



BUNGOMA COUNTY WATER DRILLING RIG POLICY

2020

TABLE OF CONTENTS

Abbreviations and Acronyms..... 2

Chapter One..... 3

Context and Rationale for the Bungoma County Water Drilling Rig Policy: 3

 1.0. Introduction..... 3

 1.1. Background..... 3

 1.2. Context and Rationale for the Bungoma County Water Drilling Rig Policy 4

 The Context 4

 The Rationale..... 5

 1.0. Drivers of the Bungoma County Water Drilling Rig Policy 5

 1.1. Process of Developing the Policy 6

Chapter Two 7

The Policy Framework..... 7

 2.0. Introduction..... 7

 2.1. Goal..... 7

 2.2. Objectives 7

 2.3. Guiding Principles..... 7

Chapter Three 9

Opportunities for the County Water Drilling Rig and Strategic Policy Interventions 9

 3.0. Introduction..... 9

 3.1. Opportunities and Strategic Policy Interventions..... 9

Chapter Four 12

Policy Implementation Framework 12

 4.0. Introduction..... 12

 4.1. Institutional Framework 12

Chapter Five..... 15

Policy Monitoring and Evaluation, Reporting and Review 15

 5.0. Introduction:..... 15

 5.1. Monitoring and Evaluation: 15

 5.2. Reporting: 15

 5.3. Review of Policy: 16

Appendix 1: Terminology 17

Abbreviations and Acronyms

CBO	-	Community Based Organization
CECM	-	County Executive Committee Member
CIDP	-	County Integrated Development Plan
EMCA	-	Environmental Management and Coordination Act
GPS	-	Global Positioning System
KFS	-	Kenya Forest Service
KPHC	-	Kenya Population and Housing Census
KWS	-	Kenya Wildlife Service
LVNWWDA	-	Lake Victoria North Water Works Development Agency
NEMA	-	National Environment Management Authority
NGO	-	Non-Governmental Organization
NZOWASCO	-	Nzoia Water Services Company
PLWD	-	People Living With Disability
SDGs	-	Sustainable Development Goals
WUA	-	Water Users Association
WRA	-	Water Resources Authority
WRUAs	-	Water Resource Users Associations

Chapter One

Context and Rationale for the Bungoma County Water Drilling Rig Policy:

1.0. Introduction

This Chapter outlines the context and rationale for the County Water Drilling Rig Policy highlighting key policies and regulations that have influenced its development. Finally, the chapter presents the Drivers of the water drilling rig policy in addition to the process of developing this policy.

1.1. Background

Water provision in Bungoma County has been a challenge due to the increasing population and therefore demand. The County is unable to meet its water demand despite being projected to have adequate water resources. This has partly been caused by the County's surface water resources quality and quantity being greatly affected by environmental degradation through encroachment, pollution, non-revenue water and poor management by water service providers.

The County Integrated Development Plan (CIDP) II 2018 -2022 identifies ground water as a key source of water that should be explored if the County is to ensure communities access constant supply of water in the required quality and quantities desired. Bungoma County has identified small scale water supply systems from ground water as one of the key strategies it has to employ in order to enhance water provision. Qualities of ground water such as:- it is found almost everywhere and provides water on demand; its abstraction systems can be developed quickly; its capital costs are generally lower compared to surface water; ground water systems are drought-resilient especially in large storage aquifers and its systems

face smaller transmission and storage losses than surface water systems informed the County's decision.

Therefore, as a result of ground water being one of the key water sources for Bungoma County, water drilling will be prioritized in order to ensure communities access water. Water drilling for borehole construction is a good source of water for individual homesteads and even small water supply schemes. Drilling techniques (compressor or mud drilling) vary depending on the ground formation. The methods of drilling vary however, the most common is rotary drilling that bores vertically into the earth. It must be emphasized that water drilling must adhere to international and national standards in order to obtain potable water and also ensure safety standards are maintained during the drilling process. Hence the need for this County Water Drilling Rig Policy.

1.2. Context and Rationale for the Bungoma County Water Drilling Rig Policy

The Context

The Bungoma County water drilling rig policy is informed by various national and international statutory documents. These include the following:

- The Constitution of Kenya 2010 under article 43 access to safe and adequate water is a basic right.
- The Water Act, 2016 that provides for the the 'conservation, apportionment, and use' of water resources.
- The Environmental Management and Coordination Act (EMCA) 1999 cap 387 that is the national statute that governs protection, conservation and management of the environment.
- EMCA (Water Quality) Regulations (2006) provide for the protection of lakes, rivers, streams, springs, wells and other water sources.
- The Physical Planning Act (1996) cap 286 that provides for physical planning and development control

- Occupational Health and Safety Act (2007) that provides for the safety, health and welfare of all workers and all persons lawfully present at workplaces.
- The National Climate Change Action Plan 2018-2022
- Kenya Vision 2030
- United Nations' Sustainable Development Goals (SDGs) that outlines a global framework and commitment for sustainable development. The Key SDGs related to water provision include: -
 - Goal 3: Ensure healthy lives and promote wellbeing for all at all ages
 - Goal 6: Ensure availability and sustainable management of water and sanitation for all

The Rationale

Bungoma County seeks to establish an effective, efficient and sustainable mechanism for County Government-owned water drilling rig operations. This policy is therefore developed in order to:

- a) Provide a policy mechanism to guide operations of the County water drilling rig
- b) Facilitate adoption and compliance with relevant international and national standards for water drilling
- c) Facilitate the realization of Kenya`s Vision 2030 and aspirations of the CIDP II 2018 - 2022

1.0. Drivers of the Bungoma County Water Drilling Rig Policy

The County has acquired a water drilling rig unit that consists of the following; - the drilling rig and support truck; Test Pumping Unit and Geotechnical equipment (Terameter and Borehole camera). The water drilling rig unit is part of the County`s strategies to enhance county residents' access to adequate and potable water. The Constitution of Kenya 2010 placed a human right to adequate clean

water to every citizen and given that only 25.8% of the 1,670,570 persons in Bungoma County as per the 2019 Kenya Population and Housing Census (KPHC) have access to potable water, the County must put in mechanisms and systems to enhance realization of the universal access to water and sanitation.

The water drilling rig unit components are machinery that require adequate systems in place to ensure constant operations free from frequent break downs if the County is to realize its goal. The County lacks the capacity both technical and human due to limited budgetary allocation to fully keep the drilling rig unit operational on a day to day basis and therefore modalities including own-revenue to assist in maintenance must be explored to ensure sustainable operations. Routine inspections, testing and maintenance of rig components also help avoid accidents from drilling operations

The County-owned water drilling programme must comply with national and international standards both before and after borehole drilling. All permits and licenses laid out by various regulatory frameworks must be obtained.

Bungoma County has a huge demand for water however, the water drilling rig unit may not resolve this demand in the short term and therefore, County stakeholder and Community engagements and collaborations shall be key in identifying priority areas where water drilling shall be undertaken.

1.1. Process of Developing the Policy

A participatory approach through consultation with key stakeholders in the County water sector informed the process of developing this Policy. County water actors including National Environment Management Authority (NEMA), Water Resources Authority (WRA), Lake Victoria North Water Works Development Agency (LVNWWDA), Kenya Forest Service (KFS), Kenya Wildlife Service (KWS), Office of the County Attorney, County devolved departments, county assembly and the civil society.

Chapter Two

The Policy Framework

2.0. Introduction

This Chapter outlines the goal, policy objectives and guiding principles that will underpin the implementation of this policy.

2.1. Goal

The overall goal of this policy is to operationalize the sustainable use of the County owned water drilling rigs for increased access to water by the Citizenry of Bungoma County.

2.2. Objectives

The Objectives of this policy are:

- a) To integrate sustainable operation frameworks for water machinery and equipment into the Water Sector`s planning, decision-making, budgeting and implementation
- b) To guide the use of the County owned water rig for enhanced exploitation of ground water sustainably.
- c) To encourage stakeholder engagement and participation in decision-making with regard to the utilization of the county water drilling rigs.
- d) To enhance resource mobilization for sustainable ground water exploitation.

2.3. Guiding Principles

The implementation of this policy shall be guided by the following principles: -

- a) **Professionalism:** The siting, supervision and construction of drilled boreholes in Bungoma County shall be undertaken by competent and registered government/NGO staff, consultants and contractors.

- b) **Siting:** Borehole preliminaries shall be undertaken earlier and approvals received before commencement of drilling. A hydrogeological desk study shall be carried out and the detailed method for siting agreed (with stakeholders including communities)
- c) **Technology Selection and Construction Method:** The most cost-effective construction method for providing an all-year water supply of the desired quantity and quality shall be considered first.
- d) **Procurement:** Procurement procedures for siting, supervision and drilling contracts shall ensure that contracts are awarded to competent consultants and drilling contractors. Once regulations are in place, only registered and accredited consultants and contractors will be eligible to tender
- e) **Construction:** Boreholes constructed shall be cost-effective, with an expected lifespan of 20 to 50 years. Construction shall adhere to specifications with respect to diameter, depth, casing and screen, gravel pack/formation stabilizer, verticality, drilling additive and sanitary seal.
- f) **Supervision:** Full time supervision is the preferred option in Bungoma County. There shall be a trained and experienced supervisor on the site from when the department/contractor mobilizes his equipment to the site through construction/rehabilitation and completion to demobilization.
- g) **Water Quality Testing:** The water quality for all boreholes shall be tested in accordance with the *Guidelines for Water Quality Monitoring*
- h) **Contract Management:** Management of the siting, supervision and drilling contract shall be in line with national and international systems
- i) **Data:** a borehole numbering system shall be developed, all new boreholes drilled shall be numbered accordingly, in a manner that can be clearly distinguished for ten to twenty years.
- j) **Monitoring:** Regular visits to water users with completed boreholes to monitor the water user committees and functionality of the water points after six months and then at least once per year shall be enhanced.

Chapter Three

Opportunities for the County Water Drilling Rig and Strategic Policy Interventions

3.0. Introduction

This Chapter highlights the opportunities and strategic policy interventions that should guide Bungoma County to sustainable management of the water drilling rig and associated equipment.

3.1. Opportunities and Strategic Policy Interventions

3.1.1. Site Identification

Water drilling operations commence with site identification as borehole siting requires consideration of aspects such as: - prevailing geology and available ground water resources; usage; proximity to other boreholes; accessibility of the site among other issues.

Strategic Policy Interventions

The County in collaboration with relevant stakeholders and the community shall undertake the following: -

- i. Implement of the County Water Master Plan in site identification
- ii. Undertake feasibility studies and geophysical surveys to map County ground water resources before commencement of any drilling
- iii. Establish a framework for prioritizing the most water stressed areas and emergency cases for water drilling projects.
- iv. Promote equitable distribution of water drilling projects across the County
- v. Strictly adhere to regulations under the EMCA Act and Water Act on licencing of sites and acquisition of permits prior and after borehole drilling.
- vi. Undertake drilling on public land and institutions - health centres and public schools in ways that enhance access by surrounding community.

3.1.2. Revenue Generation

The County water drilling rig units are machinery that could be utilized not only to provide financial resources for maintenance of the unit but also generate revenue for the County.

Strategic Policy Interventions

The County in collaboration with relevant stakeholders and the community shall undertake the following: -

- i. Develop regulations in consultation with the County Treasury on modalities and fees/charges for hiring out the drilling unit or its components
- ii. Develop a clear strategy for sharing the revenue generated through hiring out the rig in consultation with the County Treasury and in accordance with the Public Finance Management (PFMA) Act
- iii. Give priority to County drilling projects over hiring out.

3.1.2. Operation and Maintenance

The water drilling rig units are machinery that must be serviced to ensure water drilling operations are without any hitches for the County to attain its objective of increasing water accessibility.

Strategic Policy Intervention

The County in collaboration with relevant stakeholders shall undertake the following: -

- i. Establish a schedule for proper and timely servicing of the rig and associated machinery e.g. framework contract arrangements
- ii. Undertake servicing at qualified providers or even suppliers of the equipment.

- iii. Mobilize adequate resources for the water drilling rig operations including budgetary allocations by the county government.
- iv. Employ and train rig operators and other requisite officers to oversee operations and maintenance of the water drilling rig units in collaboration with the Kenya Water Institute
- v. Provision of Personal Protective Equipment (PPEs), tools, equipment and comprehensive insurance to the rig operators and officers
- vi. Install fleet management systems such as GPS systems, log sheets, work schedules to ensure efficient operations.
- vii. Store the equipment in a safe and secure facility.

DRAFT

Chapter Four

Policy Implementation Framework

4.0. Introduction.

This chapter outlines the approach to policy implementation. It also outlines the key stakeholders and requisite institution framework for effective implementation of this policy through effective coordination.

4.1. Institutional Framework

The complex and technical nature of managing the Drilling rig operation and the need to integrate all key stakeholders' considerations in planning its activities calls for cooperation and consultation among responsible government agencies and stakeholders at all levels. It is particularly important to recognize the existing institutional mechanisms and consider ways and means by which coordination and cooperation can be enhanced between the many institutions whose mandates relate to underground water provision.

The county Department responsible for matters of Water services provision will constitute working teams to manage the drilling rig.

The CECM will ensure formation of the Rig Management Unit consisting of qualified officers under his department that will oversee all the operation and maintenance aspects of the drilling rig fleet.

Key County and National Level Actors:

- a) County Department responsible for Water services provision: A key mandate for this department is water services management: conservation and protection of water resources in the Bungoma County. It is the key implementing department of this policy.

- b) *County Environment Committee*: Key mandate is planning and oversight of all county environment matters

Regional Actors

- c) *Lake Region Economic Bloc*: Constitutes 14 member counties. The Bloc seeks to promote trade development and investments among member counties, this will be a critical stakeholder as the Bloc has shared natural resources, cross boundary water, and hydro-geo formations. It also promotes ecosystem management which encompasses shared resources among member counties.
- d) *Lake Basin Development Authority*: The authority is mandated to spur socio-economic development through sustainable utilization and conservation of natural resources in a coordinated approach within the region.
- e) *Lake Victoria North Water Works Development Agency*: LVNWSB a key player in water and sewerage service provision through infrastructure development and protection of water resource.
- f) *NZOWASCO*: will undertake water quality test services.

Key National Level Actors

As Bungoma county develops economically and socially it will seek to collaborate with National Level Agencies with a mandate bearing on access to potable water and other Natural resources:

- g) *National Environment Management Authority (NEMA)*: is the national regulatory agency coordinating with the decentralized entities. There are various committees on standards enforcement and action plans to support compliance requirements
- h) *Water Resources Authority*: WRA has the central water testing laboratory in Kenya. The key mandate is to sustainably and equitably allocate water resources among various competing needs through the process of water use permit. Water Quality tests shall be done at the authority's accredited laboratory
- i) *Ministry of Water and Irrigation*: The Ministry is mandated to coordinate all water sector agencies and formulate national policies and licensing of water drilling rigs.

Non - State Actors

- j) *CBOs, NGOs in the water, environment, natural resources and forestry space.*
- k) *WUAs, WRUAs*
- l) *Business Community*

Key informal sector player

m) Youth groups and Women groups

DRAFT

Chapter Five

Policy Monitoring and Evaluation, Reporting and Review

5.0. Introduction:

This chapter wraps up the policy with highlights on how to monitor, report and review the policy. It anchors the monitoring, reporting and review processes in the institutional frameworks outlined in chapter three.

5.1. Monitoring and Evaluation:

The Department of Water and Natural Resources will have the overall responsibility for the implementation of this policy. The CECM responsible for Water and Natural Resources, jointly with relevant sector representation will be responsible for ensuring the implementation is followed through. The implementation of the policy will comply with the national laws and regulations governing monitoring and evaluation at all times. To effectively ensure this happens, there shall be an integrated monitoring and evaluation system on Rig Management policy in the county. A baseline will provide the foundation upon which progress of in shall be measured.

It is among county government intervention policies responsible to market the County rig operations and stimulate economic development and growth. Performance evaluation by the lead department and other relevant sectors will be carried out through Key Performance Indicators (KPI). The monitoring will also be both formative (taking place during the policy implementation period with the aim of improving the outcomes) and summative [drawing and implementing lessons from policy objectives already achieved (or not achieved)].

5.2. Reporting:

With regard to reporting the County department responsible for water services provision in Bungoma County shall develop a mechanism for recording and reporting all rig operation activities in the county. Such a mechanism will focus on both government and private player activities in the county. To ascertain how it is doing with regard to rig operations, the county government shall institute a framework of standards in keeping with national and international standards.

5.3. Review of Policy:

The rig policy shall only be submitted to the County Assembly of Bungoma upon being approved by the County Executive Committee. It shall become operational as soon as it is passed by the County Assembly, published and publicized by the County Government of Bungoma. Such policy operationalization shall be undertaken through requisite relevant legislations.

This policy is flexible and open to adjustments. There may arise the need to deviate from or realign the policy goals, objectives, orientations or provisions based on the results of the monitoring and evaluation status reports and prevailing circumstances. There shall therefore be a window to review and revise/update this policy once in every five years to ensure its relevance. Any deviations or alterations to the policy must be informed through status reports and measurable changes in prevailing circumstances. The deviations or alterations should aim to achieve objectives that meet the "SMART" criteria and should be within the available resources.

Appendix 1: Terminology

` **Geological survey** ' is the investigation of underground formation with a view to understanding subsurface geology and is able to make appropriate predictions about the groundwater conditions.

` **Ground water** ' is water found beneath the earth`s surface and comprises of springs, manual dug wells and boreholes. Globally, it accounts for 97% of the world`s readily accessible fresh water

` **Maintenance** ' is the activities that performs equipment or facilities to minimize the possibility of damage or the lowering of performance quality because of corrosion, contamination, or deterioration for the continuous operation.

` **Operation** ' is the performance of a practical work, or a state of working or being able to work, or a way or process that parts of a machine, system, or plant work together smoothly and safely to produce goods in accordance with the procedures.

` **Project identification** ' is the process of developing a preliminary proposal for the most appropriate set of interventions and course of action within specific time and budget frames to address a specific development goal in a particular region or setting.

` **Water drilling** ' is the process of drilling holes in the earth`s surface for purpose of reaching a ground water source.