



**NYERI WATER & SEWERAGE COMPANY
LTD**

Business Plan

2016/17-2020/21

July, 2016

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ABBREVIATIONS

MD	-	Managing Director
NYEWASCO	-	Nyeri Water and Sewerage Company
SWOT Threats	-	Strengths, Weaknesses, Opportunities,

FOREWORD

This Business Plan (July 2016 to June 2021) for the Nyeri Water and Sewerage Company (NYEWASCO) has been prepared through an in-depth consultative process with all the relevant stakeholders, the County Government of Nyeri, Ministry of Water and Irrigation through Tana Water Services Board and is also in line with the Company's Strategic Plan for the same period. In this regard, the Business Plan conforms to the Water Sector Performance Standards, National Water Services Strategy and Performance Contract Guidelines.

The Business Plan provides a broad framework within which the Company will develop and implement annual strategies over the planning period. It also provides the basis for NYEWASCO to measure and monitor the performance of the Company in achieving its desired objectives and targets. The Business Plan will also be used by NYEWASCO to determine and approve its annual budgets and recommendation appropriate tariff structure for its services for Sustainable development.

It is expected that this Business Plan will be a critical tool of achieving the Company's mission and vision and hence improvement of service delivery to the residents of Nyeri Town Sub County and its environs. This Business Plan provides a platform for NYEWASCO to operationalize its strategies in effort to achieve its strategic objectives. This Business Plan serves as a guide for day to day operations of the company in a structured and organized manner in order to realize highest results.



Joseph M. Wachiuri
CHAIRMAN
BOARD OF DIRECTORS.

ACKNOWLEDGEMENT

The Nyeri Water and Sewerage Company (NYEWASCO) gratefully acknowledges the various stakeholders who actively contributed and enabled the development of this key document which will guide the Company to execute its functions with clear direction for the next five years and beyond. The participation and involvement of the Company's staff, senior management and members of the Board of Directors is acknowledged. Last but not the least, the facilitation of consultancy service by Ansoffs Consulting Limited, County Government of Nyeri through the Office of the County Executive - Water, Environment and Natural Resources, Tana Water Services Board and the Water Services Regulatory Board in developing this Business Plan is also highly appreciated.

A square image containing a handwritten signature in blue ink. The signature is stylized and appears to read 'Peter M. Gichaaga'.

Peter M. Gichaaga
MANAGING DIRECTOR

EXECUTIVE SUMMARY

Nyeri Water and sewerage Company Limited (NYEWASCO) has the primary responsibility to provide safe drinking water and sewerage services to the residents of Nyeri Town Sub County and its environs as an agent of Tana Water Services Board through a service provision agreement.

The company's performance parameters are set out and integrated in government policy which includes the National Water Service Strategy, Millennium Development Goals and Targets, license issued by WSRB as well as the performance contracts signed between Tana Water Services Board and itself.

Vision

“A world class water and sewerage services provider”

Mission

“To provide quality water, sewerage and allied services at commercially and environmentally sustainable levels through application of outstanding processes and technology to the delight of our customers and other stakeholders”

Core Values

- Ownership
- Environmental consciousness
- Continual improvement
- Team work and efficiency
- Corporate Social responsiveness
- Research and Innovation

Target Market

It is estimated that there will be steady growth in the number of connections as more extensions are done and the population keeps on increasing in the served area. The current estimated population of the service area is at 169,467. The company currently serves a population of 166,734, representing a market size of 98.4%. A growth rate of 3% per annum (adopted from Nyeri water supply impact report) has been applied.

Marketing Plan

Nyewasco has positioned itself in the market by coming up with a basket of marketing strategies including promotions and Tariff or price controls. At the same time the company has to address the issue of managing loss of water through leaks and bursts that is significantly contributing to the Non-Revenue Water losses by replacing old system and addressing underlying issues.

Production and Operations

The Technical Department in NYEWASCO is charged with the responsibility of coordinating the following activities: Water abstraction, Water Treatment, Quality Control, Water Distribution, and Sewerage System.

Design and Development

NYEWASCO has identified the gaps in its operations and came up with the appropriate strategies to address those gaps.

Management Team and Staff Establishment

The Company will be run by a team of competent personnel headed by the Managing Director (MD) who will report to the Board of Directors. Apart from leading the company, the MD will oversee the designing, planning and implementation of appropriate interventions that meet client needs and expectations. This plan has proposed improvements on the staff establishment to bridge the gap in NYEWASCO'S workforce.

Financial Analysis and Plan

NYEWASCO endeavours to maximize revenue collection, minimize on costs while addressing pertinent issues such non-revenue water and wastage through dilapidated infrastructure and connections. This business plan will provide mechanisms to address these financial issues inorder to enhance financial performance.

Risk Analysis and Risk Mitigation

NYEWASCO operates in a dynamic environment thus faced by a myriad of risks. NYEWASCO seeks to deliberately identify risks facing the company in order to come up with ways of mitigating those risks. Risk identification and mitigation allows the company to strategically position itself in the highly competitive market.

1.0 INTRODUCTION

1.1 Background

Nyeri Water and Sewerage Company (NYEWASCO) was incorporated on September 23, 1997 under the Companies Act CAP 486 as a private company limited by shares. It operated as an agent of Municipal Council of Nyeri (MCN) until October 4, 2005, when it signed a Service Provision Agreement contract with Tana Water Services Board as per provisions of the Water Act 2002. At that point, NYEWASCO absorbed all council staff working in the water and sewerage departments and started operating as an independent company. With devolution, the ownership structure changed and NYEWASCO is now fully owned by the County Government of Nyeri (CGN)

NYEWASCO has a current Service Provision Agreement under the Tana Water Services Board, which is valid for five (5) years and ends on May 3, 2017. The utility's service area covers Nyeri Town Sub County and its environs with an estimated population of 162,756.

1.2 Rationale for the Business Plan

Though NYEWASCO has been successful in fulfilling its role, the foremost challenge has been over-reliance on government and donor support for capital intensive projects, which has presented special sustainability challenges. This poses further challenges of generating enough revenue to run its own programmes, severe competition from other service providers and lack of staff capacity to implement the Company strategies.

The above challenges notwithstanding, the Company has several strengths that could be exploited to improve on NYEWASCO performance in terms of efficiency and effectiveness. The Company has established its presence in Nyeri and its environs, and has great potential to expand to the neighbouring regions. The main focus of the Company will be the key customers (corporate or institutional clients); ensuring that NYEWASCO's services remain unique and relevant to their needs. There exists a niche in the market that the company is yet to exploit, demanding a clear agenda to set a new strategic direction for its operations and activities.

This business plan has been informed by a number of key factors inter alia the consultative meetings between the Consultants and the Management team. The following issues have greatly influenced the foundation upon which this plan is founded:

- The Strategic Plan (2016-2021) clearly spells out NYEWASCO strategic framework and direction whose mission is *"To provide*

quality water, sewerage and allied services at commercially and environmentally sustainable levels through application of outstanding processes and technology to the delight of our customers and other stakeholders”

- Stakeholders’ approval and high regard for NYEWASCO to reposition itself as a resource institution providing quality, affordable and reliable water supply and related services.
- Management commitment to work towards self-reliance and commercialising its functions, sometimes outsourcing other providers. This would address the following problems, among others:
 - Loss of customers due to alternative water sources.
 - Low revenue growth due to non-cost recovery tariff.
 - Sustenance of low non-revenue water levels
 - Sustaining the maintenance cost of the ageing infrastructure.
 - Under capacity sewer network that keeps on blocking.
 - Public perception that water provision should be a free service;
 - Financial constraints to undertake expansion programs both on sewer and water through internally generated funds due to non- gazettement of new Tariffs;

1.3 Vision

“A World Class Water and Sewerage Services Provider”

1.4 Mission

The Company’s mission statement is:

“To provide quality water, sewerage and allied services at commercially and environmentally sustainable levels through application of outstanding processes and technology to the delight of our customers and other stakeholders”

1.5 Core Values

Customer Service

Customer delight remains NYEWASCO's priority. NYEWASCO strives to keep their customers happy and wanting to come back. NYEWASCO's culture of speed of service, ready to listen to customer feedback and complains, its professionalism, and desire to continuously improve has made the company a leader in water and sewerage services provision.

Ownership

Every NYEWASCO'S stakeholder owns a pierce of the company. Each of us shall therefore act like an owner, take initiative, be self-driven and do what we do well to ensure the interests of the company are safeguarded.

Environmental Consciousness

NYEWASCO is cognizant of the importance of the environmental conservation and protection. The company undertakes all activities conscious of the impact on the environment. The organization shall therefore continuously commit resources to sensitize stakeholders on the ecological issues as well as conserve the environment. The organization shall also endeavour to transact with suppliers that deliberately conserve the environment.

Continual Improvement

NYEWASCO applies different successful management and leadership styles that ensure we are better than we were yesterday, without stopping. This is a mixture of both deliberate training programs informed by training needs assessment as well as supervisors and managers finding on-the job teaching time as part of the business routine.

Team Work and Efficiency

At NYEWASCO we believe that together everyone achieves more. We value each and every one inside and outside the organization. Everyone to us matters. The cliché 'a chain is a strong as its weakest link' defines out team spirit we shall therefore drive our business by ensuring everyone is on Board. While doing this the company, through use of cutting edge technology and conscious approach will transact at the lowest unit cost possible without compromising on quality.

Corporate Social Responsiveness

NYEWASCO is a responsible corporate citizen. We treasure the society in which we operate. As such the company shall deliberately engage, contribute or participate in all relevant events within our immediate environment. Further, the organization shall continue to comply with all the statutory and regulatory requirements such as taxation and reporting. We shall therefore dovetail our core business and mandate with continuous community participation and engagement programs

Research and Innovation

To ensure we deliver on our mandate, the company values new ways of doing things. Change remains alive to us as an organization because we expect better and different results all the time. To this end, the company shall commit a percentage of its resources to research and innovation in the core areas of operations, processes as well as services delivery.

1.6 Strategic Objectives

In order to fulfil its mission, NYEWASCO has the following strategic objectives to:

1. Ensure the company is driven by the principles & practices of good governance that can withstand the test of time.
2. Ensure that the company is financially viable.
3. Advance and automate operations and services for enhancement of service delivery.
4. Provide water and sanitation services in an efficient, effective, affordable and sustainable manner
5. Attract, develop and maintain adequate, qualified and competent staff

2.0 TARGET MARKETS-MARKET ANALYSIS

2.1 General Background

NYEWASCO is a Service Provider mandated to supply water and sewer services within Nyeri Sub County and its environs. In order to ensure provision of reliable and sustainable services, the company seeks investment to upgrade its infrastructure in order to meet the current and future demands for services. It aims to increase access to safe water and sewer connectivity to the residents of Nyeri Town Sub County and its environs.

Nyeri Water and sewerage Company Limited (NYEWASCO) has the primary responsibility to provide safe drinking water and sewerage services to the residents of Nyeri Town Sub County and its environs as an agent of Tana Water Services Board (TWSB) through a service provision agreement (SPA). The Nyeri Town Sub County covers an area of 244km² but most of this is essentially rural and outside the Main Town. The population in the Nyeri Town Sub County is estimated at 140,000. The water supply system serves approximately 90% (126,000) of the population while the sewer network serves 30% (36,500) of the population.

The Articles of Association of the Company and its corporate strategy have identified the area of coverage as the Nyeri Town Sub-County & its environs covering 200km². From 1997 when the company was registered, it became the sole water provider for the Nyeri Town Sub-County. With introduction of devolved Government, boundaries have been extended in 2010 bringing about opportunities for NYEWASCO to expound on the market share. These areas are now covered by this market analysis. The market is therefore the service area i.e. the area currently covered by water supply and that projected to be covered by the year 2017-2021.

2.2 Customer Characteristics

It is estimated that there will be steady growth in the number of connections as more extensions are done and the population keeps on increasing in the served area as shown in Table 1 below. The current estimated population of the service area is at 169,467. The company currently serves a population of 166,734, representing a market size of 98.4%. A growth rate of 3% per annum (adopted from Nyeri water supply impact report) has been applied.

Consumption of water is estimated at 94.54% domestic, 0.25% Government institutional users; while industrial/commercial takes 5.07%. Other users namely schools and communal points (kiosks) take the balance of 0.14%.

The existing water distribution network is estimated at 922 km of mains and service pipes.

2.3 Review of Market Potential

The existing Nyeri town water supply system is based on gravity abstraction from the Ihwa intake, on Chania River, 6km from the treatment works. The distribution of the treated water is essentially by gravity apart from a few areas constituting Tetu, Nyeri Hill and Mweiga Town which constitute an Estimated 5 percent supplied through pumping.

Table 1: Projected number of active connections

Year	Total number of connections
2013-2014	21,941
2014-2015	23,426
2015-2016	25,407
2016-2017	27,907
2017-2018	29,407
2018-2019	31,407
2019-2020	33,407
2020-2021	35,000

2.4 NYEWASCO Products and Services

2.4.1 Water Production

The current water production capacity is 27,000m³ /day with a demand of 16,500m³ /day, representing 67% of the production capacity. The average daily production is 16, 500m³ /day while the NRW is currently at an average of 19%. Currently NYEWASCO is in a position to meet the daily demand for all connected customers, serving them 24 hours, seven days a week.

It is also projected that the NRW will be reduced to 16.5% by the end of 2017-2021 period.

Table 2: Water Connection Distribution

Item no	Classification	No. of connections	Percentage
1	Commercial	1,289	5.07%
2	Domestic	24,012	94.54%
3	Schools	16	0.063%
4	Government Institutions	64	0.25%
Totals		25,407	100%

2.4.2 Sewerage System

The current sewer treatment capacity is 8,000m³ /day DWF with a demand of 3,800m³ /day, representing 47.5% of the treatment capacity. The average daily inflow is 3,800m³ /day. Currently, the Company has the capacity to treat additional inflow through extensions of sewer network and connections of additional customers from the upcoming property developments within the sewered areas.

Table 3: Sewerage Connections distribution

Item no	Classification	No. of connections	Percentage
1	Commercial	914	13%
2	Domestic	6058	86.4
3	Schools	01	0.0014
4	Government Institutions	35	0.5%
Totals		7,008	100%

3.0 MARKETING PLAN

NYEWASCO strategically and deliberately seeks to bridge the demand gap by getting more water to customers through more connections. The leadership has already identified service gaps that exist in our current service area which are not adequately served. At the same time the company has to address the issue of managing loss of water through leaks and bursts that is significantly contributing to the Non-Revenue Water losses by replacing old system and addressing underlying issues. The company has to procure the necessary tools to improve the capacity to handle the system maintenance.

3.1 Positioning NYEWASCO

NYEWASCO will position itself as the most preferred supplier of choice by:

- i. Demonstrating that we understand our customers, present & future
- ii. Using customer feedback to improve on the service delivery
- iii. Demonstrating two way communication with our customers
- iv. Building a detailed picture of our customer segments based on needs
- v. Demonstrating an understanding of how our market works
- vi. Demonstrating that our products & services are competitively affordable
- vii. Offering high quality products & services by standardization (ISO)
- viii. Making the employees our biggest champions & brand advocates.
- ix. Encouraging customer interaction with the company to create a sense of appreciation & partnership

3.2 Competitive Edge

3.2.1 Corporate Identity

Based on the SWOT analysis, informed by market surveys, it is evident that NYEWASCO has a major strength courtesy of its registration as a Private water and sewerage company that is supported by the government.

3.2.2 Excellent History

NYEWASCO has a strong history of offering quality services. Being a reputable organization, established to serve the needs of Nyeri town sub-county population, the company has great potential for sustainable growth.

Below is a summary of the benefits that clients will get by choosing NYEWASCO as their preferred service provider in water supply and sanitation services.

Table 4: Features and Related Benefits of NYEWASCO Services

Features	Benefits (Related to Real Needs)
Nineteen years of experience	NYEWASCO has been tried and tested for over 19 years. The lessons learned will be transferred to clients who are then shielded from experimental errors.
Not for profit organization	Being a Public Institution, the main motivating factor is service to clients, not the 'bottom line' figure – profits. This makes the company services affordable and reliable
Reputable organization: NYEWASCO has a sound governance and management structure	Clients are assured of quality services due to the checks and balances that ensure accountability in service delivery
Established through an Act of Parliament, Water Act, 2002 of the Laws of Kenya	Clients are assured of government regulatory benefits and protection
Qualified personnel	NYEWASCO utilizes highly qualified and skilled personnel in all its service provision. Where the company lacks internal capacity, outsourcing of technical support becomes an option

3.3 Key Marketing Strategies

3.3.1 Promotions

NYEWASCO product promotion strategy includes but not limited to:

- i. Customer sensitization and mobilization
- ii. Promotions through public Barazas
- iii. Through organized customer open days and stakeholder forums
- iv. Participation in Agricultural Society of Kenya Central Kenya Show & other associated functions.
- v. Participation in Corporate Social Responsibility activities
- vi. Through company website and media
- vii. Through public relations by verbal communication with customers

3.3.2 Pricing (Tariff)

NYEWASCO product price is set through public participation in accordance with WASREB tariff development guidelines.

The approved product tariff (price) is graduated to cater for the following various groups (people):

- a. Commercial
- b. Domestic
- c. Government institutions
- d. Schools
- e. Water kiosks /LIAs

3.3.6 Products

The water and sewerage service provided has the following features

- Potable
- Reliable
- Affordable
- Available
- Clean and safe

NYEWASCO will market the products through provision of quality products and increased publicity. The collection, treatment and disposal of the waste water meet the standards set by various regulatory bodies and done through an environmentally friendly practice.

3.3.6 People

The company recruits the right people, train to develop their skills and retain them through a competitive reward system.

Table 5: NYEWASCO Summarized Marketing Plan

Strategies	Core Activities	Target/KPI
<p>i. Eliminate customer’s consideration for alternative water sources, e.g. boreholes & pumping from rivers.</p>	<p>i. Consideration for special tariff</p> <p>ii. Directly meeting & marketing by persuading them to use our product.</p>	<p>To reduce one borehole per year.</p>
<p>ii. Lobby to reduce or curb the emergence of bottling water plants in the region.</p>	<p>Sensitize customers on issues of quality water available from NYEWASCO water supply.</p> <p>Establish a water bottling plant to competitively compete with other players in the market.</p>	<p>To win a minimum of 100 people per year.</p>
<p>iii. To make NYEWASCO a water service provider of choice.</p>	<p>By improving service levels to exceed customers’ expectations.</p> <p>Make neighbouring consumers of other WSP’s be interested with our water.</p>	<p>To achieve 100% market share,</p> <p>Provide for a marketing budget.</p>

4.0 PRODUCTION AND OPERATIONS ANALYSIS

4.1 Introduction

NYEWASCO is involved in providing product which is potable water and provision of sewerage services through the Technical Department which is charged with the responsibility of coordinating the activities of these processes as listed below:

1. Water abstraction & Treatment (Water Production)
2. Quality Control
3. Water Distribution
4. Sewerage System

4.2 Locations

The operational facilities are located at various locations as listed below:

1. Water Intake- Ihwa
2. Water Treatment Works- Kamakwa
3. Water Testing Laboratory- Kamakwa
4. Water Distribution Network-Within Nyeri Sub-County and its environs
5. Sewerage System
 - a. Sewage Treatment Plants
 - i. Kangemi
 - ii. Gatei
 - b. Sewage Pumping Stations
 - i. Chania
 - ii. Kiganjo
 - c. Sewer Network
 - i. Nyeri Town & Environs
 - ii. Kiganjo Town

4.3 Operation Plans

4.3.1 Water Intake

The water intake is meant for abstraction of raw water which is conveyed through three raw water mainlines (of sizes 600mm and 2no x 250mm) to Kamakwa T. works for treatment. Currently the intake works is abstracting approximately 17,000m³ per day as compared to a design capacity of 27,000m³ per day. It is estimated the full design capacity will be attained in the next five years i.e. year 2021. During this period the company intends to plan for mitigation in anticipation of challenges after 2021 by raising the existing weir to be able to increase the volume of water.

4.3.2 Water Treatment Works

The company operates a water treatment plant at Kamakwa to produce potable water. The treatment plant employs full chemical treatment of the raw water. The chemicals used are;

- i. Aluminium Sulphate
- ii. Sodium Carbonate
- iii. Calcium Hypochlorite

The plant employs the following standard water treatment processes;

1. Screening
2. Coagulation
3. Flocculation
4. Sedimentation
5. Filtration
6. Disinfection

Currently the Treatment Plant produces an average of 16,300m³ per day as per the present demand. The ultimate design capacity is 27,000m³ per day (Old Treatment Plant and New treatment Plant 6,000m³/day and 21,000m³/day respectively).

The plant utilises the following equipment for its operation;

- High Lift Pumps 2no.
- Recirculation Pumps 2no.
- Backwash Pumps 2no.
- Air blowers 4no.
- Generators 2no.
- Electrical Stirrer 8no.
- Fixed Ultrasonic Flow Meters 2no.
- 500mm Bulk Water Meter 1no.
- Control Panels 2no.
- Floc Tester 1no.
- Colorimeter 1no.
- Chemical Dozers 8no.

The plant is manned by the following personnel;

- Water Technician 1no.
- Senior Water Operators 5no.
- Water Operator 1no.
- Water Attendants 4no.

The ultimate design capacity of 27,000m³ per day is anticipated to be achieved by 2021. Therefore, the company plans to undertake the following mitigation measures in order to forestall negative effects that might arise;

1. Construction of additional 1no. sedimentation basin and two filters
2. Full rehabilitation of the old treatment works
3. Replacement of the filter media in the new treatment works
4. Replacement of existing 6no.pumps
5. Replacement of 2no.air blowers
6. Replace of 2no. Ultrasonic Flow Meters

The company continues carrying out repairs and maintenance of;

- Electrical equipment
- Buildings
- Water holding structures
- Compound

4.4 Quality Control

The company has established a Laboratory services Unit which is charged with the following responsibilities;

1. Water and Waste Water Laboratory

The laboratory is capable of analysing both water and waste water samples.

The following parameters of the samples are analysed;

- i. Physical tests
- ii. Chemical tests
- iii. Microbiological tests

The laboratory is equipped with the latest state of the art equipment to conduct the above tests.

The laboratory is accredited to ISO 17025:2005 standard by KENAS which is the sole National Accredited body in Kenya. This gives confidence that the results released from the laboratory are accurate and reliable. This has enabled the laboratory to offer analysis services to external customers thus earning revenue to the company.

The laboratory is manned by the following personnel;

- i. Laboratory Technologists 2no.
- ii. Laboratory Technician 1no.

2. Raw Water Quality Monitoring

The laboratory has established a monitoring program of the quality of the raw water in order to detect pollutants and investigate their sources.

When pollutants are detected the corrective action taken is to curb at source. Key parameters have been identified that gives indication of pollution in the water. The current frequency of testing is once a week for chemical and microbiological analysis. Pesticides and fertilizer residue samples are externally analysed annually.

3. Drinking Water Quality Surveillance

The laboratory undertakes a drinking water surveillance program to confirm that the quality of drinking water conforms to KEBS standard. This is undertaken both at the Water Treatment Plant and 27no. Sampling points established at consumer points. The tests undertaken are physical, chemical and microbiological. The frequency of the surveillance exercise is twice a week. Advice on corrective action is provided when nonconforming products are encountered.

4. Pollution Control

The laboratory collects effluent samples from Kangemi and Gatei Sewage Treatment Plants for analysis to confirm their conformance to the NEMA standard. Samples are also collected at designated treatment processes in order to evaluate the effectiveness of treatment at the various processes. This exercise is also extended to identify trade dischargers into our sewers in order to confirm that their waste water meets the required standards for discharge into the municipal sewers. This is undertaken in order to detect substandard discharge of waste water into our sewers which can interfere with the treatment processes at our wholly biological Sewage Treatment Plants. The frequency of sampling is twice a month internally and quarterly to external laboratories in conformance to the conditions of effluent discharge licence from NEMA.

5. Future Plans

The laboratory services unit intends to undertake the following activities in the period of the strategic plan;

- Maintain the ISO/IEC 17025: 2005 Accreditation
- Computerization of management of the laboratory information
- Procure modern equipment
- Seek accreditation as NEMA designated referral water testing laboratory

- Collaborate in marketing of the laboratory services (Water Testing and Water meters calibrations)
- Coordinate activities geared towards addressing the negative effects of climate change

4.5 Water Distribution Unit

Water distribution unit is a sub unit in the technical department charged with the responsibility of operation and maintenance of water reticulation network within Nyeri Sub County and its environs.

The supply area is sub divided into 39 zones for effective and efficient management. The system is 20 per cent pumping while 80% is gravity system.

Pipe Network

The pipe network size ranges from 25mm to 500mm diameter of various materials i.e. uPVC, G.I. ,HDPE, Asbestos Cement Pipes.

The system is also incorporated various water appurtenance of various sizes i.e. sluice valves, air valves and Pressure Reducing Valves etc.

Equipment

- HDPE Butt Fusing Machine
- Portable Generator
- Portable Electric Pump
- Welding Machines
- GPS
- Assorted Pipe Wrench and Spanners
- Pressure Gauges

Activities

The unit performs the following activities;

- Carry out water extensions
- Repair of bursts/leaks
- Replacement of dilapidated pipe networks and meters
- Servicing and repair of water distribution appurtenances

The distribution is manned by the following personnel;

- Plumbers 16no.
- Water Foreman 1no.

- **Water and Sewerage Superintendent**

The unit has planned to undertake the following activities during the strategic plan period:

- **Upgrading of Mathari Kimathi Line**
- **Upgrading of Mweiga Kamatongu Transmission Line**
- **Upgrading of Kamakwa Tetu Rising Line**
- **Water Extension to Mutathiini area**
- **Water extension to Wambugu Farm area**
- **Tumu Tumu Kirimukuyu water extension**
- **Water services extension to informal settlement i.e Witemere area**
- **Development of concept paper for construction of a strategic reservoir.**

4.6 NRW Unit

The company has established a NRW water unit which is charged with the responsibility of management of water losses in the distributions system. The current NRW water level is 18.89% which is below sector bench mark of 20%.

The unit also manages the Meter Calibration Laboratory which is ISO 17025:2005 accredited.

The unit employs the following strategies to reduce NRW levels in the distribution unit;

- **Zoning and Sub-zoning Concept**
- **Leak Detection**
- **Pressure management**
- **Meter Calibration**
- **Data Analysis**
- **Use of modern Technology**

The unit utilises the following equipment for its operation;

1. **Portable Ultrasonic Flow Meters 6no.**
2. **Portable Electromagnetic Flow Meter 1no.**
3. **Meter Calibration Bench 1no.**
4. **Ultrasonic Thickness Meter 2no.**
5. **Pressure Logger 1no.**
6. **Leak Detectors 3no.**
7. **Pipe Locators 3no.**

The unit is manned by nine Water Technicians.

The company through the NRW unit intends to reduce the NRW in the distribution from 18.89% to 16.5% by 2021 by performing the following activities;

- i. Enhancing on pressure management by installing 100no. pressure reducing valves and automate the pressure management system
- ii. Install more master meters and automate the Production and Zonal Meters
- iii. Provide the NRW Technicians with more monitoring equipment and replace the obsolete equipment
- iv. Capacity building for NRW Technicians
- v. Replace 25km dilapidated pipe network
- vi. Replace 2,000 under -performing meters every year

4.7 Sewerage Section

The section is charged with the responsibility of waste water collection, treatment and disposal.

It comprises of the following;

- i. Kangemi Sewage Treatment works
- ii. Gatei Sewage Treatment ponds
- iii. Sewer Maintenance unit
- iv. Chania pumping station
- v. Kiganjo pumping station

4.7.1 Kangemi Sewage Treatment Plant

It is a convectional sewage treatment plant with a design capacity of 6,000m³ per day dry weather flow. Currently the plant is operating at 3,000m³/day.

The plant is manned by the following listed personnel;

- a) Sewerage Inspector 1no.
- b) Sewer Operator 1no.

There is a team of support staff comprising of 2no. Electricians and 3no.plant mechanics who are charged with the responsibility of operation and maintenance of electro-mechanical equipment within the company.

The plant operates the following equipment;

- Sludge Pump 3no.
- Inter-lift Pump 3no.
- Recirculation Pumps 3no.

- Drainage Pumps 3no.
- Primary Scrappers 5no.
- Portable Pump 1no.

The plant employs the following sewage treatment processes;

- i. Screening
- ii. Grit removal and disposal
- iii. Primary sedimentation
- iv. High rate biological filters
- v. Intermediate Sedimentation
- vi. Low rate biological filters
- vii. Final Sedimentation
- viii. Maturation ponds in series of 3no. with retention time of 21days with fish as biological indicators.
- ix. Sludge digesters
- x. Sludge drying beds
- xi. Discharging of final effluent to Chania River.

4.7.2 Gatei Sewage Treatment Plant

This is a waste stabilization pond sewage treatment plant comprising of two parallel units and disposes waste effluent to Nairobi River. The design capacity is 2,000m³/day dry weather flow and currently is operating at an average of 800m³/day DWF.

The plant is manned by the following listed personnel;

- a) Sewer Attendants 3no.

The plant operates the following equipment;

- Drainage Pumps 3no.

The plant has the following treatment processes units;

1. Screening and grit removal
2. Anaerobic ponds 4No.
3. Facultative ponds 2No.
4. Maturation ponds 6No.
5. Sludge drying beds 2No.
6. Effluent discharge into Nairobi river

4.7.3 Chania Sewage Pumping Station

The station has two submersible pumps which pumps the sewage to the existing gravity sewer line.

The station is manned by one sewer attendant.

4.7.4 Kiganjo Sewage Pumping Station

The station is located at Kiganjo along Marua – Nanyuki Road and has three submersible pumps which pump the sewage to Gatei Sewage Treatment Plant.

The station is manned by two sewer attendants.

The sewer attendants attend the system inlet and maintain the compound.

4.7.5 Sewer Maintenance Unit

The unit is charged with the responsibility of sewer network maintenance. In addition they carry out construction of minor sewer extensions and supervision of customer sewer connections.

Sewer Pipe Network

The network comprises of uPVC drain pipes and concrete pipes of various diameter sizes ranging from 150mm to 600mm. Total approximate length is 101km

The system is 95% gravity and 5% pumping.

The unit is manned by 3no.Sewer attendants.

The unit uses manual sewer rods to unblock the sewer blockages.

5.0 DESIGN AND DEVELOPMENT PLANS

NYEWASCO seeks to take its operations to a notch higher through identifying key areas that need improvement and quality service provision and sound way of doing business. The leadership of NYEWASCO has identified the gaps in its operations and came up with the following strategies as shown below.

Table 6: Summary of Implementation Plan

STRATEGY	ACTIVITIES	TASKS
Reduce the cost of water production.	Optimize use of water chemicals.	· Procurement of colorimeter 1no approx. 0.2m in year 2017/18
		· Procurement of floctester 1no approx. 0.4m in year 2017/18
	Reduce NRW	· Enhancing on pressure management by installing 100no. pressure reducing valves and automate the pressure management system
		· Install more master meters and automate the Production and Zonal Meters
		· Provide the NRW Technicians with more monitoring equipment and replace the obsolete equipment
		· Capacity building for NRW Technicians
		· Replace 25km dilapidated pipe network
		· Replace 2,000 under - performing meters every year
		· Provision of airtime to employees to facilitate reporting of leaks and bursts
	Use of innovations technology e.g. automatic online filter.	· visibility study and acquisition of land approx. 5m in 2019/2020
		· Procurement and installation of automatic online filter approx. 10m in 2020/2021

	Expansion of new water treatment works by addition of extra sedimentation tank and 2 no filters.	<ul style="list-style-type: none"> · construction of sedimentation tank approx. 50m in year 2019/20
		<ul style="list-style-type: none"> · Construction of filters 2 no approx. 50m in year 2020/2021
	Replacements of filter sand for the new plant 8no filters.	<ul style="list-style-type: none"> · Procurement and replacement of filter sand approx. 2m in year 2017/18.
		<ul style="list-style-type: none"> · Procurement and replacement of filter sand approx. 2m in year 2018/19.
	Construction of an additional solution tank for soda ash and 2no chemical dozers.	<ul style="list-style-type: none"> · construction of a solution tank and procurement of 2 chemical dozers approx. 1.2m in year 2017/18
	Develop a concept paper for a strategic reservoir.	<ul style="list-style-type: none"> · Develop a concept paper approx. 0.1m in the year 2016/2017.
	Replacement of faulty ultrasonic flow meter (UFM) (2no at kawakawa WTP)	<ul style="list-style-type: none"> · Procurement of UFM (2no) approx. 1m in year 2017/2018
	Upgrading electrical /mechanical gadgets.	<ul style="list-style-type: none"> · Continuous upgrading of electronic/mechanical gadgets from 2016/17 to 2020/21. approx 3m
	Conducting repairs and preventive maintenance	<ul style="list-style-type: none"> · Continuous repairs and preventive maintenance from 2016/17 to 2020/21 approx. 5m
	Upgrading of electrical mechanical accessories.	<ul style="list-style-type: none"> · Continuous upgrading of electrical mechanical from 2016/17 to 2020/21 approx. 5m
	Review and update the maintenance schedule for the treatment plant intake, raw water gravity, pipeline and water storage tanks	<ul style="list-style-type: none"> · Review and update the maintenance schedule for the treatment plant intake, raw water gravity, pipeline and water storage tanks in year 2016/17 approx. 0.1m

Efficient operations and maintenance of water intake, raw water gravity pipelines, water treatment plant and water storage tanks for capacity utilization.	Full rehabilitation of the old water treatment works	<ul style="list-style-type: none"> Replacement of hoppers 2 no at approx. 0.3 m in the year 2016/17
		<ul style="list-style-type: none"> Replacement of filter media approx. 2.5m in 2017/18
		<ul style="list-style-type: none"> Replacement of filter media and repair of 3 no filters approx. 2.2m in 2018/19

NO.	Strategy	Activity	Tasks
	Water Quality and Pollution Control	Maintain an Accredited water testing laboratory continuous	Implementation of the accreditation requirements
			Review of documentations
			Maintenance of records
		Monitoring of the raw water quality by collecting 20No. of samples per month.	Analysis of samples
			Preparation of analysis certificates
			Submission of reports
		Undertake drinking water quality surveillance by collecting 200No. samples. 98% to be within norm.	Analysis of samples
			Preparation of analysis certificates
			Submission of reports
		Monitoring of sewage effluent quality by collecting 1No. sample per month. 95% to be within norm	Analysis of samples
			Preparation of analysis certificates
			Submission of reports

	Continuous conformity to the ISO/IEC 17025:2005 accreditation requirements	Procurement of laboratory equipment for the water testing laboratory annually	Prepare specifications
			Make requisition
			Send out quotations
			Evaluate the bids and award
			Prepare and send out LPO
			Inspect goods on delivery
		Procurement of laboratory equipment for the meter calibration laboratory annually	Prepare specifications
			Make requisition
			Send out quotations
			Evaluate the bids and award
			Prepare and send out LPO
			Inspect goods on delivery
		Payment of annual accreditation fee to KENAS	Receive invoice
			Process payment
		Attendance in at least 1No. ISO/IEC 17025: 2005 consultative forums annually	Receive invitation
			Attend forum
			Submit report
		Participation in at least 1No. Proficiency Testing (water Testing) and inter-laboratory comparison schemes (Meter calibration) annually	Register for participation
			Pay participation fee
			Receive and analyse samples
			Send back results
			Evaluation of results
			Undertake corrective actions if necessary
		Participation in at least 1No. bench marking with other accredited laboratories annually	Identify suitable labs
			Send out request letters

			Undertake exercise
			Submit report
		Undertake at least 1No. Capacity building of personnel annually	Undertake training needs assessment
			Raise quotation for training
			Process payment
			Conduct training
			Evaluate effectiveness of training
		Recruitment of additional laboratory analysts (2No.)	Advertise for positions
			Conduct interviews
			Appointment of successful candidates
		Provision of laboratory reagents and apparatus annually	Prepare specifications
			Make requisition
			Send out quotations
			Evaluate the bids and award
			Prepare and send out LPO
			Inspect goods on delivery
		Conduct at least 2No. internal audit and management review meetings annually	Notifications
			Conduct exercises
			Submit report/minutes
		Undergo at least 1No. Surveillance assessment annually and 1No. reaccreditation assessments per 3years by KENAS	Receive notifications
			Conduct exercise
			Receive report
			Undertake corrective actions if necessary
			Follow up/closeout assessment
		Embark on the process for accreditation as a designated NEMA referral water testing laboratory	Request for application form
			Submit duly filled application form with required documentations

			Await for response
		Computerization of laboratory information management	Identify a suitable Laboratory Information Management System (LIMS) program
			Prepare specifications
			Make requisition
			Raise quotations
			Evaluate the bids and award
			Prepare and send out LPO
			Inspect goods on delivery
	Participation in environmental conservation	Establish mitigation strategy for climate change effects	Prepare an action plan and implement
			Monitor and evaluate progress
		Monitor the quality of raw water for pollution control by at least 4No. samples for chemical analysis and 1no. sample annually for fertilizer and pesticide residues.	Collect and submit samples for analysis
			Collect results
			Submit report
		Participate in at least 1No. catchment areas conservation through re-afforestation programs annually	Participate in tree planting exercises
			Submit progress report
		Collaborate with other government agencies in at least 1No. awareness creation in the best techniques of land use in steep areas annually.	Participate in awareness exercises
			Submit progress report

6.0 GOVERNANCE AND MANAGEMENT STRUCTURE

The company is governed by a Board of directors comprising various stakeholders representing the County Government (shareholder), the Government, the business community, the consumers and the women. The Board has two roles; supervisory and advisory roles to the management of NYEWASCO. The top management of NYEWASCO is led by the Managing Director (MD) and supported by senior managers from both technical and commercial sections.

The Board of Directors provides strategic direction to the company by ensuring that the company comes up with proper strategic objectives and sound strategies to address those strategic objectives. The management team will carry out regular monitoring, review and evaluation of various programmes to improve efficiency and effectiveness for sustainability and conduct market survey for benchmarking and improvement of customer service. The MD and the managers will continuously scan the environment to identify opportunities, write proposals and engage consultancies to ensure sustainability of NYEWASCO as a business unit.

6.1 Board of Directors

Board of Directors

The Board of Directors are drawn from the stakeholders' selection process in accordance with the Water Services Regulatory Board Corporate Governance Guidelines that requires that the appointments are conducted through a competitive process. Our Board is currently represented through the following stakeholder groups:-

1. County Government of Nyeri – Two Members
2. Business Community, Kenya National Chamber of Commerce and Industry – Nyeri Town Sub County
3. Residents Organizations – Nyeri Central Business Districts Association
4. Registered Women Organizations – Maendeleo ya Wanawake
5. Professional Associations – Kenya Institute of Management
6. National Treasury
7. Tana Water Services Board

Board of Directors Profile

1. Joseph M. Wachiuri – Chairman

He was appointed in April 2015 as a director representing the professionals and has over thirty years' experience from both the private and public sector.

He holds a Master of Business Administration degree in Finance and Bachelor of Commerce degree from the University of Nairobi. He is an accomplished leader and is involved in various social and local development initiatives. He is happily married with a family.

2. Robert G. Wanjau

He was appointed in April 2015 as a director representing the business community. He is a professionally trained teacher and has over thirty years' experience from both the teaching and private sector.

His academic qualifications Bachelor of Education in Science from the University of Nairobi. He is also an accomplished leader and is involved in various social and local development initiatives. He is happily married with a family.

3. Jackson G. Kanyingi

He was appointed in April 2015 as a director representing resident associations and is a professionally trained teacher with over thirty years' experience from both the teaching and private sector.

He is a P1 teacher and an accomplished leader involved in various social and local development initiatives. He is happily married with a family.

4. Purity G. Ngunjiri

She was appointed in April 2015 as a director representing women organizations and is a professionally trained teacher with over thirty years' experience from both the teaching and private sector.

She is a P1 teacher, an accomplished leader involved in various social and local development initiatives. She is happily married with a family.

5. Walter O. Ogwindo

He has been in the company since October 2002 as a director representing the Principal Secretary, National Treasury and has over forty years' experience in public service.

He is an economist with a Master of Science from University of Nairobi and a Bachelor of Science in Development Organization from the University of Nairobi. He is also an accomplished leader and is involved in various social and local development initiatives. He is happily married with a family.

6. Stephen N. Githinji

He was appointed in April 2015 as a director representing the County Executive Committee Secretary – Water, Environment and Natural Resources in the County Government of Nyeri. He is a professionally trained civil engineer and has over thirty years' experience from the water sector.

His academic qualifications include a Master of Arts in Project Management from the University of Nairobi, Master of Business Administration in Strategic Management from the Kenya Methodist University and a Bachelor of Science in Civil Engineering from the University of Nairobi. He is an accomplished leader and is involved in various social and local development initiatives. He is happily married with a family.

7. George N. Mwangi

He was appointed in April 2015 as a director representing the Office of the Governor in the County Government of Nyeri. He has over ten years' experience from both the private and public sector.

His academic qualifications include a Bachelor of Development Studies from Mount Kenya University. He is an accomplished leader and is involved in various social and local development initiatives. He is happily married with a family.

8. Nicholas W. Kariuki

He was appointed in November 2015 to represent the Chief Executive Officer – Tana Water Services Board. He has over ten years' experience from both the private and public sector.

His academic and professional qualifications include; a Master of Arts in Project Management from the University of Nairobi, a Masters of Business Administration in Strategic Management degree from the Kenya Methodist University and a Bachelor of Commerce in Finance from the University of Nairobi. He also has a Diploma in Purchasing and Supplies Management from the Kenya Institute of Management. He is a Certified Public Accountant and a Certified Public Secretary. In addition, he is a leader and is involved in various social local development initiatives and is happily married with a family.

6.2 Management Team

The Management Team of NYEWASCO comprises of professionals recruited by the Board of Directors through a competitive process. They comprise of following:-

1. Managing Director
2. Head of Finance and Administration
3. Head of Technical Services
4. Chief Internal Auditor
5. Chief Water and Sewerage Engineer

Management Profile

1. Peter M. Gichaaga – Managing Director

He joined the company in October 2015 and has over thirteen years' experience from both the private and public sector. Specifically, in the Water Sector, he has worked for over ten years having worked previously with Tana Water Services Board as the Head of Internal Audit, Board Secretary and advisor to the Chief Executive Officer on Corporate Governance matters. He represented the Chief Executive Officer in the Boards of various Water Service Providers contracted by the Board including NYEWASCO. He is also a trained Internal Quality Auditor and was the Quality Management Representative for the Board on ISO 9001:2008.

His academic and professional qualifications include; a Master of Science in Finance degree from University of Nairobi, a Masters of Business Administration in Strategic Management degree and a Bachelor of Business Administration in Accounting & Finance degree from Kenya Methodist University. He also has a Diploma in Business Management from the Kenya Institute of Management. He is a Certified Public Accountant and a Certified Public Secretary. In addition, he is a leader and is involved in various social local development initiatives and is happily married with a family.

2. Samuel Karogo Ndung'u – Head of Finance and Administration

He joined the company in December 2002 as the Chief Internal Auditor and later promoted as the Head of Finance and Administration in February 2006. He has over fifteen years' experience from both private and public sector. Specifically, in the Water Sector, he has worked with Nyeri Water & Sewerage Company for over ten years. He is a trained Internal Quality

Auditor in both ISO 17025:2005 and ISO 9001:2015 and is the Quality Management Representative of the company.

His academic and professional qualifications include; a Master of Business Administration in Finance from University of Nairobi and a Bachelor of Commerce in Accounting & Finance degree from University of Mangalore of India. He also has a Diploma in Business Computing from Saint Aloysius College in India. He is a Certified Public Accountant and a Certified Public Secretary. In addition, he is a leader and is involved in various social local development initiatives and is happily married with a family.

3. Peter Githinji Kahuthu – Head of Technical Services

He joined the company in July 2016 and has more than thirteen years of experience in the water sector having worked previously in Nairobi City Water and Sewerage Company as the Technical Officer in charge of Water Distribution management. Previously before joining NCWSC he had worked as Water and Sanitation Engineer with Water & Sanitation for Poverty Reduction.

He is pursuing a Master of Science degree in Environmental Health Engineering at the University of Nairobi and holds a Bachelor of Science degree in Civil Engineering from the University of Nairobi. He is a registered graduate engineer with Engineers Board of Kenya and the Institution of Engineers of Kenya. He is a qualified lead auditor in ISO 22000 (FSMS) and a registered Associate expert with NEMA in EIA/EA. He is also a leader and is involved in various social local development initiatives and is happily married with a family.

4. Wilson K. Mwai – Chief Internal Auditor

He joined the company in March 2007 as the Chief Internal Auditor. He has over fifteen years' experience from both private and public sector. Specifically, in the Water Sector, he has worked with Nyeri Water & Sewerage Company for over nine years. He is a trained Internal Quality Auditor in both ISO 17025:2005 and ISO 9001:2015.

His academic and professional qualifications include; a Diploma in Accounting from Kenya Technical Training College. He is a Certified Public Accountant and a Certified Internal Auditor in Risk and Information Systems Control. In addition, he is also a leader and is involved in various social local development initiatives and is happily married with a family.

5. James N. Ngunjiri – Chief Water & Sewerage Engineer

He joined the company in July 2016 and has more than twelve years of experience from both the private and public sector. He previously worked

with Fair Construction SARL water Construction Company in Kigali, Rwanda as the Project Manager.

He has a Diploma in Civil Engineering from Jomo Kenyatta University and a Bachelor of Technology in Civil Engineering from Egerton University. He is a leader and is involved in various social local development initiatives and is happily married with a family.

Description of the Functional Areas

1. Managing Director

The Managing Director's office will oversee all the Company's functions and implementation of the decisions of the Board of Directors. The Managing Director (MD) is the accounting officer of the Company and the pillar of good governance practice. To effectively discharge these roles, the MD's office is proposed to have the internal audit function report administratively and other critical divisions and departments report both functionally and administratively. The proposed organizational structure depicting these functions is given in Figure 2 above.

2. Technical Services

The purpose of this division is to oversee the planning, design, construction of Water and Sewerage facilities and to ensure that the technical assets of the Company are acquired, maintained and operated according to standard specifications.

Key Result Areas (KRAs): KRAs for this position in the short term include delivery of a divisional operational plan, working internal processes, performance standards, and effective and smooth operation of all technical functions together with delivery of tangible results in key aspects of technical work. In the long term, the KRA will include expanded and well maintained and functioning infrastructure measured by the regularity and reach of both water and sewerage services.

3. Finance and Strategy

The purpose of this division is to ensure that all financial resources of the Company are acquired, disbursed, prudently invested, fully accounted for and reported efficiently. In addition, it will also ensure that the Company develops long, medium and short term plans and strategies to guide in the effective realization of the mandate of the Company.

Key Result Areas (KRAs): The KRAs for this position in the short term include establishment of functional financial systems and policies, regular financial reporting to the Board and development partners, and timely disbursement of and accounting for funds. In the long term, an integrated management information system measured by the effectiveness in receiving transactional information, will be the main KRA. In addition, it will ensure that the Strategic Plan and Business Plans are effectively implemented through establishment of appropriate work plans, budgets as per the approved annual performance contracts.

4. Human Resource and Administration

The purpose of this department is to ensure that human resources and administration matters are efficiently run to facilitate smooth operation of the Company. The department will ensure that appropriate work environment is always maintained and staff matters are addressed in accordance with the relevant legal framework and company policies.

5. Information Communication & Technology

The purpose of this department is to ensure that Company's operations match the latest and expected level of service delivery to the customers through the application of appropriate systems of information, communication and technology (ICT). The department will therefore ensure that all the ICT systems in place meet the relevant quality standards, legal requirements and are efficient to allow ease of business.

6. Supply Chain

The purpose of this department is to ensure that all goods and services procured by the Company meet the required quality standards and procurement methods used fully comply with the Public Procurement and Assets Disposal Act 2015. According to the Act, the Head of the Supply Chain department reports directly to the Accounting Officer. The department will also be responsible for inventory/stores management.

7. Commercial Services

In addition to the existing structure, during the planning period the company will establish a Commercial Services Department to be responsible for Business Development and Customer Relations. The purpose of this department is to deal with all commercial aspects of the company and develop unique business models for customers to attract customers to connect to the Water and Sewerage Services including all the other allied services offered by the Company. The department will also ensure that all customers' complaints are promptly handled and reported through an

established system. In addition, the department will support the Managing Director to promote and maintain the best corporate image of the Company through effective and efficient means of promotion and publicity.

8. Legal Services

In addition to the existing structure, during the planning period the company will establish legal services department.

The purpose of this department is to provide the necessary advice on all legal matters relevant to the Company’s affairs. The department will undertake litigation on behalf of the company, manage and co-ordinate the court cases filed by or against the Company, be the custodian of all legal documents, prepare and execute legal contracts. The head of this department will also be the Secretary to the Board and will therefore be responsible of taking minutes for all the Board meetings and functions.

NB: The Management team will be categorized as follows:-

1. The Top Management Team – Managing Director, Head of Technical Services and the Head of Finance & Strategy Departments/Divisions.
2. Management Team – Managing Director, Head of Technical Services, Head of Finance & Strategy, Chief Water & Sewerage Engineer, Chief Internal Auditor, Head of Human Resources & Administration, Head of Information, Communication & Technology, Head of Supply Chain, Head of Business Development & Customer Relations and Head of Legal Services Divisions/departments.

All the above divisions/departments will be headed by managers engaged on renewable performance contract terms of employment. It is proposed that a professional job grading and analysis will be carried out to establish the relative worth for each of the vacant positions created under the proposed structure will be filled progressively as and when need arises subject to availability of funds and obtaining necessary approvals.

FIGURE 1: CURRENT ORGANIZATION STRUCTURE

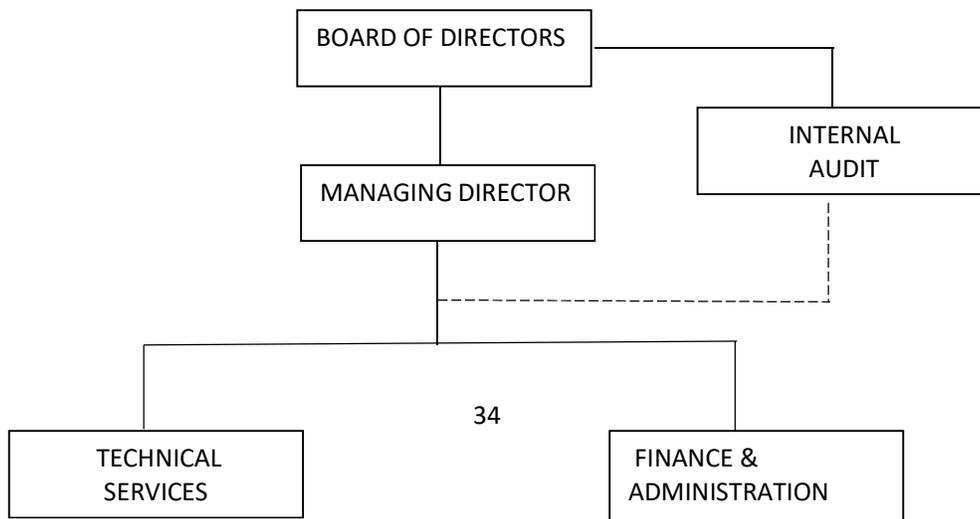
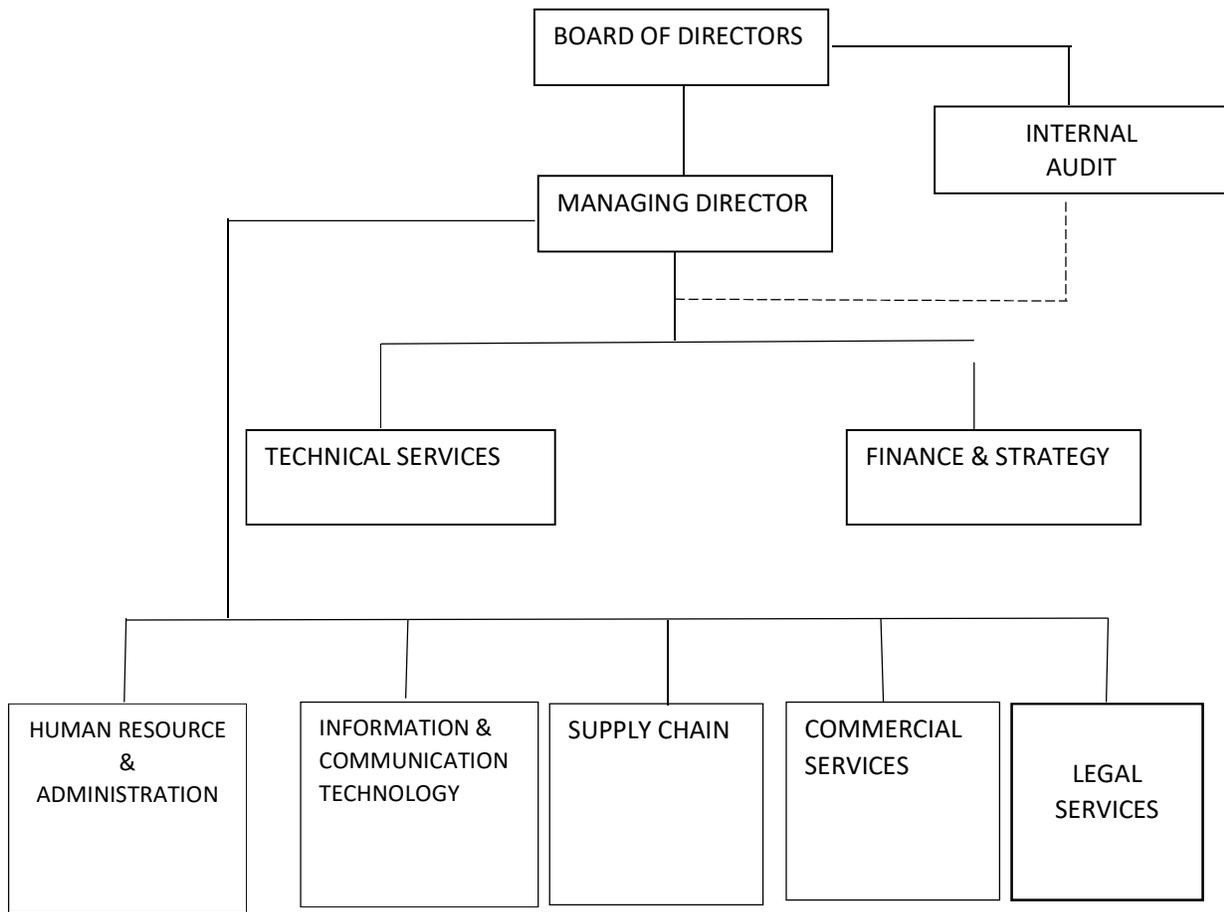


FIGURE 2: PROPOSED ORGANISATION STRUCTURE



7.0 FINANCIAL ANALYSIS

7.1 Introduction

Financial analysis enables an organization evaluate its financial position in order to establish its capability to meet its financial obligations. This involves analysing financial statements and giving insights on the position of the organization as far as financial allocation and obligation is concerned.

7.2 Financial Accountability

NYEWASCO has operated as a self-accounting corporate, publishing its accounts annually from July to June based on Government accounting year. The Company has a full equipped Finance, Accounting and budgeting section with qualified accounting staff.

Currently the company is operating a sage pastel accounting system which is fully interfaced with the company billing program.

The plan is to have a full Enterprise Resource program within the next Five years.

7.3 Financial Objectives

NYEWASCO's financial objectives emphasize the following themes:

- **Financial self – sustenance:** The Company aims to move more closely toward position of financial self-sustenance with regard to operations, maintenance and development costs over the coming five year period.
- **Revenue growth:** The Company plans to grow its revenues by a minimum of 75 per cent over the period of the plan.
- **Revenue collection:** The plan projects a revenue collection efficiency of 95% in the 1st year which is improved to 97% in the other four (4) years.
- **Cost recovery:** The Company' intention is to move towards tariff – levels that achieve full cost recovery, while restricting tariff increases to rates below inflation overall.
- **Cost control:** To achieve below – inflationary tariff increases and achieve financial sustainability, the management will institute and effect stringent measures for cost control. Cost growth will be restricted to below inflation rate and maintain at a level of 70% or below of the revenue.
- **Reinvestment of Surpluses:** during this period, the company shall ring fence net surpluses realized. These reinvestments will support future, internally – financed expansion, while enabling tariff levels to be stabilized at market predictable levels.
- **Loan Repayments:** The Company will continue to service the KFW loan over the plan period.

- The company plans to seek for commercial financing through the results based financing options under the output based aid or aid on delivery.

7.4 Current Ratios

The liquidity ratios improves as follows over the plan period:

Current ratio from 1.76 to 2.34

Quick ratio from 1.67 to 2.27

Acid test ratio from 0.81 to 1.58

(A detailed analysis is herewith attached.)

7.5 Gearing Ratio

The debt to equity ratio improves from the current 214% to 64% despite the more borrowings. This is driven by increase in Shareholders equity due to accumulated surpluses and continued loan repayment over the plan period.

7.6 Profitability

The profit margin in comparison with revenue increases from 11% to 19 %. This is clearly driven by revenue growth and containing expenditure growth to below inflationary rate estimated at 7.5%. however the impact is negatively affected by increase of finance charge due to borrowings. All the same the total recurrent expenditure as a percentage of revenue is contained at 70% or below.

7.7 Fixed assets ratio

The return on net assets increases from 4% to 8%. The main drivers of this is revenue increase by 75% at the end of plan period and containing the expenditure to below 70% of revenues.

7.8 Debtors and Creditors Paying Period

As per the attached Ratio Analysis, the company Debtors day ratio improves from 127 days to 68 days. This is through improvement of same year collection efficacy ratio from 95% to 97% and liquidating at least Kshs 15,000,000 from arrears every year.

The Company's creditors payments days improves from 95 to 65 days after clearing of accumulated board administration fee on behalf of county government or converting them to Grants.

8.0 FINANCIAL PLAN

Sustainability is a pressing concern in all sectors, whether public or private. The economic challenges that face Kenya as well as other African countries have become a great concern to many investments. This plan seeks to demonstrate the financial viability of NYEWASCO. The road to sustainability for public service providers is difficult due to inherent dependency, difficulty of achieving financial self-reliance, and serving the poorest of the poor and the marginalised. The Company will, therefore, be a leverage measure and a strategic move to ensure future financial success of NYEWASCO.

8.1 An Overview

A financial plan covering the five – years’ corporate planning period is shown as Appendix B of this document. This plan builds on

- **Historical performance:** As a starting point for this plan is the company’s present financial position: To this end, the plan uses both audited financial data for the year 2014-2015, year 2015-2016 unaudited and year 2016-2017 budgeted.
- **Forward planning assumptions:** A key feature of this corporate plan is its focus on Service Delivery and the need to attain deliverables as indicated in the service provision Agreement (SPA), Performance Contract and company Strategic Plan.

8.2 The Projections on the Financial Statements

8.2.1 Income statement

The projected Income statement for the next five years is herewith attached. It indicates that the surpluses will grow from Kshs 45,969,786 to Kshs 136,939,534.

8.2.2 Balance Sheet/ Statement of Financial Position

The projected Balance sheet for the five years plan period is herewith attached. The Balance sheet shows a strong position with asset base growing from current Kshs 1,359,209,539 to Kshs 1,878,660,745

8.2.3 Statement of Changes in Equity

The attached Projected statement of changes in Equity indicates that shareholders Equity will grow from Ksh 380,165,655 to Kshs 1,023,881,577 over the next five years.

8.3 Key Assumptions

NYEWASCO's financial plan is therefore based on the following key assumption.

Operating Parameters for the Plan Scenario

The plan scenario uses the following operating parameters:

Table 7: Operating parameters

Parameter Description	Assumption Used For the Plan
<p>The KFW loan was used to finance Nyeri Water Extension Project.</p> <p>Currently is being serviced by NYEWASCO</p>	<p>NYEWASCO will continue to service the loan as per the Agreement</p>
<p>The human resource plan compares NYEWASCO's present staff complement to the target number of staff actually needed to run the business.</p>	<p>NYEWASCO plans to achieve its target number of staff by a combination of redeployment and recruitment.</p>
<p>As a company, the possibility exists that NYEWASCO will continue to be subjected to the Income Tax Act. This could bring a big financial challenge especially on re-investment of surplus</p>	<p>The plan is based on NYEWASCO Taxable losses due to Investment deductions claimed on the main water Extension project. It is assumed that these losses will offset any taxable profit generated over the plan period. More borrowings will bring more investments and hence more Investments deductions.</p>
<p>Under the new Constitution the responsibility of Water provision has been put under the county Governments.</p> <p>The council lease agreement expired on 31st December 2015 while the SPA with TWSB expires on 1st May 2017.</p> <p>A question arises as to what happens to lease fee paid to Municipal Council of Nyeri and Board Administration Fee paid to Tana Water Services Board</p>	<p>The plan is based on the assumption that after expiry of these agreements these fees will not be paid.</p>
<p>Under the strategic plan the company has envisaged to finance various extension projects by sourcing finances from development partners through Aid on delivery concept,/ Commercial Financing and Output Based Aid on pro-poor projects. A question arises as to whether this financing will be available</p>	<p>The plan is based on the assumption that the company will be able to secure this financing from the development partners</p>

8.4 Economic and Pricing Assumptions

The central economic assumption under this plan is an annual inflation rate of 7.5%. The following assumptions are made for other economic rates:

- Short term borrowing interest rate (to cover cash deficits) – 7.5% above inflation.
- Short term investment interest rate (for cash surpluses) at inflation rate.
- Revenue increase rate (and increase rate for all other billable revenues) to be at 7%, to emphasize NYEWASCO's efficiency objectives. Tariff Increase of 20% to be effected in 2017-2018 Financial Year.
- Personnel cost increase rate to be kept at 7.5% as per inflation rate.
- Administration expenses are projected to increase by 7.5% from 2016-2017 budgeted figures.
- Operations and maintenance costs are projected increase by 7.5% from 2016-2017 budgeted figures.
- Board Administration fee to be paid until the expiry of the current Service Provision Agreement.
- Regulatory fee is based at 1% of the revenues.
- Interest on A.O.D Loan and OBA to be at 14% i.e being the current market rate.

8.5 Other Key Operating Assumptions

Finally, the plan reflects a greater commercial orientation and focus on efficiency and productivity. Assumptions at this level include:

- Reducing non -revenue water (NRW): This is targeted to fall from 18.89% at present to 16.5% by the end of the plan period.
- Enhanced revenue collection efficiency and collections and payments management: Revenue collection efficiency will be maintained at 97% with a focus on improving it to above 98%.
- Timely payments within policy set credit periods. Payables will also be managed using policy – set levels
- A modernized salary and A collective Bargaining Agreement with the workers Union- This will continue to avoid industrial unrest but driven by salary structure designed and approved establishment.
- The plan estimates depreciation provisions for long term assets, so as to better assess the efficacy of tariff levels, while ensuring that revenues are matched with the costs incurred in earning such revenues. Commercially driven depreciation rates are used.

8.6 Financial Plan: Summary of Outcomes

Detailed financial statements highlighting the financial outcomes from this corporate plan are shown in Appendix B, which includes an executive financial summary: The financial plans shows the following key outcomes.

- **Operating revenues will have increased by more than 75 percent by the end of the plan period, due to growth of expansion coverage and Tariff Review.**
- **Overall costs also increase by 61 percent during the period, particularly due to inflationary factors and the interest due to the heavy borrowing the Company plan to do for Capital Expenditure over the period.**
- **Fundamentally, however, NYEWASCO is a profitable business throughout the plan period with operating revenues exceeding operating costs in all years**
- **However NYEWASCO's Loan financing portion place a high burden on cash flows, with the result that if the tariff is not reviewed, cash deficits could arise. These deficits will attract significant interest penalties, which in turn adversely impact overall profitability. As a result, NYEWASCO must increase tariffs to remain profitable overall in order to meet its loan and associated interest obligation.**
- **Finally, a review of the projection shows that higher depreciation charges (following capitalization of the project assets) and loan interest cost will completely eliminate potential revenue surpluses expected. As a result only minor Investments may be managed under the plan period from internally Generated Funds).**

9.0 PROPOSED COMPANY FINANCING

The Company proposes to finance the recurrent expenditure through internally generated funds. To this end a cost recovery tariff will have to be implemented in order to cover the operations and maintenance, finance charges as well as minor investments from internally generated funds.

The following is the proposed financing structure of the capital budget.

Minor capital works to be funded by Internally Generated Funds

ITEM	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
	KSHS	KSHS	KSHS	KSHS	KSHS
Land	1,000,000	1,000,000	1,000,000	3,000,000	1,000,000
Building	850,000	-	-	-	2,000,000
Water works	4,000,000	10,000,000	13,000,000	17,200,000	62,500,000
Sewerage Works	12,300,000	7,300,000	7,100,000	7,600,000	7,100,000
Plant and Machinery	15,000,000	9,900,000	11,400,000	9,800,000	11,550,000
Furniture's and Equipment	7,519,000	4,250,000	3,670,000	3,965,000	2,660,000
Meters	14,600,000	15,300,000	16,900,000	18,500,000	24,000,000
Motor vehicles/cycles	1,450,000	4,300,000	9,300,000	4,900,000	9,900,000
Computers	4,450,000	4,450,000	6,750,000	8,450,000	3,450,000
Sub-total	61,169,000	58,800,000	70,820,000	73,415,000	124,160,000

Capital works to be Funded by Grants from County/National Government

ITEM	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
	KSHS	KSHS	KSHS	KSHS	KSHS
Upgrading Mathari Line	10,000,000				
Upgrading MweigaIhururu Line	8,000,000				
Mutathini Water Extension	8,000,000				
Mweiga Sewerage Works		50,000,000			
Kirimukuyu Water Project		120,000,000			
Sub-total	26,000,000	170,000,000			

Capital works to be funded by loan Funds

ITEM	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
	KSHS	KSHS	KSHS	KSHS	KSHS
Ring Road Sewer Extension	27,307,420				
Skuta and Garden Estate Sewer Extension	177,810,087				
Chaka Sewer Project		50,000,000			
Sub-total	205,117,507	50,000,000			

The Board and management team has identified four key challenges that will be addressed during the plan period.

- NYEWASCO will work as team to ensure – to the extent possible – that the anticipated revenue impact is achieved throughout the plan. This in turn means that a clear focus is required on ensuring that the Tariff review is achieved.
- Secondly NYEWASCO will focus very closely on both revenues and cash flows, and particularly cash flows, as it is evident from the plan that weak cash management can destroy even fundamentally profitable business such as NYEWASCO:
- Finally, we recognize that NYEWASCO can neither sustain nor afford a growing cost base. As such we will use a stringent cost centre based responsibility budgeting and accounting system to maintain a clear and consistent cost focus throughout the plan period.. As the plan illustrates, financing and related costs will need to be managed very closely if funds are to be generated to fund loan repayment and internal, expansion as well as establishing tariffs and this will be reflected in the annual budget process.
- Capital Projects which cannot be financed from internally generated fund will have to be financed through funds from development partners, county government and National government. On this note Aid on delivery concept will play a big role.

9.1 Key Performance Targets

Financial performance is only one aspect of organisation performance that NYEWASCO management will monitor. Performance improvements are also planned in various operational areas of the business. These indicators, support by comparative historical data, are detailed in Appendix C, and highlights include:

- **Physical:** By the year 2020-2021, UFW will have fallen from the present 19% to 16.5% within the target outlined in the strategy.
- The target for connections by the year 2020-2021 will be about 35,000 from about 25,000 currently.
- The target for sewer Connections by the year 2021 will be about 9,000 from 7,009 currently.
- **Effectiveness:** A key indicator of the effectiveness of this process of transition to a commercialized context is the level of tariff increment projected. This will be maintained below inflation at an average of half of the inflation rate.
- **Operation efficiency:** All of our measures of operational efficiency are target for significant improvement. Key among these is the target for staff per 1,000 metered connections (both water and sewer).
- . The key messages from these financial measures are the significant revenue impact of the expansion project, and our intent to focus very closely on cost management and control.

9.2 Conclusion

The financial plan and key performance targets outlined in this chapter form the basis for measuring, monitoring and managing the outcomes and impacts of the action that the NYEWASCO Board and management team will take over the coming five – year period. In this context, they will provide our team with yardsticks against which we will measure the reliability and reasonableness of our assumption, and the effectiveness of our performance. More critically, however these measures will guide NYEWASCO's annual budgeting process, which will be of necessity, aim to meet the four key financial challenges we have set for ourselves.

10.0 CRITICAL RISKS AND CONSTRAINTS FACING NYEWASCO

NYEWASCO operates in a dynamic environment thus faced by a myriad of risks. NYEWASCO seeks to deliberately identify risks facing the company in order to come up with ways of mitigating those risks. Risk identification and mitigation allows the company to strategically position itself in the highly competitive market. The following are some of the risks facing NYEWASCO among others:

10.1 Market Risks

- i. Increasing competition in the water sector
- ii. Over stretching of water utilities
- iii. Alternative water supply sources
- iv. Failure to supply the product to the entire market area due to topographical constraints
- v. Market developments will adversely affect plans
- vi. Political and market factors (for management of risk, security etc.)

10.2 Credit Risks

- Failure of contractors
- Insolvency of suppliers
- Failure of suppliers to meet contractual commitments (this could be in terms of quality, quantity and timescales on their own exposures to risk)
- Insufficient capital investment, shortfall in revenue expected/planned
- Fraud/Theft
- Public/Private Partnerships failing to deliver desired outcome
- An event being non-insurable or cost of insurance outweighs the benefit
- Exchange rate fluctuation
- Interest rate instability
- Inflation
- Shortage of working capital
- Failure to meet project revenue targets

10.3 Compliance Risks

- New or changed legislation may invalidate assumptions up on which the activity is based
- Multiple Regulations
- Failure to obtain appropriate approval (e.g. planning consent)
- Unforeseen inclusion or contingent liabilities
- Loss of intellectual property rights
- Failure to achieve satisfactory contractual arrangements

- Unexpected regulatory controls of licensing requirements
- Changes in tax structure

Table 8: Risk Management Framework

Market Risk	Likelihood	Impact	Control Tactics
Increasing competition in the water sector	Low	Loss of market share	To maintain quality and service level standards and a favourable cost to price ratio
Over stretching of water utilities	Medium	Failure to meet market demand	Renewal and expansion of the facilities
Alternative water supply sources	High	Loss of revenue	To maintain quality and service level standards and a favourable cost to price ratio Enforce the provision of the law
Failure to supply the product to the entire market area due to topographical constraints	Medium	Failure to meet the coverage area and maintain service standards High cost of operation	Use of alternative power sources for pumping water
Political and market factors (for management of risk, security etc.	Medium	Damage of company image and facilities	Sensitize and public engagement as well as inclusion in policy formulation
Credit Risk	Likelihood	Impact	Control Tactics
Insolvency of suppliers	Low	Delays in supply of goods	Comprehensive evaluation of the financial statements
Failure of suppliers to meet contractual commitments (this could be in terms of quality, quantity and timescales on their own exposures to risk)	Medium	Interruption in production and service delivery	Strengthening of specification requirements and contract signing. Bid bonds and performance bonds
Insufficient capital for re-investment, shortfall in revenue expected/planned	High	It will negatively affect service delivery	Plans on Cash flow projections

Fraud/Theft	Medium	It will negatively affect service delivery	Carrying out internal controls self-assessments
Public/Private Partnerships failing to deliver desired outcome	Low	Stalling of projects before completion	Creating an understanding in the PPP. Have a PPP policy in place. Continuous engagement
Exchange rate fluctuation	Medium	Affects the purchasing power and the cost of living	Avoid transaction commitment in foreign currency Hedging
Interest rate instability	Medium	Company pays additional interest	Negotiate for better market rates
Inflation	Medium	Affects the cost of doing business	Cost Recovery Tariff
Compliance Risk	Likelihood	Impact	Control Tactics
Shortage of working capital	Low	If it happens it can affect operations and liquidity	Proper management of the working capital
New or changed legislation may invalidate assumptions upon which the activity is based	Medium	Negative impact on service delivery	Lobby with the relevant legislation bodies
Multiple Regulations	High	Causes uncertainty and brings in confusion	Lobby for harmonization of regulations
Failure to obtain appropriate approval (e.g. planning consent)	Low	High interruption of operations	Lobby

Unforeseen inclusion or contingent liabilities	Low	Destabilize operations and service delivery	Make provision for contingency fund.
Loss of intellectual property rights	Low	Low	Registration
Failure to achieve satisfactory contractual arrangements	Low	It can lead to financial losses and delayed intended service from the project	Strictly monitoring and evaluation of the project implementation
Unexpected regulatory controls of licensing requirements	Low	Increases the cost of doing business & compliance	Lobbying & public participation in relevant forums
Changes in tax legislation	Medium	Impacts on operational cost & compliance risks	Lobbying through relevant Govt. bodies

10.4 Risks in the HR Department

	HR ACTIVITY	POTENTIAL RISK	Measures
1	Compensation and benefits	Financial abuse	Strong internal financial control systems have been established to prevent incidents of financial abuse in the award of compensation and benefits for employees
2	Hiring / recruitment	Discriminatory practices Canvassing Hiring unsuitable or Security threat candidates "Wrongful" hiring	The company implements a human resource policy on recruitment and placement.
3	Occupational Health and Safety	Environmental Personal injury	Implementation of occupational safety and health policy.

		or death	
4	Employee supervision	Abuse Reputation in the community Release of personal information	A performance management policy for all the regular employees has been put in place
5	Employee conduct	Abuse Portrays the Company image negatively Loss of company goodwill Low productivity	Continuous culture change training. Enforcement of code of conduct and ethics.
6	Exiting employee	-Reputation in the community -Compensation -Capacity draining	A pre- retirement training programme has been put in place
7	Talent management and succession planning	Crises management	A talent management and succession plan has been put in place
8	Turn over	Replacement cost	Competitive compensation scheme has been put in place
	Retention	Loss of competent staff	Performance reward system is in place

Supporting Advisors and Services

From time to time the company seeks for professional advisory services of the following:

1. The lawyers: the company seeks
2. The company secretary
3. Management & technical consultants
4. Auditors / Financial Consultants
5. Medical practitioners

Other Supporting Services Include:

1. Cleaning
2. Insurance
3. Calibration
4. Security & severance

10.5 Production and Operation Risks

Production and Operations Risk	Likelihood	Impact	Control Tactics
Water Pollution	High	Water borne diseases	Regular test analysis and surveillance
River flooding	High	Blockage of screens at the intake resulting to low production	Improve on screening and carry out regular unblocking of screens
Landslide along the pipelines	High	Interruption of water supply	Regular patrol of pipelines and carrying preventive measures such as construction of gabions and retaining walls where necessary
Landslide upstream of the intake	High	High turbidity in the raw water	Regular surveillance and protection of the catchment areas
Vandalism of water appurtenances and fittings	High	Interruption of water supply	Protect Facilities and sensitize the public on reporting cases on vandalism
Terrorism	High	Destruction of facilities and Water contamination	Enhance security measures by protecting the major facilities

Drought	Medium	Water scarcity	Construction of a strategic water reservoir upstream Conservation of catchment area.
Fire	Low	Destruction of facilities	Install fire fighting gadgets at strategic points Insure the facilities
Natural calamities such as Earthquake, lightening etc	Low	Destruction of facilities	Ensure proper designs
System Failures	High	Interruption of water and sewerage services	Proper design and maintenance of facilities
Corruption Practices	High	Loss of revenue Negative company image Poor Service delivery	Sensitize the staff Ensure proper management systems are in place
Water theft	High	Loss of revenue	Regular monitoring and inspection of water system

Production and Operation Critical Risk Analysis and Management

RISK	LIKELIHOOD	IMPACT	CONTROL TACTICS
Operational breakdown	Possible	Supply of sub-standard water	Regular monitoring of water quality
Operational breakdown	Possible	Discharge of sub-standard effluent water	Regular monitoring of effluent quality
Flooding leading to inaccessibility of the intake works	Unlikely	Result to lack of water	Plan for alternative intake point
Drought	Unlikely	Resulting to low flows in the river and may lead to lack of water	Plan for proposed dam
Landslides	Rare	Leading to increased sediments in the raw water beyond treatment plant capability and may lead to supply of sub-standard water.	Collaborate with other government agencies in at least 1No. awareness creation in the best techniques of land use in steep areas annually. Regular monitoring of water quality

11.0 CONCLUSION

It is the sincere belief of NYEWASCO management that this business plan is a blue print to the company's sustainability. The plan is based on practical and realistic strategies drawn from lessons learnt from over the last decade of existence, evaluation reports and best practices in the industry. One of the key inputs to the plan is previous performance and the Strategic Plan. The demand for water supply and sewerage services among the key customers is solid.

The implementation of this plan will be supported and monitored by the top management team to ensure the expected outcomes are realized. The TMT specifically will be advising the MD on any changes in the macro environment to ensure the strategies employed are in line with the prevailing environment. This business plan is a clarion call to all NYEWASCO stakeholders and well-wishers for support to ensure success. This is best illustrated by the words of the great M.K Gandhi who said, **"Strength does not come from a physical capacity. It comes from an indomitable will power"**.

APPENDICES