Republic of Kenya

KASIRYO BOREHOLE

African Development Bank

PROGRAM TO BUILD RESILIENCE FOR FOOD AND NUTRITION SECURITY IN THE HORN OF AFRICA-KENYA (DRSLPII)

SUMMARY PROJECT REPORT (SPR)

FOR THE PROPOSED KASIRYO BOREHOLE COMMUNITY WATER PROJECT FOR DOMESTIC, LIVESTOCK AND MICRO-IRRIGATION USE AT GPS COORDINATES 0.601133N; 35.771233E AT OSSEN HIGH SCHOOL IN OSSEN VILLAGE, OSSEN SUB LOCATION, OSSEN LOCATION, KABARTONJO WARD, BARINGO NORTH SUB COUNTY, BARINGO COUNTY.

PREPARED BY:

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SUBMITTED BY:

MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES AND COOPERATIVES (MoALF&C)
STATE DEPARTMENT OF CROPS DEVELOPMENT AND AGRICULTURAL RESEARCH
PROGRAM TO BUILD RESILIENCE FOR FOOD AND NUTRITION SECURITY IN THE HORN OF AFRICA-KENYA (DRSLPII)
P.O. BOX 30028-00100, NAIROBI, KENYA

SUBMITTED TO:

THE COUNTY DIRECTOR,
NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY,
BARINGO COUNTY

SEPTEMBER, 2021

DECLARATION

We, the undersigned certify that to the best of our knowledge and belief, this report is correct and gives the true reflection of the status of the Proposed Kasiryo Borehole Community Water Project for Domestic, Livestock and Micro-Irrigation Use at GPS Coordinates 0.601133N; 35.771233E at Ossen High School in Ossen Village, Ossen Sub Location, Ossen Location, Kabartonjo Ward, Baringo North Sub County, Baringo County with respect to its impacts on the socio-economic and biophysical environments. The report was prepared in accordance with the Environmental Management and Coordination (Amendment) Act (2015) and Environmental Management and Coordination (Strategic Assessment, Integrated Impact Assessment and Audit) Regulations, 2018 for submission to the National Environment Management Authority (NEMA).

Expert

Eng. Amos K. Kiptanui (ESIA/ESA Lead Expert)

Registration No: 1343

Signature..... Date....06/09/2021

Client

I, certify that I have read this report and that it is to the best of my knowledge and belief that it is correct and true.

Name: ...Ephas K. Rutto.....

Designation: ...DRSLP Desk Officer Baringo County..... Tel:...0721519150.....

Signature:..... Date:...6/9/2021...

DROUGHT RESILIENCE & SUSTAINABLE LIVELIHOOD PROGRAM
DESK OFFICER
06 SEP 2021
BARINGO COUNTY
P. O. Box 04-30400, KABARNET

EXECUTIVE SUMMARY

Baringo County is one of the water scarce counties in Kenya falling under Arid and Semi-Arid Land (ASAL). Water is poorly distributed over the year. By far the most severe environmental threat is caused by increasingly unpredictable rainfall patterns that result from human induced global warming. Water is the main constraint for domestic use, livestock and crop production and the major cause of famine. Due to increasingly more unpredictable rains, increasing demands from an increasing population of people and livestock, water resource is becoming scarce.

Kasiryo borehole site is located on high altitude highland along Tugen hills. The general slope is towards western side draining into Kerio River and eventually into Lake Turkana. The area is relatively populated. During the dry season the community travel for long distance to access water.

Water coverage is very poor. The existing water sources such rivers, KIRDAM and a few boreholes are poorly distributed and unreliable. During dry season the community experiences water shortage. The distance to these water points is enormous and people particularly women and children spent the whole day to fetch water. On the other hand livestock travel long distances during the dry season. According to Hydrological Assessment Report the borehole will be drilled to a depth of 250m with estimated yield of $10m^3$/hr. The water quality analysis will be done to establish physical, chemical and biological properties and confirm whether suitable for human consumption or requires treatment. The water will be used mainly for domestic, livestock and micro-irrigation use by Kasiryo community and neighbourhood. The project is a County government investment mainly for domestic and livestock use and is estimated to cost KShs. 8,000,000.00.

The main project activities include: equipping submersible pump, air vent and other accessories; test pumping; determination of the ground water quality; excavation and laying of rising main and distribution pipeline; construction of gravity distribution storage tank and water outlets including livestock water trough and water kiosk or community water stand and sanitary facilities.

The development of water projects is among the activities listed under schedule II of the Environmental Management and Co-ordination (Amendment) Act (EMCA, 2015) requiring ESIA. The proponent is therefore desirous to undertake an Environmental and Social Impact Assessment to establish possible impacts of the proposed water project on the natural and socio-economic environment of the project area and its environs. The approach involved a number of tools and techniques for data collection. These included review of secondary data on the local area including CIDP, Hydrogeological Assessment Report for the Kasiryo Borehole; review of relevant acts, regulations and policies; documenting discussions with local community, neighbours and stakeholders.

This water project will result to both positive and negative impacts to the environment. The need to maximize the positive and reduce/mitigate the negative is essential before a project can win community acceptability. The project is embraced by the community and supported by stakeholders. This is due to high expectation from the water project.

The expected positive impacts include: 1) availability of water for Kasiryo community use; 2) availability of water mainly for community domestic use including drinking, cooking, bathing, washing clothes among other domestic uses; 3) availability of water for livestock particularly during the dry season; 4) Availability of water for micro-irrigation particularly establishment of crops such vegetables, tomatoes among others such tree nurseries may be established by youth and women for small income generation; 5) reduced distance and time for fetching water therefore more time for other activities; 6) reduced nomadism (migration from one place to another in such of water and pasture); 7) efficient and effective utilization of available pasture; 8) improved crop and livestock production; 9) improved performance of pupils/students in schools; 10) availability of water for other economic activities; 11) reduced water borne diseases thus improved human and livestock health; 12) creation of rural employment; 13) rural economic growth and development; 14) improved rural social amenities; 15) reduction of rural poverty; 16) improved aesthetics of rural environment; 17) increased procurement of goods and services; 18) provision of market for supply of construction materials, fuels and other related services; and 19) increased generation of revenue to the county and national government.

On the other hand, the potential negative impacts include: 1) reduced and or depletion of aquifer storage that may lead to aquifer compaction and land subsidence; 2) ground water contamination from surface contaminants; 3) Crop damage by livestock around the water points and along the livestock corridors; 4) Water and pasture conflicts among neighbouring communities; 5) minor land degradation (soil erosion and loss of vegetation especially grass); 6) Human-Wildlife conflict, Livestock-wildlife conflict leading to occasional loss of livestock and human life among other temporal impacts during drilling and construction of auxiliary works as well as during operation/utilization phase.

These negative impacts are expected during project implementation, operation and decommissioning. Mitigation measures to negative impacts have been exhaustively suggested and will be used by the proponent during project cycle. No significant impact associated with implementation of this project is anticipated however, all emergent environmental issues should be responded as they arise.

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LIST OF ABREVIATIONS AND ACRONYMS

ASAL: Arid and Semi-Arid Lands

BCG: Baringo County Government

CIDP: County Integrated Development Plan

CWP: Community Water Point/Stand

DoWS: Department of Water Services

EMCA: Environmental Management and Coordination Act

EMP: Environmental Management Programme

ESA: Environmental and Social Audit

ESIA: Environmental and Social Impact Assessment

GPS: Global Positioning System

KWS: Kenya Wild Life Service

LWT: Livestock Water Trough

MoW&I: Ministry of Water and Irrigation

NEMA: National Environment Management Authority

OHS: Occupational Health hazards and Safety

SPR: Summary Project Report

WRA: Water Resources Authority

WRUA: Water Resource Users Association

1. INTRODUCTION

Water is the main constraint for human, livestock and crop production in Ossen Village, Ossen Sub Location, Ossen Location, Kabartonjo Ward, Baringo North Sub County and Baringo County in general. Due to increasingly more unpredictable rains, increasing demands from an increasing population, water resource is becoming scarce. Although rainfall occurs in two periods/seasons in a year, it is scanty and poorly distributed and therefore many people do not benefit. Many people especially women and children (pupils/students) spend a large percentage of their daily calories and time carrying water for domestic use. Often the water they fetch is polluted causing water borne diseases, yet it is the only source available to them. On the other hand, livestock travel for long distances in such of water and migrate from one place to another in such of pasture. There are few permanent sources of water and during dry season, the community members travel long distances in such of water.

In recognition of the above, Baringo County, Ministry of Water and Irrigation, Department of Water Services intends to increase community accessibility to potable water by drilling and equipping Kasiryo community borehole including construction of gravity distribution storage tank, water kiosk/stand, water trough as water dispensing outlets and pipeline. This project is a national government initiative to provide water mainly for domestic, livestock and micro-irrigation at close proximity to the benefiting community.

The water project is among projects listed under schedule II of the Environmental Management and Co-ordination (Amendment) Act (EMCA, 2015) requiring SPR. The proponent is therefore desirous to undertake an Environmental and Social Impact Assessment to establish possible impacts of the proposed water project on the natural and soci-economic environment of the project area and its environs.

2. NATURE/PURPOSE OF THE PROPOSED PROJECT

The project involve: test pumping; Summary Project Report (SPR); equipping submersible pump, air vent and other accessories; determination of the ground water quality; excavation and laying of rising main and distribution pipeline; construction of gravity distribution storage tank; construction of water kiosk/trough/stand as community/Livestock water points.

The water project is intended to provide clean/potable drinking water and to augment the existing water sources which are usually seasonal and unsafe for human consumption. In addition it provides water for livestock, micro-irrigation. It also aims at reducing the distance traveled by pupils/students, community members and livestock in search of this precious resource; reduce the spread of water borne diseases; relieve the burden on women and children in water collection and enable them to participate in other economic activities. This will improve performance in schools. In general, the project contributes to improvement of water accessibilityOssen Village, Ossen Sub Location, Ossen Location, Kabartonjo Ward, Baringo North Sub County and Baringo County in general.

3. PROJECT LOCATION

The proposed Kasiryo borehole is located at GPS Coordinates 0.601133N; 35.771233E at Ossen High School in Ossen Village, Ossen Sub Location, Ossen Location, Kabartonjo Ward, Baringo North Sub County, Baringo County. **(Land Consent attached).** The proposed water project is **NOT located on gazetted protected or zoned area and is NOT out of character with its immediate environment.**

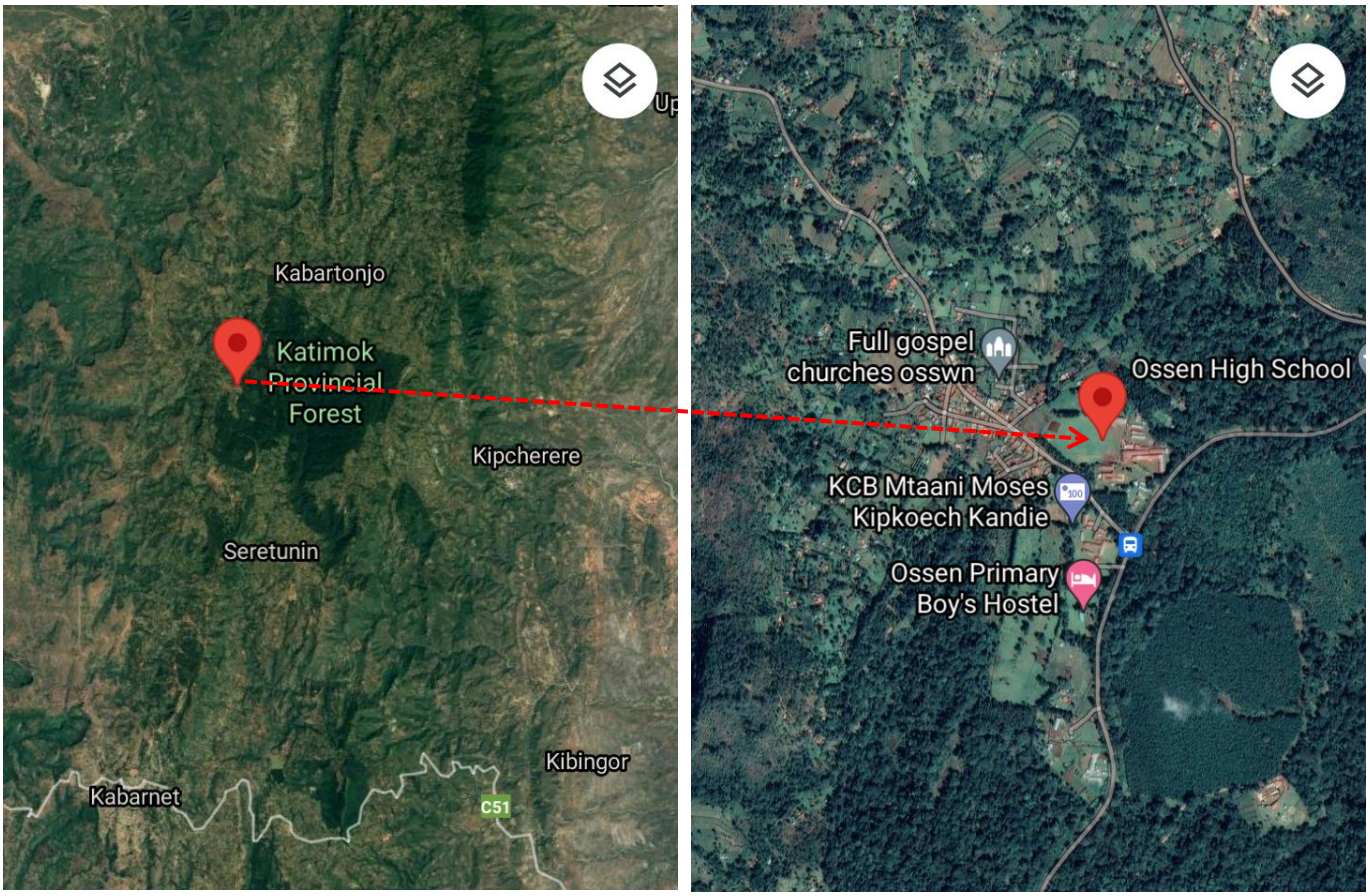

Figure 1: Satellite Map Showing Proposed Kasiryo Borehole Site

4. METHODOLOGY/APPROACH; PUBLIC/STAKEHOLDER PARTICIPATION

4.1. General Overview

In order to consolidate this report, various tools and techniques were used for data collection. These included review of primary and secondary data about area, review of relevant legislation and policies, documenting discussion with neighbours in the month of September 2021. The use of these various tools was aimed at reducing biases, obtaining the true facts on the ground and seeking opinions from various stakeholders and interested parties in order to obtain as much and accurate information as possible.

4.2. Scoping

The SPR Team Expert conducted scoping study. This was meant to determine: a) the range of issues to be addressed in the Summary Project Report (SPR); b) significant issues that would need detailed study and reasons; c) study issues that are not significant, very well understood; d) the boundaries for the SPR in terms of geographical extent, timing and issues to be studied; e) how the SPR will be conducted, the disciplines to be involved and the timings; f) the main stakeholders who should be consulted during the SPR, their concerns and values; g) the requirements for the collection of baseline and other relevant information; and h) the objectives for the SPR.

4.3. Neighbour/Stakeholder Interviews

The neighbours/residents interviews were held at proposed site neighbourhood. This was meant to address the social aspects of the project with the aim of obtaining the neighbours (residents and stakeholders) opinion on the proposed borehole. The neighbours were informed about SPR as provided in EMCA (Amendment) 2015 and that the act gives every person a right to clean and health environment and confers upon every person, the duty to protect and safeguard the environment.

They were informed that the act provides measures for protection and conservation of the environment through SPR, ESIA and ESA. They were made aware that no project specified in EMCA (Amendment) 2015 is allowed to commence without SPR and issuance of the License by NEMA.

They were informed that the purpose of public consultation was to get the public opinion on proposed borehole and assess its impacts on the environment and establish remedial measures for negative impacts while enhancing the positive impacts. They supported the water project in that it would bring water close to the community and reduce the burden of searching water particularly livestock, women and children (pupils/students) and other water users.

Photo #1: Community Members during public consultation/meeting

4.4. Analysis of Personal Questionnaires

Prior to administering the questionnaires, the residents and stakeholders were taken through the SPR questions concerning the proposed borehole as contained in the questionnaires and how to fill them. They were told to freely fill the questionnaires individually and give a clear picture of potential impacts of the proposed development.

The respondents are neighbours, beneficiaries and stakeholders of the proposed Kasiryo Community Borehole Water Project. The summaries of questionnaires are given in the pie charts and bar graphs below.

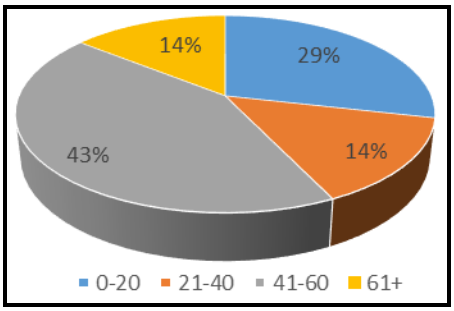

Figure 2: Percentage of respondents' years as residents

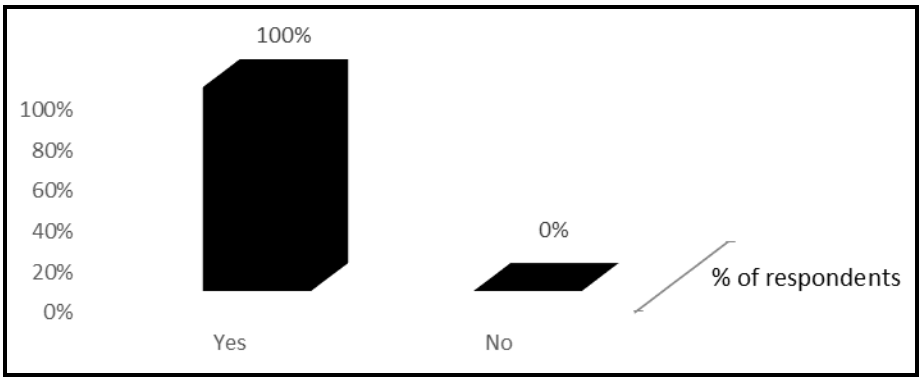

Figure 3: Percentage of respondents on awareness

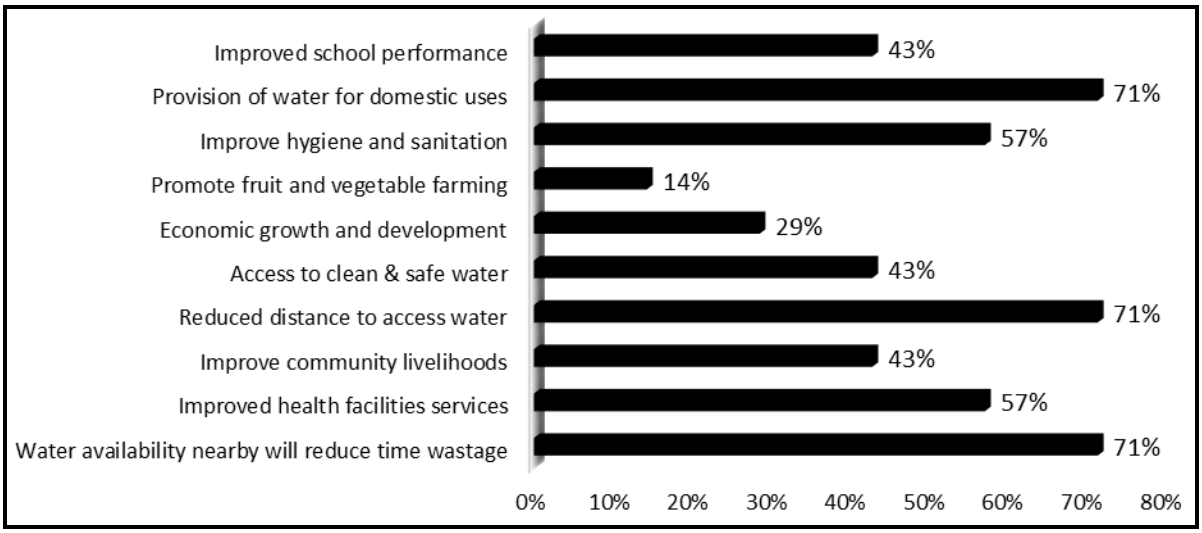

Figure 4: Percentage of respondents on project benefits

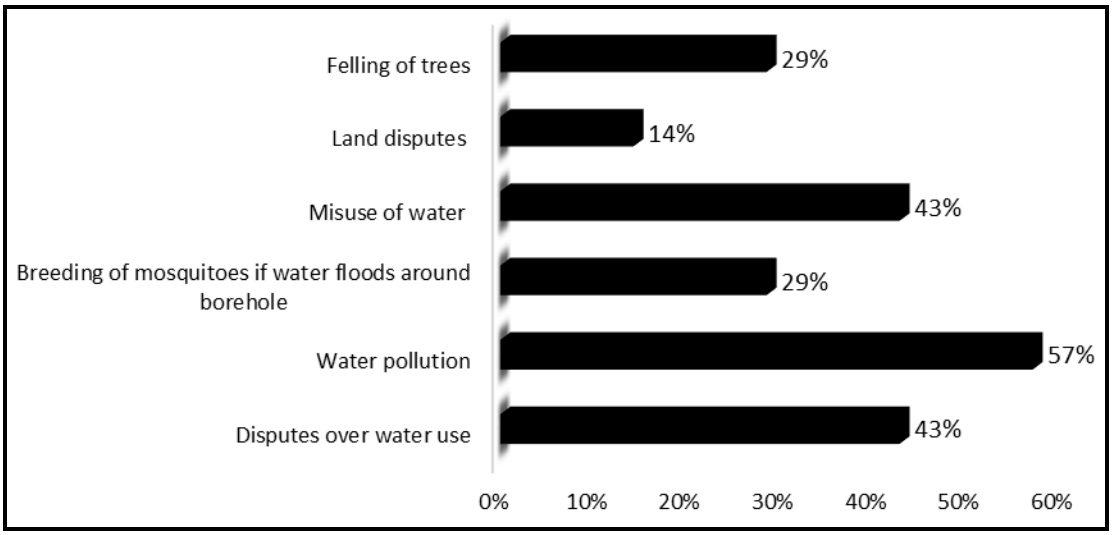

Figure 5: Percentage of respondents on negative impacts

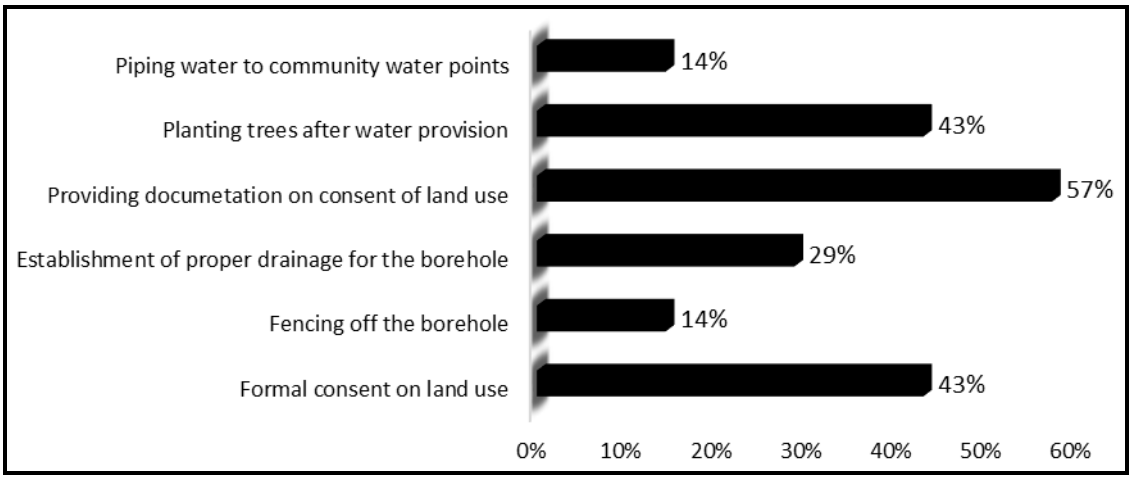

Figure 6: Percentage of respondents on mitigation measures

On whether they anticipate any problem, complain or conflict against the project with respect to land, water, public health/safety, loss of livelihood and others, the respondents identified none.

Note: The sample questionnaires are attached/appended/annexed.

5. POTENTIAL ENVIRONMENTAL IMPACTS

5.1 Positive impacts

1. Availability of water for community domestic use including drinking, cooking, bathing, washing clothes among other domestic uses.
2. Water will be available for livestock thereby reducing livestock loss. This improves livestock production. Livestock health is expected to improve leading to increased milk and meat production.
3. Availability of water for micro-irrigation. The water will enable establishment of crops such vegetables, tomatoes among others. In addition tree nurseries may be established by youth and women for small income generation.
4. The water is comparatively clean hence reduced water borne diseases and improves human and livestock health.
5. The objective of the project is to bring water close to the community. It is expected that three water kiosks/stands will be constructed for community. This reduces the distance to water points by livestock and people. Women and children (pupils/students) will spend less time while fetching water. Women will have time for house chores and other economic activities while children (pupils/students) will have time for studies. Overall, this will improve performance in schools and socio-economic status of the benefiting community.
6. The availability of water will enable livestock to be closer to pasture leading to better utilization of pasture.
7. The project brings more development to the community such as restaurants, access roads, electricity and other social amenities such as dispensaries and recreational facilities.
8. The project will reduce water shortage in the Kasiryo currently experiencing water scarcity.
9. Availability of temporary job opportunities to the local community during the construction phase of the project for casuals and watch men.
10. In general it contributes to improvement of water accessibility Ossen Village, Ossen Sub Location, Ossen Location, Kabartonjo Ward, Baringo North Sub Count and Baringo County in general and reduces rural poverty.

5.2 Negative Impacts

1. The development of borehole will increase ground water abstraction hence reduced aquifer storage[1] that may lead to depletion especially the perched aquifers. In highly fractured and unstable water bearing formation, it may lead to aquifer compaction and land subsidence[2].
2. The equipping of the borehole exposes ground water to contamination[3] from surface chemicals manufactured, used and disposed. These contaminants include: surface run off, drilling water, drilling form, gravel pack, bentonite (sealant), and pathogens through dipper lines. Others include domestic (insecticides, drugs, etc); agricultural (fertilizer, pesticides, fungicides, herbicides etc). Groundwater movement, and pollutant migration from the land surface to production boreholes, tends to be a relatively slow process in many aquifers. This means that it can take many years, even decades, before the full impact of a pollution episode, involving a persistent contaminant, becomes fully apparent in groundwater supplies.
3. Equipping of the borehole, excavation of the pipeline trench, construction of storage tank, water and other water outlets, there is the likelihood of loss of man-hours[4] by curious onlookers and that of the workers due to interference.
4. There is the potential of increased chances of the public health and occupational health hazards and safety (OHS). Accidents[5] may occur during construction or during the operation phase. Some of the OHS concerns include ergonomic related problems. An effective use of protective gear and adherence to place of work regulation is recommended.
5. The cleared grass, shrubs and light trees as well as excavated soil will form unwanted heaps[6] along the pipeline route and around borehole, storage tank and water outlets. This is nuisance and hindrance to movement and waste of land
6. The change in land use from natural to high activity water points. This leads to land degradation[7] around the water points and paths leading to these points. It is expected that soil erosion[8] will increase.
7. The water project will encourage the influx[9] of livestock, people and wildlife into the site. This leads to Human-Wildlife[10] conflict, Livestock-wildlife conflict[11]leading to occasional loss of livestock and human life[12].

8. The water project encourages overgrazing (over utilization of pasture)[13]around the water point.
9. Concentration of livestock around the water point leads to spread of livestock communicable diseases[14]and encourages livestock theft[15]. It also encourages poaching[16] since wildlife are expected to be at the water point during the night.
10. The water project will encourages boundary conflict (project neighbours and water infrastructure)[17]and intercommunity conflict (water ownership issues)[18] leading to insecurity[19].
11. In the unlikely decommissioning of the project, there will be final disposal of materials at the expiry of the project lifespan. However, if there is change of site of any of the above components of the project, it is likely to have a negative impact on the environment. Abandoning the water project and associated activities leads to waste of precious land[20]. There is therefore the need for landscape restoration to its original state before disturbance. However the borehole casings and screens are permanent structures and can only be removed to a depth that permits land tillage and other activities.

6. ENVIRONMENTAL MANAGEMENT PROGRAMME

6.1 Implementation and Operational Phase

This is the longest stage of project activities. It is at this stage that the intended project activities are accomplished. During this phase a lot of care and concerns are considered in matters concerning impacts.

Table 1: Environmental Management Plan for the Implementation and Operational Phase

Impact	Action Required/Mitigation Measure	Responsibility	Time frame	Cost (KShs)
Reduced and or depletion of aquifer storage tank	Abstract water equivalent borehole yield based on pumping test.	Proponent	Continuous	Routine Work
Aquifer compaction and Land Subsidence	Abstract water equivalent to aquifer yield based on recovery test especially during the dry season to avoid depletion of ground water, possible compaction of aquifer and land subsidence.	Proponent	Continuous	Routine Work
Ground water contamination	Protect the borehole from surface contaminants by: Using potable drilling water, biodegradable drilling foam, non-corrosive casings and screens, putting end plugs to dipper lines, constructing slab around the borehole at the ground surface, raising the casing above ground surface, diverting surface run off from making pools around the borehole.	Contractor, Proponent	During drilling and construction of borehole as well as operation	Incorporated in project cost
Loss of man-hours by curious onlookers and that of workers due to interference	Keep away idlers and livestock by putting warning signs at strategic places and informing the residents.	Proponent, contractor	1 Week	Negligible
Site accidents	• Contract qualified and experienced manpower	Proponent	1 month	Tender procedure

	• Provide written instructions on how to avoid and respond to accidents. Safety gears should be given as necessary.	Engineer/supervisor and contractor	Once	Negligible
	• Leaving the site as clean as possible.	Contractor.	Always	Routine
	• Provide a well-stocked onsite first aid box	Contractor.	Once	Incorporated in project cost
	• Provide a list of contact persons and ambulance to be contacted during accidents	Proponent	Once	Incorporated in project cost
Obstructive heap of cleared shrubs and trees as well as excavated soil	Dispose the material as land fill	Contractor, proponent	Once	Catered
Land degradation/Soil Erosion	There is the need for rehabilitation through planting of grass and trees; land scaping and general environment greening to restore flora and fauna habitat.	County Community	Continuous	In kind
Influx of livestock, people and wildlife into the site; Human-Wildlife Conflict; Livestock-wildlife conflict; Loss of livestock and human life	• Develop more water projects (boreholes and water pans) • Construct wildlife water trough	•Water management committee •WRUA •WRA •County •National Government	Continuous	To be incorporated in annual budgets
Overgrazing (over utilization of pasture)	• Discourage grazing of Livestock around the water project • Develop more water projects	▪ Water and Pasture committees ▪ County	Routine Continuous	▪ Mainstreamed ▪ Annual budget
Spread of livestock communicable diseases	• County department of veterinary services to vaccinate livestock	▪ County	Routine Continuous	▪ Mainstreamed ▪ Annual budget
Livestock theft; Poaching; Boundary conflict (neighbours and water infrastructure; Intercommunity conflict (Water Ownership issues)	▪ Promote intercommunity meetings ▪ Establish water and pasture management committees ▪ Mainstream pease building and conflict resolution	▪ County ▪ National Government ▪ KWS ▪ Kenya Police ▪ Community	Continuous	▪ Mainstreamed

6.2 Winding up phase

This phase is more hypothetical than real, basic rehabilitation measures are required to be undertaken once all operation activities have stopped. The activities, actions, mitigation measures person responsible to undertake the same and time span for doing this is identified.

Table 2: Environmental Management Programme for the Decommissioning and Closure Phase of the Project

Impact/activity	Action required/mitigation measures	Responsibility	Time frame	Costs (KShs)
Waste land due to project abandonment	Demolition and disposal of structures, landscape restoration by removing pipeline, filling depressions, removing unused equipment, structures and facilities to give room for new activities.	Proponent	1 Month	Community contribution (In kind)

ANNEX A1: PROJECT LOCATION

Government of Kenya (GoK)

MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES AND COOPERATIVES (MoALF&C)

STATE DEPARTMENT FOR CROPS DEVELOPMENT & AGRICULTURAL RESEARCH

DROUGHT RESILIENCE AND SUSTAINABLE LIVELIHOOD PROJECT (DRSLP)

African Development Bank (AfDB)

LOCATION OF PROJECTS

COUNTY: BARINGO SUBCOUNTY: BARINGO NORTH WARD: KABARTONJO LOCATION: OSSEN

SUB LOCATION: OSSEN VILLAGE: KASIRYO

PROJECT NAME: KASIRYO BOREHOLE GPS Coordinate: 0.601133 (N) 35.771223 E

SN	Project Component	L.R. No.	Village	Sub location	Location	Division (WARD)	Land Ownership*	Land documents**	Contact persons			Remarks
									Name	Mobile	Position	
1.	KASIRYO BOREHOLE		KASIRYO	OSSEN	OSSEN	KABARTONJO	P.L	L.C	ROSEMARY TOMNO	0725287796	PRINCIPAL	The project is located on land belonging to Ossen Girls High School
2.												

*Land ownership is ether Public Land (PL), Communal (CL) or Private Land (PRL)

** Land Documents are categorized into: Title Deed (TD); Allotment Letter (AT); Lease (L)-specify years; Land Consent (LC); MOU; None(NN); Others (O)-Specify in remarks

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ANNEX A2: LIST OF PARTICIPANTS

MINISTRY OF AGRICULTURE, LIVESTOCK AND FISHERIES
STATE DEPARTMENT OF AGRICULTURE
Drought Resilience and Sustainable Livelihoods Programme (DRSLP)

ATTENDANCE LIST

ACTIVITY: KASIRYO BOREHOLE

VENUE: OSSEN COUNTY: BARINGO

DATE: 3-09-2021

S/No	Name	Design.	Institution	Station	Mobile No/ Email Address	Signature
1.	Rosemary Tomno	Principal		Ossen	0725028796	
2.	Elphas K. Rutto	Desk office	BCG	WA	0721519150 elphaskrutto74@gmail.com	
3.	Mary J Cheseng	Asst. chief		Kiptum	0719 306 154	
4.	Joseph Yoth			Ossen	0705551640	
5.	FELIX K. CHERUIYOT			Kasiryo	0727475580	
6.	Sarah Rono			Kasirgo	0725879549	
7.	Martline Chemson			Kabartamos	0728399580	
8.	Sarah Kandie			Kabartamos	0723911056	
9.	AMDANY TALLAM			KASIRYO	0724 148 091	

10.	Joshua Kandie	Chief Ossen		Ossen Location	Kandiejoshua06@gmail.com 0729760860	
11.	Jane Tuitoek	D/Principal		Ossen	0721812939	
12.	David Cheptanga			Ossen	0722960483	
13.	Vincent Chengony			Ossen	0790086828	
14.	Cairen Kulei			Kasiryo	0727046980	
15.	Kipkale Mathew			Ossen	0722166735	
16.	Kiplagat Nelson			Ossen	0729720652	
17.	Christopher Kimosop			Ossen	0720261815	
18.	ESTHER KURUI			Ossen	0725570108	
19.	Anne Kurgat			Ossen	0723402141	
20.	Chebottibin L.			Ossen	0713558503	
21.	Md. Chelanga			Ossen	0718453037	
22.	Esther Nyouty			Ossen	0729449779	
23.	Moses R. Koech			Ossen	0720114206	
24.	Loice Kimaiyo			Ossen	0713745870	
25.	Cecilian Kipsoo			Ossen	0726710856	
26.	Lucy Rutto			Ossen	0717416463	
27.	Chemiyon Langat			Ossen	0713343743	
28.	Judith Kiptoo			Ossen	0724414179	

29.	Philomena Rayno			Ossen	0724885627	
30.	Gladys Cheboi			Ossen	0720655086	
31.	RONALD KOECH			Ossen	0712297703	
32.	Gideon Kiptoon			Ossen	0714215400	
33.	SILVIA CHEPKIRUIOK			OSSEN	0711255323	
34.	Kiprop chosive	AIC Ossen Chawnay		Kabartamas	0734404004	
35.	Vincent Kipkoli			Kabarner	0729547565	
36.	Sammy Chonjor			Kabartamas	0722433654	
37.	Anthony Cheruiyot			Kabartamas	0726536992	
38.	BARMASUTI JEREMIAH			KABARER	0714769592	
39.	Michael Chesang			OSSEN/KABIRAYO	0723986278	
40.	TITUS KEMEI			OSSEN/KABARER	0727832707	
41.						
42.						
43.						
44.						
45.						
46.						
47.						

ANNEX A3: SAMPLE QUESTIONNAIRES; MINUTES; LAND AND OTHER DOCUMENTS

QUESTIONNAIRE (NEIGHBOURS): BOREHOLES; BARINGO COUNTY

INTRODUCTION

Ministry of Agriculture, Livestock and Fisheries (MAL&F), the State Department of Crop Development and Agricultural Research through Drought Resilience and Sustainable Livelihoods Programme (DRSLP) intends to drill borehole in this area for domestic, livestock, micro-irrigation and other related uses. We have been assigned the responsibility to carry out an **ENVIRONMENTAL IMPACT ASSESSMENT** for the development. We are pleased to seek your views (as beneficiary/neighbour/stakeholder) concerning the intended development. For this purpose, it would be appreciated if you would kindly fill in this brief questionnaire. The information is **STRICTLY** for the purpose of this study and shall remain confidential.

1. For how long have you resided or worked in this area? 45 (years)
2. Do you know about the proposed borehole water project? Yes ☑ No ☐
3. In your own opinion; in what ways will the above water project benefit the community, county and nation in general?
   i. Increase agricultural produce, like milk,
   ii. Vegetables in the Community.
   iii. Time waste will be minimal in searching
   iv. of water, since the distance is reduced.
   v. Presence of Clean water will reduce water
   vi. borne diseases, improving health status of community.
4. List the negative impacts that the proposed borehole water project is likely to pose to the neighbourhood and environment in general?
   i. (1) The installation of the Bore-hole project
   ii. May cause the Landslide, during drilling
   iii. (2) Noise pollution can be cause by
   iv. the presence of the Project, during drilling.
   v. .....
   vi. .....
5. What do you think can be done to mitigate against the negative impacts listed in 4 above?
   i. (1) The project to be sited on fairly flat
   ii. area, to avoid Land slide.
   iii. (2) .....
   iv. Silencer machines to be used during
   v. drilling.
   vi. .....

6. a) Do you anticipate any conflict or complains against the proposed borehole water project and its related activities with respect to:

- Land? Yes ☑ No ☐

If yes, indicate may cause landslide

- Water? Yes ☐ No ☑

If yes, indicate

- Public safety? Yes ☐ No ☑

If yes, indicate

- Public health? Yes ☐ No ☑

If yes, indicate

- Loss of livelihood? Yes ☐ No ☑

If yes, indicate

Others

b) If any in 6 (a) above what are the mechanism to put in place to resolve the conflicts/ complains amicably?

i.
ii. The project to be installed in fairly
iii. flat area
iv.
v.
vi.

7. In which category do you fall? (tick where applicable: you can tick more than one box)

Water beneficiary ☑ Neighbouring resident ☐ Project official ☐ Project member ☐
Water Officer ☐ Stakeholder ☐ Community leader (Chief, MCA, WA, Opinion leader) ☐
Other (specify)

PERSONAL INFORMATION

Name of respondent JOSEPH YATOR ID No. 0705551640

Mobile 0705551640 Signature

----------Thanks for your cooperation----------

MINUTES FOR ESIA REPORT OF KASIRYO BOHE-HOLE WATER PROJECT, AT KASIRYO, KABARTONJO WARD, OSSEN LOCATION, OSSEN SUB-LOCATION, ON 3rd. September, 2021 FROM 2PM-3PM.

MEMBERS PRESENT.

Attached to the minutes.

AGENDA

1. Introduction,
2. Briefs From Ward Administrator, Water Officials and ESIA, Expert.
3. Administration of Quationaires
4. Public opinion.
4. A.O.B, Adjornment & Confirmation of the Minutes.

Min 1/3/9/21; Introduction;
The Area Chief; Called the meeting to start with a word of Prayer, and welcomed everyone to the meeting to participate on the ~~do~~ Project. He made a brief History on water shortage, in the entire Ossen Ward and Location. He introduce Water Management Committee in the Location; and Elder's i.e Nyumba Kumi.

Min 2/3/9/21. Ward Administrator, Water Official and ESIA Expert Briefs.

- Ward Admin brief the meeting on the Water developments in the Ward [Kabartonjor] Citing Ossen as an area with water shortage.
- County Water Official assured the residents on more development in the area to adress water shortage permanetly in Ossen.
- ESIA Expert reminded the community on the Conservation of the environment; He welcome the public to discuss on social and environmental impacts related to the bore-hole water project.

Min 3/3/9/21; Administration of Quationaire a) Public participation;

The public were invited to ~~discuss~~ raise their opinion through quationaire and ~~pub~~ Public participation; Here are their opinion

(i). Water to be supplied to every household in the community; and water to be used for domestic and animal use.

(ii) Water Management officials to be formed; for effective supply, use and maintaince of the water project; the cost of water production should be minimised by fitting solar ~~panels~~ tunnels.

(iii) The residents had no issue with the land donated to installed the project; the tank should be sited on the higher ground to pump water to lower zones of Ossen.

Min 4/3/9/21; A.O.B, Adjournment & Confirmation of the Minutes

The Area Chief remind the Public to Maintain Social distance, wear facemasks, and ~~adhe~~ follow the Ministry of Health regulations. Being no other business, the Meeting was closed at 3Pm with a Word of Prayer. Secretary and Chairman Confirmed the Minutes

Jonathan Cherugut
(Sec) 3/9/2021

COMMUNITY LAND RESOLUTION AND AGREEMENT FORM

ITEM	DESCRIPTION
Project name	KASIRYO BOREHOLE
Project Location:	OSSEN HIGH SCHOOL
GPS coordinates	Lat. 80° 36.068 Long. 035° 46.274
Estimated cost of the investment	
Source of Funding	
Financial Year	

TERMS OF THE AGREEMENT

1. We the residents of.....Kasiryo Community.....discussed and agreed that, Ossen High School.....shall be site of the proposed ..Borehole Project.....and that:
2. We all are aware of the Project and this proposed project at ...Ossen....High...School.....,
3. We all are aware that the land set aside for the investment is community land and no one is claiming individual ownership because it belongs to all of us and negative impacts on particular individuals using the land will be addressed by the community, and no alternative claims will be made later on the land.
4. We all have no problem with the site of the investment and it's conversion to public land
5. We have all agreed unanimously that the project implementation should continue as it is designed.
6. We will all allow other neighbouring and cross-border communities access to the investment as agreed between elders of both communities.
7. We all shall strive to peacefully resolve any conflicts with other communities concerning the investment and that we would strive to peacefully co-exist and resolve any conflict arising out of the investment facility following due process provided by the laws of Kenya.
9. We all understand the likely impacts of proposed activities on the individual land.
10. We all understand that the community could have refused this investment.
11. We all agreed to this investment and donation of the land without coercion, manipulation, or any form of pressure on the part of public or traditional authorities.
12. We all agreed that we not require any monetary or non-monetary benefits or incentives as a condition for the donation.
13. The land being donated will not reduce the remaining land area to a level below that required to maintain the livelihoods of occupiers and users of land at current levels and will not require the relocation of any household.
14. If any structure will be moved or any access to land be limited as a result of the project, the individual affected will be compensated so their livelihood will be unaffected.
15. The land is free of encumbrances or encroachment and is not claimed by any individual and its ownership is not contested.

We have been designated by the community of (Kasiryo Village, Ossen Location)

Confirm the above information to be true and that we have resolved to abide by ALL terms of this agreement. (Please attach minutes of community meeting, where the community agreed to the use and conversion of this land for this purpose).

S/No.	Name & position	Village/Location	ID/No.	Signature
1.	Sammy Ohanjo Rotich Chair Person	Kabartamas / Ossen	0335269	
2.	Vincent Kipkulei Secretary	Ossen Location	27563754	
3.	Sarah Rotich Treasurer	Ossen Location	14564516	
4.				
5.				

Witnessed on this ……. Day of …….. in the Year……..: by:

1. Area Chief

Name JOSHUA KANDIE ID/No. 13062569 Signature & R/Stamp CHIEF OSSEN LOCATION DATE: 3/9/2021 SIGN:

2. Ward Administrator

Name ELIJAH R. CHEMJOR ID/No. 9172212 Signature & R/Stamp Administrator Kabaronjo Ward P.O. Box – 30401, Kabartonjo Date: 3/9/2021

3. Community Land Registrar

Name ID/No. Signature & R/Stamp

4. County Government (Physical Planning Department)

Name ID/No. Signature & R/Stamp

5. County Ministry Relevant to the project e.g. Water/Livestock Production etc.

Name ID/No. Signature & R/Stamp