



REPUBLIC OF KENYA

WATER SECTOR STRATEGIC PLAN (WSSP)
2009-2014

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FOREWORD

Kenya is endowed with five water towers feeding our rivers to the Indian Ocean, the Lake Victoria or to inland lakes and marshes. The water coming from these towers is decreasing due to the destruction of the environment and the growing use of water by man, livestock and wildlife. As a result, the demand for renewable freshwater in the country has outstripped supply, with only 57 per cent of households using water from sources considered safe. There are serious effects of water shortage being experienced in urban settlements. Kenya is faced with a major water crisis. The increasing pollution due to rapid population growth and fast urbanisation adds a serious sanitation crisis to the water crises. As competition for water will increase women and children will be hit the first and the poor and vulnerable will suffer the most. The lack of water threatens the very fabric of society.

Although water resources are decreasing and our people are suffering from droughts, often they are displaced or even swept away by floods. Destruction of environment and climate changes are the main causes for this fluctuation between droughts and floods. Effective Integrated Water Resource Management can help to ease such natural disasters. We can no longer take water availability for granted. We are facing increasingly a very grim situation concerning water which needs to become a national concern.

Water and water-related issues are of great political significance and are likely to draw even more attention in the next few years at local, national, regional trans-boundary and international levels. Therefore, water must be handled at the highest political echelons. Political decisions will lay the ground but implementation will need to be done by a multitude of stakeholders from the different sectors within and outside government structures.

The water and sanitation crises calls for a new understanding of the country's water situation. We all need to appreciate the enormity of the problem, the urgency of the threats that confront us. We must make water a Matter of National Concern. If we do not act in earnest and with steadfastness, our livelihood as a nation is bound to fall into an abyss from the precipice on which it now hangs. It will be a difficult and painful journey to be able to come out of such an abyss and the 2030 Vision will surely remain a pipe dream in such circumstances.

So far, our driving motto has been '*Water for All*'— a dictum that takes the availability of water for granted. The facts in this Strategic Plan will show that we can no longer do so. Stakes are high: far-reaching measures need to be taken before Kenya's water situation turns irreversibly unmanageable. Thus, we must jointly take very determined and active measures in all aspects of water development. Water is a precondition for most of the other efforts in the country to succeed. This is a responsibility for us all, since we all need and use water for our survival. To capture this responsibility, we have reviewed the sector's motto, realising that before there can be '*Water for All*', we must all work together to ensure that water is actually available. The new motto captures this by adding another element, '*All for Water*'.

By this Water Sector Strategic Plan (WSSP), the people of Kenya are poised to improve attitudes towards human interactions with the natural environment more so, on the conservation of water catchment areas, especially the, water towers. With enhanced political will and responsive policies, laws, guidelines and regulations, Kenyans can break the current vicious cycle. Determined actions to solve the water

and sanitation crises should lead to reduced poverty and unemployment, enhanced food security, good health, and creation of wealth, all necessary for realization of the Vision 2030.

This Plan is premised on the hope that all stakeholders – and that includes everyone who resides in Kenya – will conserve water and water sources, as well as work towards conflict prevention and mitigation. Reflecting on the bill of rights in the envisaged new Constitutional Order, a decent livelihood for every citizen is conceivable.

Still, *'Water for All'* remains as important as ever before, which is captured in the full motto: *'All for Water – Water for All'*. This Strategic Plan will hopefully be a useful tool in achieving both aspects of the motto.

Hon. Charity K. Ngilu
Minister for Water and
Irrigation

ACKNOWLEDGEMENTS

This Water Sector Strategic Plan (WSSP) 2009 – 2014, is founded on the strategic vision initiated by the Hon. Charity K. Ngilu EGH MP, the Minister for Water and Irrigation (MWI). In coming up with the vision, the Minister reflected on challenges facing the common citizen with regard to provision of adequate portable water, and especially so the plight of women, children, youth and the vulnerable groups in society. We at MWI recognize and honour this pragmatic thinking which, through this WSSP, the management of water resources in Kenya is poised for further radical reforms.

I am deeply grateful to the staff of the Ministry of Water and Irrigation who tirelessly supervised, coordinated and quality controlled the processes that yielded this Plan. Included in this category are the members of the Think Tank and Writing Team. The combined efforts of the officers culminated in this product.

I wish to recognize the team of national consultants for making great sacrifices during the process of undertaking their tasks. Without their patriotic approach to the said tasks this work may have not been accomplished.

May I with gratitude, recognize all water sector ministries, civil society organisations, private sector institutions, the ALGAK, development partners and all other stakeholders for sending their representatives to the various workshops and meetings held during the preparation of this Plan.

Special thanks go to the Government of the Republic of Kenya, the GTZ and SNV for sponsoring the technical workshops, local consultants and facilitators, as well as to SIDA for funding the international consultants. I also convey my heartfelt gratitude to all other development partners who contributed in one way or the other to make this process a success.

Finally, I wish to acknowledge the editors of the WSSP and everyone else that participated in the process that led to the production of this Plan.

Eng. David Stower, CBS, OGW
Permanent Secretary
Ministry of Water & Irrigation

ACRONYMS

ALGAK	Association of Local Government Authorities of Kenya
AMCOW	Africa Ministerial Council on Water
ASALs	Arid and Semi-Arid Lands
AWSC	Annual Water Sector Conference
CAACs	Catchments Area Advisory Committees
CBOs	Community Based Organisations
CDF	Constituency Development Fund
CPC	Community Project Cycle
CSOs	Civil Society Organisations
DPs	Development Partners
DWOs	District Water Offices
IWRM	Integrated Water Resources Management
KEWI	Kenya Water Institute
LATF	Local Authority Transfer Fund
MDGs	Millennium Development Goals
MTEF	Medium Term Expenditure Framework
MWI	Ministry of Water and Irrigation
NEMA	National Environmental management Authority
NGOs	Non-Governmental Organizations
NIB	National Irrigation Board
NWCPC	National Water Conservation and Pipeline Corporation
NWRMS	National Water Resources Management Strategy
PPPs	Public-Private-Partnerships
PSIs	Private Sector Institutions
SIDA	Swedish International Development Agency
SIP	Sector Investment Plan
SWAP	Sector Wide Approach to Planning
WAGs	Water Action Groups
WASH	School Water, Sanitation and Hygiene Policy
WDC	Water Resources Users Association Development Cycle
WRM	Water Resources Management
WRMA	Water Resources Management Authority
WRUAs	Water Resource Users Associations
WSSP	Water Sector Strategic Plan
WSBs	Water Services Boards
WSIs	Water Sector Institutions
WSPs	Water Services Providers
WSRB	Water Services Regulatory Boards
WSS	Water Supply and Sanitation
WSTF	Water Services Trust Fund
WSWG	Water Sector Working Group
UfW	Unaccounted for Water
UPC	Urban Project Cycle

EXECUTIVE SUMMARY

'All for Water – Water for All'

Kenya is one of the countries experiencing rapid deterioration of its environment with the destruction of its 5 water towers due to deforestation, land erosion and encroachment by farmers and settlers. In addition, Kenya faces a crises in water services provision and sanitation. This seriously increases the risks that water shortages limit the development of the country, strangle the water-demanding economy and strain social peace.

The knowledge that water is no longer readily available and that the deterioration of water supply and sanitation needs to be reversed, triggered the water sector reform with the enactment of the new Water Act 2002. The reform concentrated on the protection of water resources, equal access, pollution control and on improving urban and rural WSS. But with ever falling levels of water per capita, continuous low utilisation of irrigation potential and destruction of the environment by deforestation, it becomes obvious that the country must subscribe to a more comprehensive reform in Integrated Water Resource Management (IWRM). Planning and development can no longer focus mainly on distribution but needs to go beyond the horizon of one single ministry and bring on board all key players relevant to the water sector to reinforce conservation and replenishment. Concerted efforts by all water relevant ministries are needed to develop a common vision and move to collective planning and implementation.

For this the MWI has elaborated a Water Sector Strategic Plan (WSSP), called the Plan, in order to provide a better understanding on water issues to the general public and guidance to stakeholders to better address the current situation and upcoming challenges. The Plan is guided by the Vision 2030, MDGs and human rights to water and has been prepared in a consultative manner with broad stakeholder participation.

The situation in the country is specifically characterised by decreasing land and water availability per capita due to an annual population growth of 3% and an urbanisation of 5% a year with a very high poverty level. Rapid urbanisation and economic development exerts pressure on the quantity and quality of water, threatening seriously the ecosystems' stability. Infrastructure development and service provision for water and sanitation can barely cope with the population growth. In the rural setting, WSS coverage rate is more or less stagnant since many years and in towns declined for decades and only now has it gradually reversed due to the ongoing sector reform. Despite these positive results of reforms which also helped to boost the water sector budget from 5.5 to 22.6 Billion Kshs within 5 years, sustainability of infrastructure and its management is still a big concern. The reform in WRM has visible improvements on the ground but on a limited scale.

The level of water per capita in 1992 stood at 647 m³ and is now estimated at 500 m³ per capita. The per capita storage of surface water declined even more drastically from 11.4 m³ in 1969 to 4.3m³ per capita per annum in 1999. Kenya can no longer rely on rain-fed agricultural production due to increased unreliability of rainfall patterns. Only 21% of existing irrigation potential is used. Many irrigation schemes operate below their potential. Therefore, storage, irrigation and land reclamation need

now to become a stronger focus in the reforms in order to make full use of water for production.

Kenya shares about 50% of her water resources with immediate neighbours. The management of these shared water resources is a matter of great national and international importance. The lack of bilateral agreements between riparian countries makes it difficult to put in place a joint development and monitoring framework. Solving trans-boundary issues needs a long term vision and long term undertakings which made the MWI to establish permanently a trans-boundary water unit.

Moving to an enlarged IWRM framework needs the creation of a National Coordination Framework in which the MWI as the lead agent will play its important coordination role.

Global trends are influencing regional and national development. The water sector is no exception to such influences. International declarations provide key principles for reforms to which other outcomes from the international dialogue are added such as climate change, aid effectiveness and sanitation.

The context in the country is positively influenced by a remarkable political support for the ongoing reform. Nevertheless, the reform needs to mobilise support from higher political levels e.g. parliament, cabinet, etc. There is need for politicians to take time to understand the complexity of water issues and take necessary actions through different ministries to remedy further environmental destruction. A number of good policies, strategies and implementation concepts are already available which need to be integrated in the new and wider framework. Bringing other key ministries directly impacting on water and sanitation on board will help to match ongoing reform efforts with the overarching new policy framework.

The Economic Pillar of Vision 2030 aspires to attain an average growth rate of ten per cent (10%) per annum and sustain it through 2030. Therefore, it is important to provide water in sufficient quantity and quality but also give it the right economic value. It is no exaggeration to state that the speed of which the Kenyan economy will grow in future is very much linked to the availability of water and the efficiency of its use.

The well being of people depend to a large extent on access to water and sanitation as well as on a clean environment. The situation on the ground is still more than unacceptable as water supply is frequently interrupted or does not reach most of the poor and the sanitation crisis is growing. Both are fuelling social conflicts and disrupt peaceful co-existence among communities. The poor are particularly affected by droughts and floods. Nevertheless, the ongoing water sector reform has a very strong poverty focus. WSTF, WASREB, WRUAs, WAG, etc. are very good examples of poverty orientation and empowerment of users who had no say in the past.

There are capacity constraints and poor communication in the sector. Adequate human and institutional capacities would not only help to change attitudes and behaviour but also ensure that infrastructure is used sustainably at acceptable costs. This unfortunately is not yet the case. Messages are not formulated in an easy to understand write up and are not channelled to the public and decision makers in an effective way.

Inappropriate technology and poor management of facilities lead to water losses (over 40% at WSPs) and unsuitable irrigation technologies waste enormous amounts of water. Waste water treatment plants reach only 20% efficiency and energy is wasted due to outdated technologies and designs. Recycling and the use of its by-products e.g. EcoSan is still only in a piloting stage. Bio-diversity of the country is therefore threatened by pollution, drying up of rivers and lakes and increasing erosion caused by uncontrolled human activities. Climate changes are amplifying frequent floods and persistent droughts.

The SWOT analysis of the Plan summarises this situation and the current trends. The results document the complexity of IWRM and evoke the need for synergistic management of interactions and interventions among the various sector stakeholders to promote joint approaches to water affairs in the country and the region as a whole.

The water sector mandate is: *‘to consolidate collaboration, cooperation, and coordination of programmes, projects and activities, in a sustainable manner to ensure protection and conservation of water resources and good governance in availability, equity, and accessibility, to water for all uses and users’*

The Vision of the Plan is: *“A Kenya where water resources are protected, harnessed and sustainably managed to ensure availability and accessibility to all for the present and future generations”*

The Mission is: *“Provide coordination for sustainable water resources management through enhanced sector performance which ensures water availability, protection of the environment, access to safe water / reliable sanitation and creation of wealth and employment”*

The overall Goal of the water sector is: *“Reverse the declining trend of water availability per capita, increase access to safe water and sanitation, increase area under irrigation and reclaim arid and semi arid lands for productive use”* from which goals for the 4 sub-sectors of the MWI have been derived.

The sector Moto has been enlarged in order to capture the shift to a more comprehensive IWRM with concerted efforts on a higher political level. Instead of “Water for All”:

“All for Water, Water for All”

Following the Vision / Mission / Goals and the core principles and values of the Plan 7 key strategic development areas have been identified and strategic objectives and actions elaborated (chapter 3.7).

Strategic areas	Strategic Objectives*
1. Policy, legal , regulatory and institutional arrangement	Establish a harmonised and coordinated water sector: appropriate coordination, SWAP, harmonised policy and legislation Promote good governance and mainstream crosscutting issues: standards and enforcement mechanism
2. Sustainability in water resources development	Ensuring sustainable development and management of water resources: understand potential, ensure integrity and sustainability, harness water resources, adaptation to climate change
3. Water for social development	Ensure sustainable and affordable access to water and sanitation: Formalise service provision, sustainable operation of services, Improve access to WSS
4. Water and economic	Ensure sustainable availability of water for productive purposes:

development	Improve access to raw water, sustainable and efficient use, promote tertiary use of water
5. Resources requirements	Mobilise adequate funding for the sector: develop SIP, financing strategy, ring-fence water income, value for money strategies
6. Capacity development	Improvement and strengthening capacity development: Promote research, learning and knowledge management, institutional and human capacity strengthening
7. Communication development	Develop appropriate Information, Education and Communication framework: Platform for information sharing, sector data base and information systems, sector communication and education strategies

* In addition, in chapter 3.8 the Plan offers milestones for the strategic development.

An **APEX Structure** is proposed to create an enabling framework for guidance and decision making consisting of an Inter-ministerial Water Coordination Committee (IWCC) and a National Water Sector Standing Committee (NWSSC) which will make use of existing dialogue platforms such as the WSWG and the Annual Water Sector Conference.

Communication of the Plan to all concerned ministries and stakeholders is regarded as essential and shall be realized through various means such as an appropriated launch, publication (including a popular version) and building of effective partnerships.

The **Implementation of the Plan** shall be carried out by further detailing the strategic actions of the Plan. All water relevant ministries shall be able to contribute to an overall water sector implementation plan (WSIP) and participate in cross-ministerial coordination, communication, monitoring, evaluation and reporting. Once the 4 sub-sectors under the MWI have established comprehensive investment plans feeding into the overall WSIP a detailed and realistic costing of an overarching water sector development can be achieved.

Facilitating the Plan under uncertainty means that the stakeholders need to know their assumptions (chapter 8.2) and risks (chapter 8.2). The secretariat to the IWCC and NWSSC shall ensure that the implementation plan for the WSSP is regularly updated and progress monitored and reported to the public. These reports should also serve as a feed-back mechanism for policy and other decision makers to drive the reform in the water sector in the desired direction forward.

The MWI will be particularly concerned to build trust among all stakeholders, promote an inclusive and participatory culture and ensure mutual understanding and responsibility that will be required for the process of implementation of this WSSP to the benefit of the present and future generations of Kenya.

1. Introduction

1.1 Background

Kenya is one of the countries experiencing rapid deterioration of its environment with devastating effects on water resources, which was in the past combined with a fast decline of water and sanitation service provision. The rapid population growth, with galloping urbanisation, a more diversified and water-demanding economy, inappropriate land use practices, and effects of cumulative climate change have contributed to this state of affairs. However, water-related challenges are not unique to Kenya as a nation, as similar situations occur elsewhere.

The primary cause of the worsening water crises has been the degradation of Kenya's natural environment. The impact of inappropriate practices is illustrated by the fact that land degradation is **estimated at 3% of the GDP loss (about US\$ 390 million)¹**, leading to loss of environmental sustainability.

In the early 1960s and 1970s, water gained political significance among Kenyan communities aiming for self-help or donor-driven Water Projects all over the country, which many of them have stalled because of an inappropriate water sector framework. At the local level, water politics are determined by inter- and intra-community issues as documented in the National Water Master Plan of 1992. At the regional level, issues of access and use of water resources concern shared rivers or lakes crossing over provinces therefore more concerted efforts among all stakeholders are needed.

Decision-makers, not the least politicians, will have to make increasingly difficult decisions to ensure sustainable and fair access to water. It is for this reason that any stakeholder active in the water sector from private sector, civil society, government, and development partners need to strengthen their involvement and align to the policy of the Ministry of Water and Irrigation (MWI) as the lead agency.

The decisions to be made must be based on correct, comprehensive and factual information. This Water Sector Strategic Plan (WSSP), hereafter the Plan, seeks to provide a means to allow the general public and other stakeholders to better understand and address the current situation and upcoming challenges. The Plan is essentially anchored on the concept of Integrated Water Resources Management (IWRM), with the added value of attempting to bring on board all key players or stakeholders in decision making, programme planning and implementation. Furthermore, the Plan provides a base for improved performance monitoring, evaluation and reporting as a basis for strengthening guidance of sector developments. This Plan has been prepared in a consultative manner with broad stakeholder participation.

¹ Source:

1.2 The WSSP in a National Planning Context

This Plan is guided by Vision 2030, which provides the framework for the development of the nation, its first component being the Medium Term Plan for the period 2008 – 2012. It is designed as a tool for the MWI to bring on board all key actors and re-work and re-align sector strategies to Vision 2030, viz: *what are the implications of the Vision 2030 in terms of water resources and water utilisation?* The Plan builds on experiences of previous ministerial plans, such as the MWI's Strategic Plans for 2005 – 2009 and 2009 – 2012; among others.

The knowledge that water is no longer readily available and that planning and development of the resource in the country can no longer primarily focus on distribution – taking the water from the source to the users – was one of the reasons to commence on a water sector reform at the beginning of the year 2002. This ongoing water sector reform, an implementation of the Water Act 2002, concentrates on water and sanitation services as well as water resources management which shifted from administrative to drainage boundaries and catchment management. The new approach of the reform was integrated water resource management concentrating on protection of water resources with controlled access and distribution, pollution control and peaceful water conflict resolution.

But with falling levels of water per capita per annum and slow progress in water and sanitation coverage, the realisation of the Vision 2030 could be threatened if the focus of the ongoing reform efforts are not enlarged. Thus for the Vision to be realised, it is critical that there be enough water resources to support the envisaged industrial, agricultural and social development, while meeting the domestic needs of a rapidly rising human population. The country therefore must subscribe to a more comprehensive approach, enlarging the efforts of the ongoing reform on conservation, replenishment and development of water resources by including more prominently water storage and water for production.

This needs a more comprehensive analysis of water in a national development context, as well as mechanisms for coordinated and focussed actions to address the nation's needs with regard to the sector. Collaboration, coordination, and cooperation among stakeholders need to be strengthened for the long-term sustainability and impact of sector interventions. This should include mechanisms for planning, funding and implementation of interventions as well as feedback analysis of gained experiences for corrective measures and enforcement strengthening. In addition to increased coordination the sector needs increased funding for water storage and water resource management.

The Plan recognizes that Water is Life and that water and water-related issues are considered at all levels and penetrate all aspects of society, cutting across all boundaries, be they political, administrative, social, economic and technological.

1.3 The New Approach

The Water Act and the resulting reforms in the WRM and WSS sub sectors need to be continued and strengthened. But it has become apparent that concentrating on these two sub-sectors and their SIs as well as focusing only on WSIs without integrating

other Ministries and their SIs, falls short of solving the water crises in Kenya. To be able to contribute significantly to the Nations Development spelled out in the Vision 2030 the water sector needs in addition to, focus more on the following areas:

- Inter-ministerial coordination / cooperation to stop the destruction of the environment (forests, wetland, etc.)
- Water availability / water storage development
- Water for production (irrigation and industry)
- Disaster risk reduction and preparedness due to climate change, etc.

This means a development of IWRM within a much broader picture than in the past to the benefit of long term development of the Kenyan society / nation.

2. Situation Analysis of the Kenyan Water Sector

2.1 Country Overview

Land and water availability: The most important resources in Kenya are land and water. Kenya covers a total area of 582,646 Km², of which land surface constitutes 581,679 Km² and water 11,230 Km² representing 1.9%². The proportion classified as having high and medium potential suitable for arable agriculture is 16%. The rest 84%, constitutes the arid and semi-arid lands (ASALs) suitable only for extensive livestock production, wildlife and irrigated farming. About 7,084 Km², 1.2% of the land is classified as forest, against a benchmark of 10%³ having decreased from about 17% in 1990. The ASALs are estimated to hold 85% of the total national wildlife population and people in these areas continue to predominantly practice dry-land farming and pastoralism⁴.

Rainfall is unevenly distributed and varies from one year to another, as well as between seasons. Some regions receive between 1,500 mm to excess of 3000 mm of rainfall or even considerably more, while the arid lands receive much less. These variations determine the patterns of drought and flood spells, thereby influencing the water endowment over these regions.

Population growth and urbanization: Kenya is experiencing rapid population growth, from 5.4 million in 1948 to an estimated 38 million (2008), with an estimated annual growth rate of 3 %. This means that over the same period the per capita land availability decreased from 11 hectares to a mere 1.5 hectares, now set to further decline to less than 1 hectare by 2030, when population is projected to be about 60 million. The challenge is to lay a foundation to comprehensively handle the population-driven transformations that are expected to lead to even higher stress on water and other natural resources in all areas.

Urbanization poses special challenges. Fuelled by rural poverty and dwindling per capita ownership of farming and grazing lands, urbanization is rapid due to rural-

² KNBS, Statistical Abstract, 2006

³ KNBS, Statistical Abstract, 2006; and Mwichabe, 1996

⁴ Mwichabe, 1996

urban migrations. Still, the magnitude of urbanization will only be known when “Maji Data” (a base line on urban water supply and sanitation in the low income informal settlements) is published⁵. Many urban areas are largely composed of informal settlements that are not well covered in the national statistics. Urbanisation exerts pressure on the sector in terms of water availability and pollution with serious consequences on ecosystem stability and resilience, in both upstream and downstream areas of major settlements.

Throughout the country, the lack of effective pollution control measures compromises the quality of water, posing potential health hazards, increasing treatment and maintenance costs, and affecting inland, estuarine and coastal aquatic ecosystems. The current regulatory regime needs to address pollution issues more effectively. The National Environmental Management Authority (NEMA) has set standards, but enforcement needs to be strengthened by including regulation for water resources and water supply and sanitation service provision.

Access to basic services and infrastructure for water and sanitation: Infrastructure development and service provision for water and sanitation can barely cope with the population growth. In the rural setting the coverage rate is more or less stagnant since many years. In the urban setting the situation was deteriorating in the last 20 years with the rapid growth of low income settlements not only in numbers (alone in Nairobi around 200 presently⁶) but also in population leading to very high population density. WSS coverage in towns declined in the last two decades but this negative trend is now gradually reversed due to the ongoing sector reforms concentrating on improving sustainability and poverty orientation. Commercialisation of WSS in the towns combined with regulation for WSS (WASREB) and the poverty basket for the water sector (WSTF) have provided the major contributions to improve access in the rural and urban settings.

Despite these positive results of the reform which have also helped to boost the budget in the water sector from 5.5 to 22.6 Billion Kshs within 5 years, sustainability is still a big concern. The MWI continues to subsidise smaller WSPs which cannot ensure adequate maintenance due to insufficient economies of scale and professionalism. Therefore, clustering of WSPs is badly needed.

Another limiting factor for access to sanitation is the poor state of sanitation and sewerage infrastructure. Compared to water supply where infrastructure development and rehabilitation has tremendously improved since the sector reform, sanitation is lagging far behind – a limiting factor for improving living conditions of the people in the country.

One of the preconditions for the realisation of the Vision 2030 – becoming a middle income country by 2030, is to prevent the deterioration of living conditions for the poor, who make up a large part of the population, by providing adequate access to water and sanitation.

⁵ Expected by the end of 2010

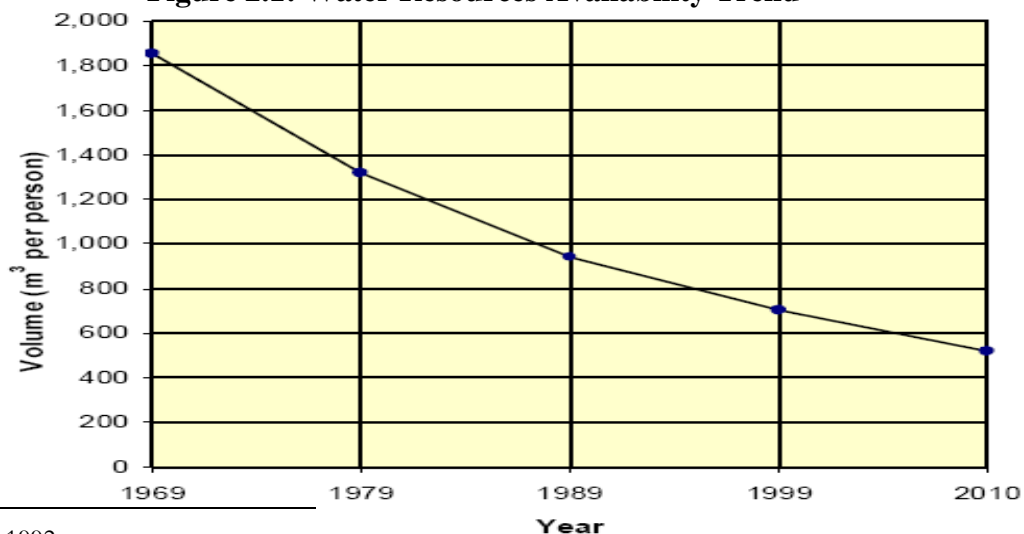
⁶ Preliminary results from Maji Data

Degradation of Water Towers: There are five (5) high altitude-based water towers, namely, Mt. Kenya (199,558 ha.), Aberdares Ranges (103,315 ha.), Cherangani/Tugen Hills (128,000 ha.), Mt. Elgon (73,089 ha.), and Mau Forest Complex (400,000 ha.); the latter being the most important water catchment. The total coverage of these towers is 903,962 hectares. Collectively, these towers continue to be severely damaged by anthropogenic activities such as encroachment by human settlements; agricultural expansion; rapid human population growth; destruction of forest vegetative cover due to illegal logging, charcoal burning, poorly planned tourist facilities, water pollution, over/illegal abstractions by industries and urban settlements; among others. Increasingly, the available surface and ground water resources are becoming polluted from both point and non-point sources. Currently there are efforts to rehabilitate the damaged ecosystems, especially the Mau Forest Complex.

The ongoing reform on WRM has helped to establish the WRMA, CAAC and the WRUAs, concentrating on the reduction of water conflicts, pollution and over extraction of water resources and equal access to water. There are visible improvements on the ground but on limited scale. In addition, the performance of the new institutional structure is still insufficient due to low enforcement effectiveness of rules and regulations. The WRMA is rather administrating affaires and not functioning like private sector like management. Separation of regulatory functions from service provision / implementation could change the situation of low performance. In addition, linking WRMA strongly with key players from other sectors would improve the performance of this institutional structure.

Declining Levels of Water Per Capita: In 1992, the per capita freshwater supply in Kenya was estimated at only 647 m³ per capita based on an estimated average annual water availability of 20.2 billion m³⁷. The per capita storage of surface water declined from 11.4 m³ per capita per annum in 1969 to 4.3m³ per capita per annum in 1999. This is attributed to low investment in water storage infrastructure. Unless stringent measures are taken, it is projected that by end of 2010, the renewable freshwater supply will have fallen to only just over 500 m³ per capita per annum, and by 2020, to 235 m³. This is far below the international standards of 1000 m³ per capita.

Figure 2.1: Water Resources Availability Trend



⁷ JICA 1992

Water Storage development has so far not been a specific focus of the ongoing sector reform triggered by the Water Act 2002 but now needs to be part of a wider water sector development approach.

Increasing Demand for Energy: The current water endowment along major rivers accounts for 72% of the country's generated hydro-power. In contrast the geothermal power and green power production (i.e. Wind, solar, bio fuels, biogas, etc.) are minimal and yet these collectively have the potential to increase considerably and reduce pressure on the water systems. This means deliberate efforts must be made to emphasize the need to enhance investments into the available renewable energy resources instead of over reliance on hydro power generation. If achieved, this would reduce pressure on the water sector.

Underdeveloped Irrigation Potential: The stratification in precipitation patterns in the country influences agricultural zones. Kenya can no longer rely on rain-fed agricultural production due to increased unreliability of rainfall patterns.

Kenya has an estimated irrigation potential area of 1.3 million (ha) and a drainage potential of 600,000 ha. However, 539,000 ha of the irrigation potential can be developed with the current available water resource base. The remaining 800,000 ha will require water harvesting and storage equivalent to annual water storage of 25 billion m³.

Currently about 119,000 ha and 30,000 ha of land is under irrigation and drainage respectively. This translates into 21% and 5% of the existing irrigation and drainage potential. However, the area under irrigation is only 9% of the possible 1.3 million ha that can be irrigated with development of water storage.

Table 2.1: Irrigation Potential by Basin in Kenya

Basin	Irrigation Potential (ha)
Tana	205,000
Athi	40,000
Lake Victoria	200,000
Kerio Valley	64,000
Ewaso Ng'iro	30,000
Total	539,000

Source: National Water Master Plan 1992 – Ministry of Water and Irrigation

Under Vision 2030, the MWI aims at increasing the area under irrigation to 300, 000 ha by 2012 by extending intensive irrigation projects into the ASAL areas. Additional potential could be realized through intra-basin transfer of abstraction. However, existing treaties and the proposed Nile Basin Cooperative Framework, as well as domestic socio-economic factors, pose challenges to such transfers.

In addition, Irrigation has so far also not been a specific focus of the ongoing sector reform triggered by the Water Act 2002. This partly explains the slow progress in increasing the area under irrigation since 2002. Reform efforts must now include not only the restructuring of MWI and NWPC but also the NIB in order to promote irrigation and the use of water efficient irrigation technologies.

Full utilization of the irrigation potential will offer substantial support to economic growth and increased employment rates country wide.

Trans-boundary Water Resources: Kenya shares about 50% of her water resources with her immediate neighbours. The main shared water bodies include four lakes: Victoria, Turkana, Jipe and Chala; and the ten rivers in the following basins:

1. Lake Jipe/Chala and River Uмба between Kenya and Tanzania
2. Lake Turkana – River Omo Basin between Kenya and Ethiopia
3. Mara River Basin between Kenya and Tanzania
4. Rivers Sio, Malaba, and Malakisi Basin between Kenya and Uganda
5. The Merti aquifer in north eastern part of Kenya extending into Somalia has also important trans-boundary relevance

The source of River Nile is originating from the Lake Victoria Basin, of which Kenya contributes about 45% of the waters to the Lake which drains down to Egypt. The Lake Victoria basin supports about 50% of Kenya's population and has over 50% of the country's water resources endowment, thus is a very critical area in Kenya's economy. The management of this and other shared water resources therefore is a matter of great international importance.

The Mau Forest Complex has especially important trans-boundary implications, for the international River Nile via the Mara River that traverses Kenya and Tanzania, on its way to Lake Victoria. Kenya is under pressure to ensure sustainable flow of water in the Mara River. Yet large scale wheat and barley farms within Narok District continue to exert more pressure on the Mara River with increased demand for water for agricultural production, among other uses. At the same time the tourism industry continues to require increased supplies for its operations. With the destruction of forests and in particular the Mau Forest Complex, these utilization regimes along with requirements of the riparian countries are threatened.

In the case of the Lake Turkana, the Omo River, a main source of replenishment for Lake Turkana (90%), faces impacts of the construction of a major hydro-dam on its course within Ethiopia, where it originates from. Until the 1950s, its waters were relatively clean but ever since, agriculture and erosion of topsoil caused by land clearance and deforestation in the catchments have led to the rivers dumping vast amounts of sediment into the lake. This may adversely affect the sustainability of the Lake ecosystem. The country must therefore closely monitor inflows from catchment areas outside the national boundaries.

The lack of bilateral agreement between riparian countries makes it difficult to put in place a joint monitoring framework and thereby ensure sustainable utilization and effective joint monitoring. Solving trans-boundary issues needs a long term vision and long term undertakings.

Recognising the importance of trans-boundary issues to international relationships and national development the MWI has established a trans-boundary water unit reporting directly to the PS.

Increased land degradation: Degraded land is highly susceptible to flooding due to poor water infiltration into the soil. In the past, there have been a number of isolated

programmes aimed at water and soil management with the emphasis of rain water harvesting and reduction of the speed of surface run-off when it rains in fragile ecosystems. The impacts of these programmes were very limited due to the missing embedment of such programs into an integrated water resource framework. Policies addressing flood control and land degradation have been formulated. However, they are scattered and implemented by various government departments.

The rate of land degradation is still high. It is estimated that over 84% of Kenyan land is degraded which is about the equivalent of ASAL areas in Kenya. Presently the rate of land degradation in high potential areas is estimated at 3% p.a. There is urgent need to halt further degradation and transform degraded lands into and productive land, this can be done through flood control and influence land use in order to improve livelihoods, food security and sustainable development

Missing Overarching National Coordination Framework and Insufficient Information: The sector has many different players who include MWI and the water sector institutions, other government ministries/departments and agencies, non governmental actors who include; church organizations, NGOs, CBOs, private sector players and development partners. All of these players have made significant contributions in the sector however; this has been done in an uncoordinated manner. Furthermore, all of the key Ministries involved in the water sector need to integrate water professionals into their structures in order to respond to the importance of adequate water resource management.

With increasing demand for water and at the same time rapid and rising destruction of water towers, involving policy makers and other stakeholders from many different sectors and coordination efforts can no longer be limited to water institutions. Coordination in the water sector needs to go beyond the MWI and its water sector institutions. A coordination framework headed by the MWI as the lead ministry has to include policy makers from the other relevant sectors whose mandates and activities impact on the environment and therefore on water resources. In addition, the MWI needs to play a leading role in inter-ministerial coordination structures established on higher policy making levels such as the President office. By addressing existing conflicts in mandates and functions among sector stakeholders, a new order for water resources management could emerge to develop and implement effective coordination mechanisms for the multi-disciplinary, inter-agency and inter-sectoral approaches.

The establishment of an overarching national coordination framework will only be effective if the decision makers have access to adequate and complete information for decision making. Although data bases and information systems in the 4 sub-sectors under the MWI are improving gradually there are still important gaps in quantity and quality of data and limits in the functioning of systems. Even if the 4 sub-sectors will manage to close these gaps it is not certain that it will be sufficient for the enlarged and new overarching framework. This is because in the new framework data and information are needed from other ministries with relevance to the water sector. In addition, the Water Master Plan (1992) is outdated and was based on assumption that did not take into account the effects of climate changes. The Plan was never fully implemented. Consequently, it is advisable to review data availability at all of them and obtain with the enlargement of the coordination framework a wider picture on information.

2.2 Global trends

It is essential that water resources management and water and sanitation service provision receive comprehensive legal backing in all their manifestations. This requires thorough understanding of the legal authorities upon which the present regulatory mechanisms and management processes are based. Therefore the country must draw on international and trans-boundary legal provisions on the management of water resources and domesticate relevant internationally binding provisions which Kenya is a signatory.

International Declaration on Water Management: The dialogue at the global level has led to many trends kicked off by various international declarations, the most important for water management being:

- International Conference on Water and the Environment in Dublin in early 1992 in which the fundamental Principles for the concept of Integrated Water Resources Management were laid down, such as “water is an economic good”, “fresh water is a finite and vulnerable resource” and “water conservation and reuse” among others
- Agenda 21 Programme of Action for Sustainable Development adopted at the 1992 UN Conference on Environment and Development in Rio De Janeiro. Chapter 18 of Agenda 21 was dedicated to protection of the quality and supply of freshwater resources with emphasis on integrated approaches to the development, management and use of water resources
- The developments in IWRM were subjected to expert review meetings and conferences the first being the Expert Group meeting on Strategic Approaches to Freshwater Management in 1998 in Harare, Zimbabwe. The report of the meeting recognised integrated water resources management within a national economic framework as being essential for achieving efficient and equitable allocation of water resources and thus for promoting sustainable development and poverty alleviation
- The concept of Integrated Water Resources Management was embodied in the Millennium declaration in 2000 at the level of State and Government under the theme protecting our environment. This conference held in New York essentially creates political goodwill at the top international policy level and emphasized the need to stop unsustainable exploitation of water resources by developing water resources management strategies at regional, national and local levels which promote equitable access and equitable supply
- The World Summit on Sustainable Development in Johannesburg in 2002 made tangible steps in IWRM implementation by setting targets for development of IWRM and water efficiency plans by 2005. This was to be followed by a 20 year implementation period with milestones every five years, culminating in achievement of sub-sectoral targets of all freshwater programme areas by 2025 in line with Agenda 21 recommendations.

In addition to these declarations which primarily focused on water and its management, other global trends are influencing the Kenyan water sector.

Human rights to water and sanitation: The combined water and sanitation crises in Africa alone leads to the deaths of an estimated 1 million Africans every year, from diseases caused by unsafe drinking water, poor sanitation and hygiene. This is estimated to cost Sub-Saharan Africa about 5% of its GDP or more than \$28 billion per year. The situation in Kenya is very similar to other African countries as they all have similar constraints. To change this, access to safe drinking water and living in a clean environment is now universally recognized as a human right guaranteed by the United Nations Convention on the Rights of the Child (UNCRC) and in the African Charter on the Rights and Welfare of the Child (ACRWC). The outstanding strength of human rights to water and sanitation is that it provides a comprehensive framework of standards which includes physical access, water quality and quantity, price, transparency, accountability and participation. The MWI is committed to gradually fulfil the human rights criteria⁸, which can only be ensured with increased water and sanitation coverage of formalised service provision in the urban setting as well as a strong participation of users in water resources management and service provision for water and sanitation in the rural areas.

Increasing attention to sanitation: The MDG target on sanitation is significantly lagging behind in terms of coverage. At the global level, discussions indicate this fact and recommend a higher degree of attention be given to sanitation. This has been illustrated by the UN general assembly declaring the year 2008 the international year of sanitation, this saw 32 African countries sign the eThekweni Declaration, during the AfricanSan Conference held in South Africa in 2008.

In Kenya a number of policies and concepts have been put in place to address sanitation such as the National Environmental Sanitation and Hygiene Policy (MoPHS), the School Water, Sanitation and Hygiene (WASH) Policy and guidelines, the Sanitation Concept for the Water Sector⁹, in addition the programs being implemented by the MWI have a sanitation component. However, progress on the ground is still inadequate compared to water supply. Adequate sanitary facilities for wastewater disposal both in rural as well as in urban areas are missing. Wastewater finds its way into mainstream rivers, valley depressions, dams and eventually into the Indian Ocean, resulting in high levels of pollution of Kenya's water bodies. Kenya is presently the second biggest polluter of oceans in Africa. Despite recent studies of the situation¹⁰, areas prone to such pollution disasters are yet to be comprehensively mapped with reference to all pollution sources including sewage works; monitored and identified water quality; and classified surface and ground water sources in the country.

Aid effectiveness and Program Based Approach: The international community realised that its support did not contribute to propelling sustainable development in many partner countries. This led to the Paris and Accra declarations on aid effectiveness and sustainable development which includes the use of instruments such as Sector Wide Approach to planning (SWAp) and a Program Based Approach (PBA).

⁸ Water Sector Reform in Kenya and the Human Right to Water, MWI Oct, 2007

⁹ Implementation Plan for Sanitation (IPS) (The Water Sector Sanitation Concept - WSSC), MWI Aug 2009

¹⁰ Improving Urban Sanitation Systems: Waste Water Treatment Plants; A rapid response to improve environmental sanitation MWI July 2009

Like many other sectors, the Kenyan water sector has commenced on a SWAp, a process which had stalled in 2008. Nevertheless, the preparation of the WSSP coincided with the revitalization of the Sector Wide Approach (SWAp), which is a *process* of dialogue and interaction, aiming at an increasingly more robust national water *sector programming*. This Plan and the SWAp are complementary and share several elements. Both use participatory and inclusive approaches, involving all relevant stakeholders inside and outside government. Both aim at strengthening collaboration, coordination, harmonization and alignment in approach and reporting as well as harmonising planning, budgeting and implementation efforts.

The Programme-Based Approach (PBA) is an additional concept of relevance to the water sector. The PBA relates more directly to development cooperation. It is defined as a way of engaging in development cooperation based on the principles of coordinated cooperation in support of a locally-owned development programme, such as a national development strategy, a sector programme, a thematic programme or a programme of a specific organization. In the case of Kenya's water and sanitation sector, the PBA would consist of a sector programme, as defined and led by Kenya, with coordinated support from several development partners. A sector programme of this type is not yet in place, but is envisaged as part of the implementation of this Plan, linked with the revitalization of SWAp and introduction of PBA.

Climate change: On the highest global level, climate change is now a constant issue on the agenda. Given the looming water crisis felt world-wide and the efforts demanded by all countries, Kenya needs to recognise its responsibility and establish plans to master the cumulative effects of climate change which play an increasing role in the extremity or sudden changes between droughts and floods. Kenya has to adjust to the changes and in addition document its contribution in the framework of mutual responsibilities among the international community. This includes measures to halt decimation of indigenous forest cover and land degradation, to reverse the destruction of the ecosystems and to reduce emissions.

2.3 Political context

The Kenyan framework: Though there is remarkable political support for the reforms from within the ministry and government, more capacity building and sensitization including communication to the higher political levels e.g. parliamentarians, cabinet etc needs to be sustained. There is need for politicians to take time to understand the complexity linked to water issues and take necessary actions in the different sectors towards remedying such problems as water tower degradation. The water and sanitation issues need to become more prominent on the political arena.

The Kenya Vision 2030 and the Medium Term Plan (MTP) 2008 – 2012, set out the development agenda for the country. The Vision 2030 is the new long-term development policy, which defines the growth path, with a focus on “transforming the country into a modern, globally competitive, middle income country, offering a high quality of life for all citizens in a clean environment” (Kenya Vision 2030). By this vision it is expected that Kenya will attain the Millennium Development Goals (MDGs) as set out.

Preceding this framework, the Water Policy – Sessional Paper Number 1 of 1999 was developed to address Water Resources Management and Development. Stakeholders with interest in the sector have also developed related policies. In addition a number of policies are being finalized; examples include the National Irrigation Policy, the Water Storage Policy. Based on such policies, national or sector strategies such as the National Water Resources Management Strategy (NWRMS), National Water Services Strategy (NWSS), etc. and implementation concepts such as the Pro-Poor Implementation Plan (PPIP) for water and sanitation, and the Water Sector Sanitation Concept, have been derived and are in the process of implementation. There is now need to complete such strategies and concepts for other areas such as wastewater discharge, protection of aquatic ecosystems etc; trans-boundary water resources, promotion of PPPs, among others and to enshrine them in an overarching Water Sector Strategic Plan.

The adoption of a new constitutional order in Kenya, for the first time in history, will allow a battery of rights for citizens, with far reaching implications on the sector. It is critical to ensure that once the new constitution has been adopted, existing policies, legislations, regulatory mechanisms and institutional arrangements are re-examined and re-aligned to the new constitution.

The international perspective: The different aspects of Kenya’s water situation bear semblance to national and international perspectives. For instance, in the event of uncoordinated use of the shared resource, the result could be conflicts between nations with potential threats to regional stability¹¹. The governments of riparian nations from this region participate in the African political groupings that focus on water resources such as the Africa Ministerial Council on Water (AMCOW) that recognizes continental initiatives such as the Africa Water Ministers Tunis Declaration. The Tunis declaration recommends that African governments put in place adaptation measures to ensure sustainable water security for social, economic and environmental needs. This includes the popularisation of the concept of shared vision over water resources as in the case of the Nile River, designated to be managed under the proposed Nile Basin Cooperative Framework.

As the lead agency, the MWI needs to undertake coordination in the water sector, creating an enabling environment within which all players contribute. This calls for harmonisation and streamlining of interventions. The Plan proposes an institutional coordination framework to consolidate interventions by various stakeholders, acting for common purposes, needs and goals within a shared vision.

2.4 The legal and institutional context

To coordinate the water sector, the Ministry of Water and Irrigation (MWI), was established through the Presidential Circular No. 1/2008 of May 2008. The mandate of the Ministry is ‘*to protect, harness and manage water resources in a sustainable manner to ensure availability and accessibility to raw and drinking water for all*’. The other key ministries with interests in the sector include Public Health and Sanitation,

¹¹ The latest incident happened when about 400 Kenyan fishermen were kicked out of Migingo Island by Ugandan authorities. Migingo is claimed by both Uganda and Kenya.

Agriculture, Environment and Mineral Resources, Lands, Northern Kenya and Other Arid Lands, Regional Development Authorities, Local Government, and Forestry and Wildlife. In addition there is a retinue of other ministries that may impact on the sector, namely, Foreign Affairs, Fisheries Development, Livestock Development, Industrialization, Finance, Education, Energy, East African Community Affairs, Tourism, Internal Security, and The Attorney General. To achieve the objectives of the sector, inputs from a multitude of other non-state actors are also required, such as the private sector, civil society, and development partners.

The Water Act 2002: The Water Act and the institutional arrangements that came with it, address some of the previous institutional weaknesses, through the establishment of semi-autonomous sector institutions to deal with water resources management and water and sanitation service provision. Both sub-sectors follow the basic principles of the reform process such as separation of policy making – regulation and service provisions. On realising that coordination efforts need to be taken even further, the MWI together with the Water Sector Institutions (WSIs), and other stakeholders, endeavour to promote improved forms of dialogue and collaboration at all levels through this Plan. While noting that some of the coordination efforts are difficult to achieve at the line Ministry level, the MWI has initiated contacts with coordinating Government entities in order to participate in overarching and intra-ministerial structures in order to realise a shared vision for national water development.

The implementation of the Water Act 2002: To accelerate social and economic development, the Government has initiated reforms in several water-related sectors and in the water sectors influencing management aspects in agriculture, irrigation, public health and sanitation, land reclamation, industries and processing, forestry, environment among others. These reforms produced new policies, plans and established new institutions. The Implementation of the Water Act 2002, generally referred to as the water sector reform, resulted in the removal of government from active implementation in water resources management and water supply and sanitation, as well as regulation. The Water Act 2002 created new water sector institutions and increased stakeholder participation in the management of water resources and in service provision of drinking water and sanitation. In water resources management, the reform so far focused particularly on the reduction of water conflicts, conservation and protection of water resources.

In order to match the ongoing reform process with the overarching new policy framework the water sector reform needs to embrace and focus more on:

- enhancing collaboration, cooperation and effective institutional coordination of interventions among stakeholders from all relevant sectors
- increasing availability of water resources and their efficient utilization for enhanced economic development
- completion of legislative framework and strengthening of enforcement of legislation and regulation
- awareness creation on ecological and environmental sustainability, and mitigating climate change impacts, and
- improved disaster management

Enlarging the focus to these areas will ensure that the gaps in the ongoing reform are closed with increasing attention to the relationship between water and economic development. Thereby, the MWI will not only strengthen its capacity to implement WRM and promote delivery of clean water and sanitation but also to enhance irrigated agriculture for crop production, and storage capacity to increase water availability.

2.5 Economic context

Creation of wealth and prosperity is closely linked to the availability and effective/efficient use of water, thereby increasing employment and decreasing poverty level. The Economic Pillar of Vision 2030 aspires to attain an average growth rate of ten per cent (10%) per annum and sustain it through 2030. To make this growth possible the water sector is expected to provide adequate supplies of water to facilitate economic activities.

Water availability and growing efficiency of water use is crucial for increasing agricultural production. Agriculture is presently the biggest water user absorbing about 70% of the water allocated. Insufficient water allocation will also limit growth in the industrial sector. Next to the production of goods, water can also be a very limiting factor for delivery of services, e.g. tourism sector. Therefore, it is important to provide water in sufficient quantity and quality but also give it the right economic value and make users and polluters pay the right price for it in order to ensure adequate development and professional service provision.

Furthermore, there are resource leakages reducing the effectiveness of allocated funds due to overlapping responsibilities or unclear distribution of functions among institutions not covered by the sector reform, e.g. DWO, NWCPC and local government structures. At the same time there are insufficient allocations of funds for reform institutions.

It is no exaggeration to state that the speed at which the Kenyan economy will grow in future is very much linked to the availability and the efficient use of water. Many countries in very dry regions like in the Middle East are excellent examples of such limited and improved economical development.

2.6 Social - cultural context

Water and sanitation for the well being of people: Acceptable living conditions depend on access to water and on a clean environment. They are key for good health and peaceful coexistence. For this, equity and equality in access to raw water and to basic services of drinking water and sanitation is demanded. Although efforts to offer basic water and sanitation services to all and to ensure equitable access to raw water are under way, the situation on the ground is still more than unacceptable. As water stress is mounting and the sanitation crisis is growing, social conflicts over water resources continue to disrupt peaceful co-existence among communities. Moreover the participation of water users in the management of water resources with growing capacity and knowledge is necessary for peaceful co-existence.

Behavioural changes at all levels: In the past, social tension mounted as decisions for access to raw water was top down and a growing population in the rural and urban setting still living under the poverty line did not have basic water and sanitation services. To date many are still deprived of basic services that conform to standards and regulations. With the implementation of the Water Act 2002 the MWI has taken steps to change these negative trends and improvements are becoming visible in some sub-catchment areas where water conflicts have declined and over 2 million additional people have been given access to clean drinking water that fulfil the requirements of the human rights to water and sanitation. Nevertheless, compared to the challenges in hand, more effort needs to be put in order to fulfil the MDGs. Bringing all stakeholders on board to buy into the WSSP and to enforce regulation and the requirements for human rights to water and sanitation is the real challenge, because it needs not only the right strategic approach but also behavioural change on all levels and among all stakeholders. Duty bearers need to ensure enhanced good governance and efficiency. On the other hand, water users must embrace principles and practices such as user pays, water savings, protection of environment, etc.

Strong poverty focus: Without a doubt the ongoing water sector reform has a very strong poverty focus. The WSTF is one good example. As a financing mechanism to promote access to water and sanitation (CPC and UPC) and to raw water to the poor (WRM window), it has already reached far over one million people in the rural and urban areas with clean water and is now striving to reach in the urban setting 500,000 additional people every year. The challenge in up-scaling access to water and sanitation is to bring well designed and especially sustainably functioning water and sanitation facilities with minimum standards closer to all groups of the population. Formalization of service provision in the urban setting is the way forward which fulfils the requirements of the Water Act 2002 and the human rights. Regulation of water and sanitation service provision has to strive to enforce minimum requirements for water quality, continuity of services, affordability of tariffs for the different consumer groups, participation of water users and the underserved through Water Action Groups and promotion of good corporate governance. In the rural setting the challenge is sustainability of facilities which can only be achieved with a stronger participation of the users.

The poor are also particularly affected by droughts and floods. Therefore the MWI needs to coordinate with other sectors for the planning of settlements and concentrate on rain water harvesting and emergency management. In addition, the Irrigation Board could develop pro-poor concepts like what the WSTF has done with the CPC and UPC.

Tackling the growing sanitation crisis: The poor experience first-hand, the sanitation crises the country is facing. Their environment is polluted and sanitation facilities are not adequate. At present, only 5% of the human waste is released treated into the environment¹². The poor especially those residing in densely populated settlements live under appalling conditions. This is a major cause of discontent resulting in rising violence and civil disobedience. The water sector is required to

¹² Improving Urban Sanitation Systems: Waste Water Treatment Plants; A rapid response to improve environmental sanitation MWI July 2009

ensure a sound environment by improving efficiency of sewer treatment plants and by enforcing technically and culturally acceptable standards for sanitation facilities.

Capacity Constraints and poor communication: The high cost of infrastructure construction and advanced technologies, low research and development funding, and inadequate human and institutional capacities, are some of the challenges facing the sector. Adequate human and institutional capacities would not only help to change attitudes and behaviour but also ensure that infrastructure for delivery of clean water for human use as well as water for enhancing production activities such as irrigated agriculture, industrialization, commerce, etc. would be used sustainably at acceptable costs. This unfortunately is not the case in many instances. There is need for building capacities across the sector and at all levels, focusing on the work force available in the sector and the new and re-aligned sector institutions.

Poor communication in the sector is also as a result of capacity constraints. Messages are not formulated in easy to understand write ups and not channelled to the public and decision makers in an effective way. Although all WSIs have worked on a communication strategy, implementation is not effective. Therefore, communication skills need to be build as part of capacity building efforts.

Cross-Cutting Issues: The framework in the water sector needs to promote cross-cutting issues in order to achieve the set goals. These include: good governance; human rights and pro-poor aspects; gender mainstreaming; HIV/AIDS vulnerability; youth and, ecological and environmental sustainability. These cross-cutting issues have particular relevance for socio-cultural matters and need responses such as:

- Enhancing good governance in the water sector and eradicating undue political interference.
- Integrating the human rights approach in all areas of the water sector.
- Enhancing human and institutional capacity development by including more women, promoting the youth and fighting HIV/AIDS.
- Creating adequate awareness about ecological stability and environmental sustainability.

Presently for instance, good governance is a big issue in the structure of WSS where members of the boards of WSPs and WSBs do often ignore conflicting interests. For this, WASREB has issued good corporate governance guidelines and is in the process of enforcing them. But good governance issues also emerge when filling positions at other WSIs, this need to be addressed by governance guidelines for the water sector to be issued by the MWI.

2.7 Technological context

Presently the level of water wastage under the constraints of limited water availability is high and not acceptable. In addition, pollution of the environment is visible all over the country and abandoned facilities clearly indicate the challenge of sustainability. One of the reasons for this is inappropriate technology and poor management of facilities. Water loses by Water Service Providers (WSPs) reach more than 40%, inappropriate irrigation technology waste almost the same percentage of the water, waste water treatment plants reach only 20% efficiency on average due to inadequate operation and management, and in addition wasted energy due to outdated technology and designs that do not promote productive/economic use of by-products. Energy

consumption of facilities could also be reduced in the rural setting contributing to sustainable use.

Increased creation of awareness about adoption of different approaches to water resources management and service provision with the application of new technologies and management tools is needed. Interventions are necessary in the field of:

- Water metering and meter management
- Energy saving technologies
- Monitoring equipment linked to communication technologies
- Water saving irrigation technologies
- Water harvesting technology
- Use of biogas
- Reuse of treated effluent
- Shift from drop and store sanitation to recycling
- Etc.

Planning for investments and management (business planning) needs to pay much more attention than in the past on the use of appropriate technologies and managerial processes as well as recycling technologies and green energy production. In addition, sector institutions like KEWI can help to make new technologies known and offer training on their use to sector specialists and users.

2.8 Environmental context

Kenya attracts many tourists due to its rich bio-diversity which includes a variety of different species of wildlife. However, there are a number of alarming indicators showing that this bio-diversity is increasingly threatened due to extended dry seasons leading to drying up of rivers and lakes, increasing erosion and pollution. All these negative impacts are mainly caused by destructive human activities

Although mitigation and rehabilitation efforts are under way in the framework of catchment management, many rivers are increasingly becoming seasonal, majority of which dry up completely during droughts as a result of catchment destruction. This has resulted in frequent water scarcity and persistent droughts which is quite alarming. However this has been managed to some extent through participatory water allocation planning although scarcity still persists. Water allocation recognises the environment as a major water user but due to increased social and economic demands on water resources, the environmental water needs are most of the time compromised leading to continuous loss of bio-diversity. The persistent destruction of the water towers with the resulting pollution and erosion effects need to be reversed which therefore calls upon politicians from relevant sectors and at all levels to pull their efforts together and address this common problem comprehensively.

Furthermore, economic and social development cannot take place in a polluted environment. Therefore, a clean environment is essential in order to achieve Kenya's development goals as outlined in the vision 2030. Thus the water sector has to play a key role to protect the environment by protecting water resources and avoiding pollution through sustainable sanitation services and functioning facilities.

2.9 SWOT Analysis

The analysis of the Strengths, Weaknesses, Opportunities, and Threats (SWOT) facing the sector summarises the situation and the current trends and helps to improve coordination and lift constraints leading to a sub-optimal approach in managing water resources and providing basic water and sanitation services. It will also help to generate more synergies through synchronizing priorities and actions within the existing institutional and legal frameworks.

Critical to the success of this Plan will be capacity building; availability of funds; reform of the laws; stemming the degradation of the water catchments; rain water harvesting and storage; investigating the impacts of increased human population on the demand for freshwater and the management of wastewater; addressing conflicts between urban and rural settlements on available water resources; the management of transnational water resources and the speedy conclusion of the Nile Cooperative Framework Agreement. These factors constitute both the sources of the strengths and opportunities that may facilitate achievement of the set objectives and also the causes of the weaknesses and threats which are likely to limit the sector capacity to achieve the strategic objectives of this Plan. (See section 3.6, table 3.1).

Results of the SWOT Analysis on the Water Sector

Strengths	Weaknesses
<ul style="list-style-type: none"> • Political will for reform demonstrated with implementation of Water Act 2002 • All globally recognized principles for water embraced by new framework and sub-sector strategies with human rights to water taken fully on board • Re-launch of SWAp • Growing participation of water users and consumers • Information gaps gradually closing (Maji Data, Waris, etc.) • Sector now attracting higher number of qualified professionals • Beyond government institutions there are many sector players • Progress in IWRM with successes on the ground • Ongoing dialogue on trans-boundary water issues • Experience and knowledge in rainwater harvesting in the ASALs • Implementation concepts for WSS (UPC, CPC) reach up-scaling dimension and document strong pro-poor approach • Sanitation moving higher on the agenda • Sound institutional framework for WSS • Performance and sustainability of WSPs increasing since commencement of reform • Growing investments in the WSS sub sector • Growing formalization of urban WSS service provision 	<ul style="list-style-type: none"> • Very low per-capita availability of water with low storage capacity and corrective actions • No specific concept to master climate change effects • Missing coordinated development and management of water resources and disasters with participation of institutions of different sectors • Lack of a sector-wide policy, legal and institutional coordination Framework • Inappropriate technologies and little recycling • MWI and WSI not prominently present on national dialogue platforms • Weak implementation of communication strategies by WSIs (branding of institutions) • No program based approach and lack of investment planning • Lack of technical standards and insufficient skill development • Many players are not captured in the planning and coordination systems • Missing strategy for provision of water for production and water for production not fully explored • Incomplete irrigation and land reclamation policy and legal institutional framework • Insufficient governance and weak enforcement at all levels, particularly by Water resources • Substantial pollution of environment without control • Insufficient economies of scale for urban WSS • Existing information and data gaps especially in WR, irrigation & land reclamation • Sustainability of water services in the rural and some urban areas • Existing sewer systems are inadequate and not fully operational. • Inadequate promotion of alternative sanitation methods

Opportunities	Threats
<ul style="list-style-type: none"> • The MDGs and Vision 2030 are cross sectoral / common goals • New draft constitution includes principles underlying the ongoing sector reform • Strong donor support for reforms, appreciations by a number of African countries and potential for enhancement • Conservation of environment high on the political agenda and demonstrated on the ground • Potential for more efficient use of existing human and financial resources. • Lessons learned from the implementation of the Water Act 2002 available • Aligning/benchmarking water resource activities to international dialogue could attract more resources • Water pricing leading to economic use • Complete and implement the reform in the irrigation and land reclamation sub sectors Improved use of technologies for increased water use efficiency • Potential for the development of PPPs and investments that would encourage private sector funding 	<ul style="list-style-type: none"> • Destruction of water catchments, especially the five water towers, including degradation of land, and insufficient political support for changes – growing ecological instability • Incomplete cooperative frameworks for the management of shared waters in the region • No active participation of institutions of other sectors to implement a common vision for water management • Lack of comprehensive plans and strategies to handle disasters such as, droughts, floods, landslides, etc. • Contradictory legislation • Insufficient funding and water income not ring-fenced • Insufficient knowledge and understanding of sector conditions, and the reform process, among national stakeholders • Political interests and intrigues counter acts implementation of reform • Impacts of climate change • Over reliance on rain fed agriculture and hydro power generation • Incessant food insecurity • “Water lords” resisting extension of quality and price controlled service provision to low-income areas by registered WSPs

The results evoke the need for synergistic management of interactions and interventions among the various sector stakeholders to promote joint approaches to water affairs in the country and the region as a whole.

3. New Strategic Direction

In order to deal with the above described complexities of water management in a structured way, the Plan enlarges the vision and mission of the ongoing sector reform and thereby moves efforts in the water sector to a higher level. The analyses of the Kenyan water sector trends and contexts as well as its Strengths, Weaknesses, Opportunities, and Threats (SWOT) points to the main strategic issues that the Plan addresses.

The joint mandate of the key stakeholders in the sector is reinforced on the primary mandate of the MWI as defined in the *Presidential Circular No. 1/2008 of May 2008*,

Viz: *‘to protect, harness and manage water resources in a sustainable manner to ensure availability and accessibility to raw and drinking water for all’*. To achieve the objectives of the sector, inputs from a multitude of other actors are required.

Based on the synthesis of (i) the spirit of the current strategic Plan of MWI, (ii) the broad mandates and functions of the key sector players, and (iii) the need to resonate joint approaches in sector programmes; the water sector mandate is therefore, *‘to consolidate collaboration, cooperation, and coordination of programmes, projects and activities, in a sustainable manner to ensure protection and conservation of water resources and good governance in availability, equity, and accessibility, to water for all uses and users’*.

3.1 The Sector Vision

The vision of this Plan is:

“A Kenya where water resources are protected, harnessed and sustainably managed to ensure availability and accessibility to all for the present and future generations

To realise this vision, the MWI as lead agency in the sector, will create an enabling environment within which all players contribute to the effective and equitable water resources management, development and use. This will be done through drawing on synergies among the sector stakeholders.

3.2 The Sector Mission

The mission of the Plan is:

“Provide coordination for sustainable water resources management through enhanced sector performance which ensures water availability, protection of the environment, access to safe water / reliable sanitation and creation of wealth and employment”

3.3 The Sector Goals

The **overall goal** of the water sector according to Vision 2030 is to:

“Reverse the declining trend of water availability per capita, increase access to safe water and sanitation, increase area under irrigation and reclaim arid and semi arid lands for productive use”.

For this, Integrated Water Resource Management (IWRM) is needed where political decisions on the highest level will lay the ground for implementation carried out by a multitude of stakeholders from the different sectors within and outside government structures. The MWI as lead agent for water management has to play a inter-ministerial coordinating role in IWRM and ensure that its WSI in the 4 sub-sector deliver their share of actions in IWRM.

The **goal of the Water and Sanitation** sub sector is to:

“Ensure sustainable access to safe water and basic sanitation to all Kenyans”. The main intermediate goal is to meet the water related MDGs (Target 7c¹³) by 2015 of ensuring environmental sustainability’ by “halving”, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation”.

High numbers of additional access can be achieved in a short period by concentrating on the low income settlements in towns. The WSTF is an appropriate and very effective financing mechanism to increase access in rural and urban areas within a national concept following the criteria of human rights to water and sanitation.

The **goal of the Water Resources Management** sub sector is to:

“Enhance availability through conservation, protection and increase of storage as well as ensure equitable use for sustainable economic and social development of the country”.

This will lead to optimal use of the natural water resources endowments, reduction of conflicts, flood damage and a cleaner environment contributing significantly to the direct realization of MDG targets 7a, 7b and 7c.¹⁴

The **goal of the Irrigation and Drainage** sub sector is to:

“Increase land under irrigation from the present 21% to 56% of the potential¹⁵ and to obtain a much higher level of water efficiency use”.

This will enhance crop yields, quality and net incomes and make significant contributions to the national aspirations of wealth, employment, food security and poverty reduction.

The **goal of Land Reclamation** sub sector is to:

“Prevent further degradation of land through adequate land use and flood control as well as promote rehabilitation of degraded lands with special focus on arid and semi arid lands (ASALs)”.

This will promote growth in the ASAL areas and help to reduce pressure on urbanisation.

The realization of these goals by the water sector and its sub sectors shall contribute to the achievement of the MDGs and the goals of the Kenyan Vision 2030.

¹³ MDG Goal 7: Ensure environmental sustainability

¹⁴ Target 7a: Integrate the principles of sustainable development into country policies and programs; reverse loss of environment resources

Target 7b: reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss

Target 7c: reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation

¹⁵ The irrigation potential is 539,000Ha, 56% represents 300,000Ha

3.4 The Sector Motto

The motto of the water sector's Plan shall be:

“All for Water, Water for All”.

3.5 The Sector core principles and values

The core sector fundamental principles, and which are intended to ensure the realisation of sustainable water resources management and development are as follows:

- Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment. It is subject to depletion which can be accelerated by careless human activities.
- The management of water resources recognizes natural catchment boundaries or drainage basins as logical units of management because such units conform to natural hydrology and therefore enhance water resources conservation and protection efforts.
- Water development and management should be based on a participatory approach, involving all stakeholders at national, regional and local levels in the decision-making process.
- Women play a central part in the provision, management and safeguarding of water and therefore the minimum 30% gender consideration should be upheld in management of water resources.
- User/polluter pays principle to be sustained and enforced based on the recognition that water has an economic value in all its competing uses and is essentially an economic good.
- Water is a social good and its management should recognise the rights of the users to equitable access including sanitation services.

Based on these core principles the **core values of the sector are:**

- **Protecting the environment:** Reducing the chronic water scarcity through catchment restoration and protection whereby all water sector stakeholders have a mutual responsibility for future generations
- **High level of service provision:** Enhanced growth / development through access of all to WSS and a clean environment.
- **Efficient and effective systems:** Leadership (stewardship and management) of individual and collective responsibilities through cooperative and participatory decision-making and the enforcement of the principle of user-pays / polluter-pays for the services received and damages caused as an obligation towards the Kenyan society.
- **Good governance:** Enforcement of legislation / regulations applies to all stakeholders regardless of social position and origin in the common and national interest of Kenya.
- **Open communication:** Generate trust by sharing information and using multiple communication channels.

3.6 Key strategic development areas

Considering the situational analyses, the SWOT findings, and analysis of functions of ministries and other Water Sector Institutions (WSIs), seven (7) strategic development areas have been identified which lead to 8 strategic objectives for the sector:

Table 3.1: Strategic Development areas and Strategic Objectives

Strategic Development areas	Strategic Objectives
1. Policy, legal , regulatory and institutional arrangement	1. Establish a harmonised and coordinated water sector: appropriate coordination, SWAP, harmonised policy and legislation 2. Promote good governance and mainstream crosscutting issues: standards and enforcement mechanism
2. Sustainability in water resources development	3. Ensuring sustainable development and management of water resources: understand potential, ensure integrity and sustainability, harness water resources, adaptation to climate change
3. Water for social development	4. Ensure sustainable and affordable access to water and sanitation: Formalise service provision, sustainable operation of services, Improve access to WSS
4. Water and economic development	5. Ensure sustainable availability of water for productive purposes: Improve access to raw water, sustainable and efficient use, promote tertiary use of water
5. Resources requirements	6. Mobilise adequate funding for the sector: develop SIP, financing strategy, ring-fence water income, value for money strategies
6. Capacity development	7. Improvement and strengthening capacity development: Promote research, learning and knowledge management, institutional and human capacity strengthening
7. Communication development	8. Develop appropriate Information, Education and Communication framework: Platform for information sharing, sector data base and information systems, sector communication and education strategies

3.7 Strategic Objectives and Strategies

The following strategies will be implemented and the relevant activities enumerated will guide the elaboration of the implementation plan for the WSSP:

1. To establish a harmonized and coordinated water sector and an enabling framework

- a. Establish an appropriate institutional coordination and enabling framework
 - Develop a water sector coordination framework in coordination with other ministries relevant to the water sector and help to issue a Sessional Paper on the structure and its functioning

- Promote sub-sector networking between ministries, sector institutions and stakeholders
- Elaborate a strategy on improved coordination among SI under the MWI
- Analyze the old WSI (NWCPC, Irrigation Board) and the MWI for a possible restructuring process
- b. Strengthen SWAp
 - Ensure timely sector reviews and the publishing of a sector performance report preceding the annual sector conferences
 - Issue minimum requirements for development partners (donors and NGOs) for alignment, reporting / accountability
 - Enhance coordination among SI under the MWI through regular WSWG meetings, annual sector conferences, facilitation of daily coordination between SI on operational level, etc.
- c. Develop and harmonize sectoral policies, legislation and refine mandate of sector institutions
 - Establish an inventory of water relevant policies and legislation and propose changes if needed for harmonization
 - Use the inventory for improved and cross-sectoral enforcement
 - Review the NWRMS to incorporate land use, land ownership/property rights and access
 - Enlarge ongoing sector reform efforts by better integrating irrigation, land reclamation and storage
 - Reform the MWI and the water sector institutions established before enactment of the Water Act 2002
 - Finalize irrigation, drainage and water harvesting, water storage policies and strategy
 - Develop catchment areas restoration policy in collaboration with other ministries
 - Develop trans-boundary water resources policy
 - Establish a standing committee on trans-boundary water
 - Update the national water and irrigation master plans
 - Elaborate a land reclamation policy and strategy and establish an information system for it

2. To promote good governance and mainstream crosscutting issues

- a. Good corporate governance
 - Create a code of conduct that applies to all personnel of the WSIs
 - Issue governance guidelines for all WSIs (including MWI)
 - Oblige WSBs to enforce the corporate governance guidelines
- b. Define standards and strengthen enforcement mechanism
 - Establish an inventory of standards and complete for areas not yet covered
- c. Promote human rights to water
 - Ensure that the IMPACT report covers progress on human rights to water and sanitation
 - Enhance cooperation with the national commission for human rights
 - Enlarge Water Action Groups to all major towns
- d. Integrate cross cutting issues in the water sector activities
 - Synchronize collaboration and coordination in peace initiatives

- Link and mainstream gender, youth and HIV/AIDs aspects in water and sanitation management
- Maintain the strong pro-poor focus on the water sector

3. To ensure sustainable development and management of water resources

The aim is to increase per-capita availability of water to 1,000m³ by 2020. This will only be possible if the water towers are restored and the country's water stocks are replenished, conserved and sustainably utilized.

- a. Understand water resources potential and limitation
 - Review the possibility of separation of regulation and implementation in WRM
 - Assess and document water resources (quantity and quality, ground / surface water and water recycling, trans-boundary waters)
 - Upgrade equipment for automatic stations for water quality monitoring for both surface and groundwater
 - Delineate and zone areas of water conservation and ensure gazettment of zoned areas as protected areas
 - Include the potential of water transfer from surplus to water deficit areas in the national water master plan
- b. Ensure integrity and sustainability of water resources – halt and reverse degradation in water catchments
 - Support removal and relocation of all settlers that are encroaching on the water towers
 - Stop further land degradation and reverse degraded lands by finalizing and implementing the land reclamation policy
 - Help to restore water catchment areas by supporting the halt of illegal logging and other destructive activities that harm the integrity of water towers
 - Encourage tree planting among communities / WRUAs
 - Ensure strict control and reduction of pollution of water resources
 - Put in place programs for revitalizing wastewater treatment and disposal
 - Rehabilitate and protect water springs and wetlands
- c. Develop and harness additional water resources
 - Increase availability of water through systematic reduction of unaccounted-for water (UfW) and efficient water use systems in all applications
 - Map flood prone zones for effective harnessing of flood waters
 - Encourage rain water harvesting
 - Increase water storage capacities of surface and ground water
 - Use WDC window of WSTF to improve the sustainable management of water resources
- d. Adaptation and mitigation of climate change and reduced effects of water based emergencies
 - Implement possible mitigation and adaptation measures of climate change
 - Prepare disaster risk reduction and preparedness strategy for the water sector.
 - Establish planning guidelines for the management of basins on climate change and for handling emergencies in the water sector
- e. Integrated/Participatory water resource management

- Increase the number of WRUAs
 - Finalize bilateral and multi-lateral trans-boundary agreements
 - Manage and develop transboundary water resources and bilateral cooperative frameworks for the joint management of all the shared water resources
 - Develop and refine institutional arrangements for trans-boundary water resources management
- 4. To ensure sustainable and affordable access to safe water and sanitation to all**
- a. Formalize all service provision
 - WASREB to enforce the extensions of service provision by the WSPs in all low income settlements in both urban and rural areas
 - WASREB to ensure that all tariff negotiation focus also on affordability of water and sanitation services to the poor (tariffs at water kiosks and first bracket of tariff structure at household connections)
 - Ensure alignment of civil society actors and donors to the formalization efforts in urban WSS in order to move towards the realization of human rights to W+S
 - b. Improve access to safe drinking water and sanitation facilities
 - Construct, Rehabilitate and expand urban and rural water supply systems
 - Construct new sewerage systems in urban areas
 - Ensure that the WSTF carries out 2 calls annually for CPC and UPC
 - Integrate sanitation programs with the health and education sectors
 - Test in slums sanitation systems which guarantee sustainability
 - Rehabilitate and expand existing urban sewage collection, treatment and disposal systems according to the sanitation concept for the water sector
 - Increase Ecosan systems for the urban areas with onsite treatment
 - c. Ensure sustainable operation of services in urban and rural areas
 - Enhance the sustainability of WSPs (e.g. by clustering of WSPs in the urban setting and establishing in place a commercially viable PPP mechanism in rural areas)
 - WASREB to ensure that all WSPs reach more than 125% of O+M cost recovery
 - The IMPACT report includes information on sustainability of rural WSS systems
- 5. To ensure sustainable availability of water for productive purposes** (in order to support the planned 10% annual economic growth rate stated by the vision 2030)
- a. Improve knowledge and access to users for economic development
 - Improve the dilapidated infrastructure and enhance water storage capacity for irrigation, industrial, livestock, tourism and recreational use
 - Identify research and/or policy development institutions to facilitate a strategic analysis of the linkages between water and economic development
 - Review existing development plans on all levels from a water utilization point of view.

- Restore degraded lands for settlement and irrigated agriculture in a participatory manner
 - b. Ensure sustainable and efficient use of water
 - Establish joint programs among ministries, WSIs and other stakeholders for optimal water resource use
 - Assess the potential for PPPs in ensuring a water efficient economy
 - Popularize best practices, such as on water and soil conservation, water saving technologies, etc. in small-scale agricultural production
 - Research on and implement efficient irrigation methods
 - The irrigation sub-sector issues an annual performance report including information on storage, land under irrigation and efficient water use
 - Establish standards and guidelines for efficient use of water
 - d. Tertiary use of water
 - Use re-cycled wastewater for general irrigation
 - Encourage industries to invest in wastewater recycling
- 6. To mobilize adequate funding for the sector**
- a. Develop a Sector Investment Plan
 - A SIP is developed which is based on concrete investment planning form all the sub-sectors
 - b. Develop Sector financing strategy
 - Develop a water sector financing strategy
 - Re-focus traditional government funding and promote new funding mechanisms like CDF, LATF, PPPs, bonds, carbon credits, NGOs funding; and development partner funding and others
 - Self financing targets for all WSI are given by the MWI
 - c. Ring fence water income
 - Phase out payments by WSPs to the municipalities for WSS assets
 - d. Value for money
 - Improve aid effectiveness (including value for money) by better alignment of donors and NGOs to national strategies and improved reporting
 - Make all WSIs report on effective use of funds and absorption capacity
- 7. To improve and strengthen capacity development (research & technology)**
- a. Promote research and innovation in the sector
 - Support the establishment of a research centre for water
 - Promote networking among relevant institution in the water sector within and outside Kenya
 - b. Improve learning and knowledge management
 - Ensure publishing of data, information, reports and experience among sector players
 - Make WSIs report on knowledge management
 - c. Strengthen human and institutional capacities
 - Regular review of training measures offered to stakeholders in each catchment
 - Make WSIs report on personnel development measures
 - Establish responsive salary structures at WSIs for professionals to enhance retention rates

- Ensure that all WSIs embrace standard management tools (business planning, information systems, reporting, etc.) and equipment (PCs, copiers, etc.)

8. Develop appropriate Information Education and Communication framework

- Establish platforms for information sharing
 - Use WSWG meetings and AWSC as a platform for information sharing
 - Ensure that each WSI has a website and shares information with stakeholders
- Develop and enhance sector database and information systems (data sharing)
 - Ensure that all sub-sectors have a data base and a management information system
 - Develop and extract from the information systems annual performance reports and disseminate to the public
- Develop sector communication and education strategy (best practices)
 - Development of strategy to make lawmakers aware of challenges and actions to be taken in the water sector
 - Ensure broad public support and participation for the Plan
 - Identification of key sector issues on water and sanitation
 - Design key messages appropriate to various audiences
 - Select audiences
 - MWI and its WSI offer support in the elaboration of curricula of the educational system on hygiene, use of water, water and environmental protection, on technologies for effluent treatment and other water related issues

3.8 The Milestones for the Strategic Development

Table 3.2: Milestones for Strategic Developments

Strategic Development areas	Milestones
1. Policy, legal , regulatory and institutional arrangement	<ul style="list-style-type: none"> • Apex coordination structure in place by 2011 with 2 meetings annually • An implementation plan for the WSSP published (2011) • Annual Sector Conferences are preceded by sector reviews and sector performance reports (including reporting on crosscutting issues) • Governance guidelines for WSIs (including MWI) are available by 2011 • In all major towns WAGs established and reporting on human rights to water and sanitation by 2012 • Restoration policy for degraded catchments areas are developed by 2011.
2. Sustainability in water resources development	<ul style="list-style-type: none"> • An inventory of water resource, self-financing potential and water demand is established by 2012 • Annually a performance report on Integrated Water Resource Management issued by the MWI and supported by WRMA and other relevant ministries is published (by 2013)

	<ul style="list-style-type: none"> • Adaptation and mitigation measures of climate change are studied and interventions proposed by 2011 • Strategy on disaster preparedness and risk reduction available by 2012
3. Water for social development	<ul style="list-style-type: none"> • Additional 2.5 million people supplied with water for domestic use in both urban and rural areas by 2013 • Sewerage coverage in urban areas by rehabilitating and expanding systems so as to have 200.000 people additionally served annually from 2012 • 50% of rural water points (WSPs) are able to recover O&M costs by 2013 • Through clustering, the number of urban WSPs dropped to <30 by 2013
4. Water and economic development	<ul style="list-style-type: none"> • The annual performance report for irrigation is published by 2012 and documenting agricultural water storage per capita and land under irrigation and drainage is rising • Land under irrigation and drainage is increasing to reach 300,000 ha by 2030
5. Resources requirements	<ul style="list-style-type: none"> • A SIP based on concrete sub-sector investments plans is available by 2012 • The MWI has published a sector financing strategy by 2011 • Payments by WSPs/WSBs to municipalities for assets have phased out by 2012
6. Capacity development	<ul style="list-style-type: none"> • Each sector institution document in an annual performance report progress on performance, innovation and networking on national and regional level by 2012
7. Communication/information development	<ul style="list-style-type: none"> • A complete data base for urban and rural WSS, for WRM and for irrigation are established and updated every 5-10 years by 2012 • At least 4 WSWG meetings take place annually by 2010 • A popular version of WSSP published by 2011

4. Coordination and Institutional Structure

4.1 Key Sector Actors and Institutional Structure

4.1.1 Key Sector Actors

To achieve the objectives of the sector, inputs from a multitude of actors are required. This WSSP proposes that the MWI engages all sector stakeholders to create an enabling environment for all to make a positive contribution. A synopsis of the broad categories of the key stakeholders is as follows:

- a) **MWI – Lead Agency:** The existing mandate for the MWI is outlined in the Presidential Circular No. 1/2008 of May 2008. By focusing on policy formulation and development management, the Ministry’s mandate is ‘*to protect, harness and sustainably manage water resources to ensure availability and accessibility to raw and drinking water for all*’. Other ministries and stakeholders with interests in the sector are discussed below. In the context of this Plan, the MWI will take on board this broad mandate in its full meaning to ensure effective and efficient coordination of all stakeholders in relation to the present and future water requirements. The MWI with its sector institutions will set standards for water supply and sanitation relative to effluent collections and treatment facilities (sewage and onsite treatment) and enforce rules and standards for WSS, WRM and Irrigation.
- b) **Ministry of Agriculture:** Promoting water harvesting and land use that encourages sustainable resource utilization and pollution control from farming
- c) **Ministry of Public Health and Sanitation:** Lead Policy Institution on sanitation and public health, lead in development of sanitation and public health standards, and partners with MWI in sanitation and public health education and awareness campaigns
- d) **Ministry of Local Government:** Develop bylaws that affect water harvesting and use, water services and environmental management at local level, involved in management of solid waste which affect ground water, partners in management of waste water and toilets
- e) **Ministry of Environment and Mineral Resources:** Partner in conservation of water resources
- f) **Ministry of Forestry and Wildlife** and **Ministry of Tourism:** Partner in conservation and management of water catchment areas including water towers, develop water for wildlife
- g) **Ministry of Regional Development Authorities** and **Ministry of Northern Kenya and Other Arid Lands:** Partners in development of boreholes, irrigation, water for livestock and management of catchment areas by encouraging development that takes into consideration water and environmental sustainability
- h) **Private Sector Institutions (PSIs):** Their mandate is ‘to seek investment opportunities and returns in the water sector’. These institutions are concerned with the business environment, investment opportunities, implications of public policy options, and participation in Public-Private-Partnerships (PPPs).
- i) **Civil Society Organisations (CSOs):** The objectives of these organisations are to propagate advocacy and pressure for policy reforms. These organisations consume facts from reports and translate into messages for dissemination and some are involved in development interventions. They support the MWI and the WSI in the implementation of the sector policies and strategies and provide feed back for adjustment if needed (alignment).

- j) **Development Partners (DPs):** Their mandate is ‘to provide development assistance to the Government of Kenya as well as other WSI and help Government to implement sector policies and strategies (alignment).
- k) **Other public stakeholders** include Ministries of Finance, Education, Local Government and Energy and various water sector institutions including WASREB, WRMA, WSBs, NWPC and WSPs.

4.1.2 Institutional Structure

In order to realize its mandate of water resources management, water supply and sanitation, irrigation and land reclamation, the MWI needs to closely collaborate with the following ministries on IWRM and WSS:

- i. On water availability (protect, harness and manage water resources): This is directly linked to the conservation of environment. Anything which destroys the environment will reduce water availability and therefore it is imperative to halt the destruction of the environment by focusing on the following areas with collaboration of the respective ministries on the following issues:

Area of focus for conservation	Key Ministry
Afforestation	Ministry of Forestry and Wildlife
Wetlands	Ministry of Environment and Mineral Resources
Soil conservation	Ministry of Agriculture
Reverse encroachment on protected lands	Ministry of Lands
Pollution control	Ministry of Environment and Mineral Resources
Change of land use	Ministry of Local Government / Local Authorities/ Ministry of Lands

- ii. On access to water and sanitation: water and sanitation service fulfilling the human rights criteria including quality, quantity, accessibility and affordability

Area of intervention	Key Ministry
Drinking water (quality and quantity)	MWI/Ministry of Public Health and Sanitation/ Ministry of Industrialization (KEBS)
Sanitation	Ministry of Public Health and Sanitation

- iii. On irrigation and land reclamation: Agricultural water storage, irrigation water management, land reclamation and water harvesting

Area of intervention	Key Ministry
Agricultural water storage	Ministry of Regional Development Authorities, MWI
Irrigation water management	Ministry of Agriculture, Ministry of Northern Kenya and Other Arid Lands, MWI
Land Reclamation and water harvesting	Ministry of Northern Kenya and Other Arid Lands/ Ministry of Env & Mineral Resources, MWI

The above ministries are the key ministries particularly relevant at operational level.

The MWI is structured into four sub-sectors: Water Resources, Water Services; Irrigation, Drainage and Water Storage; and Land Reclamation; but needs to go beyond this structure and collaborate with the above key ministries for IWRM, water availability, water for production and WSS. This needs a collaborative effort from all ministries under articulated leadership for coordination by MWI as the lead agency on water affairs. Moving to such a higher level of coordination and collaboration will mean that existing duplications and overlaps will become more apparent. Therefore all ministries must work together to avoid this duplication and overlaps thereby benefitting from synergies and effective use of resources.

4.2 Coordination Mechanism

Effective coordination, harmonization and collaboration in the sector needs an enabling environment and a structure in that clarifies both the decision making levels and dialogue/reporting platforms. In this respect the WSSP promotes a coordination structure lean enough to ensure functionality (Fig. 4.1) that addresses:

- (i) **Coordination and Decision making** through two organs: the Inter-ministerial Water Coordination Committee (IWCC) and the National Water Standing Committee (NWSC)
- (ii) **Dialogue and reporting** through a national consultative forum, the Annual Water Sector Conference (AWSC) and the Water Sector Working Group (WSWG).

A National Water Secretariat (NWS) shall be established in MWI to coordinate information sharing, learning, prepare meetings and papers to coherently address issues and ensure efficiency of the coordination units. Improved coordination shall help to enhance and promote realization of the vision of shared water resources and its benefits.

4.2.1 Coordination and Decision Making Structure

(i) **Inter-ministerial Water Coordination Committee (IWCC)**

The member of the IWCC as apex coordination structure shall formally be appointed by Head of Public Services.

It shall be the highest decision making organ in the water sector tasked to: provide policy guidance for each water relevant sector necessary for the smooth implementation of the WSSP; provides information to the Cabinet; oversee the development of a National Water Sector Development Strategy; provide briefings to the Sector Ministers and relevant Parliamentary Committees; receive progress reports and proposals for decisions from the National Water Standing Committee (NWSC); ensure budgetary allocation is coordinated and approve recommendations from the sector. The IWCC shall meet as situation demands but not less than twice a year.

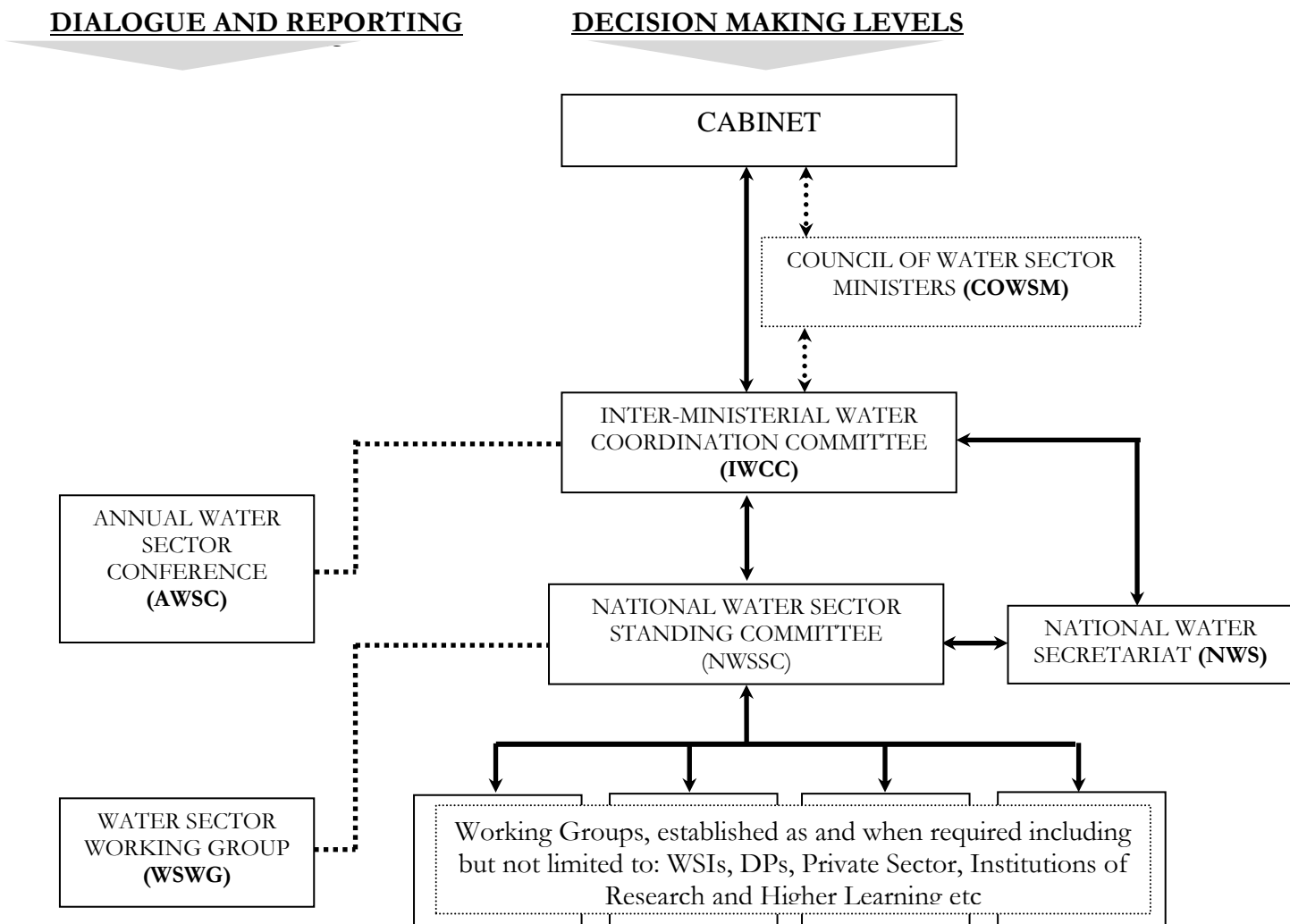
The IWCC shall consist of the Permanent Secretaries of the following Ministries:

- i. Ministry of Water and Irrigation (possible chair)
- ii. Ministry of Agriculture
- iii. Ministry of Public Health and Sanitation

- iv. Ministry of Environment and Mineral Resources
- v. Ministry of Forestry and Wildlife
- vi. Ministry of Lands
- vii. Ministry of Regional Development Authorities
- viii. Ministry of Local Government
- ix. Ministry of Northern Kenya and Other Arid Lands

The IWCC may involve additional members as and when necessary. The head of Public Service shall have the discretion to establish the Council of Water Sector Ministers (COWSM) to deliberate on sector issues in detail if in their opinion the full Cabinet may not have sufficient time.

Fig. 4.1 Proposed Coordination Structure



(ii) **National Water Sector Standing Committee (NWSSC)**

Given the busy schedules of the Permanent Secretaries, the NWSSC shall be established as the operational structure for the involved ministries. It shall consist of focal persons representing the sector Ministries and the chair of the Development Partners (WSTG), one from the Private Sector and Civil Society each. All the 5 Technical Directors of MWI shall be members of the NWSSC. The NWSSC shall have leeway associate additional members and may form thematic working groups as and when required to address all important water related issues.

The focal persons shall be appointed by the respective Permanent Secretaries and must be at the very minimum a technical head of department (Director). Initially focal persons representing the following key ministries shall be appointed: 1. Public Health and Sanitation; 2. Agriculture; 3. Environment and Mineral Resources; 4. Forestry and Wildlife; 5. Local Government; 6. Regional Development; 7. Northern Kenya and Other Arid Lands; 8. Lands.

The focal persons shall be responsible to provide adequate briefs to the respective Permanent Secretaries. The NWSSC shall hold meetings whenever there are critical issues to be discussed, but not less than four meetings in a year.

The functions of the NWSSC shall include: coordinate implementation of WSSP; adopt National Water Sector Development Strategy and oversee its subsequent implementation; receive and review implementation reports; establish working groups as and when required, and review their progress; ensure that sub-sector organisations and key stakeholders (private sector, WSIs, DPs, Civil Society) are associated in the various working groups to be formed during implementation of this Plan; approve work-plans of the National Water Secretariat (NWS); approve Terms of Reference for studies and other assistance; mobilize funding for various activities; monitor and evaluate progress; provide adequate feedback to Permanent Secretaries.

The NWSSC will synchronize its activities on steering aspects of the Plan with those of the steering frameworks of sector programmes and the Vision 2030 and act on papers and reports received from the National Water Secretariat (NWS).

It is assumed that all ministries relevant to the water sector are interested in coordination as they have a role to play in the protection of the environment. Joint progress will also enhance their position.

(iii) National Water Secretariat (NWS)

The National Water Secretariat (NWS) is an inter-ministerial secretariat comprising initially personnel drawn from the Water Sector Reforms Department of MWI with the responsibility to manage the affairs of the sector on a day to day basis. It shall be headed by the Director of Reform to include irrigation, land reclamation reform personnel, MWI. Later personnel may be drawn from all the sector ministries. The NWS shall have the mandate to: coordinate information sharing and learning; prepare agenda, organize and take minutes of meetings; organize forums for dialogue and reporting; prepare papers for the IWCC and NWSC to coherently address issues and improve sector coordination and help to establish working groups and facilitate/monitor their work.

On operational level (regional and local) the existing coordination mechanism and structures shall be used.

The head of Public Service shall decide on the final complement of ministries to be included in the water sector coordination framework at the level.

4.2.2 Dialogue and Reporting

The WSSP also uses existing dialogue and reporting platforms such as the Annual Water Sector Conference (AWSC) as the highest consultative organ for the stakeholders in the water sector. The forum shall be organized annually by the sector ministries and the National Water Secretariat (NWS). The purpose of the AWSC is to: secure political will; give prominence to the WSSP; review progress and challenges of

implementation, achievement of objectives and impacts realized; provide a link between the Stakeholders and Implementing Agencies including WSIs; deliberate and advice on strategic interventions required in the sector. The AWSC shall be organised like in the past but include as well the following participants:

- i. Ministers of the water sector Ministries
- ii. The Inter-Ministerial Water Coordination Committee (IWCC)
- iii. The National Water Standing Committee (NWSC)
- iv. Representatives of Development Partners
- v. Representatives of the private sector (KEPSA)
- vi. Representatives of industry players – Water Industry Association and Water Services Providers Association
- vii. Representatives of State Corporations in the sector, including the WSIs
- viii. Representatives of Civil Society
- ix. The Chairperson of the relevant Parliamentary Committee

In addition to the AWSC the NWSP shall also make use of the existing Water Sector Working Group (WSWG) as dialogue platform at a more technical level and shall consist of members of the NWSC, Development Partners, Private Sector and Civil Society. It shall meet as and when issues arise but not less than four times in a year. The NWS shall take the lead to organize these forums.

5. Communication of the Plan

WSSP needs to be disseminated effectively to all concerned ministries and stakeholders. This will create broad awareness at all levels so as to establish a harmonized and coordinated sector. The WSC will shoulder the primary responsibility of communicating the plan with support from the NWS. The idea of ***‘All for water, water for all’*** can only be realized if there is broad awareness at all levels, of the fundamental importance of water and sanitation to the national social and economic fabric. There is need for advocacy and rising of awareness so that politicians understand water issues. This shall ensure sound participatory-inspired decisions focused on promoting a shared national common vision for the water sector in order to avert conflicts and improve water security for all water uses in Kenya.

The communication of the WSSP shall be through various modes and opportunities available. These may include but not be limited to:

- i. Publishing the first version of the WSSP and circulating among key sector ministries and stakeholders
- ii. Hosting fora for key water sector ministries and stakeholders to establish consensus on the WSSP
- iii. Developing a popular version in form of a brochure, bulletins for circulation to a wider audience and stakeholders
- iv. Official launch of the plan at a public function with participation of high level political leaders. The launch of the WSSP may be modelled on the annual Africa Water Week
- v. Utilizing the local print and electronic media to disseminate the water sector vision, activities and achievements
- vi. Building effective partnerships with key sector ministries and key stakeholders towards realization of a shared sector vision

6. WSSP Implementation

Key strategies and strategic actions are lined out in sub-section 3.7 of this WSSP. Based on the strategic actions, each key water relevant ministry and stakeholders have a part to play in the implementation of the key strategies as elaborated in the implementation matrix which (annex I). The broad focus of the implementation plan shall at first focus on coordination, communication, monitoring, evaluation and reporting. The implementation matrix was elaborated after wide consultations with the key sector stakeholders; it will still be subject to further detailing by each of the key institutions.

The implementation of the WSSP will require multi-sectoral, multi-level as well as delegated responsibilities under the Standing Committee. The implementation may involve establishment of thematic Working Groups e.g. sustainability, economic, social, institutional or capacity building working groups. These, and others, may be established by the Standing Committee as and when required. In all instances participation of key stakeholders shall be encouraged.

The implementation of this Plan will also include:

- a) ***Continuity of General Awareness Creation:*** Measures under general awareness-creation aim at (i) reaching out – through media and debate – to members of the public who have no immediate reason to engage in water and sanitation issues, (ii) providing sector specialists, lobbyists and media fraternity with opportunities to ably present and debate the latest findings on water and sanitation situation and measures that should be taken.
- b) ***Improved Knowledge on Water and Sanitation:*** This Plan provides approaches to the handling of droughts, floods, social conflicts, the effects of cumulative climate change, among others. One such approach is the sharing of knowledge on water and sanitation among all sector stakeholders and decision-makers. The Plan's communication strategy will describe procedures for such interactions.
- c) ***Strengthening Vulnerable Groups, Women and Youth:*** Measures to reach out, strengthen, and involve vulnerable groups in decision making in the sector, will be contained in the WSSP communication strategy. The groups referred to include women and children, students and other youth.

6.1 Plan Implementation Processes

To attain each stated strategic objective, political will is required to create an environment conducive to consolidate collaborative efforts among stakeholders for optimal use of water resources. One of the first steps of the implementation process shall be the identification of existing duplication in mandates and functions among some of the sector players and a planning of how to eliminate such overlaps.

In the consultative framework of the WSSP, the MWI will play a leading role, as host, broker and facilitator to other water sector institutions, other arms of Government, academia, civil society and the private sector. To fulfil this function, the MWI will make its conference and meeting facilities, reference materials on water and sanitation, as well as its ICT-based systems for studies, research and information packaging available to all relevant actors in the water sector. If needed the MWI will create a Centre and provide staff for it. Such a Centre could evolve into a Water Research and Development Institute (WRDI) in a later stage. In addition to making

people change behaviour, pro-active measures will be taken to gradually reform communication and interaction patterns, among stakeholders including using, as entry points, the formal and informal networks established during the preparation of this Plan.

6.2 Capacity to implement WSSP

There is need for building institutional and individual capacities across the sector and at all levels, focusing on the importance of coordination and harmonization in the water sector. Therefore human and institutional capacity building will be synchronized to collectively and inclusively involve all stakeholders. To succeed, all players will have to undertake focused resource mobilization. In addition there will be need for capacity building on high level institutional coordination. Activities on capacity building, both individual and institutional, have been elaborated in the implementation plan.

7. Resource Requirements and Funding

To cost the investment needed to obtain the objectives of the Plan, a comprehensive implementation matrix and investment plans for the 4 sub-sectors under the MWI are needed. These must contain sufficient information for feasibility studies to be carried out whenever Government or a development partner is interested to finance the proposals further. Once the sub-sector investment plans are available, the MWI will aggregate them and make it available to the other ministries which should add their part of investments to complete an overall water sector investment plan.

The implementation of this Plan will require provision of adequate human, institutional and financial resources. While human and institutional requirements must be marshalled internally, financial resources may be sourced from within the country and from outside the country. The overall strategy is to gain these resources in a regime that will permit smooth and uninterrupted implementation of the Plan.

The costing of the actions for WSSP and its implementation plan does not substitute the overall investment plan for the entire water sector. The resource requirements necessary to implement the WSSP shall focus on: coordination; activities of the implementation plan; communication; monitoring, evaluation and reporting. Appropriate investment planning should be included as an activity in the implementation plan.

Table 7.1 below shows an estimation of the amounts required per year for the implementation of the strategic objectives. These costs shall further be detailed on when the investment plans are prepared.

Table 7.1: A Summary of Estimated Total Cost for Implementing the WSSP

Strategic Objectives (SOs)	Costs: KShs' Million					
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Total
1	50	100	125	200	360	835
2	50	40	53	55	52	250
3	100,000	127,334	167,044	194,482	147,307	736,170
4	51,450	51,500	51,600	51,650	51,050	257,250
5	20,337	20,057	20,357	20,407	20,377	101,535
6	29	20	30	33	28	140
7	208.6	200	210.7	209.8	213.9	1,043
8	20,004.8	20,004.8	20,004.8	20,004.8	20,004.8	100,024
Total for all SOs in KShs Million	192,129.4	219,255.8	259,424.5	287,041.6	239,392.7	1,197,247

8. Assumptions and Risks

8.1 Facilitating WSSP under Uncertainty

The WSSP charts an unknown path in strategic planning in Kenya. Being a sector Plan its proposals may not be easy to implement before total commitment on the part of the stakeholders is guaranteed. This means a number of unforeseen situations may affect attainment of the Plan objectives. On the other hand public commitment to the essence of the Plan will depend on how well it is communicated. The emerging uncertainty is real. This is so because of the complexities arising from coordination of a large number of water sector stakeholders, who include the MWI as the lead agency, other government ministries and state corporations, civil society, private institutions, development partners, communities, among others.

Political party politics, often divisive, and the government regimes they beget may prove to be a major obstacle in realizing a shared vision that is vital to the success of this Plan. This means a way must be devised to remove politics from access to and provision of water and sanitation services. Related to this is the threat of politics on efforts towards restoration of water towers, a case in point is the Mau Forest Complex. Unless the planned restoration programmes are attained it will be impossible to meet targets set in this Plan and the Vision 2030.

Therefore the successful implementation of this Plan will depend on some key assumptions as well as effective coordination of stakeholders in acting on the Plan's strategic objectives. There is need to ensure periodic review of programmes and projects emanating from this Plan so as to keep track of the emergence of new threats.

8.2 Key Assumptions

The main assumptions underlying the success of the WSSP in achieving its strategic objectives include:

- a) The MWI and other water sector players will continue to maintain their interest in this Plan's impacts and targets.
- b) All stakeholders secure commitment of policy makers in continuing to support the Plan.
- c) An enabling environment is build to achieve the strategic objectives within agreed timeframes and ensure that the outputs are translated into effective policy and legal frameworks to enable the implementation of this Plan.
- d) The sector has the ability to accomplish planned activities thus enhancing benefits sharing among water users.
- e) The water sector secure funding from Development Partners, the private sector organizations, and the Government of Kenya.
- f) Enhanced support for water and sanitation service delivery is available.
- g) Adoption of best practices from other parts of the world.
- h) Sustenance of political will to support water sector reforms is achieved.
- i) Budgetary allocations for water affairs to all stakeholders is maintained and increased to ensure adequate provision of funding over the Plan period.
- j) Water Research and Development mechanism or institute is established to handle monitoring, evaluation and reporting functions.
- k) Water Sector Policy (WSP) and Strategies are developed or improved.

8.3 Risks

Risks to successful implementation of the WSSP include the following:

- a) Continued destruction of water towers and failure to achieve meaningful restoration, replenishing of water aquifers and re-cycling wastewaters.
- b) Growing ecological instability and the effects of climate change.
- c) Poor governance and violation of human rights.
- d) Unfavorable environment for proliferation of PPPs investments in the sector.
- e) Insufficient capacity for timely implementation of the sector reforms.
- f) Lack of cooperative frameworks for the management of shared waters in the region
- g) No active participation of institutions of other sectors ministries at the coordination structure and in the implement a common vision for water management
- h) Lack of comprehensive plans and strategies to handle disasters such as, droughts, floods, landslides, etc.
- i) Contradictory legislation
- j) Water income not ring-fenced resulting in substantial revenue leaks to unrelated expenditure
- k) Insufficient funding.
- l) External factors-such as political instability which could affect the shared vision among riparian nations, thus negatively impacting on the management of trans-boundary water resources.
- m) The politics of ethnicity which may retard cooperation, collaboration and coordination required to attain reforms in certain water catchments.
- n) Conflict over the competing uses of water resources among communities and between agencies.

8.4 Entrenching Water Sector Reforms

From the capacity already established at the Water Sector Reform Secretariat within MWI, a National Water Secretariat (NWS) with the mandate to develop an

implementation plan to concurrently address actualization of the WSSP and jurisdictional and sectoral responsibilities for the water sector agencies and stakeholders will be established. The NWS will ensure the rolling out of the implementation plan and effective mechanisms for collaboration and coordination embracing all stakeholders. It will, in collaboration with other stakeholders in the water sector, develop modalities and adopt the WSSP in order to draw a timetable of implementation in the form of a matrix. NWS will ensure that research and development programmes; agency integration; monitoring, evaluation and reporting; and policy and systems analysis of core water sector functions are carried out by the proposed Water Research & Development Institute (WRDI). The latter will establish links and promote synergy with other similar public institutions including the academia and private sector agencies.

9. Monitoring, Evaluation and Reporting

While the WSSP aims at enhancing collaboration, inclusiveness, and coordination, it plays an equally important role in providing a basis for the monitoring and evaluation of actual progress. The NWS shall periodically monitor and evaluate progress of the implementation and realization of the objectives of the WSSP. It shall document the annual impacts and targets for the sector as a whole and thus also provides the basis for follow-up as well as the reporting framework. Progress reports shall be submitted to the SC while an annual report shall be prepared for the annual water sector conference. The reports shall provide feedback analysis of experiences and lessons learnt and guide implementation of corrective measures and enforcement strengthening.

Reports from the proposed National Water Secretariat (NWS), WSIs and entities in other arms of Government (in particular regulatory bodies), civil society and the private sector will form the basis of the monitoring and evaluation system. The role of the MWI, and in particular the SC, will be to analyse these reports and provide policy guidance for future actions within the framework of stakeholders' participation. This is a sensitive role, given the history of non-collaboration and distinct boundaries between key actors. The MWI will take pro-active measures to gradually build the trust; inclusive and participatory culture; and mutual understanding that will be required.

ANNEXES

Annex I: Implementation Matrix

Strategic Area: Policy, Legal, Regulatory and Institutional Arrangements							
Strategic Objectives	Strategies	Key Activities	Output(s)	KPIs	Time frame	Budget Kshs Million	Actors
1. To establish a harmonized and coordinated water sector and an enabling framework	e. Establish an appropriate institutional coordination and enabling framework	Develop a water sector coordination framework in coordination with other ministries relevant to the water sector and help to issue a Sessional Paper on the structure and its functioning	Sector Coordination framework developed	Sector Coordination framework in place	September 2010	100	MoA, MWI, MoPH, MoE, MoF
		Promote sub-sector networking between ministries, sector institutions and stakeholders	MOUs developed with stakeholders	MOUs in place and operational	September 2010	20	MoA, MWI, MoPH, MoE, MoF, WSIs
		Elaborate a strategy on improved coordination among SI under the MWI	Strategy for coordination developed	Strategy in place and operational	August 2010	10	MWI
		Analyze the old WSI (NWCP, Irrigation Board) and the MWI for a possible restructuring process	New Organisation structure developed for MWI and WSIs	New Organisation structure in place and operational for MWI and WSIs	August 2011	100	MWI
	b. Strengthen SWAp	Ensure timely sector reviews and the publishing of a sector performance report preceding the annual sector conferences	Sector report produced	Sector Performance report published	July 2010	50	MWI
		Issue minimum requirements for development partners (donors and NGOs) for alignment, reporting / accountability	Minimum requirements document developed	Minimum requirements document issued	December 2010	50	MWI

				and in use			
		Enhance coordination among SI under the MWI through regular WSWG meetings, annual sector conferences, facilitation of daily coordination between SI on operational level, etc	WSWG Meetings held	Number of meetings	June 2010-Dec 2014	100	MWI, WSIs
			Sector Conferences held	Number of conferences	June 2010-Dec 2014	25	
c. Develop and harmonize sectoral policies, legislation and refine mandate of sector institutions		Establish an inventory of water relevant policies and legislation and propose changes if needed for harmonization	Revised NWRMS	NWRMS produced	September 2010	30	MWI in collaboration with MoL
		Use the inventory for improved and cross-sectoral enforcement	Improved cross sectoral enforcement	Improved cross sectoral enforcement	September 2010	30	MoA, MWI, MoPH, MoE, MoF, WSIs
		Review the NWRMS to incorporate land use, land ownership/property rights and access	Revised NWRMS	NWRMS produced	September 2010	30	MWI in collaboration with MoL
		Enlarge ongoing sector reform efforts by better integrating irrigation, land reclamation and storage	Irrigation, land reclamation and storage integrated into Water Sector reforms	Irrigation, land reclamation and storage integrated into Water Sector reforms	July 2010	30	MWI
		Reform the MWI and the water sector institutions established before enactment of the Water Act 200	New Organisation structure developed for MWI and WSIs	New Organisation structure in place and operational for MWI and WSIs	August 2011	100	MWI
		Finalize irrigation, drainage and water harvesting, water storage policies and strategy	irrigation, drainage and water harvesting, water storage and recycling policies and strategies developed	irrigation, drainage and water harvesting, water storage and recycling policies and strategies in	October 2010	30	MWI, MoA, KEPSA

				place			
		Develop catchment areas restoration policy in collaboration with other ministries	catchment areas restoration policy developed	catchment areas restoration policy in place	Dec 2010	30	WRMA with SC, NEMA, KWP, MFW, MoE, MoA
		Develop trans-boundary water resources policy	trans-boundary water resources policy developed	trans-boundary water resources policy in place	July 2010	30	WRMA with SC + COWSM
		Establish a standing committee on trans-boundary water	standing committee on trans-boundary water established	standing committee on trans-boundary water in place	August 2010	30	WRMA with NWS, LVBC
		Update the national water and irrigation master plans	Updated national water master plan	Updated national water master plan in place	December 2010	20	MWI
		Elaborate a land reclamation policy and strategy and establish an information system for it	Land reclamation policy and strategy developed	Land reclamation policy and strategy in place and operational	December 2010	20	MWI
	f.				Sub Total	835	
2. To promote good governance and mainstream crosscutting issues	g. Good corporate governance	Create a code of conduct that applies to all personnel of the WSIs	Code of conduct and governance guidelines developed	Code of conduct and governance guidelines in place	June 2010	30	WSRB
		Issue governance guidelines for all WSIs (including MWI)	Governance guidelines issued	Governance guidelines in place and use	December 2011	30	MWI
	h. Define standards and strengthen enforcement mechanism	Establish an inventory of standards and complete for areas not yet covered	Standards Completed	Standards in place	June 2010	40	WSRB, SC, KWP, SNV, KEPSA
	i. Promote human rights to water	Ensure that the IMPACT report covers progress on human rights to water and	IMPACT report produced	IMPACT report	September 2010	30	WSRB

		sanitation					WSRB-NWS-SC, KNCHR
		Enhance cooperation with the national commission for human rights	MOU developed with KNCHR	MOU developed and operational	July 2010	-	MWI, KNCHR
		Enlarge Water Action Groups to all major towns	Water Action Groups established	Number established	December 2010	30	WSRB, Water Sector NGOs
	j. Integrate cross cutting issues in the water sector activities	Synchronize collaboration and coordination in peace initiatives	Collaborations in peace initiatives	Number of collaborations	June 2010-Dec 2014	30	MWI, Water Sector NGOs
		Link and mainstream gender, youth and HIV/AIDS aspects in water and sanitation management	Gender, youth and HIV/AIDS aspects incorporated	Gender, youth and HIV/AIDS aspects incorporated	June 2010-Dec 2014	30	MWI
		Maintain the strong pro-poor focus on the water sector	Pro poor initiatives done	Number of Pro poor initiatives	June 2010-Dec 2014	30	MWI
Sub Total						250	

Strategic Area: Sustainability in Water Resources Development							
Strategic Objectives	Strategies	Key Activities	Output(s)	KPIs	Time frame	Budget Kshs Million	Actors
3. To ensure sustainable development and management of water resources	a. Understand water resources potential and limitation	Review the possibility of separation of regulation and implementation in WRM	Formation of regulatory and implementing bodies	Number of bodies formed	Dec 2012	5,000	MWI WRMA
		Assess and document water resources (quantity and quality, ground / surface water and water recycling, trans-boundary waters)	Status of Water Resources Report developed	Status of Water Resources Report in place	June 2011	1,000	MWI, UoN Meteorology Dept., LVBC, LVEMP, WMO
		Upgrade equipment for automatic stations for water quality monitoring for both surface and groundwater	Status of Water Resources Report developed	Status of Water Resources Report in place	June 2011	1,000	MWI, KEWI, WSBs, KEPISA
		Delineate and zone areas of water conservation and ensure gazettment of zoned areas as protected areas	Zones delineated	Area of Land delineated	May 2011	2,000	MWI, NEMA, KWP, MFW, MoE
		Include the potential of water transfer from surplus to water deficit areas in the national water master plan	Projects for interbasin transfers	Number of projects done	June 2010- Dec 2014	200,000	MWI
	b. Ensure integrity and sustainability of water resources – halt and reverse degradation in water catchments	Support removal and relocation of all settlers that are encroaching on the water towers	Restored water towers	All water towers restored	June 2010- Dec 2014	5,000	NEMA, MoF, MWI
		Stop further land degradation and reverse degraded lands by finalizing and implementing the land reclamation policy	Projects for land reclamation	Number of projects done	June 2010- Dec 2014	100,000	MWI
		Help to restore water catchment areas by	Restored water	Number	June 2010-	5,000	MWI

		supporting the halt of illegal logging and other destructive activities that harm the integrity of water towers	catchment areas	restored	Dec 2014		WRMA MoF
		Encourage tree planting among communities / WRUAs	Trees planted	Number planted	June 2010- Dec 2014	2,000	WRMA,
		Ensure strict control and reduction of pollution of water resources	Legislation developed	Legislation in place	June 2010- Dec 2014	50	NEMA, MoPHS, KEPSA, KAM, MoLG WRMA, WSRB,
		Put in place programs for revitalizing wastewater treatment and disposal	Interventions undertaken	Number of interventions	June 2010- Dec 2014	5000	SNV, Water Sector NGOs
		Rehabilitate and protect water springs and wetlands	water springs and wetlands rehabilitated and protected	Number rehabilitated and protected	June 2010- Dec 2014	4000	WRMA KWS, NEMA,
	c. Develop and harness additional water resources	Increase availability of water through systematic reduction of unaccounted-for water (UfW) and efficient water use systems in all applications	More water available	Volume of water	Dec 2014	5,000	MWI
		Map flood prone zones for effective harnessing of flood waters	Flood prone zones mapped	Areas mapped	Dec 2010	1,000	OPM, WRMA, UoN Met Dept, WMO
		Encourage rain water harvesting	Rainwater harvesting policy developed	Rainwater harvesting policy in place and in force	June 2010- Dec 2014	10	MWI
		Increase water storage capacities of surface and ground water	Projects initiated for increase in surface and	Number of projects	June 2010- Dec 2014	100,000	MWI

			ground water				
		Use WDC window of WSTF to improve the sustainable management of water resources	Projects initiated	Number of projects	June 2010- Dec 2014	100,000	MWI
d. Adaptation and mitigation of climate change and reduced effects of water based emergencies		Implement possible mitigation and adaptation measures of climate change	Projects initiated	Number of projects	June 2010- Dec 2014	100,000	MWI
		Prepare disaster risk reduction and preparedness strategy for the water sector.	risk reduction and preparedness strategy for the water sector. produced	risk reduction and preparedness strategy for the water sector. In place	September 2010	30	OP, MWI, KRCS, Oxfam, Water Sector NGOs
		Establish planning guidelines for the management of basins on climate change and for handling emergencies in the water sector	Planning guidelines for the management of basins on climate change developed	Planning guidelines for the management of basins on climate change in place	Dec 2010	10	MWI
e. Integrated/Participatory water resource management		Increase the number of WRUAs	More WRUAs	Number of WRUAs	June 2010- Dec 2014	30	WRMA
		Finalize bilateral and multi-lateral trans-boundary agreements	Bilateral and multi-lateral trans-boundary agreements finalised	Bilateral and multi-lateral trans-boundary agreements in place	July 2011	10	MWI
		Manage and develop transboundary water resources and bilateral cooperative frameworks for the joint management of all the shared water resources	Projects for the management of transboundary water resources	Number of projects	June 2010- Dec 2014	100,000	MWI

		Develop and refine institutional arrangements for trans-boundary water resources management	Institutional arrangements developed	Institutional arrangements in place	July 2011	30	MWI
Sub Total						736,170	

Strategic Area: Water for Social Development							
Strategic Objectives	Strategies	Key Activities	Output(s)	KPIs	Time frame	Budget Kshs Million	Actors
4. To ensure sustainable and affordable access to safe water and sanitation to all	k. Formalize all service provision	WASREB to enforce the extensions of service provision by the WSPs in all low income settlements in both urban and rural areas	More low income earners provided with water and sanitation	Service Provision Coverage	June 2010-Dec 2014	600	WSRB, WSTF, GTZ, WSBs, Maji na Ufanisi, WAGs WSRB, WSTF, WSBs, Water Sector NGOs, WAGs
		WASREB to ensure that all tariff negotiation focus also on affordability of water and sanitation services to the poor (tariffs at water kiosks and first bracket of tariff structure at household connections)	Water and sanitation services provided at an affordable rate	Pricing of services	June 2010-Dec 2014	2000	WSBs, WSTF, GTZ, KEPSA, SNV
		Ensure alignment of civil society actors and donors to the formalization efforts in urban WSS in order to move towards the realization of human rights to W+S	Guidelines bringing in CSOs and donors developed	Guidelines bringing in CSOs and donors in place and in force	Dec 2010	30	WSRB, WSTF, GTZ, WSBs, Maji na Ufanisi, WAGs WSRB, WSTF, WSBs, Water Sector NGOs, WAGs DPs

	i. Improve access to safe drinking water and sanitation facilities	Construct, Rehabilitate and expand urban and rural water supply systems	urban and rural water supply systems constructed and rehabilitated	Number constructed and rehabilitated	June 2010-Dec 2014	100,000	MWI
		Construct new sewerage systems in urban areas	new sewerage systems in urban areas constructed	Number constructed	June 2010-Dec 2014	100,000	MWI
		Ensure that the WSTF carries out 2 calls annually for CPC and UPC	Calls done for CPC and UPC	Number of calls done	June 2010-Dec 2014	20	WSTF
		Integrate sanitation programs with the health and education sectors	Joint projects with Ministries	Number of joint projects	June 2010-Dec 2014	30,000	MWI
		Test in slums sanitation systems which guarantee sustainability	Sustainable sanitation systems in slums	Number of Test done	June 2010-Dec 2014	100	WSRB, WSBs, MoH, MoE, MoPH GTZ,
		Rehabilitate and expand existing urban sewage collection, treatment and disposal systems according to the sanitation concept for the water sector	Rehabilitated urban sewage collection, treatment and disposal systems	Number rehabilitated	June 2010-Dec 2014	5000	WSRB, WSBs, MoH, MoE, MoPH GTZ, WSRB, WSBs, MoH, MoE, MoPH GTZ, Water Sector NGOs
		Increase Ecosan systems for the urban areas with onsite treatment	More Ecosan systems set up	Number of Ecosan systems	June 2010-Dec 2014	5000	
	o Ensure sustainable operation of services in urban and rural areas	Enhance the sustainability of WSPs (e.g. by clustering of WSPs in the urban setting and establishing in place a commercially viable PPP mechanism in rural areas)	Financially sound WSPs	WSP Financials	June 2010-Dec 2014	1000	MWI WSP
		WASREB to ensure that all WSPs reach more than	Financially	WSP	June	3500	WSRB,

		125% of O+M cost recovery	sound WSPs	Financials	2010-Dec 2014		
		The IMPACT report includes information on sustainability of rural WSS systems	Well maintained WSS systems	Number well maintained	June 2010-Dec 2014	10,000	MWI
Sub Total						257,250	

Strategic Area: Water and Economic Development							
Strategic Objectives	Strategies	Key Activities	Output(s)	KPIs	Time frame	Budget Kshs Million	Actors
5. To ensure sustainable availability of water for productive purposes	a. Improve knowledge and access to users for economic development	Improve the dilapidated infrastructure and enhance water storage capacity for irrigation, industrial, livestock, tourism and recreational use	Increased water storage capacity	Storage Volume of water	June 2010-Dec 2014	50,000	WRMA, KEPISA, MoA, KAM, MoT, KWP
		Identify research and/or policy development institutions to facilitate a strategic analysis of the linkages between water and economic development	research and/or policy development institutions identified	Number identified	June 2010-Dec 2014	5	MWI
		Review existing development plans on all levels from a water utilization point of view.	Revised development plans	Percentage of development plans revised	June 2010-Dec 2014	30	MWI
		Restore degraded lands for settlement and irrigated agriculture in a participatory manner	Restored degraded lands	Area of land reclaimed	June 2010-Dec 2014	20,000	MWI, MoA, ALRMP, Cordaid, Water Sector NGOs, SNV
	b. Ensure sustainable and efficient use of water	Establish joint programs among ministries, WSIs and other stakeholders for optimal water resource use	Joint programs developed	Number of programs developed	June 2010-Dec 2014	30,000	
		Assess the potential for PPPs in ensuring a water efficient economy	Use of PPPs	Number of PPPs	June 2010-Dec 2014	15	MWI, MoP, KEPISA,

							GWP KIPPRRA
		Popularize best practices, such as on water and soil conservation, water saving technologies, etc. in small-scale agricultural production	Awareness creations programs	Number of programs	June 2010-Dec 2014	1,300	
		Research on and implement efficient irrigation methods	Innovations in irrigation	Number of innovations	June 2010-Dec 2014	50	MoA, Water Sector NGOs, NASEP
		The irrigation sub-sector issues an annual performance report including information on storage, land under irrigation and efficient water use	Annual Performance Report	Number of reports issued	June 2010-Dec 2014	5	MWI, MoA, NIB
		Establish standards and guidelines for efficient use of water	Standards and guidelines developed	Standards and guidelines in place	July 2010	5	MWI
	m. Tertiary use of water	Use re-cycled wastewater for general irrigation	More land under irrigation	Area of land under irrigation	June 2010-Dec 2014	120	MWI, MOa
		Encourage industries to invest in wastewater recycling	More industries investing in waste water recycling	Number of industries investing in waste water recycling	June 2010-Dec 2014	5	MWI
Sub Total						101,535	

Strategic Area: Resource Requirements							
Strategic Objectives	Strategies	Key Activities	Output(s)	KPIs	Time frame	Budget Kshs Million	Actors
6. To mobilize adequate funding for the sector	a. Develop a Sector Investment Plan	A SIP is developed which is based on concrete investment planning form all the sub-sectors	SIP developed	SIP in place and operational	Dec 2010	30	MWI
	b. Develop Sector financing strategy	Develop a water sector financing strategy	Financing Strategy developed	Financing Strategy in place and	Dec 2010	10	MWI

				operational			
		Re-focus traditional government funding and promote new funding mechanisms like CDF, LATF, PPPs, bonds, carbon credits, NGOs funding; and development partner funding and others	New funding mechanisms in use	Number of new funding mechanisms	June 2010- Dec 2014	20	MWI, MoP, MoF, DPs, KEPSA, banks, WSTF
		Self financing targets for all WSI are given by the MWI	Financially sound WSIs	WSI Financials	Dec 2010	20	MWI, WRMA MoF, banks, KEPSA, SNV
	c. Ring fence water income	Phase out payments by WSPs to the municipalities for WSS assets	WSPs not making payments to the municipalities	Number of WSPs not making payments to the municipalities	June 2010- Dec 2014	20	WSPs
	d. Value for money	Improve aid effectiveness (including value for money) by better alignment of donors and NGOs to national strategies and improved reporting	Guidelines to Donors developed	Guidelines to donors in place and in force	June 2010- Dec 2014	20	MWI
		Make all WSIs report on effective use of funds and absorption capacity	Quarterly reports prepared	Quarterly reports submitted	June 2010- Dec 2014	20	MWI, DPs, WSRP
Sub Total						140	

Strategic Area: Capacity Development

Strategic Objectives	Strategies	Key Activities	Output(s)	KPIs	Time frame	Budget Kshs Million	Actors
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7. To improve and strengthen capacity development (research & technology)	a. Promote research and innovation in the sector	Support the establishment of a research centre for water	Research Centre for Water set up	Research Centre for Water in place	March 2011	1000	MWI KEWI, universities, UNESCO, NEPAD
		Promote networking among relevant institution in the water sector within and outside Kenya	forums and platforms for networking created	forums and platforms for networking in place	June 2010	0.1	NWS, GWP, KWP, Water Sector NGOs, KEPSA,
	b. Improve learning and knowledge management	Ensure publishing of data, information, reports and experience among sector players	Reports published	Number of reports published	June 2010- Dec 2014	20	MWI
		Make WSIs report on knowledge management	Newsletters	Number of Issues	After every 3 months starting September 2010	2	NWS, WSRB, KWP, Water Sector NGOs
			Regular Sector Reports	Number of Reports	After every 3 months starting September 2010	2	
			Sector meetings, conferences	Number of meetings	After every 3 months starting September 2010	2	
	c. Strengthen human and institutional capacities	Regular review of training measures offered to stakeholders in each catchment	Training measures report prepared	Training measures report in place	June 2010- Dec 2014	1	KEWI, KWP
		Make WSIs report on personnel development measures	Report on personnel development measures prepared	Report on personnel development measures in place	June 2010- Dec 2014	1	WSRB, NWS, WAGs
		Establish responsive salary structures at WSIs for professionals to enhance retention rates	Responsive salary structures at WSIs established	Responsive salary structures at WSIs in place	June 2010- Dec 2014	0.1	WSBs, WSRB
		Ensure that all WSIs embrace standard	Standard	Standard	June 2010-	15	WSBs,

		management tools (business planning, information systems, reporting, etc.) and equipment (PCs, copiers, etc.)	management tools in use in all WSIs	management tools in place in all WSIs	Dec 2014		WSRB, SNV, WaterAid
Sub Total						1,043	

Strategic Area: Communication Development							
Strategic Objectives	Strategies	Key Activities	Output(s)	KPIs	Time frame	Budget Kshs Million	Actors
8. Develop appropriate Information Education and Communication framework	a. Establish platforms for information sharing	Use WSWG meetings and AWSC as a platform for information sharing	Minutes of meeting	Number of meetings	After every 3 months starting September 2010	2	MWI, NWS, DPs
		Ensure that each WSI has a website and shares information with stakeholders	Websites developed in each WSI	Websites in place in each WSI	August 2010	1	NWS, DPs, WSBs, WAGs
	b. Develop and enhance sector database and information systems (data sharing)	Ensure that all sub-sectors have a data base and a management information system	Data bases developed in all sub sectors	Data bases in place in all sub sectors	August 2010	1	
		Develop and extract from the information systems annual performance reports and disseminate to the public	Annual performance reports disseminated	Number of people reached	Every year starting August 2010	5	MWI, KEWI, NWS, WSRB
	c. Develop sector communication and education strategy (best practices)	Development of strategy to make lawmakers aware of challenges and actions to be taken in the water sector	Strategy developed	Strategy in place and operational	July 2011	5	MWI
		Ensure broad public support and participation for the Plan	Awareness campaigns	Number of awareness campaign programmes	Sept 2011 – Dec 2011	50,000	MWI
		Identification of key sector issues on water and sanitation	key sector issues on water and sanitation	key sector issues on water and sanitation addressed	Dec 2011	50,000	MWI

			identified				
		Develop a Communication Strategy	Communication strategy developed	Communication Strategy in place and operational	Dec 2010	5	MWI
		MWI and its WSI offer support in the elaboration of curricula of the educational system on hygiene, use of water, water and environmental protection, on technologies for effluent treatment and other water related issues	Curricula on hygiene, use of water, water and environmental protection, on technologies for effluent treatment and other water related issues developed	hygiene, use of water, water and environmental protection, on technologies for effluent treatment and other water related issues in place	Dec 2010	5	MWI
Sub Total						100,024	
Total for the Plan						1,99,244	