**Table 3.3.8: Resource Requirement by Economic Classification-Sector**

<b>Expenditure Classification</b>	<b>Resource Requirements</b>	<b>Allocation</b>	<b>Variance</b>
	<b>2011/12</b>	<b>2011/12</b>	
<b>Current Expenditure</b>	<b>18,099</b>	<b>12,300</b>	<b>5,799</b>
Compensation of employees	2,996	2,732	264
Use of goods and services	2,892	2,105	787
Transfers to Gov't Agencies.	11,206	6,704	4,502
Other Recurrent	1,005	759	246
<b>Capital Expenditure</b>	<b>81,460</b>	<b>40,085</b>	<b>41,375</b>
Acquisition of non-financial assets	59,065	27,528	31,537
Capital Transfers to Gov't Agencies	10,293	6,987	3,318
Other development	12,102	5,570	6,520
<b>TOTAL EXPENDITURE</b>	<b>99,561</b>	<b>52,385</b>	<b>47,176</b>

#### Water and Irrigation sub-sector

<b>Expenditure Classification</b>	<b>Resource Requirements</b>	<b>Allocation</b>	<b>Variance</b>
	<b>2011/12</b>	<b>2011/12</b>	
<b>RECURRENT EXPENDITURE</b>			
<b>Current Expenditure</b>	<b>6,992</b>	<b>5,829</b>	<b>1,163</b>
Compensation of employees	1,794	1,680	114
Use of goods and services	1,411	1,059	352
Transfers to Gov't Agencies.	3,115	2,584	531
Other Recurrent	672	506	166
<b>Capital Expenditure</b>	<b>53,941</b>	<b>32,901</b>	<b>21,040</b>
Acquisition of non-financial assets	44,053	25,122	18,931
Capital Transfers to Gov't Agencies	7,973	6,805	1,168
Other development	1,915	974	941
<b>TOTAL EXPENDITURE</b>	<b>60,933</b>	<b>38,730</b>	<b>22,203</b>

**Environment and Mineral resources sub-sector**

Expenditure Classification	Resource Allocation	Allocation	Variance
	2011/12	2011/12	
<b>RECURRENT EXPENDITURE</b>			
Compensation to Employees	1112	947	165
Use of goods and services	927	580	347
Current Transfers Govt. Agencies	3670	717	2,953
Other Recurrent	288	222	66
<b>DEVELOPMENT EXPENDITURE</b>			
Acquisition of Non-Financial Assets	2,573	1,242	1,331
Capital Transfers to Govt. Agencies	2,300	150	2,150
Other Development	4,368	3,304	1,064
<b>Total Expenditure of Environment Sub-sector</b>	<b>15,238</b>	<b>7,162</b>	<b>8,076</b>

**Forest and Wildlife sub-sector**

Expenditure Classification	Resource Requirements	Allocation	Variance
	2011/12	2011/12	
<b>RECURRENT EXPENDITURE</b>			
Compensation to Employees	105	105	-
Use of goods & Services	539	466	73
Current Transfers Gov't Agencies	4,421	3,403	1,018
Other Recurrent	45	31	14
<b>Total</b>	<b>5,110</b>	<b>4,005</b>	<b>1,105</b>
<b>DEVELOPMENT EXPENDITURE</b>			
Acquisition of Non-Financial Assets	12,439	1164	11,275
Capital Transfers Gov't Agencies	32	32	-
Other development	5,807	1,292	4,515
<b>Total</b>	<b>18,279</b>	<b>2,488</b>	<b>15,791</b>
<b>Total Expenditure of Vote</b>	<b>23,390</b>	<b>6,493</b>	<b>16,897</b>

**Allocation for 2011/12 – 2013/14 by Programmes**

Programmes	2011/12	2012/13	2013/14
<b>Water and Irrigation</b>			
Water Policy and Management	928	942	955
Water Supply and Sewerage	27,967	28,374	28,779
Water Resources Management and Water Storage	5,676	5,759	5,841
Provision of Irrigation and Drainage Infrastructure	4,159	4,220	4,280

<b>Programmes</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>
<b>TOTAL</b>	<b>38,730</b>	<b>39,294</b>	<b>39,855</b>
<b>Environment and Mineral Resources</b>			
Environment Policy Development and Coordination	415	480	560
Environment Management and Protection	5,137	5,375	5,634
Mineral Resources Management	298	355	397
Meteorological Services	1,312	1,404	1,465
<b>TOTAL</b>	<b>7,162</b>	<b>7,614</b>	<b>8,056</b>
<b>Forestry and Wildlife</b>			
Forestry and Wildlife policy regulation & Coordination	851	887	1212
Forestry Development & Management	4,455	4495	4573
Wildlife Conservation & Management	1,187	1187	1187
<b>TOTAL</b>	<b>6,493</b>	<b>6,569</b>	<b>6,972</b>

#### **Allocation by Sub-Programmes**

<b>Sub-Programme</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>
<b>Water and Irrigation</b>			
Water Policy and Management	928	942	955
Urban water and sewerage	24,202	24,554	24,905
Rural water supply	2,978	3,021	3,065
Water for informal settlements	787	798	810
Water Resources Management	372	377	383
Water Storage and Flood Control	5,304	5,381	5,458
Development of Irrigation and Drainage infrastructure	4,015	4,073	4,132
Land Reclamation	144	146	148
<b>TOTAL</b>	<b>38,730</b>	<b>39,294</b>	<b>39,855</b>
<b>Environment and Mineral Resources</b>			
Planning, Coordination, Policy and Administrative Services	415	480	560
Environment management and Protection	1,781	1,795	1,858
Nairobi Rivers Rehabilitation and Restoration programme	325	450	570
Lake Victoria Environment Management	795	840	900
Resource Survey and Remote Sensing	236	290	306

<b>Sub-Programme</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>
Catchment Rehabilitation and Conservation	2,000	2,000	2,000
Mineral Resources Development	181	198	210
Mineral Survey and Exploration	117	157	187
Meteorological Services	1,312	1,404	1,465
<b>TOTAL</b>	<b>7,162</b>	<b>7,614</b>	<b>8,056</b>
<b>Forestry and Wildlife</b>			
Forestry and Wildlife policy regulation & Coordination	851	887	1,212
Institutional strengthening and provision of skilled manpower.	1,984	1,987	1,997
Natural Forests Conservation, Management and Protection	903	853	903
Industrial Forest Plantations Establishment and Management	374	394	397
Farm Forestry Development	394	394	394
Dry land forest conservation and management	600	667	682
Road infrastructure development and Maintenance	200	200	200
Conservation & Protection of Wildlife	910	910	910
National Parks & Reserves Management	248	248	248
Youth Conservation Education	29	29	29
<b>Total</b>	<b>6,493</b>	<b>6,569</b>	<b>6,972</b>

#### **Allocation by Economic Classification**

	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>
<b>Water and Irrigation</b>			
<b>Recurrent Expenditure</b>	<b>5,829</b>	<b>6,393</b>	<b>6,954</b>
Compensation of employees	1,680	1,747	1,817
Use of goods and services	1,059	1,531	1,995
Transfers to Gov't Agencies.	2,584	2,584	2,584
Other Recurrent	506	531	558
<b>Development Expenditure</b>	<b>32,901</b>	<b>32,901</b>	<b>32,901</b>
Acquisition of non-financial assets	25,122	25,122	25,122
Capital Transfers to Gov't Agencies	6,805	6,805	6,805
Other development	974	974	974
<b>TOTAL EXPENDITURE</b>	<b>38,730</b>	<b>39,294</b>	<b>39,855</b>
<b>Environment and Mineral Resources</b>			

	2011/12	2012/13	2013/14
<b>Recurrent Expenditure</b>	<b>2,466</b>	<b>2,643</b>	<b>2,790</b>
Compensation of employees	947	980	1,008
Use of goods and services	580	673	756
Transfers to Gov't Agencies.	717	717	717
Other Recurrent	222	273	309
<b>Development Expenditure</b>	<b>4,696</b>	<b>4,971</b>	<b>5,266</b>
Acquisition of non-financial assets	1,242	1,376	1,556
Capital Transfers to Gov't Agencies	150	150	150
Other development	3,304	3,445	3,560
<b>TOTAL EXPENDITURE</b>	<b>7,162</b>	<b>7,614</b>	<b>8,056</b>
<b>Forestry and Wildlife</b>			
<b>Recurrent Expenditure</b>	<b>4,005</b>	<b>4,042</b>	<b>4,423</b>
Compensation of employees	105	110	115
Use of goods and services	466	498	824
Transfers to Gov't Agencies.	3,403	3,403	3,403
Other Recurrent	31	31	81
<b>Development Expenditure</b>	<b>2,488</b>	<b>2,527</b>	<b>2,549</b>
Acquisition of non-financial assets	1,164	1,190	1,245
Capital Transfers to Gov't Agencies	32	32	32
Other Development	1292	1305	1272
<b>TOTAL EXPENDITURE</b>	<b>6,493</b>	<b>6,569</b>	<b>6,972</b>

## CHAPTER FOUR: CROSS-SECTORS LINKAGES

The sector has linkages with other sectors in the fulfillment of its functions as shown by the table 4.1.

**Table 4.1: Cross sector linkages**

S.No.	Sector	Linkages
1.	Agricultural and Rural development	<ul style="list-style-type: none"><li>• Water sources have been degraded by deforestation, settlement and intense farming. This has caused reduced river flows and pollution resulting in having less water for domestic, agricultural and hydropower generation</li><li>• Provision of forest extension services to farmers and other forest stakeholders to benefit from forest management approaches and technologies. The demand for agro forestry technologies will increase with expansion of on-farm tree growing</li></ul>
2.	Trade, Tourism and Industry	<ul style="list-style-type: none"><li>• Demand for water is an input for manufacturing and production of goods and services.</li><li>• Conservation of forest and wildlife is key to tourism development</li><li>• Historical sites are in the protected areas.</li></ul>
3.	Physical Infrastructure	<ul style="list-style-type: none"><li>• Provision of water and forest products</li></ul>
5.	Human Resource Development	<ul style="list-style-type: none"><li>• Initiation of National Green School Programme</li><li>• WCK to mobilize for the creation of Wildlife Clubs</li><li>• Provision of Medicinal plants</li></ul>
5.	Research Innovation and Technology	<ul style="list-style-type: none"><li>• Offers guidance in water, tree seedlings and forest products research</li><li>• Provides guidance and collaboration in Science technologies and innovation policies.</li></ul>
7.	Governance, Justice Law & Order	<ul style="list-style-type: none"><li>• Wardens and the Forest Guards collaborate on security services</li></ul>
8.	Public Administration	<ul style="list-style-type: none"><li>• Financial and budget guidelines</li><li>• Governance issues</li><li>• Recruitment of personnel</li></ul>
9.	Special Programmes	<ul style="list-style-type: none"><li>• Water supply, distribution and irrigation development in ASALs areas.</li><li>• Participatory forest management and dissemination of research findings that targets the youth and women groups</li></ul>
10.	National Security	<ul style="list-style-type: none"><li>• Provision of security to the sector</li></ul>

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## CHAPTER FIVE: EMERGING ISSUES AND CHALLENGES

### 5.1 Emerging Issues

Emerging Issues arising in the Sector include the following:

#### **Constitutional Requirements**

The bill of rights in the new constitution guarantees every person the right to a clean and healthy environment. It also enshrines the right to clean and safe water in adequate quantities and also to reasonable standards of sanitation. The provision of the basic rights has to be funded from this sector despite the enormous resources beyond the ceilings required to attain them.

The constitution states in Section 69 1(b) that the Government undertakes to work towards achieving and maintaining a tree cover of at least **10%** of the land area in Kenya. In addition, the Head of State also directed that KFS should expand tree nurseries to increase the number of seedlings across the country. The Forestry and Wildlife subsector is expected to provide sufficient seedlings to sustain expansion of area under forest cover.

#### **Climate change**

The sector is faced with the challenge of addressing the consequences arising from the climate change. Further, E-wastes, medical wastes, abandoned ships and wreckage, containers with toxic materials and oil spill pose a great challenge in their management in modern times and require specialized training and equipment to deal with them. In addition, the instances of severe droughts, flooding and unpredictable weather patterns have become frequent occurrences. The mitigation and adaptation of climate change is costly and requires specialized training and capacity building. A potential avenue that demands particular attention is exploiting the opportunities brought about by the global carbon trade through Clean Development Mechanisms (CDM), voluntary markets and the strategy to Reducing Emissions from Deforestation and Degradation (REDD).

#### **Population Pressure**

Despite steps taken to stabilize human population, Kenya's population has showed a steady increase and is projected to continue increasing over-time. The population patterns display migrations from rural areas into urban areas. In rural areas, increase in human population has resulted in increased economic activities as well as livestock populations with the net consequences of intense resource use competitions, human wildlife conflicts and environmental degradation. In the urban areas, this has resulted in increased pressure on social amenities like water, sanitation, roads, school etc. The high population also puts pressure on the national food requirements. This calls for strategies to manage the natural resources sustainably as well as mechanism to meet the basic social needs.

#### **Environmental degradation**

The quality of land in the country is generally declining due to poor farming practices. Soil erosion resulting from deforestation and inappropriate agricultural practices are the main forms of land degradation. Soil cover and relevant canopy which are crucial for prevention of erosion and flash floods are gone. This has contributed immensely to the low water level in aquifers and water bodies as recharge is not possible. If stored in good quantities, the water harvested will be sufficient for both domestic, livestock and irrigated agriculture.

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Encroachment for agriculture and infrastructural development causes rapid decline in wildlife population, both in and outside protected areas. Clearing of woodlands in dry areas for agriculture and charcoal production accelerated by poor land use and unsustainable management leading to environmental degradation

## 5.2 Challenges

The sector faces challenges in the implementation of programmes. Some of the key challenges are highlighted below:

**Low level of funding:** Despite the critical role played by the Sector, it has continued to receive inadequate funding thus hindering implementation of planned projects and programmes, and especially flagship programmes in the MTP of Vision 2030 and requirements for these projects have not been adequately factored in the sector ceiling.

**Late exchequer releases** by Treasury results to unspent funds and pending bills. This results to under expenditure or under absorption in the sector consolidated budget. In addition, development partners funded projects are still experiencing delays in receiving letters of no objection.

**Transfers to SAGAs:** Analysis of the budget trend to SAGAs in the Sector (printed, ceiling and projections) reveals that the provisions have remained constant over the years. Although the sector underscores that the SAGAs be self sufficient, the nature for the SAGAs in this sector are meant to provide social services. Therefore the constant budgetary provision to the SAGAs has the effect of hampering social service provision. There is need to adequately support the SAGAs in their initially years to ensure that they become sustainable in the future and only be funded for assets development.

**Insufficient funds for Delinking Programmes:** The Pension Scheme under the Reform Programme in the Water and Irrigation Subsector has been established but face funding challenges. The staff in the institutions has to be delinked from the ministry's payroll and transferred to the SAGAs with corresponding salary adjustments. The government also has to contribute 15% pension to cater for the transferred staff.

Forestry subsector also faces similar challenge. There was commitment to absorb the entire Forest Department staff into the Service. However, these officers have been working as civil servants in the State Corporation (Kenya Forestry Service) for the last four years.

The total funds required for the meet these obligations totalling Kshs 4.0 Billion has to be provided for in the forward years of the MTEF period.

**Insufficient Counterpart funds:** The Water and Irrigation subsector is implementing various programmes with Development Partners (DP) which require counterpart funding. The subsector has commitments from developments partners amounting to Kshs. 20 billion for the development of water sector infrastructure. However, the counterpart funding has not kept pace with development partners' funding commitments. There is need to provide adequate and timely GOK counterpart funding and other requires such as land compensation in tandem with the donor financing levels.

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**Implementation of the Cabinet Memorandum on Enhancing Sustainable Forest and Environmental Management in Kenya:** The Cabinet Memo was approved and comprehensive strategies that were outlined aimed at enhancing sustainable forest and environmental management in the country need to be developed urgently and mechanisms for progressive implementation initiated. The financial implication of implementing this project is estimated at Kshs. 60 billion over five years which is way above the sector ceilings.

**Water Scarcity:** Renewable fresh water per capita stands at 647 cubic meters and is projected to fall to 235 cubic meters by 2025 if supply does not keep up with population/demand increase. There are also regional imbalances in water availability and utilization that must also be addressed. Highland areas, the Coast and the Lake Region have better water access than the ASAL districts. The distances to the nearest water points pose a challenge particularly to women and girls

**Mitigation of effects of Human Wildlife Conflict:** Increased settlement, expanded agricultural land and pastoralism have led to increased human wildlife conflicts affecting conservation. The loss of lives and crops attributed to the conflicts has led to high compensation bills for the sector. It is estimated that Human Wildlife Conflict mitigation measures will require Kshs 600 million annually.

**Low Staffing Levels:** Low staffing levels in the technical cadres in the sector poses a major challenge in the effective and timely implementation of sub sectors projects and programmes. This has the impact of poor delivery of services to the consumers of this sector's outputs. There is need to embark on recruitment of critical technical staff in the sub sectors to ensure timely delivery of required services and ensure proper succession management

**Low Investments in the economic instruments in conservation:** Investments in economic instruments in the sector such as Clean Development Mechanisms (CDMs), Carbon Credits, polluter pays principle have not been fully exploited despite their great potential to fund catchment conservation measures.

**Low investments in exploited minerals and forestry resources:** The mineral and forestry sub sectors contribute over 1% and 3.5% of the GDP respectively. However, these potential has not be optimally exploited due to inadequate funding to the sector. This sub sectors have the potential to create more jobs especially in the rural areas.

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## CHAPTER SIX: CONCLUSION

In order to achieve the targets Vision 2030, the sector requires finalising the pending policies and developing the necessary legal and institutional frameworks. These policies include Irrigation and Drainage Policy, Water Harvesting and Storage policy, Land Reclamation Policy, Forest Policy and Mineral Development Policy. The sector will also develop a national irrigation master plan and also revise the national water master plan in the medium term. This will indicate broad priority areas of interventions mobilize resources for investment and promote coordination of the subsectors. In addition, Kenya is a signatory of a number of MEAS which it has also ratified needs to be domesticated through mainstreaming and policy interventions at global, regional and national levels. Domestication has faced challenges due to meager resource allocation. There is need to allocate more resources for capacity building in negotiation, preparation of regional and national action plan for respective MEAS.

The 2010 MPERs indicate that the sector budget has grown tremendously over the past three years corresponding to the achievement of most of the targeted outputs, especially on development budget. It also indicates higher donor development funding to the sector. However, there have been challenges in release of development funds in the sector resulting to poor implementation of projects and programmes. The recurrent budget has need increased

There is a low level of investment in the environment and mineral resources which needs to be addressed. For instance, the mineral sector contributes is just over 1% to the GDP yet there is immense mineral potential which needs to be developed. There is need for investments in minerals and other natural resources to be enhanced through research and development. It provides baseline information followed by aggressive marketing and promotion in local, regional and international forums such as trade fairs, exhibitions and conferences.

Involvement of local communities in the management of water resources through formation of WRUAs has resulted in reduced illegal abstractions, reduced catchments encroachment, rehabilitation of catchments areas and river bank protection. The Community Forests Associations has enhanced conservation and management of forest resources through protection and re-forestation programmes. Community participation in irrigation development has had a great impact in poverty alleviation and enhancement of food security in rural areas. There is need to strengthen these institutional arrangements.

The government has implemented far reaching reforms in the Water and Irrigation sub-sector within the legal framework provided by the Water Act 2002. Various water institutions have been established, effectively separating the functions of policy formulation, service delivery and regulation of the water supply and sanitation and water resources management. In Forestry and Wildlife sub-sector, Kenya Forestry Service was created through the Forestry Act 2005. The SAGAs under the two sub-sectors have not fully delinked their staff and their operations, thus affecting service delivery. One of the main challenges to service delivery is staff morale due wide discrepancies in compensation of employees within the respective institutions.

Low staffing levels in technical cadres in the Mines and Geological Department, Kenya Meteorological Department and DRSRS is a major challenge affecting implementation of sector projects and programmes. NEMA staffing level is low for both technical and support

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staff in the field. The police unit is currently having ten (10) personnel and cannot cover the whole country in enforcement. There is need for recruitment of additional technical staff be undertaken to alleviate the shortages.

Development of economic instruments in sustainable development and conservation of natural resources has been inadequate and need to be enhanced. For instance, in the energy sector instruments such as Clean Development Mechanisms (CDMs), Carbon Credits , polluter pays principle are not fully exploited. Thus economic instruments in conservation need to be promoted and marketed effectively.

The sector generally has inadequate databases for environmental management, policy development and reporting. The sector is in the process is establishing databases through their sub-sectors. To effectively establish and maintain the databases, the sector requires adequate funding.

The period under review, points to the fact that most of the sector budget is directed to SAGAs to address priority areas of the sector. However, funding need to be increased in line with the number of listed programmes in support of Vision 2030. The new Kenyan economic blue-print, recognises the sector to spearhead the country's journey into the category of middle-income status by 2030. High targets have consequently been set for the sector towards this goal and the achievement of these goals needs financial commitment from the Government as well as cooperation from other stakeholders. For the sector to remain on course a number of projects have to be initiated immediately and the sector needs enough funds to implement its component of the flagship projects. During the review period, the SAGAs actual receipts were less than the revised budget.

DRAFT SECTOR REPORT

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## CHAPTER SEVEN: RECOMMENDATIONS

The following steps will be taken by the sector in order to achieve its policy objectives and to be able to properly address the challenges identified above.

**The New Constitution:** Right to clean secure environment means that the sector will have a responsibility of clean water, clean secure environment. This will mean that more funding will be required to implement programmes which will guard the above right. Though it is recognized that the rights enumerated in the new constitution are fundamental, their provision have to be progressive due to many other government priorities relative to the available resources.

**Provision of adequate funding to the sector:** The whole resource requirement for the sector was Kshs.99 billion but the budgetary ceiling was Kshs. 47 billion. This budgetary constrains means that some of the planned programmes will have to be pushed forward to the next financial year. Increase resource allocation for this sector should commensurate with its contribution to the economy. There is also need to provide adequate and timely GOK counterpart funding and other requires such as land compensation in tandem with the donor financing levels.

**Provision of adequate operation and maintenance funds:** Despite rapid increase in development budget, the O & M to maintain, run and service the infrastructure remain stagnant thus there is need for more funding especially for the technical Departments in the sector.

**Fast tracking implementation of approved sector policies:** During the review period were finalized will require to be fast tracked for implementation. These include:-

- a) A policy on expanding forest cover to recommended 10%
- b) Water Harvesting and Storage Policy that intends to double the national storage per capita from 4m<sup>3</sup> to 8m<sup>3</sup> as per MTP. A water storage investment plan to be financed with participation of the private sector is to be finalized in the next financial year.

**Enhance the management and conservation of the catchment areas:** There has been destruction of catchment areas thus necessitating urgent measures to rehabilitate all catchment areas especially the five water towers (Mau, Mt.Kenya, Mt.Elgon, Cherangany and Aberdares). Given the enormous funds requirement for rehabilitation of the catchment areas for environmental sustainability there is also need to encourage development partners to provide financial assistance in protection, afforestation and promotion of forestry, wildlife, environmental conservation and water provision.

**Enhance financial management through timely release of funds to avoid pending bills.**

There have been late exchequer release funds leading to under absorption and accumulation of pending bills. The late release of funds affects timely implementation of sectors programmes noting the enormous importance of this sector toward achievement of Vision 2030. In that view, release of funds should be hastened. In addition, capacity building and training for MTEF, Programme Based Budget preparation and implementation should be carried out. This will involve ministries and stakeholders in designing and developing the MPER /MTEF

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preparation and reporting format. Other trainings will involve monitoring and evaluation to improve the management of projects and programmes and adherence to work plans.

**The finalization of the policy sectors.** There is urgent need to finalize policies within the sector in line with the new constitution dispensation. These policies include:-

- a) Mineral Policy
- b) Irrigation and Drainage Policy
- c) Forest Policy
- d) Land Reclamation policy

**Inter-sectoral transfers especially from infrastructure.** Given the enormous contribution of this sector into the GDP, More resources should be transferred from infrastructure sector to this sector for improvement and maintenance of infrastructure. This will enable the sector in implementing its mandate effectively.

**Improvement on procurement procedures.** Tedious procurement laws have been an impediment and hindrance to implementation of the planned activities and programmes within the sector. In addition, they also affect absorption of funds in the sector. Thus there is an urgent to review the procurement laws.

**Reclaim a Wildlife corridor and a migratory route and Upgrade Premium parks.** This sector is the backbone of the tourism sub-sector. These necessitate the need to establish premium parks which provide more expensive, high-end tourism sites. These will mean more revenue to the KWS which can be used to reclaim wildlife corridors, brand and upgrade more premium parks.

**Pro-poor initiatives:** The new constitution provides for water and sanitation as a basic right. Even though water has been recognized to be a social good it is also an economic good with high cost of production. The high cost of supplying water alienate the poor from accessing this vital commodity thus need to develop pro-poor policies and initiative that will ensure poor and marginalize to adequate clean and safe water. Towards this end funding to the WSTF need to be boosted to meet this challenge.

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## APPENDICES

### Appendix 1: Analysis of Recurrent and Development Expenditure, 2007/08 - 2009/10 (KShs. Millions)

#### 1.1 Water and Irrigation

	Revised Estimates			Actual Expenditure		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Recurrent – GoK	3,608.6	4,677.1	4,536.2	3,574.1	4,128.1	4,012.1
Development – GoK	4,991.0	9,090.0	14,784.6	4,950.0	9,041.0	12,955.2
<b>Total Expenditure (D+R)</b>	<b>8,599.6</b>	<b>13,767.1</b>	<b>19,320.8</b>	<b>8,524.1</b>	<b>13,169.1</b>	<b>16,967.3</b>
Donor	<b>8,189.3</b>	<b>10,307.0</b>	<b>8,468.2</b>	<b>4,377.8</b>	<b>6,375.8</b>	<b>4,780.4</b>
<b>Total Exp. (D+R+Donor)</b>	<b>16,788.9</b>	<b>24,074.1</b>	<b>27,789.0</b>	<b>12,901.9</b>	<b>19,544.9</b>	<b>21,747.7</b>
Recurrent as % of Total GoK Ministry's Expenditure	42.0	34.0	23.5	41.9	31.3	23.6
Development as % of Total GoK Ministry's Expenditure	58.0	66.0	76.5	58.1	68.7	76.4

#### 1.2: Environment and Mineral Resources

	REVISED ESTIMATES			ACTUAL EXPENDITURES		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Recurrent	1,058	2,164	2,221	989	1,979	2,061
Development	1,230	1,254	2,333	550	1,189	1,679
<b>Total Expenditure</b>	<b>2,288</b>	<b>3,418</b>	<b>4,554</b>	<b>1,539</b>	<b>3,168</b>	<b>3,740</b>
Recurrent as % of Total Ministry's expenditure	46%	63%	48%	64%	62%	55%
Development as % of Total Ministry's expenditure	54%	37%	52%	36%	38%	45%

#### 1.3 Forestry and Wildlife

	REVISED ESTIMATES			ACTUAL EXPENDITURES		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Recurrent Budget	3,289	3,705	4,285	3,158	3,697	4,264
Development Budget	2,201	1,883	2,692	1,389	1,650	2,125
Total Expenditure	5,490	5,587	6,977	4,547	5,347	6,389
Recurrent as a % of Total Budget	60%	66%	61%	69%	69%	67%

Development as a % of Total Budget	40%	34%	39%	31%	31%	33%
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## Appendix 2: Analysis of Expenditures by Economic Classification (KShs. Millions)

### 2.1 Water and Irrigation

Recurrent Budget	Approved Estimates			Actual Expenditure		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Compensation of Employees	1,594.00	1,764.00	1,543.20	1,577.00	1,523.00	1,542.90
Use of Goods and Services	1,057.80	1,853.10	915.5	1,048.10	1,692.10	863.8
Subsidies, Grants and Other Transfers	733	812	1,797.60	727	701	1,380.40
Acquisition of Non-financial Assets	224	248	279.8	222	212	225
<b>Total Recurrent Budget</b>	<b>3,608.80</b>	<b>4,677.10</b>	<b>4,536.10</b>	<b>3,574.10</b>	<b>4,128.10</b>	<b>4,012.10</b>
<b>Development Budget</b>						
Compensation of Employees	-	-	30.5	-	-	19.8
Use of Goods and Services	499	781	248.9	495	780	185.1
Subsidies, Grants and Other Transfers	1,497.00	2,342.00	5,785.50	1,485.00	2,342.00	3,467.50
Acquisition of Non-financial Assets	11,184.30	16,274.00	17,188.00	7,347.80	12,294.80	14,063.10
<b>Total Development Budget</b>	<b>13,180.30</b>	<b>19,397.00</b>	<b>23,252.90</b>	<b>9,327.80</b>	<b>15,416.80</b>	<b>17,735.50</b>
<b>Total Expenditures</b>	<b>16,789.10</b>	<b>24,074.10</b>	<b>27,789.00</b>	<b>12,901.90</b>	<b>19,544.90</b>	<b>21,747.60</b>

### 2.2: Environment and Mineral Resources

Economic Classification	APPROVED ESTIMATES			ACTUAL EXPENDITURE		
	2007/08	2008/09	2009/2010	2007/08	2008/09	2009/2010
<b>Recurrent</b>						
Compensation of Employees	764	820	855	740	821	894
Use of Goods and Services	559	611	720	509	598	616

Grants, Transfers and Subsidies,	446	667	486	439	493	416
Acquisition of Non-financial Assets	67	66	159	55	66	135
<b>Total Recurrent</b>	<b>1,836</b>	<b>2,164</b>	<b>2,220</b>	<b>1,743</b>	<b>1,978</b>	<b>2,061</b>
<b>Development</b>						
Compensation of Employees	105	67	304	12	72	224
Use of Goods and Services	706	469	564	169	442	394
Subsidies, Grants and Other Transfers	20	20	247	23	23	115
Acquisition of Non-financial Assets	602	685	1,220	397	639	946
<b>Total Development</b>	<b>1,464</b>	<b>1,254</b>	<b>2,334</b>	<b>630</b>	<b>1,188</b>	<b>1,679</b>
<b>Total Expenditures</b>	<b>3,395</b>	<b>3,418</b>	<b>4,555</b>	<b>2,373</b>	<b>3,166</b>	<b>3,740</b>

### 2.3 Forestry and Wildlife

	Approved Estimates			Actual Expenditures		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
<b>1.Recurrent Budget</b>						
Compensation to Employees	4	52	69	2	55	69
Use of goods & services	65	136	151	58	135	154
Grants, Transfers and Subsidies	3,208	3,483	4,053	3,096	3,472	4,009
Acquisition of non Financial Assets	12	40	12	2	35	12
<b>Total Recurrent Budget</b>	<b>3289</b>	<b>3711</b>	<b>4285</b>	<b>3158</b>	<b>3697</b>	<b>4244</b>
<b>2.Development Budget</b>						
Acquisition of non-financial assets	-	-	1,323	-	-	1,023
Grants, Transfers and Subsidies	2,201	1,840	206	1,389	1,617	20
Other Development	-	36	1,163	-	33	1,102
<b>Total Development Budget</b>	<b>2,201</b>	<b>1,876</b>	<b>2,692</b>	<b>1,389</b>	<b>1,650</b>	<b>2,145</b>
<b>Total expenditure</b>	<b>5,490</b>	<b>5,587</b>	<b>6,977</b>	<b>4,547</b>	<b>5,347</b>	<b>6,389</b>

**Appendix 3: Analysis of Expenditures by Programmes and Sub Programmes (KShs. Millions)**

**3.1 Water and Irrigation**

	Approved Estimates			Actual Expenditure		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
<b>Programme Name – Water Supply and Sewerage</b>						
<b>1. Recurrent Budget</b>	<b>2,725.6</b>	<b>3,724.1</b>	<b>2,366.1</b>	<b>2,720.1</b>	<b>3,306.1</b>	<b>1,977.3</b>
Compensation of Employees	1,152.0	1,288.0	782.2	1,151	1,192.0	782.8
Use of Goods and Services	881.6	1,662.1	245.6	878.1	1,452.1	230.1
Subsidies, Grants and Other Transfers	530.0	593.0	1,104.6	529.0	511.0	777.4
Acquisition of Non-financial Assets	162.0	181.0	233.7	162.0	155.0	187.0
<b>2. Development Budget</b>	<b>4,192.0</b>	<b>6,558.0</b>	<b>13,771.5</b>	<b>4,158.0</b>	<b>6,481.1</b>	<b>8,942.7</b>
Compensation of Employees	-	-	18.3	-	-	11.9
Use of Goods and Services	419.0	656.0	125.6	416.0	648.0	99.9
Subsidies, Grants and Other Transfers	1,258.0	1,967.0	4,197.8	1,247.0	1,901.1	2,372.4
Acquisition of Non-financial Assets	2,515.0	3,935.0	9,429.8	2,495.0	3,932.0	6,458.5
<b>Total Expenditures</b>	<b>6,917.6</b>	<b>10,282.1</b>		<b>6,878.1</b>	<b>9,787.1</b>	<b>10,920</b>
<b>Programme Name – Water Resources Management and Water Storage</b>						
<b>1. Recurrent Budget</b>	<b>442</b>	<b>494</b>	<b>570.5</b>	<b>442</b>	<b>426</b>	<b>559.6</b>
Compensation of Employees	221	247	246.6	221	213	246.3
Use of Goods and Services	88	99	70.8	88	85	60.8
Subsidies, Grants and Other Transfers	102	113	250.0	102	99	250.0
Acquisition of Non-financial Assets	31	35	3.1	31	29	2.5
<b>2. Development Budget</b>	<b>549</b>	<b>2,142</b>	<b>2,522.2</b>	<b>545</b>	<b>2,170</b>	<b>2,498.9</b>
Compensation of Employees	-	-	9.1	-	-	5.9
Use of Goods and Services	55	86	56.1	54	86	42.4
Subsidies, Grants and Other Transfers	165	258	-	163	258	-
Acquisition of Non-financial Assets	329	1,798	2,456.9	328	1,753	2,450.5
<b>Total Expenditures</b>	<b>991</b>	<b>2,636</b>	<b>3,092.7</b>	<b>987</b>	<b>2,596</b>	<b>3058.5</b>
<b>Programme Name – Provision of Irrigation and Drainage Infrastructure</b>						
<b>1. Recurrent Budget</b>	<b>441</b>	<b>459</b>	<b>4,536.2</b>	<b>410</b>	<b>396</b>	<b>4,012.1</b>
Compensation of Employees	221	229	150.3	205	198	150.2
Use of Goods and Services	88	92	72.4	82	79	57.2

Subsidies, Grants and Other Transfers	101	106	258.0	94	91	258.0
Acquisition of Non-financial Assets	31	32	30.9	29	28	24.7
<b>2. Development Budget</b>	<b>250</b>	<b>390</b>	<b>3,204.3</b>	<b>249</b>	<b>390</b>	<b>2,792.6</b>
Compensation of Employees	-	-	3.0	-	-	2.0
Use of Goods and Services	25	39	67.2	25	39	42.8
Subsidies, Grants and Other Transfers	75	117	500.0	75	117	356.8
Acquisition of Non-financial Assets	150	234	2,634.1	149	234	2,391.0
<b>Total Expenditures</b>	<b>691</b>	<b>849</b>	<b>7,740.5</b>	<b>659</b>	<b>786</b>	<b>6,804.7</b>
<b>Total R+ D Expenditures</b>	<b>8,599.6</b>	<b>13,767.1</b>		<b>410</b>	<b>396</b>	

### 3.2 Environment and Mineral Resources

Economic Classification	ORIGINAL BUDGET ESTIMATES			ACTUAL EXPENDITURE		
	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
<b>Programme:1 Environment Policy Development and Coordination</b>						
<b>Recurrent Budget</b>	<b>291</b>	<b>409</b>	<b>480</b>	<b>268</b>	<b>412</b>	<b>414</b>
Compensation of Employees	113	141	157	112	137	161
Use of Goods and Services	158	210	264	145	216	196
Subsidies, Grants and Other Transfers	0	0	0	0	0	0
Acquisition of Non-financial Assets	20	58	59	11	59	57
<b>Total Recurrent</b>						
<b>Development Budget</b>	<b>347</b>	<b>632</b>	<b>1,012</b>	<b>146</b>	<b>692</b>	<b>951</b>
Compensation to employees	37	62	220	12	72	218
Use of Goods and Services	245	291	402	85	355	371
Subsidies, Grants and Other Transfers	0	0	0	0	0	0
Acquisition of Non-financial Assets	65	279	390	49	265	362
<b>Total development</b>						
<b>Total expenditure</b>	<b>638</b>	<b>1,041</b>	<b>2,024</b>	<b>414</b>	<b>1,104</b>	<b>1,365</b>
<b>Programme 2: Environment Management and Protection.</b>						
<b>Recurrent</b>						
Compensation of Employees	210	251	269	202	246	279
Use of Goods and Services	291	355	430	276	357	360
Subsidies, Grants and Other Transfers	839	1,249	972	832	909	832
Acquisition of Non-financial Assets	40	44	99	29	48	97

Assets						
<b>Total Recurrent</b>	<b>1,380</b>	<b>1,899</b>	<b>1870</b>	<b>739</b>	<b>1,314</b>	<b>1,568</b>
<b>Development</b>						
Compensation to employees	107	107	571	25	72	230
Use of Goods and Services	832	675	1000	228	472	419
Subsidies, Grants and Other Transfers	656	207	667	227	124	239
Acquisition of Non-financial Assets	435	885	1,431	217	651	707
<b>Total development</b>	<b>2,030</b>	<b>1,874</b>	<b>3,669</b>	<b>697</b>	<b>1,319</b>	<b>1,595</b>
<b>Total expenditure</b>	<b>3,410</b>	<b>3,773</b>	<b>5,539</b>	<b>1,436</b>	<b>2,633</b>	<b>3,163</b>
<b>Programme 3: Mineral Resources Management</b>						
<b>Recurrent</b>						
Compensation of Employees	87	88	99	81	93	102
Use of Goods and Services	122	103	96	92	96	88
Subsidies, Grants and Other Transfers	0	6	0	0	6	0
Acquisition of Non-financial Assets	15	11	16	12	10	11
<b>Total Recurrent</b>	<b>224</b>	<b>208</b>	<b>211</b>	<b>185</b>	<b>205</b>	<b>201</b>
<b>Development</b>						
Acquisition of Non-financial Assets	46	24	86	41	25	74
<b>Total development</b>	<b>46</b>	<b>24</b>	<b>86</b>	<b>41</b>	<b>25</b>	<b>74</b>
<b>Total expenditure</b>	<b>270</b>	<b>232</b>	<b>297</b>	<b>226</b>	<b>230</b>	<b>275</b>
<b>Programme 4: Meteorological services and climate change</b>						
<b>Recurrent</b>						
Compensation of Employees	512	533	543	501	534	572
Use of Goods and Services	215	227	278	204	218	250
Subsidies, Grants and Other Transfers	14	8	4	14	4	2
Acquisition of Non-financial Assets	36	34	60	35	31	45
<b>Total Recurrent</b>	<b>777</b>	<b>802</b>	<b>885</b>	<b>754</b>	<b>787</b>	<b>869</b>
<b>Development</b>						
Acquisition of Non-financial Assets	235	171	406	224	160	337
<b>Total development</b>	<b>235</b>	<b>171</b>	<b>406</b>	<b>224</b>	<b>160</b>	<b>337</b>
<b>Total Expenditure</b>	<b>1,012</b>	<b>973</b>	<b>1,291</b>	<b>978</b>	<b>947</b>	<b>1,206</b>
<b>TOTAL RECURRENT</b>	<b>2,672</b>	<b>3,318</b>	<b>3,446</b>	<b>1,946</b>	<b>2,718</b>	<b>2,851</b>
<b>TOTAL DEVELOPMENT</b>	<b>2,658</b>	<b>2,701</b>	<b>5,173</b>	<b>1,108</b>	<b>2,196</b>	<b>2,957</b>
<b>TOTAL</b>	<b>5,330</b>	<b>6,019</b>	<b>8,619</b>	<b>3,054</b>	<b>4,914</b>	<b>5,808</b>

### 3.3 Forestry and Wildlife

<b>Program 1 - Forestry &amp; Wildlife policy regulation &amp; Coordination</b>						
	<b>Approved Estimates</b>			<b>Actual Expenditures</b>		
	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>
Recurrent Expenditure						
Compensation to Employees	4	65	69.4	2.3	55.4	70.3
Use of Good and Services	61	187	150.6	42.8	135.5	152.5
Current Transfers to Govt. Agencies	0	18.8	0	0	4.7	18.8
Other Recurrent	0	0	12.4	16.7	34.8	12.4
<b>Total Recurrent</b>	<b>65</b>	<b>270.8</b>	<b>232.4</b>	<b>61.8</b>	<b>230.4</b>	<b>254</b>
Capital Expenditure	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>
Acquisition of Non Financial Assets	17	62	127.5	0	24.7	126.8
Capital Grants to Government Agencies	0	0	0	0	0	0
Other Development	0	0	20	0	8.4	19.4
<b>Total Development</b>	<b>17</b>	<b>62</b>	<b>147.5</b>	<b>0</b>	<b>33.1</b>	<b>146.2</b>
<b>Total For the Programme</b>	<b>82</b>	<b>332.8</b>	<b>379.9</b>	<b>61.8</b>	<b>263.5</b>	<b>400.2</b>
<b>Program 2- Forestry Research, Development &amp; Management</b>						
Recurrent Expenditure	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>
Compensation to Employees	680	187	0	1212.7	0	0
Use of Good and Services	901	485	0	853.5	0	0
Current Transfers to Govt. Agencies	689	2,253	3,097	50.7	2529.6	3073
Other Recurrent	0	0	0	67.3	0	0
<b>Total Recurrent</b>	<b>2,270</b>	<b>2,925</b>	<b>3,097</b>	<b>2,184</b>	<b>2,530</b>	<b>3,073</b>
Capital Expenditure	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>
Acquisition of Non Financial Assets	684	479	631.2	165	250.1	555.2
Capital Grants to Government Agencies	14	48	15	10.1	46.8	0
Other Development	421	0	1,122.90	403.4	640.8	775.1
<b>Total Development</b>	<b>1,119</b>	<b>527</b>	<b>1,769</b>	<b>579</b>	<b>938</b>	<b>1,330</b>
<b>Total For the Programme</b>	<b>3,389</b>	<b>3,452</b>	<b>4,866</b>	<b>2,763</b>	<b>3,467</b>	<b>4,403</b>
<b>Programme 3: Wildlife Conservation and Management</b>						

Recurrent Expenditure	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Compensation to Employees	0	0	0	172	0	0
Use of Good and Services	0	0	0	0	0	0
Current Transfers to Govt.Agencies	937	937	956.1	740	937.3	936.8
Other Recurrent	0	0	0	0	0	0
<b>Total Recurrent</b>	<b>937</b>	<b>937</b>	<b>956.1</b>	<b>912</b>	<b>937.3</b>	<b>936.8</b>
Capital Expenditure	2007/08	2008/09	2009/10	2007/08	2008/09	2009/10
Acquisition of Non Financial Assets	645.4	0	564	272.5	532.6	520.5
Capital Grants to Government Agencies	437	865	191.2	537.6	146.4	108.6
Other Development	0	0	20	0	0	20
<b>Total Development</b>	<b>1,082</b>	<b>865</b>	<b>775</b>	<b>810</b>	<b>679</b>	<b>649</b>
<b>Total For the Programme</b>	<b>2,019</b>	<b>1,802</b>	<b>1,731</b>	<b>1,722</b>	<b>1,616</b>	<b>1,586</b>
<b>Grand Total</b>	<b>5,490</b>	<b>5,587</b>	<b>6,977</b>	<b>4,547</b>	<b>5,347</b>	<b>6,389</b>