The TurkanaCounty Waterand Sewerage Services Sector Policy, 2016

August 2016

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Foreword

The Constitution of Kenya 2010 recognizes that access to safe and sufficient water is a basic human right. It also assigns responsibility for water supply and sanitation provision to the 47 County Governments. In order to effectively implementthis commitment and other related water and sanitation related commitments in the Constitution, the County Water sector requires a sharp focus first, on ensuring a smoother collaboration between the two levels of government, and secondly, strengthening county leadership to achieve sustainable delivery of improved water services under this dispensation. The development of the first ever Turkana County Water ad Sewerage Services Policy is an important milestone in this direction.

At this stage in the development of this policy, the County is cognizant of the fact that Turkana County, like most of the Counties in the Arid and Semi Arid Areas of Kenya is a county endowed with extensive natural wealth and biodiversity. Yet, the County populationstill remains largely poor with limited access to and control of productive resources, especially by women and young people. In the Water Sector, there has been a general decline in both the quantity and quality of water for productive and domestic use. During drought, reduced water tables are common leading to low yielding boreholes and longer waiting times at the few water points available. Other changes include the drying of surface water sources, high siltation and long trekking distances. Better water governance is therefore key to unlocking some of the long established barriers to economic development of the County.

Another key determinant of the content and direction of this County policy for the water sector has been the need to develop a much more responsive policy framework that is embedded in the culture and ways of life of the Turkana County. In so doing, this policy recognizes that pastoralism which is our culture and way of life, has the potential to form part of the county's highly resilient livelihoods. Yet over the years, the capacities within these systems have been eroded by policy disconnects in the past and continue to be overlooked as a vehicle for economic development. Addressing pastoralism is certainly a wider development challenge that straddles across multiple sectors for effective mainstreaming to happen. For the water sector however, we make an early recognition of this reality and integrate the key priorities and policy measures necessary to respond to this dynamic in the county.

In developing this policy framework for the waters sector, we have set out a benchmark through which the County leadership will be measured. Our duty as a stakeholders now is to meet the demands of these commitments for the benefit of the People of Turkana County.

County Executive Committee Member,
Department of Water, Agriculture and Irrigation
Turkana County Government

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The development of this policy was coordinated by the staff from Turkana County Department of Water, Agriculture and Irrigation with a lot of support from all other related sectors – The Office of the Governor, Livestock, Pastoral Economy, Agriculture, Health, Education, Service Providers and local communities. I would like to thank all members of the Technical Committee during the development of this policy as well as representatives from other departments for their wonderful stewardship, support and cooperation which enhanced this policy document.

We also wish to acknowledge and thank all persons andinstitutions whose ideas and materials have been used in compiling this policy document. Much thanks go to Mr Jason Oyugi, the Lead Consultant for this policy development process.

Special thanks go to the Governor of Turkana County, H.E. Joseph Nanok,for taking a personal interest in the entire process of supporting the sector planning processand for encouragingthe department to be always creative and innovative as we seek improve the lives of the people of Turkana County through better water service delivery.

Paul Ekutan
Chief Officer, Department of Water, Agriculture and Irrigation
Turkana County Government

Executive Summary

This Water and Sewerage Service Policy framework is a detailed presentation of the County's overall development agenda and commitment in the waters sector and forms part of the implementation platforms for the County Integrated Development Plan (CIDP). The policy begins with providing the background on the vital information on the County's development context. The policy recognizes that Turkana County is arid and semi-arid and is characterized by warm and hot climate. The temperatures range between 20°C and 41°C with a mean of 30.5°C.

The rainfall pattern and distribution is erratic and unreliable both with time and space. There are two rainfall seasons. The long rains *(akiporo)* usually occur between April and July and the short rains between October and November and ranges between 52 mm and 480 mm annually with a mean of 200 mm. The driest periods *(akamu)* are January, February and September. The rainfall is distributed on an east-west gradient with more rainfall in the western parts and other areas of higher elevation. The rainfalls are brief and come with violent storms resulting in flush floods. The surface runoff and potential evaporation rates are extremely high.

According to the Kenya Population and Housing Census (KPHC) 2009 results, the County population stood at 855,399. It is projected to have a total population of 1,036,586 in 2012 and 1,427,797 in 2017. These projections are based on a population growth rate of 6.4 percent assuming constant mortality and fertility rates.

The second part of the policy outlines the County's policy and development planning context for the water sector. It begins by recognizing that The Constitution of Kenya further provides for access to safe and sufficient water as a basic human right. Under the economic and social rights in the Bill of Rights, Article 43 of The Constitution of Kenya provides that every person has the right to reasonable standards of sanitation as well as to clean and safe water in adequate quantities.

This section also highlights the importance of Sessional Paper Number 10 of 2012 on Kenya Vision 2030 is the National Policy Economic Blueprint that entrenches Kenya Vision 2030 as the long term development strategy for Kenya; **The Draft National Water Policy as well as The National Hygiene and Sanitation Strategy** which recognizes that sanitation is now a constitutional right in Kenya. At the County level, the policy is anchored on the Turkana CIDP which aims at achieving sustainable development not only for the benefit of the current generation but also for securing the livelihood of future generations in the county.

The third and final part of this policy document outlines the County Water Sector Strategic direction. It clearly articulates the vision of the water sector in Turkana County which was derived from the overall County vision and other development challenges.

The Vision;***A water secure County with effective governance structures for improved water service delivery and sustainable livelihoods."***

The Mission of the water sector is;***To effectively develop and manage the county's water resources for sustainable livelihoods***

The policy then articulates in detail the various strategic goals for each sector beginning with a broad overview of the situation analysis of the sub-sector, the strategic goal, objectives and policy measures the County Government will implement to realize these objectives and goals. The policy covers seven key interrelated sectors that include the following;

- ***Water resources:***To promote the optimal, sustainable and equitable development and use of water resources in the county
- ***Water Supply:***To strengthen the provision of sustainable water supply and sanitation services in all rural and urban areas in the county.
- ***Livestock water:***To provide adequate, safe, affordable and accessible water for the livestock.
- ***Water for Irrigation:***To provide adequate and quality water for efficient use in irrigation.
- ***Rural and Urban Sanitation:***o scale up improved rural and urban sanitation and hygiene in the county.
- ***Water for Public Institutions:***To improve the provision and access to safe ***water and proper sanitation services in public institutions.***
- ***Water Sector Governance:***To improve planning, coordination and management of the water sector.

In moving forward, the policy recognizes that because the Water Sector determines the development outcomes of multiple sectors, its governance and coordination framework shall be multi-sectoral in which different departments, agencies, organizations and other stakeholders collaborate in planning, implementation and monitoring. In order to enhance this process, the policy defines the roles and functions of various structures for multi-sectoral collaboration under the overall leadership and coordination of the department of Water in collaboration with the Department of Health and Sanitation. The policy also makes a strong case for increasing the allocation of financial resources i=to improve sector performance and service delivery in general.

Abbreviations and Acronyms

ADS	Anglican Development Services
ASAL	Arid and Semi-Arid Lands
CLTS	Community-led Total Sanitation
DOL	Diocese of Lodwar
DWIA	Department of Water, Irrigation and Agriculture
EIA	Environmental Impact Assessment
GoK	Government of Kenya
IRC	International Rescue Committee
IWRM	Integrated Water Resource Management
KAP	Knowledge Attitude and Practice
LWF	Lutheran World Federation
MICS	Multiple Indicator Cluster Survey
MoWI	Ministry of Water and Irrigation
NDMA	National Drought Management Authority
NEMA	National Environment Management Authority
ODF	Open Defecation Free
PADR	Participatory Assessment for Disaster Risk
PHAST	Participatory Hygiene and Sanitation Transformation
PICD	Participatory Integrated Community Development
PPOM	Public-Private Operation & Maintenance
RBA	Rights Based Approach
SIA	Social Impact Assessment
UNICEF	United Nations Children Fund
WASH	Water, Sanitation and Hygiene

WESCOORD	Water and Environmental Sanitation Coordination
WSP	Water Service Provider
WASREB	Water Services Regulatory Board
WSTF	Water Services Trust Fund

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1.0 Introduction

1.1 Physical and Geographic features

1.1.1 Position and Size

Turkana County is situated in North Western Kenya. It borders West Pokot and Baringo Counties to the south, Samburu County to the South East, and Marsabit County to the East. Internationally it borders South Sudan to the north, Uganda to the west and Ethiopia to the north east. The County shares Lake Turkana with Turkana County. The total area of the county is 68,680.3 Km^2 and lies between Longitudes 34^0 30′ and 36^0 40′East and between Latitudes 1^0 30′ and 5^0 30′ North.

1.1.2 Physiographic and Natural Conditions

The physiographic features in the county include low lying open plains, mountain ranges and river drainage patterns. Lake Turkana is at an elevation of 360 meters (1,181 feet) while the surrounding basin is anywhere from 375-914 meters (1,230-3,000 feet). The main mountain ranges of the county are Loima, Lorengippi, Mogila, Songot, Kalapata, Loriu, Kailong'kol and Silale mountains.

The mountain ranges, because of their high elevation, are normally green, covered with dense bushes and high woody cover. The ranges support important economic activities like honey production, grazing during the dry season, wood production, and charcoal production. Thereare also water catchment sources thus supporting gum Arabica growing and small household *shambas*,The hills in the county consist of Tepes Hills in Kibish Division, Lokwanamoru Hills and Lorionotom Hills in Kaikor Division, Pelekech Hills in Kakuma Division and Loima Hills in Loima Division which are characterized by large forests.

The open lying plains consist of the Kalapata and Lotikipi Plains. The plains form part of the arid area in the County and receive the lowest amount of rainfall of around 180 mm per annum. These plains are dominated by dwarf shrub and grassland, which provide forage for livestock during and shortly after the rainy season. However, this forage dries rapidly at the onset of the dry season.Rivers Tarach, Kerio, Kalapata, Malimalite and Turkwel are the major rivers in the county making them the most important with a potential of producing large amounts of food for the county, if properly utilized.

Lake Turkana is the largest and most saline of the Rift Valley lakes. There is no outlet, and with reduced inflows and high evaporation this results into depositing of salt in the soil and capping on the surface. The water level is subject to three to four metres seasonal fluctuations. In total, the water level dropped 10m between 1975 and 1992. River Omo from Ethiopia which is permanent drains into Lake Turkana. The lake is situated on the eastern part of the county and has northern island and is endowed with a variety of wild animals namely: hippos, crocodiles and water fowls. Fishing is the major activity in the lake.

Soils in Turkana County are not well developed due to aridity and constant erosion by water and wind. Often they are capped by stone mantles. Colluvial soils tend to be reddish over the basement system and generally grey buff or white over the

volcanoes. Aeolian soils are dune sands either active or fossil; Alluvial soils range from coarse sands to flash flood silts, while black or brown clays occur locally in areas of impended drainage.

1.1.3 Ecological Conditions

The county is endowed with the Lake which is a world heritage; it also has a number of rivers that flow into the lake. These include Rivers Turkwel and Kerio among others that are seasonal. The County also has several springs which are scattered across the county especially parts of the lake zones and the Turkana East.
There are insufficient details showing agro-ecological zones by Division but the zones in proportion can be estimated as below-

- Lower midland zone 5 (semi-arid) 3%
- Inner midland zone 4 (transition) 1%
- Inner lowland zone 5 (semi-arid) 16%
- Inner lowland zone 6 (arid) 42%
- Inner lowland zone 7 (very arid) 38%

The forest cover in the county is held in trust by the Local Government where communities utilize all natural resources without many restrictions. There is no gazetted or surveyed forest in the County.

Turkana County is arid and semi-arid and is characterized by warm and hot climate. The temperatures range between 20^{o}C and 41^{o}C with a mean of 30.5^{o}C. The rainfall pattern and distribution is erratic and unreliable both with time and space. There are two rainfall seasons. The long rains *(akiporo)* usually occur between April and July and the short rains between October and November and ranges between 52 mm and 480 mm annually with a mean of 200 mm. The driest periods *(akamu)* are January, February and September. The rainfall is distributed on an east-west gradient with more rainfall in the western parts and other areas of higher elevation. The rainfalls are brief and come with violent storms resulting in flush floods. The surface runoff and potential evaporation rates are extremely high.

Due to the low rainfall and high temperatures there is a lot of evapo-transpiration resulting into deposition of salt in the soil and capping on the surface. As a result, only about 30 per cent of the county's soil can be rated as moderately suitable for agricultural production. These moderately fertile soils are found at the central plains of Lorengippi, the upper Loima, the lowlands of the Turkwel, Nakaton and Kawalathe drainage along the lake at the lower Kalokol, Turkwel and Kerio rivers and a portion of the Loriu Plateaus.For the last two and a half decades, the county has frequently suffered from failures of the annual rains. However, years 2006, 2007 and 2011, witnessed a higher than expected rainfall. This resulted to flash floods with many parts of the county experiencing loss of livestock and pasture.

1.2 Demographic Features

1.2.1 Population Size and Composition

According to the Kenya Population and Housing Census (KPHC) 2009 results, the County population stood at 855,399. It is projected to have a total population of 1,036,586 in 2012 and 1,427,797 in 2017. These projections are based on a population

growth rate of 6.4 percent assuming constant mortality and fertility rates. The increase in the overall population will call for more investment in economic and social facilities such as health services, educational facilities, agriculture and livestock sectors to provide food and employment opportunities. Table 1 provides population projections based on 2009 population census.

1.2.2 Population Density and Distribution

The population density in the county varies from 24 persons per Km² in Turkana Central Constituency to 5 persons per Km² in Turkana East Constituency. The average population density in the County is 12 persons per km². This is based on the 2009 Kenya Population and Housing Census. Settlement patterns in Turkana County correspond with natural resource endowment. This is exhibited by low population densities in the rural areas and high population in towns and market centers where economic opportunities prevail. Lake Turkana as a resource has influenced a high settlement patterns in the areas along it.

Table 1: Population Density and Distribution by Constituency

CONSTITUENCY	2009 (Census)		2012 (Projections)		2015 (Projections)		2017 (Projections)	
	Population	Density (Km²)	Population	Density (Km²)	Population	Density (Km²)	Population	Density (Km²)
TURKANA CENTRAL	134,674	24	163,200	29	197,768	35	224,792	40
TURKANA NORTH	129,087	7	156,430	9	189,564	11	215,467	12
TURKANA WEST	245,327	14	297,291	17	360,262	21	409,490	24
LOIMA	119,932	13	145,336	16	176,120	20	200,186	22
TURKANA EAST	90,466	5	109,628	6	132,849	7	151,002	8
TURKANA SOUTH	135,913	18	164,702	22	199,588	27	226,860	31
Total	**855,399**	**12**	**1,036,587**	**15**	**1,256,151**	**18**	**1,427,797**	**21**

Source: County Statistics Office, Turkana 2011

Turkana Central has the highest concentration of people because it is the County headquarters and has many infrastructural and social amenities. There are also more opportunities, such as job opportunities, in the town than in other areas. On the other hand, Turkana East has the smallest population density densities because of the insecurity levels in the area which is mainly caused by cattle rustling.On the other hand, Turkana West Constituency is the most populated because of the refugee camp in Kakuma. On the other hand, Turkana East has the least population due to insecurity along the border with West Pokot. From table 1, the projections indicate that the population is expected to almost double by 2017to 1,427,797.

Table 2: Population Projection by Urban Centres

Urban Centres	2009 (Census)			2012 (Projections)			2015 (Projections)			2017 (Projections)		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Lodwar	22,349	23,019	45,368	27,083	27,895	54,978	32,819	33,803	66,623	37,304	38,422	75,726

Kakuma	16,820	15,142	31,962	20,383	18,349	38,732	24,700	22,236	46,936	28,075	25,274	53,350
Lokichoggio	9,313	8,382	17,695	11,286	10,157	21,443	13,676	12,309	25,985	15,545	13,991	29,536
Total	**48,482**	**46,543**	**95,025**	**58,751**	**56,402**	**115,153**	**71,196**	**68,348**	**139,544**	**80,924**	**77,688**	**158,612**

Source: KPHC 2009

Lodwar Town has the highest population projected to be 54,978 in 2012. The high number in these urban centres is attributed to more influx of people seeking employment and the availability of infrastructure and social amenities. According to the Cities and Urban Areas Act of 2012, only the above three urban centres qualify to be classified as Towns. There is need for improved infrastructural facilities and social amenities in these towns.

2.0 The National and County Water Governance and Policy Context

2.1 The Constitution of Kenya

Chapter 11 of The constitution of Kenya 2010 provides for a devolved system of governance aimed at promoting democratic and accountable exercise of power, the equitable sharing of resources and responsive and effective delivery of services, while empowering citizen's participation through the process. The system created a two-tier level of government leading to creation of 47 counties led by elected county governments. Each level has its own set of functions which though distinct require co-operative inter-relationships in the exercise of their functions. The provision of water and sanitation services and the implementation of national polices in natural environment are two such key roles and responsibilities bestowed on the County Government in Schedule of The CoK 2010.

The Constitution further recognizes that access to safe and sufficient water is a basic human right. Under the economic and social rights in the Bill of Rights, Article 43 of The Constitution of Kenya provides that every person has the right to reasonable standards of sanitation as well as to clean and safe water in adequate quantities. In assigning the responsibility for water supply and sanitation provision to 47 newly established counties, The Constitution had anticipated that transfer of these functions would take place over the three year period of transition following the first county government elections in March 2013.

Table 3: Summary of the allocation of roles in The Constitution of Kenya on Water, Environment and Natural Resources in Schedule Four

Sector	National Government	County Government
Water, Sanitation and Hygiene	• Water protection, securing sufficient residual water, • Hydraulic engineering and the safety of dams; • Use of international waters and water resources • Capacity Building and technical assistance to counties	• Storm water management systems in built-up areas; and • Water and sanitation services.
Environment and Natural Resources	• Fishing, hunting and gathering; • Protection of animals and wildlife;	• Agriculture including disease control • Pollution control • Implementation of specific national government policies on natural resources and environmental conservation
Energy	• Energy policy	• Electricity and gas reticulation and energy regulation
Public Investments	• Disaster management • National Public Works • Capacity building and TA	• County public works • Public participation in governance at the local level • Fire and disaster

The main challenges in such an asymmetric

process include: (i) avoiding an overly complex transition process; (ii) ensuring counties really are capable of carrying functions out; and, (iii) managing continuity of public service delivery without disruption. In an attempt to respond to these challenges, The Constitution provides in Article 21(2) under the implementation of rights and fundamental freedoms that the State shall take legislative, policy and other measures, including the setting of standards, to achieve the progressive realization of the rights guaranteed under Article 43.

The challenges of water governance including problems of water shortage and subsequent effects on pastoral livelihood in Turkana County like in many other Counties of Northern Kenya is a critical development challenge in the context of Kenya's new found constitutional environment – with a strong focus on addressing inequalities, marginalization and citizen empowerment.

2.2 Vision 2030 and other National Policy Goals

Sessional Paper Number 10 of 2012 on Kenya Vision 2030 is the National Policy Economic Blueprint that entrenches Kenya Vision 2030 as the long term development strategy for Kenya. The Kenya Vision 2030 aims to transform Kenya into a modern, globally competitive, middle income country providing a high quality of life to all its citizens. Kenya Vision 2030 is a product of a highly participatory, consultative and inclusive stakeholder's process conducted throughout the country and in all sectors of the economy.

The broad key priority areas of the Second MTP of Vision 2030 include: employment creation; development of human resource through expansion and improvement in quality education, health and other social services; reducing the dependence of the economy on rain fed agriculture through expansion of irrigation; higher investment in alternative and green sources of energy; improving the economy's competitiveness through increased investment and modernization of infrastructure; increasing the ratio of saving, investment and exports to GDP; implementation of key Kenya Vision 2030 Flagship projects including development of the LAPSSET Corridor of which Turkana County is a key development player. This policy recognizes this opportunity as a major determinants of some of the priorities that the water sector has to respond to both in the medium and short term.

2.3 The Draft National Water Policy

The Draft National Water Policy of 2012 (NWP 2012) which was developed in response to the mandate, vision and mission of the ministry responsible for Water and Irrigation in Kenya was informed by the gains made during the past decade of implementation of reforms in the water sector anchored on the National Water Policy of 1999 (NWP 1999) also referred to as Sessional Paper No. 1 on National Policy on Water Resources Management and Development, the Water Act 2002, existing related policy documents, and the globally recognized Integrated Water Resources Management (IWRM) approach. These reforms culminated into the development of

the WSSP 2010 – 2015, which was designed to institutionalize a stakeholder and participatory approach to the management of water affairs in the country.

The draft policy takes into account requirements of the Constitution of Kenya 2010 with regard to (1) consideration of water as a natural resource, and (2) the right to water by all; the Kenya Vision 2030; the Sustainable Development Goals (SDGs), and other national policies and Strategies. In this regard it will inform the development of the Water Bill 2014 which will replace the Water Act 2002. The policy therefore consolidates the highlights of previous Water Sector reforms and the key elements of the good governance initiatives in the sector over the past 10 years which include;

- Subsidiarity and decentralization – In line with the government's overall decentralization policy, decisions in the water sector are made at the lowest appropriate level, making sector institutions more autonomous. For example, water utilities have been transformed into autonomous, registered and regulated shareholder companies, owned by the counties.
- Separation of service delivery, policy formulation and regulation to achieve higher efficiency and transparency.
- Increased equity achieved by aligning the sector with the human right to water and sanitation and by adopting a pro-poor approach in sector policies and strategies.
- Transparency and accountability measures include efforts by sector institutions reporting regularly to the public and by stronger enforcement of regulations and complaint mechanisms.
- The participation and empowerment of water users and consumers through more than 400 WRUAs, WAGs and mechanisms such as public hearings at community level.

2.4 The National Hygiene and Sanitation Strategy

The National Hygiene and Sanitation Strategy recognizes that sanitation is now a constitutional right in Kenya. To rapidly increase sanitation hygiene coverage and attain the sanitation for all people by 2015, the stakeholders in sanitation and hygiene led by The Ministry of Public Health and Sanitation (MoPHS) developed the strategy document to implement the National Environmental Sanitation Hygiene Policy (2007) and also to guide strategic thinking towards the afore mentioned goal. In addition, the strategy recognizes that sanitation services have now been devolved to County level necessitating a reconfiguration of the operational aspects.

The national sanitation and hygiene strategy has the overall goal of;

Sanitation for all by 2020

This is pursued through 6 key objectives developed towards attaining the goal;

- To eradicate open defecation (OD) in Kenya by 2015.
- To significantly improve hand washing practice to over 90% by 2015
- To significantly improve the safe at point of use for all households in Kenya by 2015

- To ensure that all solid and liquid waste is properly managed by 2020.
- To have an effective emergency preparedness and response mechanism for sanitation by 2015
- To strengthen coordination of sanitation hygiene systems and enabling framework on a ongoing basis

2.5 The TurkanaCounty Integrated Development Plan (CIDP)

The Turkana County Integrated Development Plan developed in 2014 through a broad based participatory process outlines the main framework of the County's development priorities in achieving its developmental mandate over the 2013-2017 five year development period.The main emphasis in the CIDP lies in the Turkana County Government will give the communities in Turkana greater control over their affairs, and there will be enhanced resources directed towards this once marginalized area. On the other hand, it is possible that regional inequalities may actually deepen under devolution, as counties with greater technical competencies and resources forge ahead, while those with inadequate resources and capacities may continue to lag behind. It is hope of many that Turkana County does not fall within the latter category of Counties due to its low capacity in a number of areas, despite the discovery of commercially viable petroleum deposits.

Although all parts of Kenya will face challenges in adjusting to the new constitutional dispensation, Turkana County just like others in the arid regions may particularly be disadvantaged due to the many past years of neglect and marginalization. This situation has resulted in weak Institutional and human resource capacities, poverty, poor infrastructure, insecurity and high levels of illiteracy. The hot and dry climatic conditions of Turkana County are limiting to agricultural productivity and economic opportunities to a certain extent. However, the recent discovery of petroleum deposits and the likely improvement in infrastructure may draw investors into the County. Ng'iturkana have to get ready for this reality and adjust accordingly so that they are not pushed to the periphery and be marginalized further as in the past, not by the Central Government, but by other more empowered and politically astute Kenyans.

The significance of County Integrated Development Planning within the broader system of county governments was highlighted by the 2010 constitution that was promulgated to usher devolution in Kenya. This key policy document will provide content to the new developmental roles and responsibilities for Turkana County Government as set out in the Constitution of the Republic of Kenya. The Turkana CIDP utilizes a participatory approach to integrate economic, sectoral, spatial, social, institutional, environmental and fiscal strategies in order to support the optimal allocation of scarce resources between sectors and geographical areas and across the population in a manner that provides sustainable growth, equity and the empowerment of the poor and the marginalized in the vast county.

The CIDP policy framework will however allow for maximum flexibility and ingenuity in the local sphere of the county government, without compromising the crucial tasks of alignment and co-ordination of planning, budgeting and delivery/spending within and between spheres in the County of Turkana. The CIDP has been developed principally to: link, integrate and co-ordinate plans and development proposals and other strategies, plans and frameworks for the

county; act as the policy framework and basis on which the annual budget for the county must be based; align the financial resources and human capacity of the county with the implementation of strategies, projects and programmes that will address the prioritized needs of the most deprived, and maintain the existing infrastructure and economic activities in the county; and assist Turkana County to focus on the environmental sustainability of their delivery and developmental strategies.

Under the national government's flagship projects of vision 2030, the Turkana County is set to significantly benefit from infrastructural development that will define strategic growth points in the county especially when the LAPSSET project finally takes off. Similarly, though partnership with other development agencies including the national government and development partners, the county will begin to realize achievements in the MDGs after lagging behind for a very long time due to marginalization caused by past Kenyan regimes.
It is important that all resources needed are availed for the implementation of this plan, and of critical consideration is the allocation of appropriate expertise, time and funds for the plan to succeed.

The future prosperity of the Turkana County and its people squarely lies in the people of Turkana County and the goodwill of Turkana leadership. This County Integrated Strategic Plan is a mere tool that will guide the leadership and people of Turkana in achieving sustainable development not only for the benefit of the current generation but also for securing the livelihood of future generations in the county.

2.6 Methodology for the development of this Water Policy

Kenya's National Water Policy and Draft Water Bill are currently under development. However, The Constitution of Kenya 2010, The County Governments Act, The Public Finance Management Act 2012 and other legislation provided a strong basis and impetus for the development of this policy. An essential aspect of the policy development process has been the recognition of the multiple sectoral interests and players in the sector, inter-governmental collaboration taking into account the various roles and responsibilities of different players in water services delivery, water resources management and stakeholder participation.

This policy was drafted over the period of April to October 2016. Figure 1 shows the organizational setup for preparing the plan which consists of a multi stakeholder Technical Committee (TC) under the leadership of the CEC Water, Irrigation and Agriculture, anOutreach Team who supported the stakeholder engagement process and a core team of Technical Experts who supported the Technical Team in the preparation of the policy on an 'as and when required basis'. Table 4 below presents an overview of the main activities and time frames of the policy preparation.

Table 4: Main Activities and Time Frames of the Policy Preparation

Activity	Time frame
County Department of Water, Irrigation and Agriculture initiation of consultative processes for policy development	April 2016
Establishing the Multi Stakeholder Technical team	April 2016
Formulation of Work-plan	May 2016
Situation Analysis Workshop	May 2016
Literature review	June 2016
Policy Design Workshop	July 2016
Draft 1 of Policy and Policy Validation Workshop by Technical Team	August 2016
Public Consultations	August 2016
Draft 2 and finalization of Sector Policy	August 2016
Adoption of Policy	Sept/October 2016

It should be noted that the Policy Planning process was dynamic and developed from a thorough and iterative process of stakeholder consultations and lessons learnt from other counties. In view of the close inter-linkages between water, health, land and environment, there was active participation of stakeholders from the:

- Public sector institutions represented by National and County Government ministries and institutions
- Private sector;
- Civil society Organizations;
- Community based organizations and water users associations;
- International organizations and development partners;
- Water services providers; and
- Regional Organizations dealing with shared water resources

3.0 Vision, Mission and Strategic Goals of the Water Sector Policy

The vision of the water sector in TurkanaCounty was derived from the overall County vision and other development challenges.

The Vision;

> ***A water secure County with effective governance structures for improved water service delivery and sustainable livelihoods."***

The Mission of the water sector is;

> ***To effectively develop and manage the county's water resources for sustainable livelihoods***

3.1 Strategic Goals

The Strategic Goals of this policy will be;

1. To promote the optimal, sustainable and equitable development and use of water resources in the county
2. ***To strengthen the provision of sustainable water supply and sanitation services in all rural and urban areas in the county.***
3. To provide adequate, safe, affordable and accessible water for the livestock.
4. To provide adequate and quality water for efficient use in irrigation.
5. ***To scale up improved rural and urban sanitation and hygiene in the county.***
6. ***To improve the provision and access to safe water and proper sanitation services in public institutions.***
7. To improve planning, coordination and management of the water sector.

3.2 Guiding Principles

The implementation of this policy will be guided by the following principles

- Sustainability of water and sewerage service delivery
- Prioritization of water for livestock
- Stakeholder participation
- Gender provisions in the management of WSIs and safeguarding of water
- Socially responsive commercialization for service delivery
- Professionalizing the sector
- Autonomy of WSIs
- Good governance practices on all levels
- Ring fencing of income as long as universal access to rights are not achieved
- Participatory approach
- Public Private Partnership (PPP)
- "User pays and polluter pays" principles.

4.0 Water Resources

4.1 Situation Analysis

The rainfall in Turkana is bimodal though it is very erratic and sparsely distributed. Long rains are experienced between March and May while short rain starts in October and end in December during a normal year. The spatial variation in rainfall is mainly influenced by altitude. South Turkana and areas bordering Uganda receive more rain than the other parts of the county. The rainfall ranges between 120 mm and 500 mm per year; the western parts and areas of higher elevation in the District receive more rainfall. The rainfall is erratic in distribution and timing . The drier the area, the more unreliable the rain is. (Hijmans et al., 2004).

The mean annual rain in Turkana is 263 mm and ranges from 121 mm in Lokichar to 406 mm in Songot-Mogilla ranges. Rainfall is the most important factor affecting production of forage biomass. This influences livestock movement in the county as they search for forage and water. Decreased rainfall resulting from a failure of a single or more rainfall season's impacts negatively to livestock production due to inadequate forage and increased movements. Sometimes rainfall comes in torrents causing flood hazard to livestock and people.

Except for Lake Turkana, naturally occurring surface water bodies are negligible due to the high evaporation rates. The Lake is situated in the eastern side of the County, with fishing as the major activity. Water in the lake region has high fluoridecontent thus not suitable for consumption by humans and animals due to its negative effect. However, it is used both domestically and for livestock during dry season.

The County also has several rivers with the major ones being Turkwel and Kerio, both originatingin the highlands to the south. These rivers are the most important as they are theonly perennial ones while the other rivers are seasonal.

Other than the naturally occurring surface water bodies, there are also the man-made ones such as pans and dams. These should use off -stream conveyance mechanisms to reduce on siltation. The county hasin recent years experienced increased construction of water harvesting structures suchas dams, water pans, sub surface dams etc. They are evenly spread throughout the countyand are able to hold water after rainy season. Water in these structures is mainly usedboth for domestic and livestock purposes. It is an important source of water for livestockespecially during the dry season.

Turkana county faces both physical and economic water scarcity interchangeably during and between seasons. Efforts should as much as possible, be made to ensure that water infrastructure impedes losses emanating from evaporation, seepage and inefficient applications. For an optimal use, all water resources should be considered conjunctively. This means that the best combination of available water resources i.e. direct

precipitation, surface water and underground water bodies should be applied according to the prevailing conditions temporal and spatial circumstances.

Most of the drainage-ways, including those from permanent rivers such as Kerio and Turkwel, intermittence rivers such as Tarach, discharge their waters eastwards towards Lake Turkana. The rest of the drainage ways discharge northwards towards Lokichoggio.

In 2013, the first large scale GRIDMAP survey of groundwater resources in Kenya was conducted by UNESCO with funding from Japan in central Turkana County. The assessment identified groundwater resources in a 36,000 km2 zone that includes the towns of Lodwar and Lokichogio, the Kakuma Refugee Camp and hundreds of thousands of pastoralist Turkana communities. Preliminary findings identified easy-to-reach shallow aquifers and five large deep reserves. The aquifers of Lodwar and Lotikipi were also confirmed through exploratory drilling. Much of this water has however been found to be saline and additional mapping is on-going.

4.2 Strategic Policy Goal and Objectives

The strategic policy goal for Water Resources Management is to promote the optimal, sustainable and equitable development and use of water resources in the county. The specific objectives are:

- To strengthen the implementation of national water resources in the county.
- To improve the management and conservation of the environment for water resources.
- To raise public awareness and broaden stakeholder participation in the planning and management of water resources.
- To strengthen community participation I water resources management so as to mitigate conflicts over the resource.
- To promote the sustainable development of the county's groundwater resources for the present and future generations.
- To promote the sustainable development of the county's water resources for the present and future generations.
- To strengthen institutions and systems for managing water related disasters in the county

4.3 Policy Measures

The above policy objectives will be achieved through the following policy measures;

- Increase tree cover, particularly in water catchments and promote agro-forestry and social forestry
- Promote use of renewable energy
- Promote low maintenance water technologies with an emphasis on water harvesting, which can deal with both abundance and scarcity under climate change

- Development of buffer areas of crop and forage production for use during crises
- Ensure sound environmental management in line with regard the management of community land
- Develop incentives for promoting communities for environmental services, including ecosystem services
- Educate and train on environmental conservation and management;
- Support Water Resources Users Association in catchment and riparian areas protection activities;
- Develop/harmonize regulations governing riparian areas/catchment areas and wetlands.
- Establish a planning, design and construction unit for water conservation structures and systems;
- Develop guidelines for rainwater harvesting and storm-water conveyance systems in built-up areas;

5.0 Water Supply and Sewerage services

5.1 Situation Analysis

Currently, the county has only one Water Company - LOWASCO. This Company is mandated to supply water within Lodwar town and its environs, typically up to 50km square .The other urban centre's are managed by Water Service Providers while most rural water points get water from the boreholes, and shallow wells which respective Water Users Associations manage.The main water sources in the county comprise protected springs, protected wells, boreholes, piped water into dwellings, collected piped and rain water; while unimproved sources include ponds, dams, lake, stream/river, unprotected springs, unprotected wells, jabia, water vendors and other.

The distance to and from the nearest water points are varied depending on the areas but on average is between 5-10 kilometres. In urban centres and some market centres, different Water Users Associations have managed to pipe water closer to settlements thus reducing the distance to the nearest water points. However, in far flung areas like Kibish, Lorengippi, Lomelo and Mogila, distances covered is much higher ranging from 10-20 kilometres.

In The whole County, 39% of residents use improved sources of water, with the rest relying on unimproved sources. There is no significant gender differential in use of improved sources with 38% of male headed households and 41% in female headed households. Turkana South constituency has the highest share of residents using improved sources of water at 56%.That is twice Loima constituency, which has the lowest share using improved sources of water. Turkana South constituency is 17 percentage points above the county average. Lodwar Township ward has the highest share of residents using improved sources of water at 77%.That is 64 percentage points above Loima ward, which has the lowest share using improved sources of water. Lodwar Township ward is 38 percentage points above the county average. (Source:KNBS/SID Report).

Table 5: Improved Water Points in Turkana County (Source SNV VWMP Report 2014)

Improved water Type	No. of Water Po
Tube well/Borehole	214
Protected Dug Well	86
Pipe into a dwelling	73
Public tap/Water kiosk	45
Sand/Sub-surface dam with Well/standpipe	20
Rain water harvesting	7
Rock Catchment	5
Protected Spring	3
Unspecified	4

The main sources of water in rural parts boreholes and boreholes. More than half (61%) of rural households use unimproved water sources with majority relying on unprotected wells and streams. However the majority of these households are found in Turkana North district where 60% of rural households rely on unimproved water sources. (Source. VWM Report, SNV 2014). At the time the county government took over, most of the existing water and sanitation facilities in the county were old and dilapidated and required rehabilitation and

augmentation in order to meet the present and future demands of the fast growing population.However there has been considerable change in water infrastructure with over 200 boreholes being drilled and several water schemes being upgraded or rehabilitated. This is so due to increased budgetary provision and prioritization of water resources development by the County Government. The management of water resources at all levels however require to be improved and use of new and appropriate technologies incorporated.Uncontrolled sand harvesting has led to severe environment degradation leading to change in the regime of some of the rivers and loss of retention capacities of some of the seasonal rivers.

5.2 Strategic Policy Goal and Objectives

To strengthen the provision of sustainable water supply and sanitation services in all rural and urban areas in the county.

In order to realize this goal, the county will pursue the following policy objectives;

- To provide adequate, affordable and sustainable water supply services to the rural population of Turkana County
- To streamline and improve efficiency and coverage of water service provision in all urban areas
- To guide the development and management of efficient, effective and sustainable water supply and waste water disposal systems in urban centres.
- To promote the participation of rural communities in water service delivery
- To promote demand-responsive approaches in service provision,
- To develop mechanism of monitoring and evaluation of WSP's.
- To manage water supplies at the lowest appropriate level in the county
- To promote participation of the local private sector in water service delivery

5.3 Policy Measures

The above policy objectives will be achieved through the following policy measures;

- Adopting the principle of managing water schemes at the lowest appropriate level,
- Strengthen community participation in the process of establishing, owning and managing their water schemes,
- Promote cost-recovery for operation and maintenance, and replacement of water infrastruture,
- Facilitating availability of spare parts and know how for timely repair and maintenance of the schemes through standardization of equipment and promotion of private sector involvement,
- Reconciling the choice of technology and the level of service with the economic capacity of the user groups, and
- Recognizing women as being among the principal actors in the provision of rural water supply services.

- Support local communities to make appropriate technology choices that suite them, particularly which require low investment costs and are least costly in operation and maintenance,
- Encourage the use of environmentally friendly technologies including gravity, solar and wind power for pumping will be promoted.
- Guarantee basic level of service for domestic water supply in rural areas with a year-round supply of 25 litres of potable water per capita per day through water points located within 400 meters from the furthest homestead.
- Development of sewerage system for urban areas
- Facilitate private sector participation in service delivery especially in rural water supply
- Integrate/mainstream environmental measures in all water development.
- Enhance human resource capacity to manage water services
- Build the capacity of water management committees for community managed water services

6.0 Water for Livestock

6.1 Situation Analysis

The nomadic pastoralist economy of Turkana, which has one of the highest numbers of livestock in the country, is based on goats, sheep, cattle, camels, donkeys and poultry. As pastoralists, the Turkana rely heavily on extensive livestock production as their principal livelihood. The majority of their wealth is held in the form of livestock (Barrett 2001) and virtually all their cash earnings come from either sales of livestock or livestock products. In addition to their economic value, livestock, particularly cattle and goats, also have a significant cultural value. Asdroughts, or periods of unusually low rainfall, are part of the expected pattern of precipitationin Turkana, the traditional strategy of pastoralists is to move to areas with higher rainfall,where both grazing and browse can usually be found in the dry season, and then return totraditionally drier areas when the rains arrive and both pasture and browse is renewed. Thesurvival of their herds depends on the pastoralists' willingness and capacity to move.

Table 6: Sub County Livestock populations (Source: Oxfam, Market-driven value chain for the livestock sector, Turkana County Report, 2014)

Sub County	Households	Sub County Household livestock holding size					Sub county Livestock population			
		Goats	Sheep	Cattle	Camel	Donkey	Goats	Sheep	Cattle	Camel
Central	21,357	48	13	1	2	2	1,025,121	277,637	21,357	42,713
Loima	30,263	18	7				544,737	211,842		
South	19,650	87	33	5	8	3	1,709,571	648,458		157,202
North	17,815	45	11	5			801,686	195,968	89076	98,251
West	34,129	4	5	1		2	136,515	170,644	34,129	
East	15,853	29	10	1	1	1	459,732	158,528	15,853	15,853
	139,067						4,677,362	1,663,077	160,415	314,019
Moderated Total Livestock Population Turkana County							2,619,323	931,323	89,832	175,851

Table 7: Differentials between County Livestock Population and Carrying Capacity

Livestock population estimates Oxfam 2014	Goats	Sheep	Cattle	Camels
	2,619,323	**931,323**	**89,832**	**175,851**
Carrying Capacity*	2,503,255	2,374,749	293,789	159,602
Difference	116,068	-1,443,426	-203,957	16,249
2012	**5,994,881**	3,517,148	1,534,612	832,462
2005	**2,021,000**	**1,054,400**	**197,900**	**172,400**
DALEO 2002	2,439,027	813,000	175,815	138,000
Excess over Carrying capacity in 2014	5%	-61%	-69%	10%

Within the water sector, often water for livestock is not included in the designs of community water supplies. Lack of water for livestock results in constant migrations by livestock keepers in search for water. This can lead to contamination and destruction of water sources, which in turn can initiate or enhance water use conflicts among water users.

Currently, the county does not have any ranch. However, it has one holding ground at Lomidat abattoir in Turkana West Constituency and another holding ground under construction at Napelilim in Loima Sub-County. The county also had a holding ground at Kainuk in Turkana South Constituency but due persistent cattle rustling, it collapsed. This holding ground had four boreholes which was developed by Norwegian Agency for Development Cooperation (NORAD).

Loss of livestock can result from drought, disease, raiding, flooding and wildlife predation. Drought is the most serious cause of livestock loss and 60% of the goat herds and 80-100% of the sheep flock may be lost during a long drought. There is loss of potential reproduction during such a year with goats losing about 90% potential kids and sheep losing about 100%. The drought leads to reduced livestock productivity and increased morbidity.Using approximation based on literature, they may lose about 40, 50, 60 and 70% of their camel, cattle, goats and sheep respectively to drought. Management practices for cattle are such that they are continuously moved in search for water and pasture. Cattle are therefore rarely encumbered with drought unless it is widespread.

Due to their high dependence on water (cattle must drink every three days for survival) mortality would be higher, probably approaching 100% if they did not move so much. It is for this reason that they are less useful in providing resilient livelihood to pastoralist and often prone to raiding than the other species. Camels, goats and sheep on the other hand remain close to the homestead and continue to provide food to the young and elderly people who do not move much. Consequently, sheep and goats are affected much more by drought than cattle. Calves, kids, and lambs suffer extensive mortality during drought. Some pastoralists therefore separate the juvenile animals into herds that graze away from the homestead. This has double advantage of securing them from drought and saving some of the herd from raiding parties.

6.2 Strategic Policy Goal and Objectives

To provide adequate, safe, affordable and accessible water for the livestock.

In order to realize this goal, the County will pursue the following policy objectives;

1. Strengthen the linkage between the provision of rural water with water requirement for livestock
2. Promote sustainable use of water resources for livestock
3. Prioritize livestock areas in the provision of water supply and sanitation servicesespecially when water is scarce
4. Improve the availability and reliability of water supply for livestock
5. Establish adequate well spread watering points
6. Construct and rehabilitate livestock watering structures

6.3 Policy Measures

The above policy objectives will be achieved through the following policy measures;

i. Establish big water dams that will hold water for longer period like Kobebe dam in Uganda.
ii. Harvest water from seasonal rivers that goes into waste during rainy season e.gTarach River.
iii. Establish water pans of bigger capacity that will hold water for longer period.
iv. Fence the dams and water pans and provide watering troughs for livestock to prevent animals from silting and contaminating the water (Use standard specifications for water troughs).
v. Distances between watering points should be guided taking into consideration the range condition of the area e.g 20km between water pans.
vi. Strategic placement of water points for livestock considering: Stock routes, Dry season grazing areas and areas with high livestock population.
vii. Establishment of Range water unit in the county- Initially under Range management division.
viii. Water Department to liaise with Livestock Department when identifying sites for water points for livestock.
ix. Participatory, planning, monitoring and evaluation is key.
x. Water Department to liaise with Veterinary Department when providing water for livestock slaughter sites, tannery and laboratory for proper prevention and control of diseases.
xi. Establish water harvesting structures in rangeland e.g semi-circular bunds to harvest surface run-off.
xii. Capacity building of water users committees will be strengthened.
xiii. Strengthen coordination among relevant partners.

7.0 Water for Irrigation

7.1 Situation Analysis

The available water for irrigation from Turkwel river has been estimated using long-term release from the Turkwel Gorge dam (12.825 m3/s), flows from Malmate river (7.795 m3/s) and flow analysis of the gauge at Lodwar bridge. In a 2013 study undertaken by FAO under the EU funded program on Opportunities and Threats of Irrigation Development inKenya's Drylands in 2013, the study concluded that there is about 19.8 m3/s to be shared among various uses. The flow in Kerio river is estimated at 10.5 m3/s using the gauge at Lokori. Hitherto, the yields of groundwater are rather low for irrigation purposes. However, this is likely to change if further resources mapping udenrtaken by UNESCO on the ground water potential in the region reveal any new fresh water resources which can be used for irrigation. The water quality for the Turkwel and Kerio rivers however remain suitable for irrigation while most of the ground water is generally unsuitable for irrigation due to high pH and high electrical conductivity. According to the UNESCO study, the water from the deep Lotikipi and Lodwar aquifers are however suitable for irrigation.

The abstraction of the water from the two rivers through gravity is a big challenge due to lack of stable riverbanks. In most cases, the intake areas are prone to flooding and change of the river courses. This scenario demands that extra effort should be put in riverbank protection and flood control works that result in high cost of irrigation infrastructure. The abstraction from the ground water shall require use of pumps powered by fossil fuel, wind or solar energy which is limiting in the rate and amount of abstraction and it is expensive.

Currently, the area presently under irrigation in Turkana along Turkwel River is 2,458 ha distributed in over 47 small schemes. The schemes are serving about 10,409 farmers with the Kerio river basin having 3 schemes covering 913 ha and serving 6,200 farmers.

The main crops grown in the irrigation schemes in Turkana are maize and sorghum. Maize occupies an average of 75 % of the cropped area while 24 % is under sorghum and the remaining 1 % is under other crops. The proposed crops are maize, sorghum, cowpeas, kales, mangoes, water melons, spinach, green grams, butter nuts, onions, nerica rice and bananas.

In addition, with improved flood control in the plains, there is also potential to increase the area under irrigation to 10,000 ha and 6,600 ha along the Turkwel and Kerio Rivers respectively. Both these rivers have a total potential of 220,000ha for irrigation.

Irrigation for Livestock purposes

Traditionally, it has been argued that livestock production is extravagant on water use. Appraisals have however indicated that producing one unit of meat, milk or egg products uses between 2 to 10 times as much water needed to produce one unit of grain or pulse. Consequently, irrigation schemes developed in various parts of Kenya have

tended to discourage keeping of livestock alongside crop production.

The result of this practice has been that irrigation development has failed to take advantage of inbuilt cultural skills and interest to maximize gains of the heavy investments, which if exploited would have enhanced food security, created jobs and reduced poverty. However, many Kenyan communities have their livelihoods and lifestyles heavily intertwined with livestock. The county currently has no documentation on the amount water necessary or even acreage necessary for irrigation of livestock fodder and other feeds with most studies and background documents mainly focusing on cash crop production.

7.2 Strategic Policy Goal and Objectives

To provide adequate and quality water for efficient use in irrigation.

In order to realize this goal, the county will pursue the following policy objectives;

1. Improve the productivity of the County's water resources for irrigation
2. Improve/incorporate/develop irrigation water storage infrastructure
3. Strengthen the involvement of local community stakeholders in operation and maintenance of irrigation systems.
4. Promote pro-poor intervention strategies for irrigated agriculture
5. Promote on utilization of modern irrigation technology
6. Promote adoption of water efficiency crops
7. Bring on board other regulation and management government agencies in management of abstraction of water for irrigation.

7.3 Policy Measures

The above policy objectives will be achieved through the following policy measures;

- Protect irrigation water sources against pollution which degrades water quality, is hazardous to the environmental integrity of soils, or can endanger human and animal health.
- Promote the adoption of integrated pest management methods in lieu of the use of pesticides.
- Construct drainage networks in irrigated areas where natural drainage is not sufficient to serve the purpose with farm flood protection structures .
- Increase the use of rainfall for crop production, and supplementary irrigation to maximize production including increasing cropping intensities.
- Promote the adoption of efficient water use crops
- Ensure all irrigation water conveyance and distribution systems are metred
- Improve community participation in the design and management of irrigation water systems
- Promote night application of irrigation water, especially in the dry season to reduce evaporation losses.
- Monitor irrigation water quality through sampling at the sources and from the conveyance, distribution network and effluent.

8.0 Sanitation and Hygiene

8.1 Situation Analysis

The nomadic pastoralist way of life has led to little demand for sanitation facilitieshence low latrine coverage,, low hygiene and sanitation awareness, lowpriority and poor perception on hygiene issues. Every sub county is served by a sub county hospital with hygiene and sanitation issues being spearheaded by the sub county public health officer (SCPHO). Thehealth care services are skewed to the urban areas with poorly equipped and manneddispensaries operating in the rural areas. According to the CIDP, the latrine coverage in the county in 2013 was between 6 to14 percent and this requires much attention. However, through the GOK/UNICEF WASH Programme that is putting up latrines in primary schools, latrine coverage is being improved.

Also, the Community Strategy rolled out by the former national Ministry of Public Health and Sanitation was expected to improve the situation but this has only been marginal. This includes entrenching of the Community Led Total Sanitation (CLTS) that focuses on the behavioral change needed to ensure real and sustainable improvements – investing in community mobilization instead of hardware, and shifting the focus from toilet construction for individual households to the creation of open defecation-free villages. By raising awareness that as long as even a minority continues to defecate in the open everyone is at risk of disease, CLTS triggers the community's desire for collective change, propels people into action and encourages innovation, mutual support and appropriate local solutions, thus leading to greater ownership and sustainability.

At the same time, this policy recognises the rapid rate of urbanization projected that by 2030 more than 30 per cent of the county's population will be living in urban areas. Urbanization will generate higher levels of pollution and larger quantities of liquid and solid waste requiring effective waste disposal management systems including proper sludge management and treatment. Presently, there is no sewerage service coverage at all urban centres in Turkana County which create significant health risks. Particularly in Lodwar, liquid and solid waste disposal still remains a growing and key challenge.

8.2 Strategic Policy Goal and Objectives

To scale up improved rural and urban sanitation and hygiene in the county.

In order to realize this goal, the county will pursue the following policy objectives;

1. Increase access to sustainable, safe water and environmental sanitation in the county and especially among the vulnerable groups.

2. Reduce the prevalence of WASH-related diseases through rapid hygiene promotion and appropriate environmental sanitation practices.
3. To support the health sector in effectively addressing water- and waste-related disease burdens and in engaging other sectors in its reduction.
4. Improve and maintain infrastructure for proper solid and liquid waste management
5. Promote the reduction of water- and waste-related diseases and the optimization of the health benefits for sustainable water safety and proper waste management.
6. To assist non-health sectors in understanding and acting on the health impacts of their actions in sanitation and hygiene.
7. Strengthen local community private sector value chains in water, sanitation and hygiene.

8.3 Policy Measures

The above policy objectives will be achieved through the following policy measures;

8.3.1 Urban Sanitation

- Minimize the rate of waste generation through health education and waste reduction
- Encourage and facilitate the recovery, reuse and recycling of materials within waste streams
- Establish &improve safe waste management infrastructures
- Storage and disposal sites protection
- Strengthen inter-sectoral collaboration and private sector participation in WASH value chains
- Enhance efficiency of garbage collection
- Improve street cleansing.
- Improve on zoning and proper design of sanitary infrastructure
- Develop and enforce rules and regulations pertaining to urban waste management
- Regulation and licensing of waste management service providers
- Setting up of regulations pertaining to indiscriminate waste disposal
- Initiate health-care waste management pilot projects.

8.3.2 Rural Sanitation and hygiene

- Integrate health and hygiene promotion activities and programs with all water supply projects
- Promote proper hygiene practices in water handling from source, collection, transportation, storage and use.
- Undertake regular surveys to gain an understanding of the comprehension of drivers of WASH behaviour change

- Invest in demonstrations such as drinking water quality testing, training and distributions of HWT options.
- Build partnerships with stakeholders to promote safe hygiene and promotion practices.
- Support communities to develop their own water safety plans.
- Promote Community Led Total Sanitation (CLTS)
- Provision of water treatment options available in the local market through partnerships
- Promotion of low cost water treatment methods.

9.0 Water for Schools and Health Institutions

9.1 Situation Analysis

In terms of public infrastructure, there are 315 primary schools and 32 secondary schools in the county[1].There are also two polytechnics namely Kakuma Women Home Crafts and Lodwar Youth Polytechnic. The County has two colleges: Kenya Medical Training College and ECD Teachers Training College. There are four campus universities; Mt. Kenya University and Kibabii University in Lodwar, University of Nairobi in Lokichoggio Town and Maside Muliro in Kakuma. The Ministry of Higher Education is also constructing a Technical Training Institutes in Lodwar, Lokitaung and Loima - lorugum. In addition, the county has three urban centres namely Lodwar, Kakuma and Lokichoggio. Lodwar is the most developed with more infrastructural and social amenities. There are nine market centres in the entire county.

A good number of markets, schools and health centres in Turkana Country lack adequate and safe water sources in their premises, which places significant limitations on education opportunities and health outcomes on the students and patients. Where insufficient sources exist, school children have to carry water with them for drinking and cooking. This results in a significant wastage of learning time. There is also the risk that water is from unsafe sources and the associated health impacts result in increased absenteeism of school children. In health centres, the lack of safe and sufficient water for use by patients – particularly women and children –limits the effectiveness of treatment provided.

For school going children, limited knowledge of good personal hygiene and poor hygiene practice (such as hand washing with soap) also contribute to ill health resulting to absenteeism. Lack of sufficient, private, appropriate, and gender separated/sensitive sanitation facilities. This has significant impact on attendance and retention rates of female students in particular, who are constrained from going to school during their menstrual period, and may ultimately drop out of school completely.

A number of NGOs have been working to ensure adequate and appropriate provision of WASH facilities and hygiene promotion activities in schools. Particular attention is being given to supporting the development of latrines and hand washing facilities ensuring they are separate for boys and girls. Hygiene promotion through talking walls and the development of school health clubs has also been undertaken. Such activities represent a key means to ensure that the sanitationprivacy needs of school going children, girls in particular, are met – a key factor to ensure their continued enrolment in school.

[1]*Source: GoK, Ministry of Agriculture, Livestock and Fisheries , Agricultural Sector Development Strategy Programme (ASDSP), Household Baseline Survey Report 2014, Pg 3.*

9.2 Strategic Policy Goal and Objectives

To improve the provision and access to safe water and proper sanitation services in public/private institutions.

In order to realize this goal, the county will pursue the following policy objectives;

1. To strengthen the provision of safe water and sanitation services in public/ private institutions especially schools and health facilities
2. To improve and maintain infrastructure for proper waste management in public/private facilities
3. To influence communities to participate in planning, construction, use and maintenance of user friendly water, sanitation and hygiene facilities for schools and communities
4. To improve hygiene practices among school children, their families and communities
5. To improve water, sanitation and hygiene facilities for better health and well being for school children.
6. Increase safe water storage in schools and health facilities.

9.3 Policy Measures

The above policy objectives will be achieved through the following policy measures;

- Increase investment in WASH facilities in public/private institutions to increase the impact of health and nutrition interventions in the county.
- Invest in a database on water and sanitation hygiene in schools and other public/ private institutions
- Improve the development ofrainwater harvesting facilities
- Connection of learning and health institutions to proximal water sources.
- Invest in solar pump or hand pumps for schools and health facilities
- Integrate hygiene promotion activities within routine health and nutrition activities in schools and health facilities.
- Promote School Led Total Sanitation (SLTS) approach to support progressive steps towards behavioural transformation and latrine promotion in communities,
- Promote personal hygiene including hand washing with soap, protection of food and water.
- Strengthen programs aimed at environmental Sanitation which would include activities related to cleaning of school compounds, public spaces etc
- Promotion of open defection free communities within school and health facilities catchment areas.

10.0 Water Sector Governance and Coordination

10.1 Situation Analysis

In the ASALs, water is limited both in terms of quality and quantity. Long periods of scarcity of water imply that the communities have evolved mechanisms of managing the little water that is available so as to provide for their needs. The pastoralists apply rules, regulations and penalties as one way to achieve sustainable water management in the midst of scarcity. Access to water is controlled by group membership so that unauthorized use may be met with persuasion, force or legal action. Non-members are only allowed access after making substantial payments or agreements.

According to a WSP publication, traditionally, the clan had structures that provided the basic framework for accessing water and other natural resources. Access was clearly understood to be part of reciprocal agreements, where the digging, use and maintenance of wells were governed by an elaborate system of customary rules. The traditional systems combined a degree of private and communal well digging, use and maintenance. Most clans regulated the ownership of resources in relation to the clan's ability to claim and maintain effective occupation. Common practice was that large dams and wells were not owned by any group and had no permanent rules that regulated their use. But clans or communities owned and regulated access and use of small dams, pans and shallow wells.

Relatively, and in some cases for good reasons, the water points are few. Nevertheless, the total number of water points varies with seasons, so is the distances covered to access water. Few boreholes exist, mainly funded by the Government and development partners in programmes like Arid Lands Resource Management Programme-OP/WorldBank in the ASALs. The government handed over the boreholes to the community with little orientation on how to manage them, borehole management became a problem because the communities were not used to managing such modern watering points with its associated technologies.

Consequently, with interventions, Water User Associations (WUAs) were introduced. The WUAs were made up of livestock owners from the various households and villages. Members of the Association were meant to discuss and generate rules and regulations to govern access and use of available water, especially from the borehole. The Water Users Association and Borehole Committees were to manage, while being guided by clear rules and regulations on the management and use of watering points. However, there is a close association between resource-based conflict and power, in that conflict results when there is scarcity of resources and one individual gains without proper governance, people will use unorthodox means to access water for their livestock. This is likely to cause conflicts and also bring to surface weaknesses like lack of governing and management systems for water.

For marginalized groups, especially among pastoral communities seeking to redress injustices or inequalities in water resource distribution, conflict becomes an inherent feature of their struggle for survival.

The table below gives a summary of the main national and county level institutions responsible for water resources and services delivery in Kenya and in Turkana County.

Table 8: Main Institutions responsible for Water resources and Services delivery in Kenya and Turkana County

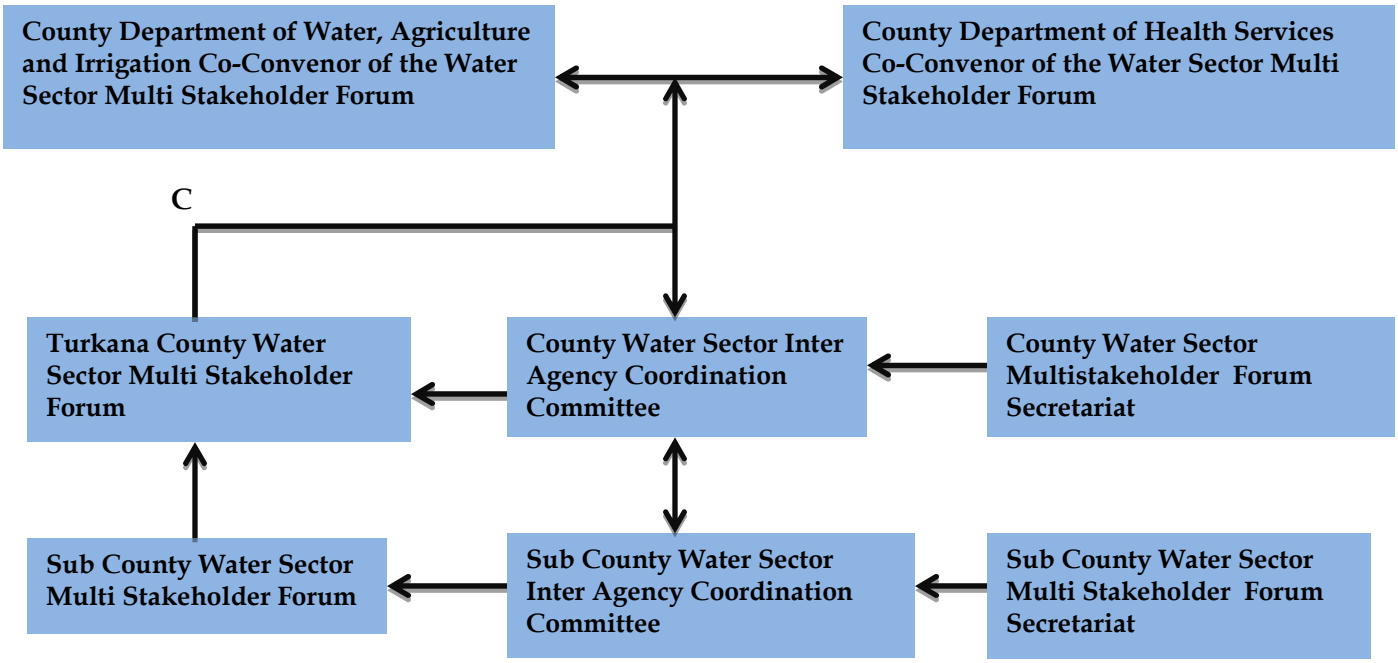
Sector	Name of institution/platform inc NSAs	Current roles and function
Water Resource Management	Water resource management authority (WRMA)	• Management and regulation e.g. to avoid over abstraction upstream • Issuance of permits • Capacity building of WRUAS
	Water Resources User Association (WRUA)	• Protection of catchment areas • Capacity building of water users • Provision of water and sewerage in rural areas • Management and maintenance of water and sewerage systems in rural area • Sensitization and awareness to users
County Government	County Department of Water	• Policy development • Oversight of water service delivery • Sector leadership • Financing • Provision & maintenance of water & sewerage services in urban centres • Infrastructural development • Capacity building WSPs
Non State Actors	Civil society organizations e.g. SNV/AHADI/MWA	• Awareness creation; • Infrastructure development • Advocacy • Service delivery
Cross sectoral platforms	CSG	• Planning and coordination stakeholders; • Identification tasks; • Forum for resource mobilisation; • Information sharing; • Technical working groups, • Regulation, supervision and • Monitoring, internal audits
	WESCOORD	Coordination of WASH programmes in county
	Food security groups	Coordination and information sharing
Financing	Turkana County Gov	Coordination & planning; setting priorities; CIDP;

		resource mobilization; (co)financing; regulations; capacity building of partners; supervision; M&E; internal audits
	NSA's / CBO's / Donors / Private individuals / Private sector	Resource mobilization; capacity building at grassroots level; direct implementation; support
	National Government – WSTF	Cash transfer program to pro poor
	National Drought Management Authority (NDMA)	Contingency planning and interventions
Capacity building, monitoring & evaluation & learning	WESCOORD	Train their members; forum for joint learning & coordination
	CSG	Information sharing among stakeholders
	Academia e.g. Drylands Training Institute and University of Nairobi	Capacity building of students; academic research
	WRMA	Training of Water Resources Users Associations
	Northern Water Service Board	Training water service providers
	Kenya Meteorological Department	Early warning
	Kenya Food Security Steering Group	Early warning
	Controller and Auditor General	Capacity building; resource mobilization
Public	Local Communities	• Active participation in sector governance • Payment for water services • Governance of COWOs • Public participation • Holding government and service providers accountable • Resources mobilization • Adoption of proper sanitation and hygiene practices • Water resources management • Protection of water resources and service delivery infrastructure

Moving forward, the County realizes that the Water Sector determines the development outcomes of multiple sectors and as such, its governance and coordination framework must be multi-sectoral in which different departments, agencies, organizations and other stakeholders collaborate in planning, implementation and monitoring. In order to enhance this process, the overall leadership and coordination of the sector will be the

responsibility of the department of Water in collaboration with the Department of Health and Sanitation. The two departments will co-chair the County Water Sector Inter Agency Coordinating committee which will have the following structures;

Figure 1: Coordination Structure of the Turkana County Water Sector Multi Stakeholder Forum



The co-convenors of the County Water Sector Multistakeholder Forum will be the Chief Officer of the Departments of Water, Agriculture and Irrigation and the Chief Officer of the Department of Health Services. The multi-stakeholder forum will meet at least once a quarter and will have the responsibility for;

- Providing an all inclusive platform for the coordination and harmonization of water sector interventions both implemented by the County Government and other stakeholders
- Provide a learning and sharing platform for stakeholders
- Awareness raising on different issues in the sector
- Resources mobilization
- Advocacy
- Dissemination of sector performance reports
- Collaboration and networking
- Capacity building

The membership of the County multi-stakeholder forum will be open to all stakeholders and in particular shall include;

- County Departments of Water, Agriculture and Irrigation
- County Department of Health Services
- County Department of Livestock and Pastoral Economy
- County Department of Education
- County Department of Lands and Urban Planning
- County Department of Planning and Economic Development
- County Department of Environment and Natural Resources
- County Public Administration
- All implementing Partners including NGOs, FBOs and CBOs
- County Private Sector players
- Water User Associations
- Water Service Providers
- Water Resources Users Associations
- Development Partners
- Relevant National Government ministries

The County Water Sector Inter Agency Coordination Committee will be chaired by the Director of Water Services and will serve as the technical organ of the County Multi-Stakeholder Forum. As a technical organ, the Coordination Committee will be responsible for among others;

- Organizing meetings of the County Multi Stakeholder forum
- Adoption of agenda for the County multi stakeholder forum
- Providing technical advice to the county multi stakeholder forum
- Monitoring and evaluation and reporting to the county forum.
- Proposing legal and policy changes
- Supervise the secretariat and sub-county multi-stakeholder fora
- Oversee the implementation of the decisions of the county multi-stakeholder forum.

The membership of the Inter-Agency Coordination Committee will include;

- County Director of Water Services - Chair
- County Director of Public Health
- County Director of Livestock
- Director of the County Water Service Company
- One Sub County Administrator
- One NGO representatives
- One CBO representatives
- 1 Representative of FBOS
- 1 Representative of Development Partners

The secretariat of the Coordination committee will be headed by a partner and will be nominated by the coordination committee from time to time. The secretariat will support the implementation of decisions of the coordination committee and the county multi-stakeholder forum activities. The secretariat will report directly to the Coordination committee.

At the sub county level, the various organs of the multi stakeholder forum will mirror those at the county level in membership, leadership and functions but at the sub-county level. In addition however, the sub-county organs will be expected to be involved in direct implementation of activities at the community level. The sub-county forum will however be expected to meet at least once a month.

10.1.1 Urban Water Supply

Currently, the county relies on the Lodwar Water and Sewerage services company as the sole Water Service Provider in Lodwar town and the environs. In order to facilitate the effectiveness of the WSP, legislation and supporting regulations will be enacted to regulate urban water supply and sewerage services providing for the establishment of one or moreWater Service Providers as maybe appropriate to ensure coverage all towns/urban areas.

At the same time, private sector entities will be encouraged to participate in urban water supply and sewerage services delivery under a county-wide regulation and in line with national law. The private sector players will particuary promoted to fill in service and capacity gaps of the County WSP/s where performance is consistently lacking and also to promote competitiveness in Water service provision. However, there shall be limitation to the number of urban centers that one private company can manage. For the purposes of PSP and to allow for economy of scale, the county government will put in place modalities for asset holding to facilitate Private sector participation in serving the urban centers.

With regard to independent regulation of UWSS the role of the County Government will be to prepare tools, such as monitoring ofWASREB standards, managing the citizens feedback platform and complaints system as well resources mobilization to ensure sustainability of the WSPs. Specifically, the role of the WSPs will include the following;

- Operate, maintain and repair water and sewerage infrastructure.
- Provide water and sanitation services to consumers
- Extend water and sewerage coverage to new areas and customers.
- To own and manage water and sanitation related assets
- Collect water and waste revenues include waste water.
- Manage the discharge of septage from septic tanks into the sewerage network or wastewater treatment plants.
- Support and finance construction or management (such as emptying) of on-site sanitation facilities such as latrines or septic tanks in partnership with private sector partners.
- Manage solid waste.
- Provide services and facilities for primary separation and removal of solid wastes at household, community, commercial, industrial and public levels.
- Promote the principle of 3R's of waste management (i.e. reduce, reuse, recycle)

10.1.2 Rural Water Supply

Sustainability of rural water supply and sanitation (RWSS) services requires that communities take the lead in developing their WSS facilities and be fully responsible for the O&M of their schemes. Within this framework, the local private sector will provide support to communities in planning, design, construction and supply of materials, equipment and spares. The County government will continue to provide the necessary technical and financial support as well as co-ordination and regulation of the RWSS development activities from the department of water. Community Owned Water Operators will particularly be encouraged to form WSPs in rural areas with guidelines from the national government and county government to ensure viability.

Each COWO will expected to adopt and abide by an effective organizational structure that is simple, transparent, efficient and accountable to the communities that make rural water supply and sustainable.

10.1.3 Knowledge Management, Monitoring and Evaluation

Water services cannot be properly managed by the County unless there is proper knowledge of where the resource is, in what quantity and quality, and how variable it is likely to be in the foreseeable future. Data from national government agencies such as WRMA, NDMA and other institutions have some of this information yet currently, there are no proper mechanism under which the County government can access this information for planning, designing, operating and maintaining multipurpose water management and service delivery systems. At the same time, in the County level, an area that requires a lot of information and data support is in the management of the water facilities at the communal level especially with respect to the number of water sources, status of systems of management especially among water committee, facility ownership, capacity requirements, operational reliability of water sources etc. Even the water sector itself needs to regularly keep data and information to monitor sector performance, delivery performance of partners and related information for purposes of mutual accountability. However, there is currently no system in place to support the level of decision making decisions at the county level erratic and unreliable.

10.1.4 Financing

The 2015/2016 budget indicates that the water development programme was allocated KES 944.7 million with the drilling and equipping of 90 boreholes taking 32.3 per cent and construction and protection of water pans taking another 30.2 per cent leaving 38 per cent for other activities. Out of this a proposed dam at Kotome takes another 10.6 per cent leaving only 26.9 for all other activities. It is important to note that the construction of piped water systems at Sub-County headquarters has been allocated KES 55.6 million which is 5.9 per cent of the total budget. Unless the proposed water pans are sources for domestic water, it would be best to allocate more to the envisaged sources and reticulation network.

Table 9: Summary of the Water Sector Priority Programs 2015/2016

TheWaterDevelopmentProgramme	**944,695,241**
SP3.1Watersupplydevelopment	**908,279,001**
Stakeholdersplanningmeetings	1,731,218
Planninganddesign	2,641,624
Waterpermitsandauthorizations	341,402
Drillingandequippingof90boreholes(3perWard)	305,401,159
Constructionandprotectionof13newwaterpansandcompletionofon-going	285,636,565
Desiltingof13waterpans	26,000,000
ConstructionofpipedwatersystemsatSub-CountyHeadquarters	55,621,180
UpgradingHandpumpstosolarharnessingsystemsatWardlevel	40,847,988
Droughtmitigation(watertankering&emergencysupplies)atWardlevel	27,312,180
Purchaseof2No4WDvehiclesforemergencyresponsetobrokenwaterfacilities	10,014,466
TrainingofWUAsatWardlevel	2,731,218
Purchaseof1waterdrillingrigs(rig,truckandlandcruiser)	50,000,000
Feasibility,designworks&constructionof2billion M3damatKotome-Lokwanamor	100,000,000
SP3.2Rehabilitationofwatersupplies	**36,416,240**
RepairandmaintenanceofwaterfacilitiesatWardlevel	27,312,180
Repairandmaintenanceofvehicles(bowsers)	9,104,060

10.2 Strategic Policy Goal and Objectives

To improve planning, coordination and management of the water sector.

In order to realize this goal, the county will pursue the following policy objectives;

- Strengthen the institutional framework for better coordination and governance of the water sector
- Establish and effective monitoring and evaluation system for the sector
- Strengthen community participation in governance of water service delivery, resources management
- Mobilize additional resources fro the water sector

10.3 Policy measures

In order to realize the above policy objectives, the County government will implement the following policy measures;

- Strengthen structures for leadership and coordination of the county water sector
- Set up entity for urban water supply in the county

- Establish a single County Water Service Provision entity
- Strengthen the department of water to supervise COWOs
- Establish a department to supervise and manage rural water service providers
- Invest into intensive capacity building for sector leadership and other players
- Develop and enact relevant laws and policies.
- Develop and implement a storm water management plan for each town or urban area
- Facilitate stakeholder involvement through an enabling the legal and regulatory framework
- Provide for a single electronic information and data management system for monitoring sector performance
- Develop and implement guidelines for rural water service providers
- Provide for the participation of private sector in service delivery in the county water law and policy
- Increase awareness through stakeholders sensitization on legal and policy framework.
- Develop M&E system for water sector.
- Increase synergy and partnership with other partners/stakeholders through collaborations
- Put in place efficient water revenue collection and management to finance gaps within water sector.
- Ring fence water revenues
- Set up a County Water Sector coordination mechanism
- Hold regular quarterly multi-stakeholder review meetings
- Strengthen coordination with other departments and NSA through workplan sharing and stakeholders forums.
- Benchmarking with other counties and exposure tour for key resource personnel and community groups.
- Set up a community and public complaints system for water and sewerage service delivery
- Establish a public charter for accountability in delivery of water services