

(Legislative Supplement No. 45)

LEGAL NOTICE NO. 104

THE WATER ACT

(No. 43 of 2016)

IN EXERCISE of the powers conferred by section 22 (1) of the Water Act, 2016, the Water Resources Authority makes the following Order—

THE KABEERE SPRINGS CATCHMENT PROTECTION AREA
ORDER, 2023

1. This Order may be cited as the Kabeere Springs Catchment Protection Area Order, 2023.

Citation.

2. In this Order, except where the context otherwise requires—

Interpretation.

“Act” means the Water Act, 2016;

No. 43 of 2016.

“association” means a water resources users association registered by the Authority in accordance with the Act;

“Authority” means the Water Resources Authority established under section 11 of the Act;

“basin area” means the area designated by the Authority as a basin area under section 24 of the Act;

“protected area” means the area declared to be a catchment protected area under paragraph 4 of this Order and is demarcated for protection and conservation within the Kabeere Springs Catchment Management Plan;

“Plan” means the Kabeere Springs Catchment Management and Conservation Plan set out in the Second Schedule;

“riparian reserve” means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the protected area;

“soil and water conservation plan” means soil and water Conservation Plan as defined in the Water Resources Regulations, 2021; and

L.N. 170 of 2021.

“sub-basin area” means the area designated by the Authority as a basin area under section 24(2) of the Act.

3. This Order shall apply to the national government, national government entities, county governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area.

Application of the Order.

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4. (1) The Kabeere Springs Catchment Protection Area is declared to be a protected area for the purposes of the Act. Declaration of protected area.
- (2) The area declared in sub paragraph (1) shall be as per the extent and description set out in the First Schedule and is demarcated for protection and conservation within the Kabeere Springs Catchment Management Plan.
5. (1) The Plan set out in the Second Schedule shall, without prejudice to the provisions of the regulations developed under the Act, be the basis for protection, conservation and use of the water resources within the Groundwater Conservation Area. Kabeere Springs Catchment Management Plan.
- (2) The Authority shall place signboards and beacons in or near the Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices, displaying up-to-date information about the condition of the water resources of the Protected Area.
- (3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Protected Area.
6. A person who contravenes this Order commits an offence and shall, upon conviction, be liable to a fine of twenty thousand shillings or to imprisonment for a term not exceeding six months, or to both such fine and imprisonment. Offence.
7. The Kabeere Springs Catchment Management Protection Order, 2022 is revoked. Revocation. L.N. No. 222 of 2022.

THE KABEERE SPRINGS CATCHMENT PROTECTION AREA (p. 4)



NOTE:

1. The area declared as a protected area is commonly known as Kabeere Springs.
2. It is located in located in Kabubungi area of Ngusishi Location in Timau Division, Buuri district, Meru County within the Upper Ewaso Ngiro Sub Region. The protected area is approximately 5 acres (2.02 Hectares).
3. Its entire watershed area measures 3.89 square kilometres (389 hectares) out of the 31.8 km² of the Ngusishi River catchment area.

SECOND SCHEDULE

(p.2, 4, 5, 6)

KABEERE SPRINGS CATCHMENT MANAGEMENT PLAN

PART I: INTRODUCTION

1.1 Citation

This Plan may be cited as the Kabeere Springs Catchment Management Plan.

1.2 Acronyms

The following acronyms shall have the meanings as assigned below:

AEZ	— Agro-Ecological Zone
b.g.l	— below ground level
ENNCA	— Ewaso Ngiro North Catchment Area
KFS	— Kenya Forest Service
Km ²	— Square Kilometer
m.a.s.l	— Meters Above Sea Level
m ³ /d	— Cubic Meters per day
MoALF	— Ministry of Agriculture
MoL	— Ministry of Lands and Physical Planning
NEMA	— National Environment Management Authority
MWRUA	— Mweteta Water Resources Users Association
NGAO	— National Government Administration Officers
NLC	— National Land Commission
°C	— Degrees Celsius
OND	— October- November-December
Q50	— Flow that is equaled or exceeded 50% of the time
Q80	— Flow that is equaled or exceeded 80% of the time
Q95	— Flow that is equaled or exceeded 95% of the time
RGS	— Regular Gauging Station
RQOs	— Resource Quality Objectives
ToR	— Terms of Reference
WDC	— WRUA Development Cycle
WRM	— Water Resources Management
WRA	— Water Resources Authority
WRUA	— Water Resources Users Association

1.3 Application of the Plan

This Plan shall apply in respect to the management and use of the Protected Area.

1.4 Goals

The overall goals of the Kabeere Springs Catchment Management Plan are to ensure sustainable management and use of water resources within the Protected Area while promoting equitable sharing of water resources.

1.5 Background information

A catchment area is defined as the land from which water naturally flows into a water course. The status and conditions of a catchment determines the reliability, quantity and quality of its water yields. A catchment area acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and ground water storage in both shallow and deep aquifers. This sub-surface flow is slow resulting in rivers from a well-maintained catchment having higher base flows even during the dry season as well as good water yield from boreholes in the vicinity. In poorly maintained and degraded catchment, the rainfall results in the rapid surface run-off which is channeled into the river courses, resulting in flashfloods and high volumes of suspended solids. Since there is little storage in such a catchment, the rivers originating from such catchment will not be able to sustain their base flows during the dry season.

Catchment areas are thus a vital component in water resource management and they should be formally delineated, declared as protected areas by being gazetted as such, protected from encroachment and pollution and managed sustainably to maintain their ecological integrity.

1.6 Background information on Kabeere Springs

Kabeere springs constitute one of the three main sources of water for Ngusishi River, Muthuri and Batian Springs. Ngusishi sub catchment is a water scarce area and the available surface water sources are mainly Kabeere Springs, Batian Springs and Muthuri Springs. Kabeere springs contribute approximately 50% of the discharge of Ngusishi River and thus the protection and conservation of its catchment is critical to the ecological sustainability of the river. The river supports numerous large-scale horticultural farms and subsistence farming, livestock and wildlife.

The springs are threatened with destruction due to human activities carried within the area as it is wholly situated within a private land whose owner has a freehold Title Deed. Initially, the area had been set aside for public use as a water catchment but was later alienated as private land.

Conservation and protection of the springs will be achieved through the implementation of the following strategies—

- (a) sensitisation of the user community on the need to protect the springs to ensure sustainable yield;
- (b) development of an action plan to protect the catchment and its rehabilitation;
- (c) participatory mapping of the protection zones around the springs;

- (d) apply the law to protect springs (enforcement for wetlands/riparian/springs protection).

1.7 Location and size of the Protected Area

The Protected Area is commonly known as Kabeere Springs. It is located in Kabubungi area of Ngusishi Location in Timau Division, Buuri District, Meru County within the Upper Ewaso Ngiro Sub-Region. The land area to be protected is approximately 5 acres (2.02 Hectares) and is shown in the map set out in Figure 1 in the Annexure to this Schedule.

1.8 Watershed area

The area that contributes surface run-off to the springs has been delineated through the use of ArcGIS software. The area measures 3.89 square kilometres (389 hectares) out of the 31.8 km² of the Ngusishi river catchment area as shown in Figure 2 in the Annexure to this Schedule.

1.9 Criteria Adopted as Kabeere Springs in Identifying for Protection (L. N. 170 of 2021).

WRA has taken into account of the considerations provided under the Seventh Schedule of the Water Resources Regulations, 2021.

PART II: PROCEDURES TO BE APPLIED FOR THE MANAGEMENT OF THE KABEERE SPRINGS CATCHMENT PROTECTION AREA

2.1 Physiography

The lowest point of the catchment area is at coordinates E037.29205, N 00.09009 (37N 309920 UTM 9962) and at an altitude of 2440 m.a.s.l. The catchment is leaf shaped and extends upstream in south easterly direction with a length of 5.2 kilometres as shown in the map set out in Figure 1 of the Annexure to this Schedule.

The altitude of Ngusishi River sub-catchment ranges from 4100 m.a.s.l in the upper parts of the sub-catchment to 1800 m.a.s.l at the outlet. The slope ranges between 3% to 17% with the steeper slopes found on the upstream part within the slopes of Mount Kenya. The catchment drains in a northerly direction from the high Mt. Kenya Ridge to the northern lowlands of Nanyuki Plains, where it joins with the Timau river at the foot of the sub-catchment.

2.2 Climate

The monthly mean temperatures range between 7.6° C in the high cooler areas to 22° C at the lower parts (Berger, P. 1989, Kihara, F. 1997). This catchment has a rapid highland to lowland climatic transition with the larger part being a semi-arid environment. Exploitation of this perennial river, has been increasing with time as the demand for water increases resulting in poor water availability during the dry season.

The Ngusishi catchment lies within the agro ecological zones (AEZ) III to V in the following proportions, 1%, 77% and 22% respectively. In general, the area is characterized by low amount of rainfall which can be attributed to its being located on the leeward side of Mt. Kenya. The distribution of this bimodal low rainfall amounts is highly skewed with the highest both in depth and intensity received in the upper forested zone (mean of 1100 mm) and decreases gradually downwards through the savannah and alpine zones to the semi-arid Laikipia Plateau (mean of 700 mm).

April to June and October to December are wet or rainy seasons with maximas occurring in April and November respectively. The rest of the months represent the dry seasons. January and February are the driest and, in some places, the hottest months as well. Rainfall is therefore low in amount and is poorly distributed in time and space (LRP, 1996).

2.3 Vegetation

The vegetation on the Mount Kenya slopes on which the Ngusishi catchment lies exhibits a strong zonation characteristic. As one moves down the mountain, the following vegetations are encountered:

- (a) Alpine belt;
- (b) Ericaceous belt;
- (c) Mountain forest belt;
- (d) Savannah belt; and
- (e) Pastoral belt.

The catchment lies within the savannah and pastoral belts where the main natural vegetation types are bush land/grasslands and open grasslands

2.4 Land Uses and their potential impact on the protected area

Human settlement: Though there is an upcoming formal human settlement, there are no centralised solid and liquid waste disposal facilities. The settlement around the springs will have a major impact on it because of the pit latrines constructed. When in use, there is likelihood of bacterial contamination of the groundwater feeding the springs. In addition, when they get filled up, they may end up draining the raw sewage into the water resource. There is also the clearing of the land for settlement leaving the soil bare leading to erosion. The riparian is left unprotected causing the collapse of river banks and siltation occurrence.

2.5 There are also people defecating around the springs which poses a major health problem and may end up spreading diseases like cholera and typhoid. The solid waste generated can impact negatively directly or indirectly on the resource quality.

2.6 Agriculture: Agro-chemicals from crop and animal spraying and fertilizers may end up being discharged into the springs. Possibility do also exist for the same chemicals to turn the soil acidic/alkaline, and affect the growth of vegetation around the springs.

2.7 Livestock: The inhabitants of the area practice the free-range livestock rearing method where the animals are left to fend for themselves. The animals are watered directly from the springs resulting in trampling of the springs' eye, destruction of riverine vegetation, increased soil erosion and water pollution.

2.8 Exotic Species of Plants: There exist numerous exotic species of trees which are unsuitable in a water catchment area, especially near springs' eye, which include the blue gum trees.

2.9 Vulnerability of the water resource

Ngushishi river has a Regular Gauging Station (RGS) 5BE19 located at E037.26100 and N00.10000 coordinates. The available data is for the period 1959 – 1963 and no

rating curve is available. The station has a poor control and the rating for the station is difficult because of the unstable banks.

Ground Water availability in the area is highly varied. Most of the area has ground water yield potential ranging between 60 l/min to 650 l/min and is of good quality. The ground water system feeds into the surface drainage system of the Ngusishi river through the numerous springs that exist in the area. The analysis of existing borehole data indicates an average water struck level is approximately 90 m.b.g.l. with sufficient transmissivity and storage being provided by the saturated sediments/riverine aquifer system (NRM3 2002).

The encroachment on the riverine land through cultivation and the clearing of vegetation in the upper areas of the catchment has resulted in the lowering of the water table and a decrease in the yield of the springs. Though no clear data exist, the yield of boreholes in the area is also decreasing as their density increases.

In order to have a clear understanding of the water resources availability in the Ngusishi catchment, the available data has been used and collated with the data of the neighbouring catchments with similar characteristics, such as Timau, whose regular gauging station (5BE06) has long term data between 1944 and the present.

According to the correlation between Ngusishi and Timau sub-catchments, the scenario contained under Table 1 in the Annexure to this Schedule on surface water availability emerges.

2.10 The water resource quality objectives

Section 20 of the Act requires the Authority to prescribe the criteria for classifying water resources for the purposes of determining water resources quality objectives for each class of water resource.

The Resource Quality Objectives represent the desired status of the resource, covering all aspects of quantity, quality, timing and aquatic biota. The RQO's are different for different classes of water resource. The objectives generally relate to the extent to which the water body is allowed to be adversely impacted by water use with respect to its natural state. Conceptually the RQO's provide a "target" condition of the resources. Management decisions should be made such that the condition of the resource is progressively trending towards the RQO. The status of the resource is a measure of how far the condition of the resource is from the RQO.

Ngusishi sub-catchment can be classified as of high Livelihood importance. The area has predominantly rural characteristics i.e. rural and scattered settlements with varying population density and small scale subsistence-orientated economic activities that include cultivated agriculture and livestock rearing. This category targets protection of water resources to ensure livelihood of rural population.

Sustainable water resources management in the sub-catchment will focus on cooperation with Ngusishi WRUA and other stakeholders within the sub-catchment.

2.11 The class of the water resource

The present aquifer classification system in Kenya is partly demand-oriented and partly geo-political and entails five classes:

2.11.1 STRATEGIC aquifers: aquifers used to supply significant amounts/proportions of water to an area where there are no alternatives, or where alternatives would take time and money to develop.

- 2.11.2 MAJOR aquifers: high-yielding aquifers with good quality water.
- 2.11.3 MINOR aquifers: moderate-yielding aquifers with variable water quality.
- 2.11.4 POOR aquifers: low-yielding aquifers with poor to reasonable quality water.
- 2.11.5 SPECIAL aquifers: aquifers or parts of aquifers designated 'special aquifers' by the WRA.
- 2.12 Each is further defined in terms of its status, i.e.:
- 2.12.1 Satisfactory: no immediate stress, pressure or threat.
- 2.12.2 Alert: stress, pressure or threat identified or anticipated.
- 2.12.3 Alarm: water levels declining, water quality declining (stress, pressure or threat identified).
- 2.13 The Ngusishi sub-catchment can be classified as "Alert" as the available water is at times not adequate to meet the authorised allocations.
- In terms of water resource quantity, the reserve has been violated in the Ngusishi river sub-system especially in the lower reaches towards its confluence with the Timau system. The WRUA in collaboration with other stakeholders has pegged the riparian land with the consent of the land owners and tree planting is in the process with 12 kilometres out of the total length of 21 kilometres planted.
- The water is of relatively good quality with both human and livestock taking the water directly without any apparent negative health impacts.
- 2.14 Present and Projected Water demand
- According to household survey carried out by the Ngusishi WRUA in 2007, the distribution of households within the water projects abstracting water from the Kabeere springs was as follows:
- | | |
|-------------------|----------------|
| Kabubungi A | 45 Households |
| Kabubungi B | 36 Households |
| Kongoni community | 273 Households |
| Wiyumiririe | 400 Households |
| Ranch | 1 |
- 2.15 Assuming an average household size of 10 persons, the current total population dependent on Kabeere springs is approximately 8,239. On average, each household has 1 grade and 1 indigenous cow and 3 goats bringing the total livestock population to 2,331 Livestock Units (includes livestock from the Ole Naishu Ranch).
- The water demand for (2020) and ultimate (2030) is tabulated under Table 2 in the Annexure to this Schedule.
- 2.16 According to water resource monitoring on the Kabeere springs, the average discharge from the springs currently stands at 2,808 m³/d, with a reserve of 644 m³/d resulting in an allocatable flow of 2,164 m³/d. When the net abstraction of 1,938 m³/d is catered for, the water balance from the springs is approximately 226 m³/d.

PART III: MEASURES FOR PROTECTION, CONSERVATION AND REHABILITATION OF THE PROTECTED AREA

3.1 Authorised and Prohibited activities

The activities to be undertaken within the Protected Area are those with zero impact on its ecological status and integrity.

The following activities are hereby specifically prohibited in the groundwater conservation area:

- (a) tillage or cultivation;
- (b) clearing of indigenous trees or vegetation;
- (c) building of permanent structures (especially boreholes and houses);
- (d) disposal of any form of waste;
- (e) excavation of soil or development of quarries;
- (f) planting of exotic species that may have adverse effect to the water resource;
- (g) land reclamation.

3.2 Water Use Plan

The objective of this water use plan is to protect the long-term water storage and supply capacity of the springs by controlling encroachment and degradation of the catchment. Planned actions include:

- (a) establish the water balance;
- (b) develop water allocation plan for the Kabeere Springs; and
- (c) improve Water use efficiency (introduction of technologies).

The particulars of the water use Plan are set out under Table 3 in the Annexure to this Schedule.

3.3 Springs Protection Plan

The objective of the protection plan is to protect Kabeere Springs by encouraging activities that enhance both water quality and quantity while discouraging activities that cause the spring's catchment to deteriorate. The spring protection activities planned to be undertaken shall include those contained under Table 4 in the Annexure to this Schedule.

3.4 Conservation Plan

The objective of the conservation plan is to maximize the yield of Kabeere springs by promoting beneficial land and water management practices.

The conservation/protection plan includes the following activities:

- (a) sensitization on catchment management;
- (b) revegetation of the catchment area;
 - (i) native plant propagation;
 - (ii) exotic species control.
- (c) water storage enhancement to ease pressure on use of springs water—

- (i) Rain water harvesting tanks;
- (ii) Water pans.
- (d) regulating activities that may lead to pollution and destruction of the ecosystem (grazing and cultivation) —
 - (i) controlling abstraction limits and observing of safe yields;
 - (ii) controlling encroachment.

Activities under the conservation Plan are set out under Table 5 in the Annexure to this Schedule.

3.5 Rehabilitation Plan

The objective of the monitoring plan is to collect water resources data and maintain a comprehensive database on the Kabeere springs that provides information on water levels and quality of the spring's water. Actions include:

- (a) establish a water quality and pollution control plan;
- (b) water sampling and analysis;
- (c) establish a water resources database.

3.6 Monitoring Plan

The objective of the monitoring plan is to collect water resources data and maintain a comprehensive database on the groundwater conservation area that provides information on water levels and quality of the spring's water.

Planned catchment monitoring actions include:

- (i) Establish a water quality and pollution control plan.
- (ii) Water sampling and analysis.
- (iii) Establish a water resources database.

The particulars of the Catchment Monitoring Plan are set out under Table 6 in the Annexure to this Schedule.

3.7 Establishment and operationalization of management structure

The objective of the management structure is to ensure that the protected area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and coordination of WRA.

3.7.1 Composition

The protected area will be under a Management Committee composed of one member from each of the following stakeholders:

- (a) Kenya Forest Service.
- (b) County Government of Meru (Agriculture, Water).
- (c) Public Health Department, Meru County.
- (d) National Government Administration Officers, Meru County.
- (e) National Environmental Management Authority.

(f) The Ngusishi WRUA.

WRA as the lead agency in water resources management, will be the coordinator

3.7.2 Terms of reference

The members appointed to the Management Committee will serve on the committee on Honorary basis as this will be a non-profit, non-commercial venture. Their Terms of References (ToR) will include but not limited to:

- (a) manage the catchment prudently on behalf of other stakeholders;
- (b) submit quarterly reports to WRA - ENNBA on all activities carried out;
- (c) develop by - laws and submit a copy to WRA – ENNBA.

3.7.3 Mandate and responsibilities

- (a) Promote the conservation and protection of the catchment.
- (b) Promote equitable distribution of the resources within the catchment.
- (c) Promote socio-economic and environmental sustainability of the catchment.

3.7.4 Financing;

The Management Committee will be required to solicit for funding from well-wishers to supplement the income that will be derived from the activities permitted in a protected area. The sources of funds for the committee may include:

- (i) bee keeping;
- (ii) tree Nursery;
- (iii) well-wishers / donors;
- (iv) WRMA/WRUA - (WDC).

3.8 Reporting linkages

The linkages between various stakeholders are as set out under Figure 3 in the Annexure to this Schedule. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

3.9 Monitoring and Evaluation Matrix

The matrix contained set out under Table 7 in the Annexure to this Schedule shall be adopted for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities.

FIGURE 1: THE KABEERE SPRINGS CATCHMENT PROTECTION AREA *(p. 1.7, 2.1)*



FIGURE 2: THE WATERSHED AREA (LOCATION OF KABEERE SPRINGS CATCHMENT WITHIN NGUSISHI RIVER CATCHMENT) (p. 1.8)

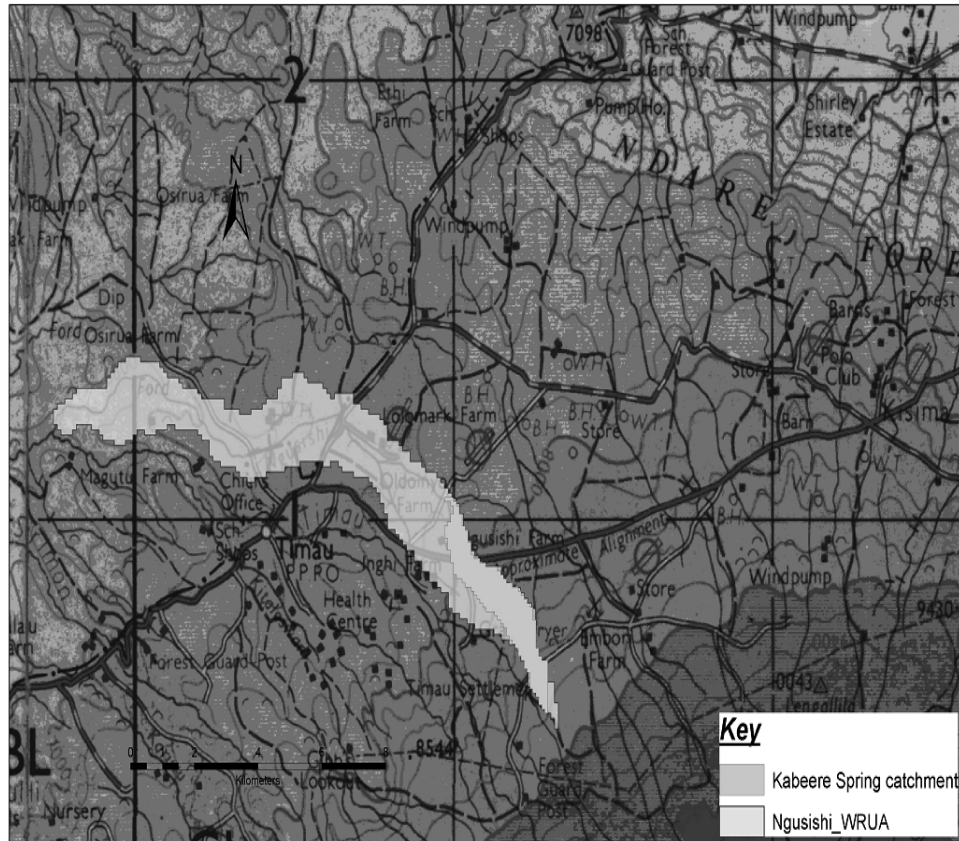


TABLE 1: SURFACE WATER AVAILABILITY FOR NGUSISHI RIVER (p 2.9)

Probability of non-exceedance %	Probability of exceedance %	Flow M3/s	Flow M3/day	Available for allocation M3/day	Days nos.	Total volume Million M3	Volume per year Million M3
99	1	9.197	794,579		3.65	2.90	55.8
95	5	2.480	214,264		18.25	3.91	52.9
90	10	1.332	115,095		36.50	4.20	49.0
85	15	0.844	72,895		54.75	3.99	44.8
80	20	0.575	49,670		73.00	3.63	40.8
75	25	0.433	37,435		91.25	3.42	37.2
70	30	0.353	30,523		109.50	3.34	33.7
65	35	0.300	25,887		127.75	3.31	30.4
60	40	0.258	22,281		146.00	3.25	27.1
55	45	0.223	19,233		164.25	3.16	23.8
50	50	0.191	16,528	9,831	182.50	3.02	20.7
45	55	0.164	14,210		200.75	2.85	17.7
40	60	0.141	12,149		219.00	2.66	14.8
35	65	0.123	10,647		237.25	2.53	12.2
30	70	0.105	9,101		255.50	2.33	9.6
25	75	0.091	7,899		273.75	2.16	7.3
20	80	0.078	6,697	5,409	292.00	1.96	5.1
15	85	0.061	5,280		310.25	1.64	3.2
10	90	0.037	3,220		328.50	1.06	1.6
5	95	0.015	1,288	0	346.75	0.45	0.5
1	99	0.001	129		361.35	0.05	0.1

Note: The above correlation is consistent with the estimates carried out under the NRM³ (2002) which gave a flow of 6,036 m³/d from the springs.

TABLE 2: PRESENT AND PROJECTED WATER DEMAND FROM KABEERE SPRINGS (p 2.15)

<i>Year</i>	<i>Current (2020)</i>	<i>Future (2030)</i>
Population	11,073	14,881
Demand (Human) (m3/d)	553.637	744.042
Livestock Units	2,331	2,331
Demand (Livestock) (m3/d)	116.557	116.557
Irrigation (m3/d)	432.000	432.000
Total Demand (m3/d)	1,102.194	1,292.599

Note:

From the above figures, the average water demand from Kabeere Springs currently stands at 1,292.6 m³/d. However, the monitored abstraction from the springs currently stands at approximately 1,938 m³/d showing that an unaccounted abstraction of 645.5 m³/d.

TABLE 3: WATER USE PLAN

(p 3.2)

Activity	Sub-activity	Timeframe	Cost	Responsibility
Establish the water balance.	Assess demand and availability.	2021	500,000	WRA, WRUA.
Develop water allocation plan for the Ngarelen springs.	Develop Water allocation Plan.	2021	1,000,000	WRUA, WRA.
	Implement water allocation plan.	Continuous	2,000,000	WRA, WRUA.
	Enforce permit conditions.	Continuous	1,500,000	WRA, WRUA.
Enhance Water use efficiency (introduction of technologies).	Sensitization and model water use units – irrigation, domestic	Continuous	2,000,000	WRA, WRUA.
	Demonstration on efficient water use technology.			
Total			7,000,000	

TABLE 4: SPRINGS PROTECTION PLAN

(p 3.3)

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
Gazettement of Kabeere Springs Catchment Area.	Delineate and survey the spring's catchment area.	2022	200,000	WRA, County Lands and Survey Team
	Develop the Part Development Plan for the spring catchment.	2021	500,000	WRA, SoK, Lands Department
	Create awareness on the status of the spring's catchment area.	Continuous	300,000	WRA, WRUA, County Government

Activity	Sub-activity	Timeframe	Cost	Responsibility
	Develop guidelines and conservation/protection plan through stakeholders' engagement.	2021	500,000	WRA with all stakeholders
	Submit the instrument to the AG for gazettelement.	2022	500,000	WRA
Enforcement of Kabeere springs catchment guidelines and other legislations.	Enforce Kabeere Springs catchment management guidelines and relevant legislations.	Continuous	2,000,000	WRA, NGAO, County Govt, NLC
Total			4,000,000	

TABLE 5: CONSERVATION PLAN

(p 3.4)

Activity	Sub-activity	Timeframe	Cost	Responsibility
Re-vegetation of the catchment area.	Establish native Plant Propagation.	Continuous	1,000,000	WRUA, WRA, KFS
	Grow live fence on the boundary of the catchment.	1 Year	1,000,000	WRA, KFS, WRUA
	Planting and growing of propagated seedlings (Watering and tending).	Continuous	2,000,000	WRUA
	Exotic species control.	Continuous	500,000	WRUA
Sub-Total			4,500,000	
Rain water storage enhancement.	Installation of 20 10m ³ rain water harvesting tanks in public institutions/public land.	1 Year	4,000,000	WRA, and WRUA
	Construction of 2 No. 10,000m ³ water pans.	1 Year	10,000,000	WRA, and WRUA.
Sub-Total			14,000,000	
Controlling encroachment and review of grants.	Review legality of titles and resolving issues.	Continuous	2,000,000	NLC, WRA, County Government.
Sub-Total			2,000,000	
TOTAL			20,500,000	

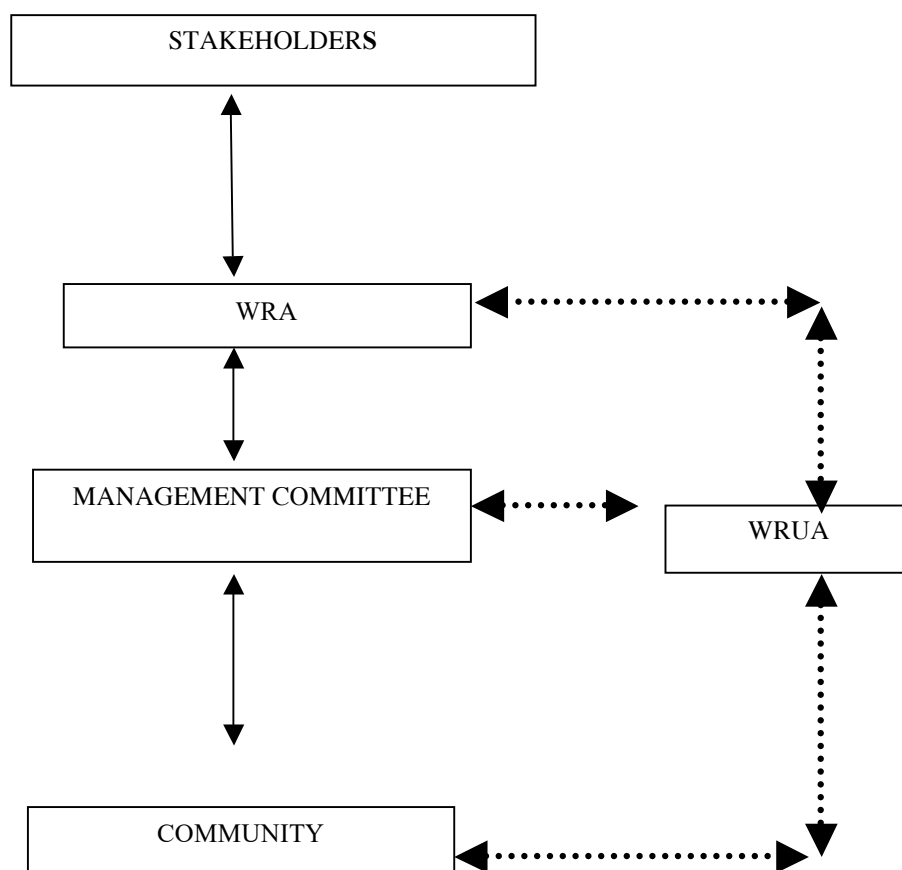
TABLE 6: MONITORING PLAN

(p.3.6)

Action	Sub Activities	Time frame	Costs	Responsible
Water sampling and analysis.	Collecting samples and taking to the lab in NRB.	Continuous	200,000	WRA
	Conduct analysis of biological and physico-chemical parameters.	Continuous	500,000	WRA
Capacity Building.	Capacity building on data collection and monitoring.	Continuous	300,000	stakeholders and WRA
Total			1,000,000	

FIGURE 3: REPORTING LINKAGES FOR THE MANAGEMENT COMMITTEE

(p.3.8)



Note:

- (i) The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa;
- (ii) WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a non-profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

TABLE 7: MONITORING AND EVALUATION TEMPLATE

(p 3.9)

Activities	Implementation Schedule		Status (% completion)	Planned Cost Ksh.	Total expenditure to date	Source of funds	Output	Comments
	Start date	End date						

Made on the 14th, June 2023.

MOHAMED M. SHURE,
Chief Executive Officer,
Water Resources Authority.