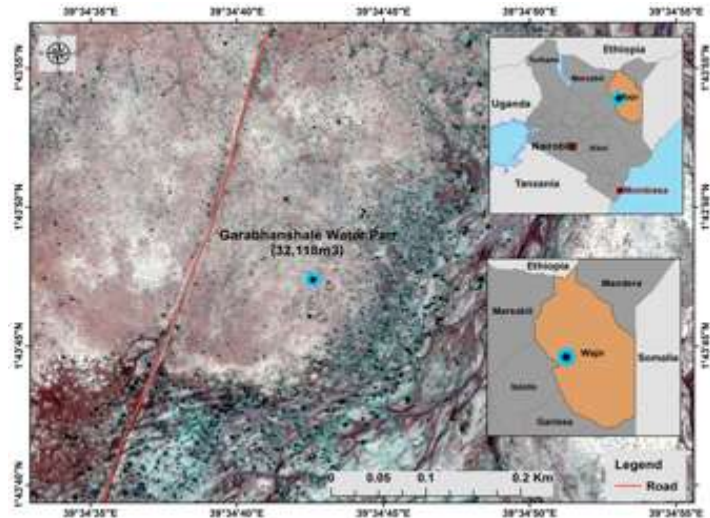




## ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT/ SUMMARY PROJECT REPORT (SPR)

FOR

### THE PROPOSED GARABHANSHANLE WATER HARVESTING PAN IN HADADO/ATHIBOHOL WARD, WAJIR WEST SUB-COUNTY IN WAJIR COUNTY



*Proposed Garabhanshale water pan site*

*GPS CO~ORDINATES: Latitude: 1.72983, Longitude: 39.5785 Altitude: 984 ft.*

#### **EIA Lead of Experts**

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SUBMITTED TO NEMA WAJIR COUNTY

April 23

**CERTIFICATION**


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This ESIA /EA proposed project report has been prepared by ESIA /EA Lead Experts Mr. Elijah Iwevo Reg. No. 6521 (*Annex 9*). Sabdow Kasai, Reg. No. 6616 and Hassan Adan Mohamed Reg. No. 6617. The report has been written with reasonable skills, care and diligence in accordance with the World Bank safeguards policy, the EMCA1999 (*Amended, 2015*) and the Environmental and Social Impact Assessment and Audit Regulations, 2003. We the undersigned, certify that the particulars in this report are correct and righteous to the best of our knowledge.

**PROPONENT:**

*On behalf of Garabhanshanle Community, Hadado/Athibohol Ward, Wajir West Sub-County in Wajir County*

Kenya Climate Smart Agriculture Project (KCSAP)  
P.O BOX 545-70200,  
WAJIR COUNTY

Signature  Date: **23 April 2023.**  
**Abdinoor Musa**  
Project Coordinator  
Kenya Climate Smart Agriculture Project (KCSAP)  
Wajir County.

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**ESIA/EA LEAD EXPERT:**

Signature:  Date: **23 April 2023**

1. Elijah Iwevo  
NEMA Expert (Reg. No. 6521).
- 

Date: .....

2. Name: Hassan M. Adan  
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Signature: ..... Date: .....

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## **ACKNOWLEDGEMENT**

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The ESIA/Audit Experts are grateful to the project proponent –Kenya Climate Smart Agriculture Project (KCSAP) Wajir County for commissioning to conduct this Environment Impact Assessment in respect of the proposed Project. I would like to acknowledge with great appreciation all those community members at the proposed site Garabhanshanle who participated in the public consultation process for their cooperation throughout the exercise. I further acknowledge the support, either direct or indirect, from the various parties who assisted the ESIA/EA experts’ team towards the successful completion of this ESIA report. They include KCSAP coordinator Mr. Abdinoor I. Musa and CESSCO Mr. Muhumed Hassan Ali. Finally, I wish to recognize and appreciate the efforts and inputs of the reviewers at the county, NPCU and the World Bank Group for reviewing this document to the required standards. We wish to thank the community leaders that supported the organization of the community members during public participation and stakeholder consultation.

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## ABBREVIATIONS/ACRONYMS

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CESSCO	County Environmental and Social Safeguards Officer
CDC	Center For Disease Control
CIDP	County Integrated Development Plan
COVID 19	Corona Virus Disease 2019
CPMU	Community Project Management Committee
SPR	Summary Pproject Report
EA	Environmental Audit
EMCA	Environmental Management Coordination Act
ESIA	Environmental Social and Impact Assessment
ESMonP	Environmental and Social Monitoring Plan
ESMP	Environmental and Social Impact Management Plan
GBV	Gender Based Violence
GRM	Grievance Redress Mechanism
KALRO	Kenya Agricultural and Livestock Research Organization
KCSAP	Kenya Climate Smart Agriculture Project
NEMA	National Environment Management Authority
PDO	Project Development Objective
PPE/C	Personal Protective Equipment and Clothing
SEA	Sexual Exploitation and Abuse
SPR	Summary Project Report
VMGs	Vulnerable and Marginalized Groups
WB	World Bank
WHO	World Health Organization
WRA	Water Authority
WUA	Water User's Association



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## EXECUTIVE SUMMARY

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Garbhanshale village is located in Hadado/Athibohol ward, Wajir West sub-county, Wajir County at GPS coordinates 1.72983,39.5785 and altitude of 984 feet above the sea level. The proposed water pan shall build the community's resilience against climate change and reduce vulnerability/susceptibility through provision of water for domestic and livestock use. Currently, the community members relies purely on water trucking and trekking for water to be used for domestic use and livestock watering women and young girls are most affected since they carry the burden of fetching water.

The proposed project shall be implemented by Kenya Climate Smart Agriculture Project (KCSAP) sponsored by the World Bank and supported by Government of Kenya. The objective of this Environmental and Social Impact (ESIA)-Summary Project Report (SPR) is to identify anticipated environmental and social impacts through the project phases. The recommendations within this report shall be incorporated in the design. Project activities will include bush clearing, excavation the impoundment area/reservoir of capacity 37,680m<sup>3</sup>, hauling and compaction of excavated material and embankment, inlet trench, inlet channel, outflow/spillway and silt trap. The cost of the project is estimated at Ksh. 20,694,203.18. The report has been prepared in compliance with the requirements of the Environmental Management and Coordination Act (EMCA) 1999 (*Amended 2015*), CAP 387 and the National Constitution of Kenya 2010. Section 58 of EMCA and the World Bank Environment and Social Safeguards policies.

The SPR approaches and methodology involved screening, data collection through administration of questionnaires, observations and photography, site visits and desktop environmental studies, desktop study based on proposed activities, project documents, County Integrated Development Plan (CIDP), 2018-2022 and relevant legislative and regulatory frameworks among others, site assessment. The SPR is outlined as follows; Introduction, Nature of the project, Location of the project, Public Participation and Stakeholder Consultations, Potential Anticipated Impacts and Mitigation Measures, Environmental and Social Impacts Management and Monitoring Plan (ESM&MP) and Conclusion and Recommendations.

Stakeholder consultation and public participation was undertaken on 17/3/2021, to capture the opinions and concerns of the community members. **The participants during SC and PP included 53 members (19 Female and 34 male)** Structured questionnaires were used to collect data. PP was conducted in public meeting *baraza*. Data was analyzed and incorporated in this ESIA-SPR. During the SC and PP potential positive and negative environmental and social impacts were identified. For the negative impacts' mitigation measures were suggested by the community members.

The main positive social impacts highlighted during the operational phase shall include, availing of adequate water for domestic and livestock use, reducing burden/trekking distance in search of water by women and young girls. Environmentally the water pan shall improve micro-climate of the area for vegetation and animals. Anticipated negative environmental impacts during construction shall include loss of vegetation, where minimal clearance only to the construction site shall be undertaken. Increased noise pollution and vibrations. Workers shall be provided with ear muffs. Increased emission of dust and smoke that shall be mitigated through sprinkling of water. Construction solid wastes will be disposed adequately. During operational phase the anticipated environmental impact will include surface water pan pollution that shall be controlled through construction of water points/kiosks and livestock troughs. Increased soil erosion shall be mitigated through proper compaction of soil during construction. Siltation of the water pan where desiltation shall be undertaken frequently. Breaking of water pan

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wall/embankment. This shall be mitigated through monitoring and assessment of the water pan walls and project site particularly before the onset of the rains and as the rains progress.

Anticipated negative social impacts during construction phase shall include labor dispute issues which shall be solved through employing casual and unskilled labor from the local community. Spread of HIV/STIs to be mitigated through dissemination of information and awareness creation. The influx of workers and risk of transmission of COVID 19 shall be contained by sensitizing the community on control measure. Gender Based Violence (GBV) by construction workers to be minimized through capacity building and awareness of the community and workers on prevention GBV. Sexual Exploitation and Abuse (SEA) this shall be mitigated through development and implementation of a SEA action plan with an accountability and response framework as part of the C-ESMMP. Occupational safety and health shall be minimized through provision of suitable protective gear – PPE/C. During operational phase, Inequity issues on water resource accessibility shall be mitigated through formation of project management committee to make sure water resource is equitably accessed and distributed within the community, social conflict/community disputes over the water to be handled through establishment of Grievance Redress Mechanism (GRM) and create a Project Management Committee (PMC) to oversee activities at the water pan. Potential water borne disease outbreak, like typhoid, malaria, cholera shall be controlled through sensitization of the community and provision of mosquito nets and water purifiers. Drowning risks shall be prevented by sensitizing the community and fencing of the water pan. Environmental and social management and Monitoring plans (ESMMPs) shall be drafted and shared with the selected contractor (C-ESMMP) for implementation. The budget (Total figure for ESMMP implementation is KSH. 597,000 vs total cost Ksh. 20,694,203.18).

In conclusion, the proposed project's objective is to excavate a water pan that will provide water for domestic and livestock use. However, the EIA established both environmental and social anticipated positive, negative impacts and mitigation measures. Most of the negative impacts are short and medium-term or temporary in nature and can be readily addressed by some embedded control measures in Environmental and Social Management Plan.

The project received favorable support of Garabhashanle community members and other stakeholders during consultations. The community through the PMC shall ensure environmental audit of the project is undertaken annually. This shall be in compliance with the Environmental Management and Coordination Act, EMCA of CAP 387 and the Environmental Impact Assessment and Audit Regulations, Legal Notice No. 101 of 2003.

It is recommended that, for sustainability of the project during the operational phase a project management committee or water users association to be formed and capacity built to oversee the utilization and maintenance of the water pan/resource. To avoid any conflict over the resource a grievance redress mechanism (GRM) to be put in place by the PMC/WUA. Finally, NEMA to authorize the implementation of the project after review of the SPR.

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## CHAPTER ONE: INTRODUCTION

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### 1.1 Background information

Garbhanshale village is located in Hadado/Athibohol ward, Wajir West sub-county, Wajir County at GPS coordinates 1.72983,39.5785 and altitude of 984 feet above the sea level. The overall objectives of the project is to provide water for domestic and livestock use to increase agricultural productivity and build resilience and build community resilience to water scarcity/challenge. Currently, the community members relies purely on water trucking and trekking for water to be used for domestic use and livestock watering women and young girls are most affected since they carry the burden of fetching water. These objectives are in line with KCSAP Project Development Objective (PDO) that is “to increase agricultural productivity and build resilience to climate change risks in the targeted smallholder farming and pastoral communities in Kenya, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response.”

**Project Justification** Excavation of the water pan shall ease the community from the constraints faced in accessing water for livestock watering and domestic use. The water pan will provide sufficient water for consumption. In Garabhanshanle village human water demand in the dry months of the year was approximated as 2,879.00m<sup>3</sup>. The livestock water requirement in the same period was about 11,907m<sup>3</sup>.

**Proposal Statements/Intent of the project:** Garabhanshanle community walk long distances as far as Griftu (56kms) and Hadado which 26kms to fetch for water for domestic use and livestock watering. Women and young girls trek using donkeys and carts to areas mentioned. On the other hand, men and young adults move livestock for watering to the areas stated. The consequences of long distances experienced donkeys as beast of burden are under pressure and are stressed up. Women use valuable time they could use for other productive activities while girls miss school. Excavation of the water pan shall enable the community to access water for livestock, domestic use and sanitation. The community members shall have adequate time for other activities, school going children will attend school. Stress on donkeys shall be reduced.

### 1.2 Justification of conducting the SPR

Justification for conducting the SPR is to determine the significant environmental and social impacts early in the project cycle so that recommendations can be built into the design and cost-benefit analysis without causing major delays or increased design costs. The SPR was as a result of the recommendation of the County Director Environment (CDE) based on the screening report, and because NEMA Public Notice on the Environmental Impact Assessment and Audit Regulations, 2019 (Amended 2015) and Legal Notice No 31 which identifies the proposed project as Low risk, thus requiring only SPR. To be effective once implementation has commenced, the ESMMP will lead to a mechanism whereby adequate monitoring shall be undertaken to realize environmental management.

- To identify environmental economic, social and health impacts (both positive and negative) anticipated during the planning, construction, operational stages.
- To suggest possible mitigation measures for the identified negative impacts during the stages of project implementation.

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- To create awareness of the implementation of the project and solicit views/opinion from the public within the project area.
  - Develop an Environmental and Social Management and Monitoring Plan (ESMMP) for the proposed project.

### **1.3 The SPR Objectives**

The objectives of the Environmental Impact Assessment are:

- ✓ To fulfill the legal requirements as outlined in Section 58 to 69 of the Environmental Management and Coordination Act (EMCA), 1999 (*revised 2015*) and Part I and II of the *Environmental (Impact Assessment and Audit) (Amended) Regulations, 2019*, and World Bank Safeguards Regulations
- ✓ To obtain background biophysical information of the site and legal and regulatory issues associated with the project.
- ✓ To assess and predict the potential impacts during site preparation, construction and operational phases of the project.
- ✓ To make suggestions of possible alterations to the proposed design based on the assessment findings.
- ✓ To propose mitigation measures for the potential significant adverse environmental impacts and safety risks.
- ✓ To allow for Public Participation (PP) and Stakeholder Consultation (SC).
- ✓ To lower project cost in the long term; and
- ✓ To prepare an Environmental and Social Management and Monitoring Plan (ESMMP).

### **1.4 Methods used to conduct the SPR.**

The method used in conducting this ESIA involved key activities as outlined below:

- i. Literature Review: A detailed review of available documentation related to the proposed project.
- ii. Consultations with the proponent regarding the proposed project details (including the design), the site planning and implementation plan.
- iii. Interviews and consultations with the local community surrounding the water pan as well as representatives of various organizations and relevant county government officials through questionnaires.
- iv. Data collection and physical inspections of the proposed site using data collection sheet.
- v. Evaluation of the activities around the site and the environmental setting of the wider area through physical observations as well as from existing information in literature; and
- vi. Reporting, review and submissions of the report to NEMA and WB for review, approval and consideration of issuance of NEMA licence.

Below is a typical outline of the basic ESIA steps that were followed during this assessment:

#### **Step 1: Environmental and social Screening**

Environmental and social screening was carried out to determine whether an ESIA study is necessary for this project and at what level of evaluation. This took into consideration the world bank safeguard policies and requirements of EMCA, 1999 (amended 2015), and specifically the second schedule of the same act. From the screening process ([Annex 6](#)), it was understood that

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this project will cause significant impacts (negative-though minimal and positive) on the environment and social of the community.

### **Step 2: Environmental Scoping**

In scoping, focus was on environmental impacts of great concern. Environmental issues were categorized into physical, natural/ecological and social, economic and cultural aspects. Impacts were also classified as immediate and long-term impacts. This will include assessment of the proposed project in respect of but not limited to.

- ✓ Project Background: this will give the brief history of the proposed project site, the parties involved and justification of the project in terms of demand or lack of the same, the project area, relevant policy and legislation, identification of any associated project, or any planned projects.
- ✓ The proposed project objectives; both in the short and long run and they are linked to the overall objectives.
- ✓ Present environmental conditions; description of the project site, ecological zoning as well as the state of the environment and its surroundings. Attempts will state if it is already suffering from degradation. If the latter is true, the causes of the original degradation will be established and if possible, the state of the environment before the observed degradation.
- ✓ Identification of Environmental Impacts; the report will distinguish between significant positive and negative impacts, direct and indirect impacts and immediate and long-term impacts which are unavoidable and / or irreversible.
- ✓ Analysis of the alternatives to the proposed project; this will involve description of alternatives and identifying alternatives that would achieve the same objectives.
- ✓ Alternatives will be compared in terms of potential environmental impacts; capital and operating costs; suitability under local conditions; and institutional training and monitoring requirements.
- ✓ Community/ Stakeholder Consultations: these will be undertaken to determine how the project will affect the local people / various stakeholders.
- ✓ Cost- Benefit Analysis; to evaluate the economics of the project and establish its viability in terms of the expected environmental concerns and measures.
- ✓ Evaluation; an indication of how the information gathered will be evaluated to give optimum results.
- ✓ Development of an Environmental, Social Management and Monitoring Plan (ESMMP); to mitigate negative impacts, recommending feasible and cost effective measures to prevent or reduce significant negative impacts to acceptable levels, and monitoring the implementation of the mitigation measures and the impacts of the project during construction and operational phases, including an estimate of capital and operational costs, and Make necessary recommendations pertaining to the proposed development.

### **Step 3: Desk Study**

Documentation review is a continuous exercise that involves a review of available documents on the project, including County Integrated Development Plan (CIDP), designs, project plans and designs, environmental and social legislation and regulations, **World bank safeguard policies** etc. The review provided an understanding of the terms

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of reference, environmental and social status, demographic trends, land use practices, development strategies and plans as well as the policy and legal documents.

#### **Step 4: Field Assessment and public participation**

Field visits and assessment involved bio-physical inspections and observation of the project site in order to gather information on the state of environment. Several photos of the project site were taken for inclusion in this report. The GPS coordinates were also determined.

With the background obtained from preliminary visits, discussions and documentation, the proposed project site was comprehensively evaluated, and the government line departments, local administration and community were consulted. The proposed development was evaluated with a view to establish the physical environment status, social and economic trends. The field assessment was also designed to establish potential positive and negative impacts through interviews, discussions and physical observation.

The study also sought public opinion/views through Stakeholder Consultation (SC) and Public Participation (PP) exercise. Questionnaires were administered to the public and interviews held with neighbors. The questionnaires have been included in this report.

#### **Step 5: Reporting and documentation.**

Summary project report (SPR) containing findings was compiled by the expert in accordance with NEMA guidelines and submitted for review and consideration for approval. A comprehensive Summary Project Report (SPR) was drafted including World Bank policies on safeguards. The experts ensured constant briefing of the client during the exercise. Description plans and sketches showing various activities are part of the Appendices. The reports also included the environmental and social impact management plans.

#### **1.5 Outline of the organization of report chapters**

The Study Report outline is as follows:

- Chapter 1: Introduction
- Chapter 2: Nature of the project
- Chapter 3: Location of the project
- Chapter 4: Public Participation and Stakeholder Consultations
- Chapter 5: Potential Anticipated Impacts and Mitigation Measures
- Chapter 6: Environmental and Social Impacts Management and Mitigation Plan (ESM&MP)
- Chapter 7 Conclusion and Recommendations.

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## CHAPTER TWO: DESCRIPTION OF THE PROJECT

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### 2.1 Introduction

This chapter shall describe the designs of the project, funding of the project, cost, design of the pan; design criteria; project layout; project activities:- for instance (pre- key activity e.g. excavation phase; pre-start meeting; mobilization of machinery; site layout; main works e.g. excavation phase); material and equipment; proposed project cost implementation time frame, regulatory requirements and data, location and site ownership, objectives and activities during the project cycle.

### 2.2 Description of design, drawings and specifications

The water pan has been designed to have reservoir/impounding area, unlet channel, outflow/spill way channel, inlet trench, silt trap, spill way and impoundment area. Below are designs specifications.

*Table 1. Water Pan Reservoir*

Description	Measurements
Top width of the Pan	85m
Top length of the pan	139m
Bottom width of the pan	70m
Bottom length of the pan	124m
Depth of the pan	3m
Reservoir capacity	32,760m <sup>3</sup>

*Table 2. Water Pan Inlet Channel*

Description	Measurements
Top width	6 m
Depth	0.5m

*Table 3. Water pan Outflow/spill way channel*

Description	Measurements
Top width	11m
Bottom width	6m
Depth	0.75m
Bed slope	0.75%

*Table 4. Water Pan Silt Trap*

Description	Measurements
Outer Length	30m
Outer Width	20m
Depth	2m

*Table 5. Water pan Inlet Trench*

Description	Measurements
Outer width	3 m
Depth	0.3m

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Other structures to be constructed include, a perimeter fence, toilet facility, plumbing and pumping works, tank with elevated tank and construction of two water troughs as per engineer's specification

### **2.3 Design criteria**

Design's criteria are the precise goals that a project must achieve in order to be successful. Hence, the proposed project is aimed at achieving the construction of a water pan reservoir, a perimeter fence, toilet facility, plumbing and pumping works, tank with elevated tank and construction of two water troughs.

### **2.4 Details of the Project**

The project will entail the following design specifications

- a) Reservoir of 37,680m<sup>3</sup> with the following structures
  - Inlet channel of 6m x 0.5m
  - Outflow/spill way channel of top width 11m x bottom width 6m x depth 0.75m x bed slope 0.75%. Silt trap of outer length 30m x outer width 20m x 2m
  - Inlet trench Outer width 3m Depth 0.3m
- b) Perimeter fence of 20m.
- c) Toilet facility (two doored of 3m by 1.5m by 3m).
- d) Installation of pipes, tank and pump
- e) Construction of two water troughs

### **2.5 Architectural designs and Project lay out**

The layout and designs of the main water pan is in ([Annex 8.](#))

### **2.6 Project activities**

- a) Pre-start meeting
- b) Pre-key activities
  - Identification of village for support
  - Need assessment and resource analysis
  - Feasibility study was conducted at the village
  - The site identification Using the local knowledge and the engineers' specialties
  - Excavation of test pits
  - Designing of the water pan and associated infrastructures (toilet, water troughs) in relation with site
- c) Site layout
- d) Mobilization of machinery to the site
- e) Excavation and main works phase
  - Clearance of the site, this shall include vegetation clearance
  - Measurement of the site
  - Excavation of the soil using earth moving machines to create the main water reservoir
  - Compacting of the embankments
  - Construction of the Inlet channel, Outflow/spill way channel, Silt trap of outer and Inlet trench Outer width.
  - Measurement and construction of perimeter fence
  - Excavation and masonry works for Toilet facility



- 
- Installation of pipes, tank and pump
  - Construction of two water troughs

2.7 **Materials and equipment:** Cement, sand, gravel, iron sheets, metal bar and water, water tank, pipes, pump, wood/timber Equipment. Earth moving machines, masonry tools and equipment.

## 2.8 Proposed project cost

The project cost is about **Ksh. 20,694,203.18** ([Annex 7](#)) shows a summary of the Bill of quantities (BoQ).

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## CHAPTER THREE: LOCATION OF THE PROJECT

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### 3.1 Introduction

This chapter provides a description of the location of the proposed project, physical environment of the location and socio-economic environment of the community. A google map has been used to show the proposed site.

### 3.2 Project location

The project shall be located at Garabhanshanle village Hadado/Athibohol ward, Wajir West sub-county in Wajir county. The map below shows the proposed site at Latitude: 1.72983, Longitude: 39.5785 Altitude: 984 ft. The site is about 3km from the Garabhanshanle village. It is about 76km away from Wajir town at an altitude of 389m a.s.l.

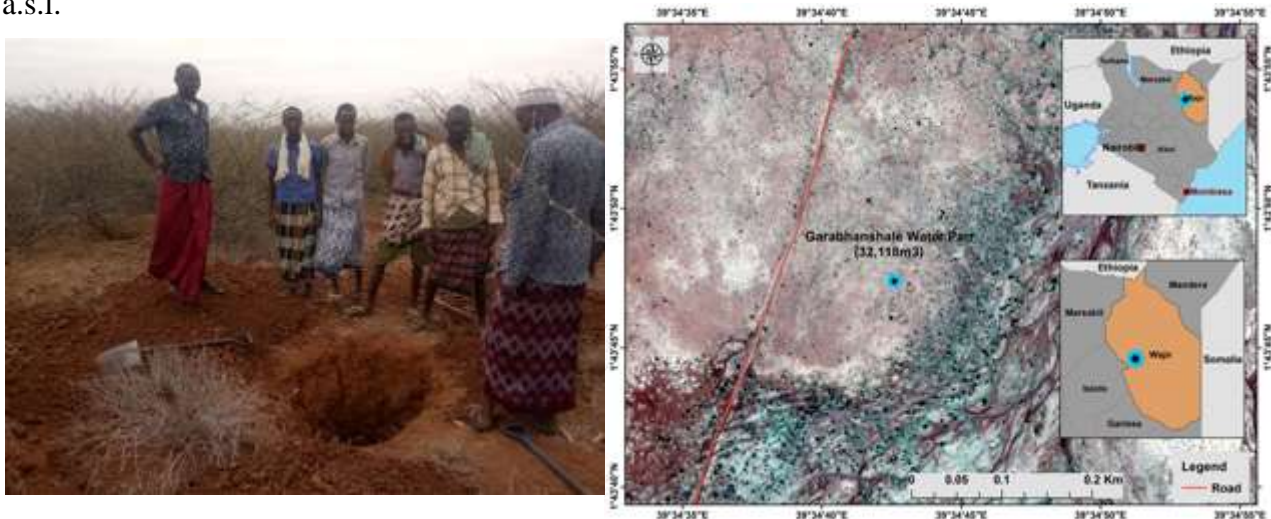


Figure 1. Garabhanshanle Water pan propped site

### 3.3 Siting

The site is about 3km from the settlement. It is covered with shrubs and scabs. The land on which the water pan shall be excavated is communally owned. The community administration through a committee has provided and permitted the development of the project. There is a water way/rainwater run off drain adjusted to the proposed site that will be used to fill the water pan.

### 3.4 Site description

#### 3.4.1 Physical Environment

This section shall focus on climatic conditions, edaphic (Soils) and geological factors, biotic factors (*flora* and *fauna*) and water resources and hydrology.

#### 3.4.2 Climatic conditions

The county falls under agro-ecological zones ranging from IV—V. The rainfall regime is bimodal. The amount of rainfall ranges from 250mm- 300 mm. The average temperatures are 29°C. The area is windy especially during the dry season.

#### 3.4.3 Edaphic (soils) and geological factors.

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The site contains sandy loam soils. The soils are weathered from sedimentary rocks within the area. During the dry season the area is very dusty.

#### **3.4.4 Biotic factors (Flora & Fauna)**

**Flora:** The main type of vegetation consists of wooded grasslands, desert bush lands Forbes and shrubs. The type of vegetation is highly depended on altitude, soil type and rainfall. The main vegetation within the proposed site is *Acacia spp*s tree species and *Commiphora Spps*.

**Fauna:** the area has various livestock (camel, cattle, sheep and goats, donkeys and poultry). The wild life includes the ostriches, antelopes, *dik-dik*, *Avian Spps*,

#### **3.4.5 Water resources & hydrology.**

There are two underground tanks used to store and supply water to the residents. The water is tracked from Griftu and Hadado centers. Wajir historical rainfall data, in Table 8, reveals that the months of March, April, May, October, November, December and January have a substantial shower that contributes to a sufficient water impounding in Garabhanshanle settlement Centre. This design therefore considered a design rainfall amount of seven (7) months storage period.

#### **3.5 Socio-economic activities**

- a) **Livelihood activities:** The community main source of livelihood is rearing (cattle 600, camel 1,800, sheep and goats 5,000, donkeys 250.). despite large number of livestock in relation to the size of the community,
- b) **Demography:** The village has an approximate 980 members The community also has Vulnerable and Marginalized groups (VMGs) who shall benefit from the proposed project, they include the poor, widows/widowers, orphans, physically challenged, elderly i.e. Male 110, Female 80 (*data source from the village*). The poverty index is about 84% (CIDP-2018-2022).
- c) **Education/Literacy:** The village has a primary school from Nursery to grade one with a total enrolment of 50 pupils. The literacy level stands at 47% (CIDP-2018-2022).
- d) **Infrastructure:**
  - Health:* the village has no dispensary and travel to Hadado for treatment.
  - Communication:* the village is connected to Safaricom service provider.
  - Roads:* the village is along Hadado to and Barmil earth road. During the rainy season the road is impassable and very dusty during the dry seasons.
- e) **Commerce:** the community main source of income is sale of live animals and livestock products (milk). the main markets are Hadado, Griftu and Wajir town centers
- f) **Land system:** - tenure system is purely communal. There are no environmentally sensitive areas to be affected. The community through the area chief permitted the use of the land for the proposed project as shown in [Annex 2](#).

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## CHAPTER FOUR: PUBLIC PARTICIPATION AND STAKEHOLDER CONSULTATIONS

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### 4.1 Introduction.

The stakeholder consultation and public participation process is a policy requirement by the Government of Kenya and a mandatory procedure as stipulated by EMCA1999 (amended 2015) section 58, on Environmental Social and Impact Assessment for the purpose of achieving the fundamental principles of sustainable development. Categorization of community participants and stakeholders consulted included the area chief, sub county administrator, county chief officers in charge of agriculture, irrigation and water, public health officers, livestock production officers and county chief executive member. The Stakeholder consultation (SC) was conducted on 17/3/2021.

### 4.2 Objectives of SC and PP

The objective of the stakeholder consultation and public participation was to -

1. Sensitize and inform the stakeholders and community members about the project with special reference to its key components of the water pan designs and location
2. Gather comments, suggestions and concerns of the interested and affected parties
3. Propose/suggest solutions and mitigation measures to the various concerns
4. Incorporate the information collected in the Summary Project Report
5. The establishment of a communication channel between the public and the project Proponent- KCSAP.
6. The decision makers aware of the concerns of the stakeholders at an early phase of the project development.

The purpose for such interviews was to identify the positive and negative impacts and subsequently promote/enhance and mitigate them respectively. It also helped in identifying any other miscellaneous issues that may bring conflicts incase project implementation proceeds as planned.

The community members involved in PP and SC included 53 participants (19 Female and 34 male) vulnerable and marginalized groups (i.e. mainly the widow especially the female household head and the elderly). The picture evidence of the public participation is in [\(see Annex 6 for pictures\)](#)

### 4.3 Methodology for PP & SC

Methods used for public participation (PP) to identify anticipated impacts and possible mitigation measures from the community members included

1. The administration of pre-designed questionnaires
2. Public meeting/*baraza* [\(Annex 3\)](#)
3. Taking of pictures of community members in the attendance.
4. List of participants

Methods used for stakeholder consultations included

1. Direct interviews with stakeholders using questionnaires [\(Annex 4\)](#)
2. List of participants [\(Annex 1\)](#).

#### 4.4 Summary of Issues and concerns raised by the public/community and stakeholders

The table below summarizes the positive aspects and how they may be enhanced, potential negative impacts and suggested mitigation measures as provided by the stakeholders and community members

Summary of Issues and concerns by the public/community and stakeholders

##### Positive aspects/impacts raised

*Table 6. Positive impacts of the water pan raised during SC and PP*

Positive aspects/impacts raised	Enhancement
1. The water pan shall provide adequate water for domestic use, sanitation and livestock watering	Formation of a project management committee to manage the pan
2. Youth and women shall be employed and have small businesses during the project cycle	<ul style="list-style-type: none"> <li>- Business area to be set aside for women and youth around the water pan.</li> <li>- That the local residents be considered as first priority for employment by the contractor before others</li> </ul>
3. Community members shall earn income from sell of raw materials like water, sand and gravel during the construction phase	Such opportunity to be provided to the local community members
4. The vulnerable and marginalized groups shall be access water easily	In future the water to be conveyed to the community through water pipes
5. The water could be used for irrigating vegetable, and fodder around the water pan	Allocate land around the water pan for growing vegetable and fodder for livestock since its fertile

##### Negative aspects/impacts raised

*Table 7. Negative impacts of the water pan raised during SC and PP*

Negative aspects/impacts raised	Suggested mitigation measure
1. Loss of vegetation and tree covers	Selective clearing of vegetation
2. Occupational safety and health risks (Incidences of accidents)	Workers to be provided with PPEs during the construction phase
3. Increased solid waste around the water pan	Receptacles to be place strategically around the water pan
4. Increased water borne diseases (like malaria, typhoid, cholera) incase appropriate measures are not provided. The water pan shall be a breeding site for mosquitoes	<ul style="list-style-type: none"> <li>- Community capacity building on safe use of the water pan and proper sanitation</li> <li>- Construction of male and female toilets around the water pan</li> <li>- Provision of water treatment tablets</li> <li>- Provision of mosquito nets</li> <li>- A water kiosk to be constructed at the water pan to improve sanitation and avoid contamination of the water pan</li> </ul>
5. Drowning of children and livestock in the water pan	Community sensitization and construction of a perimeter fence
6. Concerns of siltation of the water pan	Frequent siltation of the water pan
7. Water contamination by livestock, human and wildlife	Water troughs for livestock and wildlife to be constructed away from the water pan. A fence will be constructed to avoid direct access to the water pan.

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## CHAPTER FIVE: ANTICIPATED IMPACTS AND MITIGATION MEASURES

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### 5.1 Introduction

This Section identifies and discusses both positive and negative environmental and social impacts anticipated during the project cycle (i.e. construction, operational and decommissioning phases). Onsite and off-site impacts may occur due to project location and during the construction and operational phases of the proposed Project.

On-site impacts result from project siting and from the construction activities carried out within the construction site. The impacts of off-site work results from activities carried out outside the construction site, yet directly related to the proposed project. Assessment of impacts depends on the nature and magnitude of the activity being undertaken and on the type of mitigation measures that are envisaged as part of the project proposal.

The potential impacts from the proposed project area are identified and assessed based on the nature, magnitude and merits/or demerits of the various activities associated with the project. This chapter therefore, describes the anticipated positive and potential negative impacts of the proposed project of water pan during construction, operation and decommissioning phases.

### 5.2 Environmental and social impact Impacts (positive and potential negative)

#### 5.2.1 Positive environmental and social impacts during project cycle

##### a) Positive Social Impacts and their enhancement measures

#### 1. Creation of employment for the local community including women and youth.

The construction of the proposed water pan will create opportunity for temporary and casual employment to the locals particularly during the construction stage. The youths and women will be engaged in sale of food to the workers on-site.

*Enhancement measure: Women to be encouraged to prepare and sale food to the workers at the site.*

#### 2. Improved busines opportunities and local economy.

- During construction the community shall earn income from sale of raw materials like sand, gravel and water for the project.
- During operation, the community members shall use the water pan in growing vegetables that could earn them income.

*Enhancement measure. The community members to be provided with an opportunity to supply local available materials for the project. the community to be trained improved farming methods to improve vegetable productivity. Provision of farm inputs to the agro-pastoralists.*

#### 3. Vulnerable and marginalized groups shall easily access water for domestic use and sanitation improving their living standards.

*Enhancement measure. VMGs to provided first priority in accessing the water.*

#### 4. Improved food and nutrition security: Livestock watering shall increase body condition and milk productivity thus increasing food security and nutrition of the community. In case

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the water pan shall be used for growing vegetables, this will improve food security and nutrition of the community too.

*Enhancement measure. Support the community in formation of PMC that shall organize the utilization of water for domestic use, sanitation, livestock watering and irrigation.*

5. **Reduced walking distance to water source:** Construction of the water pan will reduce trekking distance as it will provide a reliable water source throughout the year. This will translate to saving time for other productive activities especially for women who carry the burden of trekking long distances to obtain water.

*Enhancement measure. Possibilities of piping and storage of water in the settlement.*

6. **Improved public hygiene and sanitation:** The proposed construction of sanitary facilities (VIP Latrines) at the project site and fencing of the water pan will mean less contamination and pollution of the water and the environment. All this will result in improved sanitation and public hygiene in the area. Water borne diseases shall also be prevented.

*Enhancement measure. Capacity building of the community members on hygiene and sanitation during the utilization of the water pan.*

7. **Flood Control:** The proposed water pan will retain the flood water flows reducing flooding and its adverse effects in the area. The area is prone to flooding during high rain fall intensity.

*Enhancement measure. Construction of more flood controlling structures.*

8. **Improved skills on community project governance.** The proposed project will involve the community and the local stakeholders throughout the project cycle equipping them with management skills in water projects. The sub project will present the local stakeholders with a learning opportunity on community water project governance practices, such as: efficient water management and ways to minimize wastage, transparency, management of grievances, accountability and record keeping, among others.

*Enhancement measure. Capacity building of the PMC on water management and supporting them formulation of by-laws and documentations.*

9. **Livelihood diversifications.** The proposed sub project will enhance livelihood diversification to beekeeping, poultry keeping, kitchen gardening, fish farming and planting of pasture or fodder on a small scale. This will be possible through the increased volume of water in the rehabilitated and desilted pan and from time saved in search of water for livestock and even domestic during drought season. Livelihood diversification will contribute towards employment creation, income generation and food/nutrition security in the project area.

*Enhancement measure. Capacity building of the community on livelihood diversification.*

## **b) Positive environmental Impacts and their enhancement measures**

1. **Improved microclimate, flora and fauna of the project area:** planting of fodder, indigenous trees, fruit trees and vegetables shall improve the micro-climate of the village.

*Enhancement measure. Capacity building and provision of farm inputs including seedling to the community. Fencing of the farming areas to avoid destruction by wildlife.*

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2. **Reduced death of wildlife** due to lack of water thus improving the ecosystem of the area  
*Enhancement measure. Possibilities of constructing water troughs for wildlife.*

## 5.2.2 Negative environmental and social impacts

### a) Potential Negative Social Impacts and their mitigation measures

The following are anticipated potential social impacts and suggested mitigation measures during preparatory, construction, operational and decommissioning phases

#### i. During construction phase

- (1) **Labor dispute** during the excavation of the water pan and construction of related infrastructure. In case the contractor hires casual labor from outside the community to perform causal work that can be undertaken by the community could result in labor conflict.

##### Mitigation measures

- Casual and unskilled Labor to be sourced from the community
- Special groups to be considered in hiring, e.g. widows to be considered to undertake manual labor.
- Opportunities at the site to be disclosed to the community
- Institute grievance redress mechanism to address any labor dispute anticipated during the construction phase.

- (2) **Spread of HIV/AIDs by workers** at the site may occur if appropriate mitigation measures are not conducted for prevention.

##### Mitigation measures

- Dissemination of information and awareness creation on HIV/Aids and STIs shall be an integral component of the project
- The affected persons shall not be victimized or traumatized
- A mechanism for monitoring HIV/Aids and STIs shall be established.
- The contractor shall provide protection information and equipment (condom) at the site
- Guidance, counselling and support shall be provided to the victims on management of the disease.

- (3) **Influx of workers** at the proposed site may spread COVID-19, introduce different culture.

##### Mitigation measures

- The community to be sensitized on measures to prevent infection of COVID-19 Health and Safety Protocols as per March 14, 2020- Occupational safety and health advisory on coronavirus (COVID-19), CDC's Coronavirus Disease Site and WHO Getting your Workplace Ready for COVID-19 to prevent COVID-19 contamination, infection and transmission.
- Community members to be trained on interacting with the workers at the site
- Provision of PPEs and adequate water or sanitizers to community members
- Reports on community sensitization and provision of PPEs

- (4) **Gender Based Violence (GBV) by construction workers.**



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In the processes of interacting with the community members some workers may be involved in gender-based violence like

Mitigation measures

- Capacity building and awareness of the community on GBV
- Emphasize prevention and minimal harm to women and girls. Adopt risk-based approaches that aim to identify key risks of SEA and undertake measures to prevent or minimize harm.
- Build on existing local knowledge. Engage the community partners, local leaders, civil society organizations, gender and child advocates and mechanisms for support through out the project cycle.
- Effective and on-going community engagement and consultation, particularly with women and girls.
- Review of specific project components that are known to heighten GBV risk at the community level, e.g. Compensation schemes; employment schemes for women; delivery of water supplies; etc.
- Specific plan for mitigating these known risks, e.g. Sensitization around gender-equitable approaches to compensation and employment; water services; etc.
- Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation

**(5) Sexual exploitation and abuse (SEA) by construction workers**

SEA may occur where the workers may use their influence in terms of money to lure young girls and exploit them sexually. This could be contained through the following mitigation measures.

- Develop and implement a SEA action plan with an Accountability and Response Framework as part of the C-ESMP. The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing involving Major Civil Works (Sept 2018).
- The SEA action plan will include how the project will ensure necessary steps are in place for:
  - Prevention of SEA: including COCs and ongoing sensitization of staff on responsibilities related to the COC and consequences of non-compliance; project-level IEC materials.
  - Response to SEA: including survivor-centered coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management.
  - Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of PSEA awareness-raising in all community engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA-related rights.
  - Management and Coordination: including integration of SEA in job descriptions, employments contracts, performance appraisal systems, etc.;

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development of contract policies related to SEA, including whistle blower protection and investigation and disciplinary procedures; training for all project management; management of coordination mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA focal points in the project and trained community liaison officers.

## ii. During operational phase

(1) **Inequity issues on water resource** accessibility may be experienced if suitable measures are not put in place, especially on VMGs

### Mitigation measures

- Facilitate formation of project management committee to make sure water resources is equitably accessed by all community members
- Rationing to be undertaken when water levels drop during the dry season to ensure equal distribution among the community members
- In case of shortage, community through the local administration to liaise with department of water for water trucking

(2) **Social conflict/community disputes** over the water resources may occur, especially during the dry season when water levels dwindle in the water pan.

### Mitigation measures

- Establish grievance redress mechanism (GRM) to address any labor dispute anticipated during the construction phase.
- Create a project management committee to oversee activities at the water pan.
- Involve all community members in any discussions on the use of the water pan.
- Community to be trained on the utilization of the water efficiently and on matter peace.

(3) **Potential water borne disease outbreak** if appropriate preventive measures are not adhered to. The water pan create a breeding habitat for disease causing vectors such as mosquitoes that transmit Malaria and Chikungunya. Other disease include typhoid, cholera and dysentery.

### Mitigation measure.

- Introduce fish fingerlings in the water pan in collaboration with the fisheries department that could consume the mosquito larva thus controlling them.
- Sensitize the community on malaria prevention through use of mosquito nets, local spraying and bush clearing near households
- The proponent sensitize the community on water purification methods.

(4) **Drowning Risk:** The water pan filled with water presents the risk of drowning to people or animals that may stray into the perimeter fence of the water pan. The risk has been significantly reduced through the proposed fencing and installation of a gate.

### Mitigation measures.

- The community be sensitized on the potential risk of drowning
- The gate to be always locked with a padlock
- Involvement of the whole community members in ensuring that the perimeter fence is maintained and not destroyed (encourage community policing).

(5) **Occupational Health and Safety**

The Supervising Engineer will oversee that the contractor adheres to the rules set by the authorities for the protection of his workers.

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Mitigation measures:

- Provision of suitable protective clothes – PPE/C. The contractor should provide overalls, helmets, safety boots, earmuffs, nose masks and gloves to the workers.
- The contractor should ensure that there are no spills of petroleum, no smoking, no sources of ignition and proper use of warning signs in an explosive environment.
- All sub-project workers should have insurance and workmen’s compensation.
- Provision of fully equipped first aid kit at the site.
- Ensure the availability of Emergency contacts for police, ambulance, etc.
- Emergency plans should be communicated and well understood.
- Train workers on first aid provision, and fire safety. Provide fire extinguishers and have a dedicated fire assembly point, conduct regular fire safety drills

**iii. During decommissioning phase**

**(1) Occupational Safety and Health during the filling up of the water pan**

- Provision of suitable protective cloth – PPE/C. The contractor should provide overalls, helmets, safety boots, earmuffs, nose masks and gloves to the workers.
- The contractor should ensure that there are no spills of petroleum, no smoking, no sources of ignition and proper use of warning signs in an explosive environment.
- All sub-project workers should have insurance and workmen’s compensation.
- Provision of fully equipped first aid kit at the site.
- Ensure the availability of Emergency contacts for police, ambulance, etc.
- Emergency plans should be communicated and well understood.
- Train workers on first aid provision, and fire safety. Provide fire extinguishers and have a dedicated fire assembly point, conduct regular fire safety drills

**b) Potential Negative Environmental Impacts and their mitigation measures**

**i. During the preparatory phase**

a) Loss of vegetation during site clearing and excavation of test pits

Mitigation measures

- Limit clearing of vegetation to facilitate access to and survey of site
- Control access to site
- Cover test pits and refill after sampling

b) Loss of soils during excavation of test pit

Mitigation measures

- Stock pile soil for re-use

**ii. During construction phase**

**a) Loss of vegetation**

The project site portion earmarked for construction of the proposed project is currently with some shrubs, herbs and some trees like the Acacia spp; therefore, construction activities will inevitably lead to minimal loss of vegetation.

Proposed mitigation and management measures

- Only minimal bush clearing should be allowed;
- Excavations at the site should be confined only to the necessary areas.
- The excavated materials removed for external disposal will require to be deposited on sites without the risk of being washed down during rains and where it will not compromise other land use activities in those areas; and
- Re-plant indigenous trees on the area that will be cleared to reduce soil erosion.

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## **b) Noise and Vibration Generation**

Continuous exposure to noise levels above 85 dB may cause hearing problems leading to occupational deafness. Noise and vibration produced during construction may have some temporary negative impacts to the immediate residents. These may include impairing verbal communication, temporary hearing problems/temporary threshold shift (TTS), noise annoyance or even interference of the normal behavior of domestic and wild animals near the site being excavated.

### Proposed mitigation and management measures

- Provision of Personal Protective Equipment and clothing (PPE/C) including earmuffs for ear protection
- Restrict activities that create noise to daytime only.
- Ensure no running of vehicles engines when not in use
- Regular servicing and maintenance of vehicles and machinery

## **c) Increased Air Pollution**

The potential sources of air pollution include traffic; excavator. This is a short-term negative impact and will last within the actual excavation period.

### The proposed mitigation and management measures include:

- Locating haul roads, tips, and stockpiles away from sensitive receptors and consider prevailing wind directions.
- Use of water sprays and mists as dust suppression measures
- Carry out suitable maintenance on all machinery to be used to avoid the emission of noxious gases.
- Provision of suitable PPE/C such as nose masks to the workers and staff on site.
- Ensure vehicle engines are in good condition to reduce high levels of exhaust gases
- Sensitize drivers and machine operators to switch off engines when not in use.

## **d) Fuels and Lubricants Spills**

Any oils and grease spillage by the earth moving machines and vehicles on the ground may seep into the ground and thus contaminate the soil.

### Proposed mitigation and management measures are:

- Scooping the affected earth and disposing of contaminated material soundly.
- Proper handling, storage, and disposal of oils and greases and their wastes during construction.
- Proper maintenance of vehicles and other equipment (using petroleum products) to avoid fuels and lubricants spills at the sub-project site.
- Provide a maintenance and greasing yard away from the sub projects area, which is equip with a sump to contain oil spills.

## **e) Increased Solid Waste**

This may comprise of waste packets/bags of cement, bentonite, gravel packs and other bags with materials and equipment to be used during the implementation of the sub-project. There will be minimal excavation during the construction of the water pan.

### The proposed mitigation and management measures are as follows:

- The Supervising Engineer will ensure that all solid wastes either paper, polythene bags, cement bags, gravel pack bags, excavated materials and remaining gravel packs are either recycled, reused, reduced or disposed of in the designated and at the approved dumpsite.

- 
- Provision of the waste bins
  - Assign a casual in daily collection of the wastes
  - Engage a licensed waste handler to regularly collect and dispose the wastes
  - Sensitize workers and communities on solid waste management

### iii. During operational phase

#### a) Surface Water Pollution

Water pollution may be from a number of sources. Pollution of the water could make the water unsuitable for the proposed use (livestock watering and micro irrigation) in the sub project. The causes of water pollution include;

- Watering of animals directly from the water pan (which will not be a problem in this sub project as the water pan will have watering points (troughs) for people and livestock, gated perimeter fence as per the designs).
- Use of chemical substances for plant protection, herbicides, pesticides, and growth regulators in the project area. This may be washed in the water pan by rainfall runoff,
- Destruction of the water pan catchment through farming and other human activities

#### The potential mitigation measures.

- The water pan designs has included livestock water troughs and drawing point for people
- Securing the water pan by fencing and having only one entrance with a gate,
- Proper handling and management of oil spills by the contractor and
- Conservation and management of the catchment area of the water pan

#### b) Soil Erosion

Concentration of many livestock in the project area as they come for watering at the pan will result in soil erosion due to the tramping of the ground by the animals as the soil becomes loose. Livestock overgrazing in the area during watering will also result in soil erosion. Bare ground such as the water pan wall/embankment is also open to soil erosion.

#### The proposed mitigation measure

- Proper compaction of soil during construction
- Control of livestock number in the vicinity of the pan (avail alternative watering point)
- Sensitization of farmers on appropriate soil erosion control measure
- Growing of grass on the embankment and around the pan and in the neighboring farms
- Establishment of community tree nursery
- Growing of trees by the community
- Construction of gabions
- Digging trenches and cut off drains to channel runoff into the river
- A storm water management plan that minimizes impervious area infiltration by use of recharge areas and use of detention and/or retention with graduated outlet control structures will be designe
- Proper planning of site excavation works such that a section is completed and rehabilitated before another section begins

#### c) Siltation of the water pan

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The erosion of the inlet water course and the degradation of the water pan catchment will result in the siltation of the water pan resulting in increased water turbidity and reduced volume of the pan.

The proposed mitigation measure.

- Construction of check barriers along the inlet water course
- Protection and conservation of the water pan catchment through revegetation with indigenous trees and grass
- Sensitization of community on maintenance of the silt traps
- Regular maintenance of the silt traps

**d) Breaking of Water pan wall**

During the operation phase unprecedented above normal rains over a longer period which has been the case due to climate change effects and/or damage to the water pan walls and a lack of maintenance could result in the pan walls breaking and suddenly discharging its water. The outcome may be destruction of property, land degradation and risk to people

Mitigation and management measure

- Monitoring and assessment of the water pan walls and project site particularly before the onset of the rains and as the rains progress.
- Environmental Audit for the water pan annually as required by NEMA.
- Train the project management committee (PMC) and the local administration on scouting which will lead to early detection and responding to any risk situation/establish ER team
- Develop Emergency Response Plan
- Act upon the findings from scouting

**iv. During decommissioning phase**

**a) Loss of vegetation/biodiversity**

Mitigation and management measure

- Avoiding destruction of vegetation.
- Re-plant indigenous trees and landscaping

**b) Increased Noise and Vibration Generation, though it will be confined to workers on site since the village is far away**

Mitigation and management measure

- Provision of Personal Protective Equipment and clothing (PPE/C) including earmuffs for ear protection
- Restrict activities that create noise to daytime only.
- Ensure no running of vehicles engines when not in use
- Regular servicing and maintenance of vehicles and machinery.
- Avoid driving of vehicles through settlements where possible.
- Notification of communities/settlements about the noise levels that may be created during decommissioning phase due to heavy machinery use.
- Provide site personnel with necessary environmental training that aims at reducing noise caused by project activities

**c) Decrease in Air Quality**

Mitigation and management measure

- Locating haul roads, tips, and stockpiles away from sensitive receptors and consider prevailing wind directions.

- 
- Use of water sprays and mists as dust suppression measures
  - Carry out suitable maintenance on all machinery to be used to avoid the emission of noxious gases.
  - Provision of suitable PPE/C such as nose masks to the workers and staff on site.
  - Ensure vehicle engines are in good condition to reduce high levels of exhaust gases
  - Sensitize drivers and machine operators to switch off engines when not in use.
- d) Fuels and Lubricants Spills from the machinery and vehicles may contaminate the environment**

Mitigation and management measure

- Scooping the affected earth and disposing of contaminated material soundly.
- Proper handling, storage, and disposal of oils and greases and their wastes during construction.
- Proper maintenance of vehicles and other equipment (using petroleum products) to avoid fuels and lubricants spills at the sub-project site.
- Provide a maintenance and greasing yard away from the sub projects area, which is equip with a sump to contain oil spills

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## CHAPTER SIX: ENVIRONMENTAL AND SOCIAL MANAGEMENT & MONITORING PLAN (ESM&MP)

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### **6.1 Introduction**

The Environmental and social Management & Monitoring plan (ESM&MP) outlines all the proposed mitigation measures for addressing the identified adverse environmental and social impacts as well as a monitoring program for parameters that indicate if mitigation was working for each of the identified impact. Already mitigation measures have been proposed in section above and the proponent will monitor how well the mitigation measures have been implemented and if they were working in redressing identified impacts.

The table below is the core of this ESM&MP for the project. In general, the table outlines Environmental/Social Impact aspect, Proposed Mitigation and Aspects for Monitoring, the risk levels, Responsibility for intervention and monitoring during design, construction and defects liability period, Responsibility for mitigation, monitoring and/or maintenance after defects liability period, Recommended frequency of monitoring, Amount in Kenyan shillings.



### 6.1.1 Potential Negative Social Impact Management and Monitoring Plan

Table 8. ESMP ( Social Impacts Management and Monitoring Plan)

Identified Social Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
<b>During Preparatory phase</b>						
Social discord and conflict	<ul style="list-style-type: none"> <li>- Detailed stakeholder analysis</li> <li>- Comprehensive stakeholder and community consultation and disclosure</li> <li>- Community representation in project implementation structures (if appropriate)</li> <li>- Establishment and disclosure of grievance mechanism.</li> </ul>	<ul style="list-style-type: none"> <li>- Number of stakeholders</li> <li>- Approvals from NEMA and WRA</li> <li>- Community representatives</li> <li>- GM in place</li> </ul>	<ul style="list-style-type: none"> <li>- Approval documents</li> <li>- Analysis reports</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiaries</li> <li>CESSCO</li> <li>PMC</li> </ul>	At the onset of the project	-
<b>During Construction phase</b>						
Labor dispute	<ul style="list-style-type: none"> <li>- Casual and unskilled labour to be sourced from the community</li> <li>- Special groups to be considered in hiring, e.g. widows to be considered to undertake manual labour.</li> <li>- Opportunities at the site to be disclosed to the community</li> <li>- Institute grievance redress mechanism to address any labour dispute anticipated during the construction phase.</li> </ul>	<ul style="list-style-type: none"> <li>- No. of local community employed</li> <li>- No. of special</li> </ul>	<ul style="list-style-type: none"> <li>- Pay Roll</li> <li>- Grievance Redress Mechanism-GRM (form)</li> </ul>	Contractors Proponent	Inspection of the pay roll at the onset of the construction	10,000
Spread of HIV/AIDs	<ul style="list-style-type: none"> <li>- Dissemination of information and awareness creation on HIV/Aids and STIs shall be an integral component of the project</li> <li>- The affected persons shall not be victimized or traumatized</li> <li>- A mechanism for monitoring HIV/Aids and STIs shall be established.</li> <li>- The contractor shall provide protection information and equipment (condom) at the site</li> <li>- Guidance, counselling and support shall be provided to the victims on management of the disease</li> </ul>	<ul style="list-style-type: none"> <li>- HIV/STI Messages disseminated</li> <li>- No. of affected persons and guided</li> <li>- No. of protection provided to the workers and community</li> </ul>	<ul style="list-style-type: none"> <li>- Pamphlets, flyers</li> <li>- Health records of affected individuals</li> <li>- Records on the distribution of the protectives (condoms)</li> <li>- Guiding and counselling report</li> </ul>	- Department of health officials (community health workers)	At the beginning of construction	20,000
Influx of workers	<ul style="list-style-type: none"> <li>- The community to be sensitized on</li> </ul>	<ul style="list-style-type: none"> <li>- No. of</li> </ul>	<ul style="list-style-type: none"> <li>- Reports on community</li> </ul>	Department of	Examination,	50,000

Identified Social Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
	<p>measures to prevent infection of COVID-19.</p> <ul style="list-style-type: none"> <li>- Install handwashing equipment at site for the prevention of the spread of COVID 19</li> <li>- Community members to be trained on interacting with the workers at the site</li> <li>- Provision of PPEs and adequate water or sanitizers to community members</li> </ul>	<p>community sensitized</p> <ul style="list-style-type: none"> <li>- PPE(face masks, sanitizers)</li> <li>- No. of hand washing equipment installed</li> </ul>	<p>sensitization and provision of PPEs</p> <ul style="list-style-type: none"> <li>- Health and Safety Protocols as per March 14, 2020- Occupational safety and health advisory on coronavirus (COVID-19), CDC’s Coronavirus Disease Site and WHO Getting your Workplace Ready for COVID-19 to prevent COVID-19 contamination, infection and transmission.</li> </ul>	<p>health officials (community health workers)</p>	<p>during the construction period</p>	
<p>Gender Based Violence (GBV) by construction workers</p>	<ul style="list-style-type: none"> <li>- Capacity building and awareness of the community on GBV</li> <li>- Emphasize prevention and minimal harm to women and girls. Adopt risk-based approaches that aim to identify key risks of SEA and undertake measures to prevent or minimize harm.</li> <li>- Build on existing local knowledge. Engage the community partners, local leaders, civil society organizations, gender and child advocates and mechanisms for support through out the project cycle.</li> <li>- Effective and on-going community engagement and consultation, particularly with women and girls.</li> <li>- Review of specific project components that are known to heighten GBV risk at the community level, e.g. Compensation schemes; employment schemes for women; delivery of water supplies; etc.</li> <li>- Specific plan for mitigating these known risks, e.g. Sensitization around gender-equitable approaches to compensation and employment; water services; etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Community members (girls/women) capacity built</li> <li>- Projects reviewed on GBV risk at the community level</li> <li>- Specific plan on mitigating GBV</li> <li>- Referral mechanism in place</li> </ul>	<ul style="list-style-type: none"> <li>- Reports</li> <li>- Specific Plans on GBV</li> </ul>	<ul style="list-style-type: none"> <li>- KSCAP officials, contractor</li> </ul>	<p>Examination and observation During the construction period</p>	<p>30,000</p>

Identified Social Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
	<ul style="list-style-type: none"> <li>- Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation</li> </ul>					
Sexual exploitation and abuse (SEA) by construction workers	<ul style="list-style-type: none"> <li>- Develop and implement a SEA action plan with an Accountability and Response Framework as part of the C-ESMP. The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing involving Major Civil Works (Sept 2018).</li> <li>- The SEA action plan will include how the project will ensure necessary steps are in place for:</li> <li>- Prevention of SEA: including COCs and ongoing sensitization of staff on responsibilities related to the COC and consequences of non-compliance; project-level IEC materials.</li> <li>- Response to SEA: including survivor-centered coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management.</li> <li>- Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of PSEA awareness-raising in all community</li> </ul>	<ul style="list-style-type: none"> <li>- SEA plan in place</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- SEA Plan,</li> <li>- World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing involving Major Civil Works (Sept 2018)</li> </ul>	<ul style="list-style-type: none"> <li>- KSCAP officials, contractor</li> </ul>	<ul style="list-style-type: none"> <li>- Scrutiny of the SEA plan during the construction period</li> </ul>	60,000

Identified Social Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
	<p>engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA-related rights.</p> <ul style="list-style-type: none"> <li>- Management and Coordination: including integration of SEA in job descriptions, employments contracts, performance appraisal systems, etc.; development of contract policies related to SEA, including whistle blower protection and investigation and disciplinary procedures; training for all project management; management of coordination mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA focal points in the project and trained community liaison officers</li> </ul>					
Occupational Safety and Health	<ul style="list-style-type: none"> <li>- Provision of suitable protective gear – PPE/C. The contractor should provide overalls, helmets, safety boots, earmuffs, nose masks and gloves to the workers.</li> <li>- The contractor should ensure that there are no spills of petroleum, no smoking, no sources of ignition and proper use of warning signs in an explosive environment.</li> <li>- All sub-project workers should have insurance and workmen’s compensation.</li> <li>- Provision of fully equipped first aid kit at the site.</li> <li>- Ensure the availability of Emergency contacts for police, ambulance, etc.</li> <li>- Emergency plans should be communicated and well understood.</li> <li>- Train workers on first aid provision, and fire safety. Provide fire</li> </ul>	<ul style="list-style-type: none"> <li>- No. of PPE/C</li> <li>- WIBA in place</li> <li>- Presence of first aid kit.</li> <li>- Emergency contact availed</li> <li>- Emergency plan in place</li> <li>- No. of workers trained</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- List of PPE/C</li> <li>- WIBA document</li> <li>- Reports on OSH</li> </ul>	- KSCAP officials, contractor	Checkups and examinations during the construction period	60,000

Identified Social Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
	extinguishers and have a dedicated fire assembly point, conduct regular fire safety drills					
<b>During Operational phase</b>						
Inequity issues on water resource accessibility if suitable measures are not put in place, especially on VMGs	<ul style="list-style-type: none"> <li>- Facilitate formation of project management committee to make sure water resource is equitably accessed by all community members including the VMGs</li> <li>- Rationing of water during dry season to ensure equal distribution among the community members</li> <li>- In case of shortage, community through the local administration to liaise with department of water for water trucking</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- No. of community members including VMGs accessing water</li> <li>- Amount of water rationed in liters</li> <li>- Liters of water trucked during the dry season</li> </ul>	<ul style="list-style-type: none"> <li>- List of beneficiaries</li> <li>- Records showing water usage and water trucked</li> </ul>	<ul style="list-style-type: none"> <li>- Project Management committee or Water Users association</li> <li>- Department of Water Wajir county</li> </ul>	Examination Frequency. On weekly basis	5,000 per week 15,000 for water trucking
Social conflict/community disputes over the water resources may occur, especially during the dry season when water levels dwindle in the water pan.	<ul style="list-style-type: none"> <li>- Establish grievance redress mechanism (GRM) to address any labour dispute anticipated during the construction phase.</li> <li>- Create a Project Management Committee (PMC) to oversee activities at the water pan.</li> <li>- Involve all community members in any discussions on the use of the water pan.</li> <li>- Community to be trained on the utilization of the water efficiently and on matter peace.</li> </ul>	<ul style="list-style-type: none"> <li>- Availability of GRM</li> <li>- PMC established</li> <li>- Community members trained</li> </ul>	<ul style="list-style-type: none"> <li>- GRM records</li> <li>- By-laws for the PMC</li> <li>- List of PMC members</li> <li>- Training materials available</li> </ul>	<ul style="list-style-type: none"> <li>- KSCAP Wajir county officials</li> </ul>	Inspection and observation Frq. Routinely	10,000 a week
Potential water borne disease outbreak, like typhoid, malaria, cholera	<ul style="list-style-type: none"> <li>- Possibility to Introduce fish fingerlings in the water pan in collaboration with the fisheries department that could consume the mosquito larva thus controlling them.</li> <li>- Sensitize the community on malaria prevention through use of mosquito nets, local spraying and bush clearing near households</li> <li>- The proponent sensitize the community on water purification</li> </ul>	<ul style="list-style-type: none"> <li>- Type of fish introduced</li> <li>- Number of community members trained and sensitized</li> <li>- Type and amount of water purifies provided the community</li> </ul>	<ul style="list-style-type: none"> <li>- Reports</li> <li>- Training and sensitization documents</li> </ul>	<ul style="list-style-type: none"> <li>- KSCAP Wajir county officials</li> </ul>	Inspection of weekly basis	30,000

Identified Social Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
	methods	-				
Drowning risks in the water pan	<ul style="list-style-type: none"> <li>- The community be sensitized on the potential risk of drowning</li> <li>- The gate to be always locked with a padlock</li> <li>- Involvement of the whole community members in ensuring that the perimeter fence is maintained and not destroyed (encourage community policing).</li> </ul>	<ul style="list-style-type: none"> <li>- Number of community member sensitized</li> <li>- Gate in place</li> <li>- Fence maintained</li> </ul>	<ul style="list-style-type: none"> <li>- Reports</li> </ul>	<ul style="list-style-type: none"> <li>- KSCAP Wajir county officials</li> </ul>	Surveillance of the water pan on daily basis	10,000
<b>During Decommissioning Phase</b>						
Occupational Safety and Health during the filling up of the water pan	<ul style="list-style-type: none"> <li>- Provision of suitable protective gear – PPE/C. The contractor should provide overalls, helmets, safety boots, earmuffs, nose masks and gloves to the workers.</li> <li>- The contractor should ensure that there are no spills of petroleum, no smoking, no sources of ignition and proper use of warning signs in an explosive environment.</li> <li>- All sub-project workers should have insurance and workmen’s compensation.</li> <li>- Provision of fully equipped first aid kit at the site.</li> <li>- Ensure the availability of Emergency contacts for police, ambulance, etc.</li> <li>- Emergency plans should be communicated and well understood.</li> <li>- Train workers on first aid provision, and fire safety. Provide fire extinguishers and have a dedicated fire assembly point, conduct regular fire safety drills</li> </ul>	<ul style="list-style-type: none"> <li>- No. of PPE/C</li> <li>- WIBA in place</li> <li>- Presence of first aid kit.</li> <li>- Emergency contact availed</li> <li>- Emergency plan in place</li> <li>- No. of workers trained</li> </ul>	<ul style="list-style-type: none"> <li>- List of PPE/C</li> <li>- WIBA document</li> <li>- Reports on OSH</li> </ul>	KSCAP officials, contractor	Checkups and examinations during the construction period	50,000
<b>Totals</b>						<b>120,000</b>

## 6.1.2 Potential Negative Environmental Impact Management and Monitoring Plan

Table 9. ESMP (Environmental Impact Management and Monitoring Plan)

Identified Environmental Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
<b>During the Preparatory phase</b>						
Loss of vegetation during site clearing and excavation of test pits	<ul style="list-style-type: none"> <li>- Limit clearing of vegetation to facilitate access to and survey of site</li> <li>- Control access to site</li> <li>- Cover test pits and refill after sampling</li> <li>- Stock pile soil for re-use</li> </ul>	<ul style="list-style-type: none"> <li>- Number of trees planted</li> <li>- Type of trees planted</li> <li>- Amount of soils excavated and re-used</li> </ul>	<ul style="list-style-type: none"> <li>- Reports and records</li> </ul>	<ul style="list-style-type: none"> <li>- NEMA</li> <li>- CESSCO</li> </ul>	At the onset of the project	-
Loss of soils during excavation of test pit						
<b>During Construction Phase</b>						
Loss of vegetation/biodiversity	<ul style="list-style-type: none"> <li>• Minimal bush clearing should be allowed only at designated site for construction.</li> <li>• Excavations at the site should be confined only to the necessary areas.</li> <li>• The excavated materials removed for external disposal will require to be deposited on sites without the risk of being washed down during rains and where it will not compromise other land use activities in those areas; and</li> <li>• Re-plant indigenous trees on the area that will be cleared to reduce soil erosion.</li> </ul>	<ul style="list-style-type: none"> <li>- Number of trees planted</li> <li>- Type of trees planted</li> </ul>	<ul style="list-style-type: none"> <li>- Reports and records</li> </ul>	Contractor and PMC	Inspection and examination Freq. at the beginning of the project	40,000
Increased Noise and Vibration Generation, though it will be confined to workers on site since the village is far away	<ul style="list-style-type: none"> <li>• Provision of Personal Protective Equipment and clothing (PPE/C) including earmuffs for ear protection</li> <li>• Restrict activities that create noise to daytime only.</li> <li>• Ensure no running of vehicles engines when not in use</li> <li>• Regular servicing and maintenance of vehicles and machinery.</li> <li>• Avoid driving of construction vehicles through settlements where possible.</li> <li>• Notification of communities/settlements about the noise levels that may be created during construction phase due to heavy machinery use.</li> <li>• Provide site personnel with necessary environmental training that aims at reducing noise caused by Project activities</li> </ul>	<ul style="list-style-type: none"> <li>- No. of PPE provided to the workers</li> <li>- Vehicles and machineries serviced and maintained</li> <li>- Messages to the community</li> <li>- No. of trainings</li> </ul>	<ul style="list-style-type: none"> <li>- Lists of the PPEs</li> <li>- Maintenance and servicing log book</li> <li>- Pamphlet, flyers</li> <li>- Training materials</li> </ul>	Contractor, PMC and KSCAP Wajir staff	Scrutiny of the documents Freq. weekly	20,000
Decrease in Air	<ul style="list-style-type: none"> <li>• Locating haul roads, tips, and stockpiles away</li> </ul>	<ul style="list-style-type: none"> <li>- Amount of water</li> </ul>	<ul style="list-style-type: none"> <li>- Report and</li> </ul>	Contractor, KSCAP	Inspection.	10,000

Identified Environmental Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
Quality	<p>from sensitive receptors and consider prevailing wind directions.</p> <ul style="list-style-type: none"> <li>• Use of water sprays and mists as dust suppression measures</li> <li>• Carry out suitable maintenance on all machinery to be used to avoid the emission of noxious gases.</li> <li>• Provision of suitable PPE/C such as nose masks to the workers and staff on site.</li> <li>• Ensure vehicle engines are in good condition to reduce high levels of exhaust gases</li> <li>• Sensitize drivers and machine operators to switch off engines when not in use.</li> </ul>	<p>used in dust suppression</p> <ul style="list-style-type: none"> <li>- Machinery and vehicles maintained and serviced</li> <li>- No. of drivers sensitized</li> </ul>	<p>records on the activities</p> <ul style="list-style-type: none"> <li>- Maintenance and servicing log book</li> <li>- Training materials available</li> </ul>	Wajir staff	Freq. routinely	
Fuels and Lubricants Spills from the machinery and vehicles may contaminate the environment	<ul style="list-style-type: none"> <li>• Scooping the affected earth and disposing of contaminated material soundly.</li> <li>• Proper handling, storage, and disposal of oils and greases and their wastes during construction.</li> <li>• Proper maintenance of vehicles and other equipment (using petroleum products) to avoid fuels and lubricants spills at the sub-project site.</li> <li>• Provide a maintenance and greasing yard away from the sub projects area, which is equip with a sump to contain oil spills</li> </ul>	<ul style="list-style-type: none"> <li>- Machinery and vehicles maintained and serviced</li> <li>- Maintenance and greasing yard away from the site</li> </ul>	<ul style="list-style-type: none"> <li>- Report and records on the activities</li> <li>- Maintenance and servicing log book</li> </ul>	Contractor, KSCAP Wajir staff	Observation. Freq. routinely	15,000
Increased Solid Waste	<ul style="list-style-type: none"> <li>• The Supervising Engineer/CESSCO will ensure that all solid wastes either paper, polythene bags, cement bags, gravel pack bags, excavated materials and remaining gravel packs are either recycled, reused, reduced or disposed of in the designated and at the approved dumpsite.</li> <li>• Provision of the waste bins/receptacles</li> <li>• Assign a casual in daily collection of the wastes</li> <li>• Engage a licensed waste handler to regularly collect and dispose the wastes</li> <li>• Sensitize workers and communities on solid waste management</li> </ul>	<ul style="list-style-type: none"> <li>- Type of waste generated</li> <li>- Presences of receptacles/bin</li> <li>- Casual worker employed for waste collection</li> <li>- No. of community members sensitized</li> </ul>	<ul style="list-style-type: none"> <li>- Records and reports</li> <li>- Pay roll for the casual worker</li> <li>- Sensitizing materials</li> </ul>	Contractor, KSCAP Wajir staff Department of water engineers/CESSCO	Inspection Freq. routinely during this phase	10,000
<b>During Operational Phase</b>						<b>0</b>
Surface Water Pollution	<ul style="list-style-type: none"> <li>• The water pan designs has included livestock water troughs and drawing point for people</li> </ul>	<ul style="list-style-type: none"> <li>- Livestock water trough</li> <li>- Fence in place</li> </ul>	<ul style="list-style-type: none"> <li>- Designs</li> <li>- Records</li> </ul>	Contractor, KSCAP Wajir staff Department of water	Assessment Freq. routinely during this	50,000



Identified Environmental Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
	<ul style="list-style-type: none"> <li>• Securing the water pan by fencing and having only one entrance with a gate,</li> <li>• Proper handling and management of oil spills by the contractor and</li> <li>• Conservation and management of the catchment area of the water pan.</li> </ul>	<ul style="list-style-type: none"> <li>- Amount of oil spills</li> <li>- Catchment area in place</li> </ul>		engineers/CESSCO	phase	
Soil Erosion	<ul style="list-style-type: none"> <li>• Proper compaction of soil during construction</li> <li>• Control of livestock number in the vicinity of the pan (avail alternative watering point)</li> <li>• Sensitization of farmers on appropriate soil erosion control measure</li> <li>• Growing of grass on the embankment and around the pan and in the neighboring farms</li> <li>• Establishment of community tree nursery</li> <li>• Growing of trees by the community</li> <li>• Construction of gabions</li> <li>• Digging trenches and cut off drains to channel runoff into the river</li> <li>• A storm water management plan that minimizes impervious area infiltration by use of recharge areas and use of detention and/or retention with graduated outlet control structures will be design</li> <li>• Proper planning of site excavation works such that a section is completed and rehabilitated before another section begins</li> </ul>	<ul style="list-style-type: none"> <li>- Soil erosion measures in place</li> <li>- No. of livestock controlled</li> <li>- Grass grown on the embankment</li> <li>- Trees planted</li> <li>- Nursery bed established</li> </ul>	- Records and reports	Contractor, KSCAP Wajir staff Department of water engineers/CESSCO	Observation Freq. Quartey and during rainy season	60,000
Siltation of the water pan	<ul style="list-style-type: none"> <li>• Construction of check barriers along the inlet water course</li> <li>• Protection and conservation of the water pan catchment through revegetation with indigenous trees and grass</li> <li>• Sensitization of community on maintenance of the silt traps</li> <li>• Regular maintenance of the silt traps</li> </ul>	<ul style="list-style-type: none"> <li>- Check barriers in place</li> <li>- Conserved catchment areas</li> <li>- Community and PMC sensitized</li> <li>- Maintained silt trap</li> </ul>	<ul style="list-style-type: none"> <li>- Designs</li> <li>- Records</li> <li>- Training material</li> </ul>	Contractor, KSCAP Wajir staff Department of water engineers/CESSCO	Examination and observation Freq. in six months' time	200,000
Breaking of Water pan wall leading to flooding	<ul style="list-style-type: none"> <li>• Monitoring and assessment of the water pan walls and project site particularly before the onset of the rains and as the rains progress.</li> <li>• Environmental Audit for the water pan annually as required by NEMA.</li> <li>• Train the project management committee</li> </ul>	<ul style="list-style-type: none"> <li>- Any broken water pan walls</li> <li>- EA</li> <li>- PMC trained</li> <li>- Emergency plan in place</li> </ul>	<ul style="list-style-type: none"> <li>- Reports</li> <li>- Environmental audit</li> <li>- Training materials</li> </ul>	Contractor, KSCAP Wajir staff Department of water engineers/CESSCO	Examination and observation. Freq. Annually for EA and Routinely	50,000

Identified Environmental Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
	(PMC) and the local administration on scouting which will lead to early detection and responding to any risk situation/establish ER team <ul style="list-style-type: none"> <li>• Develop Emergency Response Plan</li> <li>• Act upon the findings from scouting</li> </ul>	- Scouts available				
<b>During Decommissioning phase</b>						<b>0</b>
Loss of vegetation/biodiversity	<ul style="list-style-type: none"> <li>• Avoiding destruction of vegetation.</li> <li>• Re-plant indigenous trees and landscaping</li> </ul>	<ul style="list-style-type: none"> <li>- Number of trees planted</li> <li>- Type of trees planted</li> </ul>	Reports and records	Contractor and PMC	Inspection and examination Freq. at the beginning of the project	10,000
Increased Noise and Vibration Generation, though it will be confined to workers on site since the village is far away	<ul style="list-style-type: none"> <li>• Provision of Personal Protective Equipment and clothing (PPE/C) including earmuffs for ear protection</li> <li>• Restrict activities that create noise to daytime only.</li> <li>• Ensure no running of vehicles engines when not in use</li> <li>• Regular servicing and maintenance of vehicles and machinery.</li> <li>• Avoid driving of vehicles through settlements where possible.</li> <li>• Notification of communities/settlements about the noise levels that may be created during decommissioning phase due to heavy machinery use.</li> <li>• Provide site personnel with necessary environmental training that aims at reducing noise caused by Project activities</li> </ul>	<ul style="list-style-type: none"> <li>- No. of PPE provided to the workers</li> <li>- Vehicles and machineries serviced and maintained</li> <li>- Messages to the community</li> <li>- No. of trainings</li> </ul>	<ul style="list-style-type: none"> <li>- Lists of the PPEs</li> <li>- Maintenance and servicing log book</li> <li>- Pamphlet, flyers</li> <li>- Training materials</li> </ul>	Contractor, PMC and KSCAP Wajir staff	Scrutiny of the documents Freq. weekly	4,000
Decrease in Air Quality	<ul style="list-style-type: none"> <li>• Locating haul roads, tips, and stockpiles away from sensitive receptors and consider prevailing wind directions.</li> <li>• Use of water sprays and mists as dust suppression measures</li> <li>• Carry out suitable maintenance on all machinery to be used to avoid the emission of noxious gases.</li> <li>• Provision of suitable PPE/C such as nose masks to the workers and staff on site.</li> <li>• Ensure vehicle engines are in good condition to</li> </ul>	<ul style="list-style-type: none"> <li>- Amount of water used in dust suppression</li> <li>- Machinery and vehicles maintained and serviced</li> <li>- No. of drivers sensitized</li> </ul>	<ul style="list-style-type: none"> <li>- Report and records on the activities</li> <li>- Maintenance and servicing log book</li> <li>- Training materials available</li> </ul>	Contractor, KSCAP Wajir staff	Inspection. Freq. routinely	5,000

Identified Environmental Impact	Proposed Mitigation Measures	Monitoring indicators	Means of Verification	Responsible parties	Monitoring and Time frame	Amount in Ksh.
	reduce high levels of exhaust gases • Sensitize drivers and machine operators to switch off engines when not in use.					
Fuels and Lubricants Spills from the machinery and vehicles may contaminate the environment	<ul style="list-style-type: none"> <li>• Scooping the affected earth and disposing of contaminated material soundly.</li> <li>• Proper handling, storage, and disposal of oils and greases and their wastes during construction.</li> <li>• Proper maintenance of vehicles and other equipment (using petroleum products) to avoid fuels and lubricants spills at the sub-project site.</li> <li>• Provide a maintenance and greasing yard away from the sub projects area, which is equip with a sump to contain oil spills</li> </ul>	<ul style="list-style-type: none"> <li>- Machinery and vehicles maintained and serviced</li> <li>- Maintenance and greasing yard away from the site</li> </ul>	<ul style="list-style-type: none"> <li>- Report and records on the activities</li> <li>- Maintenance and servicing log book</li> </ul>	Contractor, KSCAP Wajir staff	Observation. Freq. routinely	3,000
<b>Totals</b>						<b>477,000</b>
<b>Grand Total</b>						<b>597,000</b>

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## **6.1.3 Environmental and Social Monitoring Plan (ESMoP)**

### **6.1.3.1 Introduction**

The overall objective of environmental and social monitoring is to ensure that mitigation measures are implemented and that they are effective. The activities and indicators that have been recommended for monitoring are presented in the ESMoP. Environmental monitoring will be carried out to ensure that all construction activities comply and adhere to environmental provisions and standard specifications, so that all mitigation measures are implemented.

Monitoring should be undertaken at a number of levels. Firstly, the contractor at work sites should undertake it during pre-construction, construction, under the direction and guidance of the supervision consultant who is responsible for reporting the monitoring to the implementing agencies. It is not the contractor's responsibility to monitor compensation/Relocation issues. It is recommended that the contractor employ local full time qualified environmental inspectors for the duration of the contract. The following aspects will be subject to monitoring:

- Vegetation maintenance around water pan sites,
- Works safety elements, including a log of accidents
- Increased potential of Garabhanshanle Water Pan;
- Preservation of species in synergy with the water pan;
- Level of coliform and other bacteria in the sampled water not to forget the ppm solid elements;
- Severity to water pan watershed encroachment;
- Number of prosecuted cases of livestock trespasses to the neighboring areas;
- Number of pan equipment vandalism and or illegal drawing points;
- Public safety;
- Malaria and other disease prevention and control;
- Livestock – wildlife - human conflicts management;
- Improved vegetation cover;
- Safety of equipment and property;
- Capacity building and skills improvement of water users;

Environmental monitoring is also an essential component of project implementation. It facilitates and ensures the follow-up of the implementation of the proposed mitigation measure, as they are required. It helps to anticipate possible environmental hazards and/or detect unpredicted impacts over time. Monitoring includes:

- Visual observations;
- Selection of environmental parameters at specific locations;
- Sampling and regular testing of these parameters.

Periodic ongoing monitoring will be required during the life of the water pan and the level can be determined once the water pan is operational.

### **6.1.3.2 Internal Monitoring**

It is the responsibility of the proponent and community members to conduct regular internal monitoring of the project to verify the results of the contractor and to audit direct implementation of environmental mitigation measures contained in the ESMP and construction contract clauses for the project.

The objective of internal monitoring and audit will be:

- To find out any significant environmental hazards and their existing control systems in force.
- Meeting the legal requirements as stipulated in the Environmental Management & Coordination Act.

The responsibility for mitigation monitoring during the operation phase will lie with the Management committee. Environmental monitoring of the following parameters is recommended as a minimum for the project.

### 6.1.3.3 External Monitoring

Annual Environmental Audits to be conducted in line with NEMA requirements Proponent provide NEMA with reports on environmental compliance during implementation as part of their annual progress reports and annual environmental auditing reports. Depending on the implementation status of environmentally sensitive project activities, NEMA will perform annual environmental reviews in which environmental concerns raised by the project will be reviewed alongside project implementation.

*Table 10. Project Monitoring and Evaluation*

Activity	Time Frame	The role of Beneficiary Community project management Committee, CPCU, NEMA, etc. in monitoring of ESMP	Mechanism of Monitoring ESMP implementation and frequency of monitoring
Internal monitoring	- Monthly	- Garabhanshanle Community members - Local authority (Chief) - KSCAP CESSCO - Water user's association	Inspection, observation and examination
Extremal monitoring	- Quarterly	- CESSCO and - Department of Health, Health officials - The CPCU - Directorate of water services	Checkups, inspection
Environmental Audit	- Annual	- NEMA experts, NEMA director and environment county office	Inspection and observation
Joint project evaluation	- Mid-year, Annual	- CESSCO and - Department of Health, Health officials - Directorate of water services	Examination and inspection
Reporting	- Monthly, Quarterly, Mid-year, Annual reports	- KSCAP CESSCO - Community members - Water user's association - Directorate of water services	Examination and observation
Inter-agency coordination meetings	- Monthly	- KSCAP CESSCO - Community members - Water user's association - Directorate of water services	Scrutiny of documentation, examination
Security meeting	- Weekly	- Local administration - KSCAP CESSCO - Community members - Water user's association - Directorate of water services	Checkups and examinations

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## CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

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### 7.1 Conclusion

In conclusion, the proposed project's objective is to excavate a water pan of **37,680m<sup>3</sup>** to enable the Garabhanshanle and neighboring communities' access adequate water for livestock watering, domestic use and sanitation purposes. The water could also be used for irrigation of kitchen garden vegetable to improve food and nutrition security and growing of fodder for livestock. Other positive impacts shall include creation of employment; improved water access and availability, reduced walking distance in search of water, control flooding, improve leadership skills of the community members among others as has been outlined within the report.

Before implementation of the project an environmental and social impact assessment has been undertaken in order to fulfill the legal requirements, obtain background biophysical information of the site, assess and predict the potential environmental and social impacts and associated mitigation measures during the project cycle, suggestions of possible alterations to the proposed design based on the assessment findings were made, public and stakeholder consultation and participation was undertaken, an environmental and social management plan (ESMP) and monitoring plan was developed. The project has been guided by World Bank safeguards regulations and EMCA 1999 (*Amended 2015*). During the ESIA various stake holders including VMGs were consulted, and their views incorporated in the report.

### 7.2 Recommendations

- Consult all relevant service providers and authorities (i.e. County Administrators, NEMA, amongst others) so as to harmonize the projects infrastructural and socio-economic developments with existing facilities.
- It is recommended that during the project cycle the proponent and contractor shall adhere to ESMP to minimize risks and delays that may occur. This shall also reduce the cost of the project in the long run. The proponent, contractor and the community shall also adhere to WB safeguard regulations and EMCA regulations in the implementation of the project. It is also recommended that the positive impacts that emanate from such activities shall be enhanced as much as possible.
- This project is recommendable for approval by WB and the National Environment Management Authority (NEMA) for issuance of an ESIA license subject to annual environmental audits after operating for one year. It is recommended that an Environmental Audit (EA) to be undertaken annually.

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## REFERENCES

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1. The Environmental (Impacts Assessment and Audit) (*Amended*) Regulations, 2019
2. Environmental Assessment Sourcebook, Vol. 2: Sectorial Guidelines. World Bank Technical Paper 140, 1991.
3. Environmental Assessment Sourcebook, Vol. 3: Guidelines for Environmental Assessment of Energy and Industry Projects. World Bank Technical Paper 154, 1991.
4. Kenya gazette supplement Acts 2000, Environmental Management and Coordination Act Number 8 of 1999. Government printer, Nairobi
5. Kenya gazette supplement number 56. Environmental Social and Impact Assessment and Audit Regulations 2003. Government printer, Nairobi.
6. Kenya gazette supplement Acts, Environmental Management and Coordination (Water Quality) Regulations, 2006. Government printer, Nairobi
7. Kenya gazette supplement Acts, Environmental Management and Coordination (Waste Management) Regulations, 2006. Government printer, Nairobi
8. Kenya gazette supplement Acts, Environmental Management and Coordination (Noise and Excessive Vibrations Pollution) Regulations, 2009. Government printer, Nairobi
9. Kenya gazette supplement Acts Building Code 1967. Government printer, Nairobi
10. Kenya gazette supplement Acts Land Planning Act (Cap. 303). Government printer, Nairobi
11. Kenya gazette supplement Acts Local Authority Act (Cap. 265). Government printer, Nairobi
12. Kenya gazette supplement Acts Public Health Act (Cap. 242). Government printer, Nairobi
13. Kenya gazette supplement Acts Water Act, 2002. Government printer, Nairobi
14. Wajir County Development Integrated Plan (2018-2022). Ministry of Planning and National Development. Government printer, Nairobi
15. The Occupational Safety and Health Act, 2007. Government Printer, Nairobi.

ANNEXES

Annex 1: List of Participants

PARTICIPANT LIST

Activity: PROPOSED CONSTRUCTION OF WATER PAN AT GARBAHAWA STATE Date: 11/3/2021

S/NO	NAME	P/NO/ID/NO	GENGER	DESIGNATION	PHONE NO.	SIGN
1.	Amstho Gara Garba	20968995	M	Chief	072428834	[Signature]
	Husein A. Hasi	30603142	M	scow wharf	074921195	[Signature]
	OSMAN ADAN MAOW	212135039	M	Resident	071848955	[Signature]
	MUKTAR M. OSMAN		M	Resident		
	DAYIB ADAN ALI	3637321	M	Resident	0729026370	[Signature]
	BISHAR M. MAOW	14466347	M	Resident	072554355	[Signature]
	ABDI MOTTAMUD MAOW	10117467	M	Resident	070505318	[Signature]
	ABDI ADAN MAOW	35485619	M	Resident	0722502143	[Signature]
	AHMED ADAN MAOW	8325230733	M	Resident	0705437434	[Signature]

PARTICIPANT LIST

Activity: Proposed Construction of Garbahawda mega pan Date: 11/3/2021

S/NO	NAME	P/NO/ID/NO	GENGER	DESIGNATION	PHONE NO.	SIGN
	FATUMA ADAN ABDI	23467851	F	Resident	0725734521	[Signature]
	NURIA ABDI YALUB	34665705	F	Resident	074537878	[Signature]
	ZAYAB ADAN ABDI	29193960	F	Resident	07	[Signature]
	GAABA GEDI GURE	6825160	F	MEMBER	072546634	[Signature]
	SADVA MUKTAR AHMED	YOUTH	F	YOUTH		[Signature]
	AHMED HUSEIN ALI	23443584	F	Resident	070455726	[Signature]
	ABUKAR AHMED LUAD	23726146	M	Chief	071299728	[Signature]
	IBRAHIM M. MOTTAMUD	35485983	M	Chair	0705656680	[Signature]
	DAUD HUSSEIN IBRAHIM		M	Chief	0727407309	[Signature]





PARTICIPANTS LIST

ACTIVITY: Public Participation & Stakeholder Consultation for the Proposed Construction of Garabule Water Pan DATE: 17/3/21

S/NO	NAME	P/NO/ID NO.	GENDER	ORGANIZATION	PHONE NO.	SIGN
	Rahoy Yusuf Ali	6390666	M	Community member	0785306439	
	Abdullahi Mohamed	3066622	M.	Youth/Resident	0780589106	
	SIRAJ SALAT M.	35483358	M	Community member	0720874324	
	AHMED BAGANE A.	005381	M	Elder	072081873	
	Ibrahim Ali Noor	1296303	M	Resident	0712498196	
	Farah Issa Mohamed	29482936	M	"	0728862768	
	ALI ADAM MAOW	38585379	M	"	0741021873	
	AbdiSalan Adam	35485419	M	"	0728736282	
	Gedi Mohamed	24353011	M	"	079777094	
	Samey Abdille	0425718	F	"	070311023	
	Markaba Saman	0038360	F	Elder	072409747	







PARTICIPANT LIST

Activity: Proposed Construction of Garabahan Lemegan Date: 17/3/2021

S/NO	NAME	P/NO/ID/NO	GENGER	DESIGNATION	PHONE NO.	SIGN
	BUSHARA BRATHIM JIMALE	23946508	F		0797021967	
	RUKIA NUGTAR AHMED	23323998	F		0797113504	
	Nasteha Kalya MUNOW	24320529	F		0797189854	
	Adan R. Hassan	27503309	F	Lineforce Officer	0720477474	

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**Annex 2: Consent for land donations,**

P.BOX 26 70200 WAJIR

TO.  
THE DONOR FUND  
THRO,  
WORLD BANK  
CHIEF HADADO-WABERI LOCATION.

RE CONSTRUCTION OF DAM IN GARABHANSHALE

We the community elders of garabhanshale wish to thank and appreciate the good gesture and intention by donors to construct a dam in our village.

As you are aware, our village which was established in 2013 has no proper source of water and only Relief on water trucking ,for both human and animals to drink .This is cumbersome and costly method Given the fact that of human and animals population .Garabhanshale is located strategically and is good pasture zone for pastoral range managed as it is only source of pasture during dry season.


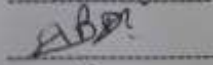
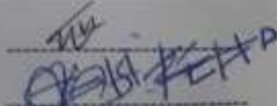
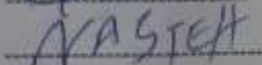

The purpose of this letter is to confirm that the community identified and donated a parcel of land for this purpose.

The land is communal grazing land measures 15 ha'S and we find it necessary to allocate it for dam construction.

This is therefore to confirm that nobody/entity can claim true ownership for this land as the community Has donated it for the public water reservation zone

We also wish to request for the expedition of the process such that we save lives of both human and animals from thirsty

Attached are our elders names and signatures for your perusal and further action.

NAMES	ID/NO	SIGNATURE
ADAN MAOW ABDI	10117466	
ABDI MOHAMUD MAOW	10117467	
ARES IBRAHIM ADAN	11783245	
AHMED ADAN MAOW	28230133	
NASTEHAHAHIYE NUNOW	24320529	

APPROVEDBY.

CHIEF HADADO WABERI LOCATJON /GARABHANSHALE.

CHIEF NAME David H. Ibrahim



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## Annex 3: Minute's consultations/ meetings

### ESIA MEETING MINUTES FOR THE PUBLIC PARTICIPATION HELD ON 17/03/2021 AT GARABHANSHALE VILLAGE, HADADO/ATHIBOHOL WARD WAJIR WEST SUB COUNTY-WAJIR COUNTY.

**Venue:** Garahanshale

**Date:** 17/03/2021

**Time:** 10:30 am

#### MEMBERS PRESENT

- |                         |  |
|-------------------------|--|
| 1. Daud H. Ibrahim      | Senior Chief Hadado Wagberi/Garabhashanle  |
| 2. Adan Maow Osman      | Chairman Project Management Committee      |
| 3. Ahmed Adan Maow      | Community Member                           |
| 4. Abdi Mohamud Maow    | Community Member                           |
| 5. Gaaba Gedi Gure      | Community Member                           |
| 6. Abdi Salan Adan      | Community Member                           |
| 7. Aress Ibrahim Adan   | Community Member                           |
| 8. Nasteha Kahiye Nunow | Community Member                           |
| 9. Sabdow K. Omar       | Lead Expert                                |
| 10. Hassan Adan Mohamed | Lead Expert                                |
| 11. Abdi Mohamed        | Sub County Agricultural Officer Wajir West |

#### Minute 1 17/03/2021: Opening and welcoming remarks

The area chief Mr. Daud H. Ibrahim called the meeting to order and requested Sheikh Adan Maow Osman to lead the meeting with a word of prayer. There after he welcomed the participants and officially opened the meeting. He emphasized that Garabhashanle village had a long period of water scarcity without water pan, a borehole or any other source of water. The community depend on water tracking from Hadado which is approximately 40 km and Griftu 75 Km away for both domestic use and livestock consumption

The chairman informed the members about the objectives of the meeting is to address the perennial water scarcity in Garabhashanle by excavation of mega water pan to overcome the continuous water shortage in the area.

The initial request from the community has been approved at various level and it is ready for implementation funded by world bank through Kenya climate smart agriculture project.

The community at large endorsed that 15 acres of the community land has been earmarked for the construction of the mega water pan with effect from the date of this meeting.

The members attending the meeting are the representative of the Garabhashanle village community members.

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He expressed the joy of the community members when visited by the team from KCSAP project and Department of Agriculture, Livestock, Irrigation, Fisheries and Alternative livelihood during the site identification for the proposed water pan. It's our hope and prayer that when the proposed water pan is complete, the perennial water scarcity and trekking long distance for our domestic stock in search

**Minute 2 17/03/2021: Remarks by the Sub County Agricultural Officer Wajir West**

Mr. Abdi Mohamed the sub county Agricultural officer appreciated the participants for finding time to participate in such an important public participation and consultative meeting on the proposed project.

He introduced the team that came to carry out an Environment and Social Impact Assessment study on the project as follows: The Lead experts Mr. Hassan M Adan and Mr. Sabdow K. Omar. He further explained that the Public Participation meeting is intended to get the views/concerns or opinion of the public concerning the proposed water pan. He emphasized that the members present are requested to give the positive impacts of the project as well as the likely negative environmental and social impacts of the project. He gave an overview of the proposed excavation of the water pan and requested for their active participation as it's the right platform to ask questions, give suggestions, provide information, recommendation and share ideas with the ESIA experts.

**Minute 3 17/03/2021: Remarks By The ESIA Expert**

Mr. Hassan, the lead ESIA expert, gave a background information about the project, the ESIA process and roles and highlighted the following;

- Background of the project.
- Project rationale and the need for the development.
- ESIA process and compliance with national laws, guidelines and policies.
- Proposed project description and its possible impact.

After a long deliberations and interactive session, the participants were given opportunities to give their suggestions, comments, recommendations, ask questions and clarification of the proposed project.

Some of the comments, recommendation and questions from the participants and the response from the consultants/ESIA experts are presented in the table below.

Mr. Adan who is a resident of the village wanted to know when the proposed project will start.

Mr. sabdow responded that before any decision on tendering is made an environmental social impact assessment has to be undertaken in order to mitigate the likely negative environmental and social impacts that might be identified and outline the positive environmental and social impacts to better the living standard of the community in the area.

Mrs. Gaba wanted to know whether the proposed pan will be fenced so that the children from the village do not drown into it.

Mr. Hassan clarified that the water pan will be fenced off so that children don't go into the pan. He also informed the members that the water pan will be accompanied by auxiliary structures such as troughs, toilets and elevated water tank.

In summary, the following were some of the likely positive and negative impacts raised by the community;

**Positive impacts**

1. Enhance access to water for domestic and livestock use
2. Create employment during construction and implementation phase of the project
3. Solve perennial water shortages in the area.
4. Reduce distance travelled to access water
5. Cost of water will significantly reduce

**Negative impacts**

1. Loss of lives as a result of children drowning
2. May create water conflicts
3. May bring influx of people and livestock
4. Might aid spread of diseases like covid 19 as people can contact easily.

**Mitigation measures**

1. Fencing of the pan to reduce incidences of children drowning
2. The management committee to be tasked to resolve any conflict with the help of the local administration and the elders.
3. The local administration to be tasked to control influx of people and livestock assisted by the project management committee
4. Covid 19 protocols to be strictly enforced by the contractor, project management committee and other stakeholders during the project cycle.

**Minute 4 17/03/2021: ANY OTHER BUSSINESS**

The meeting was adjourned at 11: 45 am after a word of prayer from Mr. Abdi Mohamed and everybody left at his/her own pleasure.

This minute is true reflection of the Public Participation meeting that took place at Garabhanshanle village on 17<sup>th</sup> March 2021.

Minutes prepared by: Abdew K. Omar Sign: [Signature]

Minutes confirmed by: ADAN MAOW Sign: [Signature]



Annex 4: Sample Questionnaires

Public Participation Questionnaire: Environmental Impact Assessment  
study for the  
Proposed Construction of Garbaharhanle  
Mega Pan

To whom it may concern:

Environmental Impact Assessment Consultants would like to conduct an environmental and social impact assessment study for the proposed Construction of Garbaharhanle Mega Pan

The Environmental Impact Assessment/Audit Regulations (2003) require that all projects listed in the Second Schedule of the Environmental Management and Coordination Act 1999 must undertake an EIA and submit the report to the National Management Authority (NEMA). As an important part of this exercise, consultations are held with members of the immediate community, interested & affected parties, in order to obtain their views regarding the proposed project.

We therefore kindly request you to provide us with your views/comments on this project. Your contribution will highly be appreciated.

1. Details of the respondent  
Name of respondent: ABUKAR AHMED ISMAEL  
Occupation: Architect ID. No.: 23726/46  
Address/Phone No.: 0712997356 Date: 17/3/2020

2. Do you support the implementation of this project? YES  / NO  (tick one)

Do you have any reasons for your answer above? Please state

There is no source of water in the area, the residence depend on water trucking, hence will benefit them

3. Please state any positive/negative environmental and social impacts that you anticipate during construction and operational phase of this project

(a) Anticipated Positive Impacts during Construction of Project

- Availability of water
- Improve livelihood
- Increase school environment

(b) Anticipated Negative impacts during Construction

- Air pollution as a result of dust and smokes from the machine
- Noise pollution

What would you propose as measures to mitigate the above negative impacts?

- To avoid Air pollution & Pringle water to reduce dust
- To use Exhaust Silencer

**Public Participation Questionnaire: Environmental Impact Assessment**  
 study for the  
**Proposed Construction of Garbaharshale Mega Pan**

**To whom it may concern:**

Environmental Impact Assessment Consultants would like to conduct an environmental and social impact assessment study for the proposed **Construction of Garbaharshale Mega Pan**

The Environmental Impact Assessment/Audit Regulations (2003) require that all projects listed in the Second Schedule of the Environmental Management and Coordination Act 1999 must undertake an EIA and submit the report to the National Management Authority (NEMA). As an important part of this exercise, consultations are held with members of the immediate community, interested & affected parties, in order to obtain their views regarding the proposed project.

We therefore kindly request you to provide us with your views/comments on this project. Your contribution will highly be appreciated.

**1. Details of the respondent:**  
 Name of respondent: **ABUKAR AHMED ISMAEL**  
 Occupation: **Artist** ID. No.: **23726/46**  
 Address/Phone No.: **0712991356** Date: **12/3/2020**

**2. Do you support the implementation of this project? YES  / NO  (tick one)**

Do you have any reasons for your answer above? Please state  
**There is no source of water in the area, the residence depend on water trucking, hence will benefit them**

**3. Please state any positive/negative environmental and social impacts that you anticipate during construction and operational phase of this project**

- (a) Anticipated Positive Impacts during Construction of Project
- Availability of water
  - Improve livelihood
  - Increase school environment

- (b) Anticipated Negative impacts during Construction
- Air pollution as a result of dust and smoke from the machine
  - Noise pollution

What would you propose as measures to mitigate the above negative impacts?

- To avoid air pollution & Pringle water to reduce dust
- To use Exhaust Silencer

c) Anticipated positive impacts during operation of the project

- Clean water
- Improved health & Sanitation
- Improved Productivity &
- Improve Income

d) Anticipated negative impacts during operation of the project

- Conflict among the people
- Over use of water
- Draining of small children especially evening
- Night mosquito breeding

What would you propose as measures to mitigate the above negative impacts?

- Peace and Conflict Committee
- Well fenced Water Pt. Pay-
- Frequent treating of water and Mosquito nets

4. Give any relevant additional comments

The Pan should be constructed to the standards to meet the requirement of people and also frequent supervision

Signature: .....

ASSIST CHIEF  
HADADO NORTH LOC.  
Date: .....

**Public Participation Questionnaire: Environmental Impact Assessment**  
 study for the  
Proposed Construction of Garabashanle  
Mega Pan

**To whom it may concern:**

Environmental Impact Assessment Consultants would like to conduct an environmental and social impact assessment study for the proposed Construction of  
Garabashanle Mega Pan

The Environmental Impact Assessment/Audit Regulations (2003) require that all projects listed in the Second Schedule of the Environmental Management and Coordination Act 1999 must undertake an EIA and submit the report to the National Management Authority (NEMA). As an important part of this exercise, consultations are held with members of the immediate community, interested & affected parties, in order to obtain their views regarding the proposed project.

We therefore kindly request you to provide us with your views/comments on this project. Your contribution will highly be appreciated.

**1. Details of the respondent**

Name of respondent: RASHID GADOT BRATHY  
 Occupation: CHIEF ID. No.: 20968995  
 Address/Phone No.: 0724758834 Date: \_\_\_\_\_

**2. Do you support the implementation of this project? YES  / NO  (tick one)**

Do you have any reasons for your answer above? Please state

There is need for the project because  
the area depend on water forking.

**3. Please state any positive/negative environmental and social impacts that you anticipate during construction and operational phase of this project**

(a) Anticipated Positive Impacts during Construction of Project

- labour for the residents  
- businesses will grow.

(b) Anticipated Negative impacts during Construction

Noise  
decontamination - Area need Bush clearing  
dust.

What would you propose as measures to mitigate the above negative impacts?

Noise - to minimize noise by using  
modernize machines  
dust - to avoid cutting of  
grass trees  
post - to use water be the start of the  
work.

c) Anticipated positive impacts during operation of the project

Water available

Increase household production  
Improve sanitation

d) Anticipated negative impacts during operation of the project

Children may be shown in the water  
contaminated from the use of the water by  
the men with eye contact  
water born diseases

What would you propose as measures to mitigate the above negative impacts?

fencing of the water point  
water treatment  
Capacity building of the water users  
absentation

4. Give any relevant additional comments

.....  
.....  
.....

Signature: .....

  
CHIEF  
SH. DADO NORTH LOC.  
WAJIR WEST  
DATE: .....

**Public Participation Questionnaire: Environmental Impact Assessment**  
**study for the**  
**PROPOSED CONSTRUCTION OF GARBAHASTANLE**  
**MEGA PAN**

**To whom it may concern:**

Environmental Impact Assessment Consultants would like to conduct an environmental and social impact assessment study for the proposed Construction of Garabahastanle Water Pan

The Environmental Impact Assessment/Audit Regulations (2003) require that all projects listed in the Second Schedule of the Environmental Management and Coordination Act 1999 must undertake an EIA and submit the report to the National Management Authority (NEMA). As an important part of this exercise, consultations are held with members of the immediate community, interested & affected parties, in order to obtain their views regarding the proposed project.

We therefore kindly request you to provide us with your views/comments on this project. Your contribution will highly be appreciated.

**1. Details of the respondent**

Name of respondent: ADAM D. HASANI  
 Occupation: LIVESTOCK HEALTH OFFICER ID. No.: 29503809  
 Address/Phone No.: 0920 477475 Date: 17/3/2021

**2. Do you support the implementation of this project? YES  / NO  (tick one)**

Do you have any reasons for your answer above? Please state

It improve the water system and also improve livestock production and life product.

**3. Please state any positive/negative environmental and social impacts that you anticipate during construction and operational phase of this project**

(a) Anticipated Positive Impacts during Construction of Project

Some of income  
Business improvement.

(b) Anticipated Negative impacts during Construction

Fuel storage  
Noise  
Negative social interaction

What would you propose as measures to mitigate the above negative impacts?

to improve on fuel storage.  
to avoid the noise impact.

c) Anticipated positive impacts during operation of the project

- Improve Health status
- Availability of clean water
- Income generation
- Formation of water management committees

d) Anticipated negative impacts during operation of the project

- Conflict over the use of the water pan
- Water borne - disease - microbe breeding
- Concentration of pastoralists into the area
- hence overgrazing
- Dumping into the water pan by people

What would you propose as measures to mitigate the above negative impacts?

- Fencing of the Pan
- Capacity build water mgmt Committee
- Provision of macrophyte mats
- Peace building & resolution committees

4. Give any relevant additional comments

The area lacks permanent source of water hence urgent intervention

Signature: .....



**Public Participation Questionnaire: Environmental Impact Assessment**  
 study for the  
Proposed Construction of Garabhashanle Mega  
Pan with capacity of 50000 m<sup>3</sup>

**To whom it may concern:**

Environmental Impact Assessment Consultants would like to conduct an environmental and social impact assessment study for the proposed Construction of Garabhashanle  
Mega Pan

The Environmental Impact Assessment/Audit Regulations (2003) require that all projects listed in the Second Schedule of the Environmental Management and Coordination Act 1999 must undertake an EIA and submit the report to the National Management Authority (NEMA). As an important part of this exercise, consultations are held with members of the immediate community, interested & affected parties, in order to obtain their views regarding the proposed project.

We therefore kindly request you to provide us with your views/comments on this project. Your contribution will highly be appreciated.

**1. Details of the respondent**

Name of respondent: Abdullah Hassan A. HMOJ ID. No.: 30603142  
 Occupation: Lawyer ID. No.: 30603142  
 Address/Phone No.: 0704826443 Date: 17/3/2021

**2. Do you support the implementation of this project? YES  / NO  (tick one)**

Do you have any reasons for your answer above? Please state

Area face water so the is need  
for water pan in the area.

**3. Please state any positive/negative environmental and social impacts that you anticipate during construction and operational phase of this project**

(a) Anticipated Positive Impacts during Construction of Project

- Good work  
Business will also improve.

(b) Anticipated Negative impacts during Construction

- Dust  
Noise  
- spill over petroleum products

What would you propose as measures to mitigate the above negative impacts?

Dust - to sprinkle and sponge  
water on it  
Noise - to put Gallaners



c) Anticipated positive impacts during operation of the project

- Increase in health and sanitation
- Availability of clean water
- Increased school enrollment
- Lead to boost business

d) Anticipated negative impacts during operation of the project

- Resource conflict
- Breeding for mosquitoes
- Overgrazing due to availability of water
- People drawing on the water pan

What would you propose as measures to mitigate the above negative impacts?

- Fencing of the pan
- Use of the mosquito nets
- Prevent grazing and restricted livestock
- Water treatment

4. Give any relevant additional comments

- There is perennial water in the area hence this project is needed to mitigate the shortage of water in the area

Signature: Hemed

sewo street

**Annex 5: Screening check list**

**ENVIRONMENTAL AND SOCIAL SCREENING CHECK LIST**

ESM Sub-projects Screening Checklist

(Sub-projects screening process by benefitting communities/Agencies)

Section A: Background information

Name of County: Wajir

Name of CPCU /Researcher: Wajir CPCU

Sub-project location: Garabhashele

Name of CBO/Institution:  Postal Address:

Contact Person:  Cell phone:

Sub-project name: Excavation of Garabhashele Water Pan

Estimated cost (Kshs.): Ksh 20,694,203.18

Approximate size of land area available for the sub-project: 1.5 acres

Objectives of the sub project: to avail water for domestic use and livestock watering for the community. domestic use shall include sanitation

Activities/enterprises undertaken: excavation of water pan as per designs

How was the sub-project chosen? request from the Community. The department of water prioritized in its work plan.

Expected sub project duration: 1 year

Section B: Environmental Issues

Will the sub-project:	Yes	No.
Create a risk of increased soil erosion?		✓
Create a risk of increased deforestation?		✓
Create a risk of increasing any other soil degradation soil degradation?		✓
Affect soil salinity and alkalinity?		✓
Divert the water resource from its natural course/location?		✓
Cause pollution of aquatic ecosystems by sedimentation and agro-chemicals, oil spillage, effluents, etc.?		✓
Introduce exotic plants or animals?		✓
Involve drainage of wetlands or other permanently flooded areas?		✓
Cause poor water drainage and increase the risk of water-related diseases such as malaria?	✓	
Reduce the quantity of water for the downstream users?		✓
Result in the lowering of groundwater level or depletion of groundwater?		✓
Create waste that could adversely affect local soils, vegetation, rivers and streams or groundwater?		✓
Reduce various types of livestock production?		✓
Affect any watershed?		✓
Focus on Biomass/Bio-fuel energy generation?		✓

*If the answers to any of the above is 'yes', please include an EMP with sub-project application.*

Section C: Socio-economic Issues

Will the sub-project:	Yes	No
Displace people from their current settlement?		✓
Interfere with the normal health and safety of the worker/employee?		✓
Reduce the employment opportunities for the surrounding communities?		✓
Reduce settlement (no further area allocated to settlements)?		✓
Reduce income for the local communities?		✓
Increase insecurity due to introduction of the project?		✓
Increase exposure of the community to HIV/AIDS?		✓
Induce conflict?		✓
Have machinery and/or equipment installed for value addition?	✓	✓
Introduce new practices and habits?	✓	
Lead to child delinquency (school drop-outs, child abuse, child labour, etc.?)		✓
Lead to gender disparity?		✓
Lead to poor diets?		✓

Lead to social evils (drug abuse, excessive alcohol consumption, crime, etc.)?		✓
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**Section D: Natural Habitats**

Will the sub-project:	Yes	No
Be located within or near environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands) or threatened species		✓
Adversely affect environmentally sensitive areas or critical habitats – wetlands, woodlots, natural forests, rivers, etc.)?		✓
Affect the indigenous biodiversity (Flora and fauna)?		
Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly		✓
Affect the aesthetic quality of the landscape?		✓
Reduce people's access to the pasture, water, public services or other resources that they depend on?		✓
Increase human-wildlife conflicts?	✓	
Agrochemical use		✓
Will the sub-project:		
Involve the use of pesticides or other agricultural chemicals, or increase existing use?		✓
Cause contamination of watercourses by chemicals and pesticides?		✓
Cause contamination of soil by agrochemicals and pesticides?		✓
Experience effluent and/or emissions discharge?		✓
Export produce? Involve annual inspections of the producers and unannounced inspections?		✓
Require scheduled chemical applications?		✓
Require chemical application even to areas distant away from the focus?		✓
Require chemical application to be done by vulnerable group (pregnant mothers, chemically allergic persons, elderly, etc.)?		✓
Use irrigation system in its implementation?	✓	

*If the answers to any of the above is 'yes', please include an EMP with sub-project application.*

**Section E: Pesticides and Agricultural Chemicals.**

This questionnaire will be used with the farmers groups for purpose of implementing the IPMF

**1) Pest Control practices**

a) Do you use any pesticides to control pests (Insects, diseases, weeds) of crops each season?

Yes No If yes, Name them:	Name of pesticide	Name of pest, disease, weed controlled	Number of times applied/ season	When did you apply (growth stage or month) Quantity purchased
No.				

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If No, WHY?

*No caps are planted at the proposed site in the community currently*

b) If you use any of the above pesticide types, do you keep records of the: *N/A*

Application location: Yes..... No.....

Date of application: Yes..... No.....

Pesticide product trade name: Yes.....No.....

Operator name: Yes..... No.....

If No, WHY?

*As stated the community do not grow any crops*

c) How do you decide when to use the pesticides (tick all that apply)? *No pesticides are used.*

(i) We use pesticides at regular intervals throughout the season (calendar)

(ii) We use pesticides when we see pests in the field (control)

(iii) We use pesticides after field sampling and finding a certain number of pests and certain level of damage (scouting)

(iv) Told by someone to apply (specify who)

(v) Other(specify)

d) Do you use a knapsack sprayer? Yes..... No.....

If yes?

(i) Do you own it? Yes..... No.....

(ii) Do you rent it? Yes..... No.....

(iii) Do you borrow it? Yes..... No.....

e) From your experience, are there any negative/harmful effects of using pesticides?  
Yes.....No.....

f) If yes, list the negative effects:

(i)..... *N/A*.....

(ii).....

(iii).....

(iv).....

(v).....

(g) Do you use any kind of protective clothing while applying or handling pesticides? Yes No

Why?.....

h) If YES, what kind? *N/A*

2. Knowledge of pesticide handling and storage (tick one in each row) *N/A*

a) Do you read labels on the pesticide container before using?

Sometimes Always Never

b) How often do you wear protective clothing and other accessories like nasal mask, eye goggles, *N/A* and boots when applying the pesticides?

Sometimes Always Never

c) Do you mix pesticides with your hands?

Sometimes Always Never

d) Do you observe the pre-harvest waiting periods after applying the pesticides?

Sometimes Always Never

e) After spraying, do you wait 12 hours before entering the field?

Sometimes Always Never

f) Do you store pesticides in a secure, sound and well-ventilated location?

Sometimes Always Never

g) Do you make a cocktail before applying the pesticides? (i.e., mix more than one chemical and apply them at once?)

Sometimes Always Never

h) Where do you store your pesticides?

Why do you store them there?

- i) What do you do with your pesticide containers after they are empty? *NK*
- j) Do you know of any beneficial insects (insects that eat harmful insects)? Yes.....No.....✓
- k) If yes, name them:
- i) ..... *NK* .....
- ii) .....
- iii) .....

### 3. Pesticides and Health

Do you find that pesticide application is affecting the health of?

a) Persons regularly applying pesticides?

Sometimes      Always      Never ✓

b) Persons working in fields sprayed with pesticides

Sometimes      Always      Never ✓

c) Persons harvesting the produce

Sometimes      Always      Never ✓

### 4. Options to Pesticides

a) From your experience, are you aware of other methods for controlling insects diseases and/or weeds besides pesticides? Yes.....No.....✓

b) If yes, describe the practices: *NK*

- i)
- ii)
- iii)
- iv)

### 5. Information

a) What information do you think you need for improving your crop production and marketing? *NK*

.....  
.....  
.....

6. Training

a) Have you ever received any training on any of the following topics related to crop production?

Integrated Pest Management Yes..... No.....✓.....

No. of times/past yr. ....✓.....

b).Pesticide Usage Yes..... No.....✓.....

No. of times/past yr. ....✓.....

c).Pesticide Safety Yes..... No.....✓.....

No. of times/past yr. ....✓.....

d).Insect Identification Yes..... No.....✓.....

No. of times/past yr. ....✓.....

e).Disease Identification Yes..... No.....✓.....

No. of times/past yr. ....✓.....

f).Quality aspects of production Yes..... No.....✓.....

No. of times/past yr.....✓.....

7) Is there anything else that you want us to know about your crop production? ---✓✓.....

.....  
.....  
.....

*If the answer to the above is 'yes', please consult the IPM that has been prepared for the project.*

**Section F: Vulnerable and Marginalized Groups meeting requirements for OP 4.10**

Are there:	Yes	No.
People who meet requirements for OP 4.10 living within the boundaries of, or near the project?		✓
Members of these VMGs in the area who could benefit from the project?		✓



VMGs livelihoods to be affected by the sub project?		✓
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If the answer to any of the above is 'yes', please consult the VMGF that has been prepared for the project

**Section G: Land Acquisition and Access to Resources**

Will the sub-project:	Yes	No.
Require that land (public or private) be acquired (temporarily or permanently) for its development?	✓ <del>Yes</del>	✓
Use land that is currently occupied or regularly used for productive purposes (e.g. gardening, farming, pasture, fishing locations, forests)		✓
Displace individuals, families or businesses?		✓
Result in temporary or permanent loss of crops, fruit trees and pasture land?		✓
Adversely affect small communal cultural property such as funeral and burial sites, or sacred groves?		✓
Result in involuntary restriction of access by people to legally designated parks and protected areas?		✓
Be on monoculture cropping?		✓

If the answer to any of the above is 'yes', please consult the mitigation measures in the ESMF, and if needed prepare a (Resettlement Action Plan) RAP.

**Section H: Proposed action**

(i) Summarize the above:	(ii) Guidance
All the above answers are 'No' ✓ There is at least one 'Yes'	<ul style="list-style-type: none"> <li>If all the above answers are 'No', there is no need for further action; ✓</li> <li>If there is at least one 'Yes', please describe your recommended course of action (see below).</li> </ul>

(iii) Recommended Course of Action

If there is at least one 'Yes', which course of action do you recommend? *No.*

.....

.....

.....

.....

CPCU and County Director of Environment (CDE) will provide detailed guidance on mitigation measures as outlined in the ESMF; and Specific advice is required from CDE and CPCUs regarding sub-project specific EIA(s) and also in the following area(s)

All sub-project applications/proposals MUST include a completed ESMF checklist. The KCSAP CPCU and CDE will review the sub-project applications/proposals and the CDEs will sign off; The proposals will then be submitted to NPCU for clearance for implementation by communities in the proposed subprojects.

**Expert Advice**

The National Government through the Department of Monuments and Sites of the National Museums of Kenya can assist in identifying and, mapping of monuments and archaeological sites; and Sub-project specific ESIA's, if recommended, must be carried out by experts registered with NEMA and be followed by monitoring and review. During the process of conducting an EIA the proponent shall seek views of persons who may be affected by the sub-project. The WB policy set out in OP 4.01 requires consultation of sub-project affected groups and disclosure of EIA's conclusions. In seeking views of the public after the approval of the sub-project, the proponent shall avail the draft ESIA report at a public place accessible to project-affected groups and local NGOs/CSOs.

Completed by:

Name: Adun Maow Osman  
Position / Community: Chairman Project Management Committee  
Date: 17/03/2021

Field Appraisal Officer (CDE):

Signature:

Date: 22/03/2021



Kindly prepare a Summary Project report (S.P.R)

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**Annex 6: Pictures during SC and PP**



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**Annex 7. Summary Bill of Quantities (BoQ)**

<b>BILL No.</b>	<b>DESCRIPTION</b>	<b>AMOUNT</b>
1	Preliminaries	2,378,578.60
2	Construction of Water pan and silt trap	10,521,250.00
3	Construction of inlet and outlet channels	188,900.00
4	Perimeter Fence	<b>2,019,800.00</b>
5	Construction of Toilet facility	212,250.00
6	Installation of pipes, Tank, Stand & Pump	<b>1,491,882.00</b>
7	Construction of 2 water troughs	<b>177,654.00</b>
	<b>Sub total<sub>1</sub></b>	16,990,314.60
	Add 5% contingencies	813,515.73
	<b>Sub total<sub>2</sub></b>	17,839,830.33
	Add 16% VAT	2,854,372.85
	<b>Grand total</b>	<b>20,694,203.18</b>

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## Annex 8. Architectural Designs and Lay Out



**Annex 9: Copy of the Practicing License for the Lead Experts**

FORM 7

(r.15(2))



**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)  
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT**

**ENVIRONMENTAL IMPACT ASSESSMENT/AUDIT (EIA/EA) PRACTICING LICENSE**

License No : NEMA/EIA/ERPL/13657

Application Reference No: NEMA/EIA/EL/18145

M/S **Elijah Lwevo**  
(individual or firm) of address

P.O. Box 321 - 70200, Wajir

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert**  
registration number **6521**

in accordance with the provision of the Environmental Management and Coordination Act Cap 387.

Issued Date: **1/5/2021**

Expiry Date: **12/31/2021**

Signature.....

(Seal)

**Director General  
The National Environment Management  
Authority**

