





# ENVIRONMENTAL AND SOCIAL IMPACT ASSSESSMENT SUMMARY PROJECT REPORT

## THE PROPOSED POTATO COOLER STORE, KAPCHEBELEL ELGEYO MARAKWET COUNTY

GPS location: Latitude: 0.29060°N, Longitude: 35.56549°East.



## TO BE SUBMITED TO NEMA COUNTY OFFICE, COUNTY GOVERNMENT OF ELGEYO MARAKWET P.O BOX 467-30700, ITEN

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@DECEMBER, 2021

#### **DECLARATION**

## **CONSULTANT**

Befcon Consultants, **P.O Box 1830-3100**, **ELDORET** hereby submit this Environmental and Social Impact Assessment (Summary Project Report) on the proposed Potato cooler project at Kapchebelel. We certify to the best of our knowledge that the information contained in this report is accurate and a truthful representation as presented by the client.

Signed by: Ruto Christopher

Designation: LEAD EXPERT

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Signed: Date:30/12/2021

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## **CLIENT/PROPONENT:**

I **Johanna Tuitoek**, the representative of Elgeyo Marakwet Potato co-operative society Ltd certify to the best of my knowledge that the information contained in this report is accurate and a true representation.

Designation: Chair person.

Signed: Date:30/12/2021

## ACKNOWLEDGEMENT

The environmental experts involved in the Environmental Impact Assessment (EIA) process, would like to sincerely thank the proponent for availing his time for fruitful discussions about the project and for allowing us access relevant documents about the proposed project.

We also want to appreciate members of the public who provided their views with respect to the proposed project.

Also much appreciation goes to CPCU KCSAP office Elgeyo Marakwet County specifically Mr. Ben Kibor (County Environment and Social Safeguard Officer) for constant support and input on this document.

Thanks to the consultants who worked tirelessly towards the completion of this report.

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## LIST OF ABBREVIATIONS AND ACRONYMS

SPR	Summary Project Report
C-ESMMP	Contractors Environmental and Social Management and monitoring Plan
CESSCO	County Environmental and Socials Safeguards Officer
CPCU	County Project Coordinating Unit
EA	Environmental Audit
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
ESIA	Environmental and Social; Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
FGD	Focused Group Discussion
GOK	Government of Kenya
KCSAP	Kenya Climate Smart Agriculture Project
m.a.s.l.	Meters above Sea Level
NEAP	National Environmental Action Plan
NEMA	National Environment Management Authority
NPCU	National Project Coordinating Unit
PMC	Project Management Committee
TOR	Terms of Reference

#### **EXECUTIVE SUMMARY**

Irish potato growing is one of the major income earners to farmers in Elgeyo Marakwet County. Potato growing is mainly established in the highland region of the county. Irish potato farming is however faced with constraints such as poor marketing especially during periods of high production, diseases and poor infrastructure especially road networks. Elgeyo Marakwet Potato Cooperative Society has proposed to put up a potato ambient temperature regulated store to address the issue of storage and marketing of potatoes and potatoes seed. The group will be assisted by Kenya Climate Smart Agriculture Project, Elgeyo Marakwet County. The main objective of the proposed project is to enable farmers store potatoes during the harvest season when the prices are low for stabilization of prices over time and avoid loses incurred due to rotting of potatoes resulting from poor storage. The expected output of the project is reduced potato wastage among farmers and maximized profit on market prices. The project is estimated to benefit 3,500 farmers (1600 males, 1900 females) The main components of the proposed project include: construction of a foundation where the potato cooling store will be assembled, paving of the site around the cooling store and fencing around the cooling store for security purposes. The project cost is Kshs 9,757,100 excluding the ESMMP.

The Environmental and Social Impact Summary Project Report has been conducted in compliance with the Environmental regulations, the EMCA, 1999(Rev 2015) and its subsequent supplements regulating major development including the World Bank Environmental and Social Safeguard Policies. The SPR process involved desk review of literature relating to the project, baseline study of the project area, review of the relevant legal, institutional, regulatory and policy framework, public consultation and stakeholders' engagement through public meetings, focused group discussion and key informants' interviews as well as data collection using questionnaires. An ESMMP has been provided to guide the proponent on environmental and social matters. The total number of participants during the public participation meetings conducted on 13<sup>th</sup> and 14<sup>th</sup> August 2021 were 38 people (31 males, 7 females) were questionnaires were administered as well as focused group discussion method used to gather public views.

During public consultations, members of the community sited the following benefits of the cooler store; provide employment opportunities to the youth, stimulate economic and businesses growth within the area such as establishment of M-pesa, increased storage of potatoes from farmers, increased incomes of potato farmers and potato clean seed storage. The negative impacts cited by the respondents were: Accidents during installation of the cooler, scarification of the site through excavation of the soil, air pollution- the generation of dust during construction, noise pollution during construction and generation of waste that can pollute the environment. The respondents also suggested the following measures to ensure that the negative issues are addressed. These included; fencing off the site during construction to prevent accidents, the proponent should place signage near the road to warn motorists on presence of heavy vehicles turning to and from the site, all the wastes should be disposed safely in a designated site, the proponent and the Government should improve security by

employing guards and deploying enough security personnel respectively in the area and the contractor to water the site to reduce air pollution from dust that can also affect traffic flow.

A total of 4 key informants were also interviewed. During the public participation meeting data was also collected using interviews. A total of 50 questionnaires were distributed out of which 28 questionnaires were filled and returned. During the study, 8 stakeholders were consulted to obtain more information on the proposed project. The experts managed to interview immediate neighbors to the proposed development. All the respondents were positive of the proposed development. They were of the opinion that the proposed development should be allowed to go on until its completion

The County Project Coordination Unit, KCSAP Elgeyo Marakwet County through the County Environmental and Social Safeguard Officer (CESSCO) will follow up and monitor the implementation of the ESMMP. The PMC and the community will be required to ensure the implementation of the proposed mitigation measures. The estimated cost of implementation of the ESMMP which should be included in the project cost is Kenya shillings 720,000. The client is expected to share the ESMMP with the contractor who then is expected to prepare and implement a contractor's specific ESMMP.

Considering the positive and negative impacts, this project will not result to significant or irreversible impacts since all anticipated negative impacts will easily be mitigated through the ESMMP. Therefore, the project is recommended for approval for implementation and issuance of license by the National Environmental Management Authority (NEMA).

## CHAPTER ONE INTRODUCTION

## 1.1 Background of the Project

The quality of potato, and its storage life, is reduced by the loss of moisture, decay and Physiological breakdown. These deteriorations are directly related to storage temperature, relative humidity, air circulation and gas composition. Production of potato in Kenya is greatly influenced by many post-harvest challenges such as lack of appropriate storage, price fluctuation, diseases and poor road networks in the potato producing areas among others. Most farmers are not able to provide proper storage for their potatoes because of cost implication. Consequently, they sell their produce at low prices especially during harvesting season. In addition, the few storage facilities within the farms are not designed for potato storage and therefore not effective.

Under ordinary conditions, potato, a semi-perishable commodity, cannot be easily stored, particularly in the tropical areas where high temperatures prevail. Therefore, proper storage facilities are essential to sustain increased potato production. To attain the required temperature and relative humidity for potato storage, designs for storage facilities should be build according to the standards. The four main outlets for stored potatoes are seed potatoes, household consumption and the processing industry including raw materials for the production of starch or alcohol. Choice of storage method must be considered as per requirements for each purpose. To remain viable and competitive, processors demand high quality potatoes from producers. Usually farmers use the various traditional storage methods for consumption. In traditional or indigenous storage, there is problem in maintaining desired temperature and relative humidity. Moreover, the quality of stored potato is low and more susceptible to pest insects and rodents.

The proposed Kapchebel potato cooler store by the Elgeyo Marakwet Potato Farmers Marketing Cooperative Society will help alleviate the challenges faced by farmers in potatoes farming. The main objective of the project is to enable farmers store potatoes during the harvest season when the prices are low for stabilization of prices over time and avoid loses incurred due to rotting of potatoes resulting from poor storage. The expected output of the project is reduced potato wastage among farmers and maximized profit on market prices. The main components of the project include construction of a foundation where the potato cooling store will be assembled, paving of the site around the cooling store and fencing around the cooling store for security purposes. The project is supported by the County Government of Elgeyo Marakwet and the National Government under the Kenya Climate Smart Agriculture Project(KCSAP), window III matching grant through the funding by the World Bank. The estimated cost of the project is Kenya Shillings Kshs 9,757,100.

## 1.2 Project Justification

The ward is suitable for farming of potatoes. The local farmers are already engaging in the farming of potatoes. However, they face challenges during harvesting season due to forces of demand and supply. This can be alleviated by construction of a storage facility to store potatoes during harvesting season when the supply is high.

### 1.3 Justification of ESIA Summery Project Report

The Elgeyo Marakwet Potato Marketing Co-operative Society contracted Befcon Consultants to undertake an Environmental and Social Impact Assessment and prepare a Summary project report based on the recommendation of the County Director of Environment, Elgeyo Marakwet. This followed screening using the Environmental and Social Safeguards Checklist. The SPR was conducted in compliance with the Environmental regulations, the EMCA,1999(Rev 2015) and its subsequent supplements; the Environmental (Impact Assessment and Audit) Regulation, 2003 (Rev. 2009); EMCA (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006; the Land Acts, the Water Act 2002 and the Irrigation Act among other pertinent legal and institutional frameworks regulating major development including the World Bank Environmental and Social Safeguard Policies. O.P 4.01 Environmental assessment (EA) of projects proposed, OP 4.09 Pest Management, OP 4.10 Indigenous Peoples, OP 4.11 Physical Cultural Resources and OP 4.12 Involuntary Resettlement. All environmental and social issues related to the proposed project have been considered.

### 1.4 The Objective of the Environmental Impact Assessment

The main objective of this report is to ensure that all the potential Environmental and Social Impacts have been identified and appropriate mitigation measures proposed for adoption during project's cycle.

## The Specific Objectives were as follows;

- 1. To ascertain whether the project complies with government policies, laws and the EMCA (1999) regulations on the environment and the Environmental Audit regulations of 2003.
- 2. To identify the positive and the negative impacts of the project on the environment and provide recommendations.
- 3. Develop an Environmental Management Plan (EMP) to mitigate negative effects and promote the positive impacts.
- 4. Produce an Environmental Impact Assessment report and submit to NEMA

## 1.5 The Methodology of ESIA Summary Project Report

The environmental study comprised the following activities: desk and field studies, impact identification, public participation and stakeholder consultation and analysis of health and safety issues associated with the proposed project.

#### 1.5.1 Site Visit

During the site visit detailed examination of the ecological settings of the area was studied. The environmental conditions existing in the proposed project area were documented to provide the baseline information for the study. The possible impacts of the proposed project activities were assessed against the documented baseline data.

#### 1.5.2 Observations and Data Collection

The site reconnaissance focused on observation of the ecological status of the site, the vegetative cover, the soils, landscape and other crucial environmental and social parameters.

## 1.5.3 Public Participation and stakeholder consultations.

Public participation and stakeholder consultations was also conducted for acceptability of the project. One public participation meeting and one focused group discussion were conducted on 13<sup>th</sup> and 14<sup>th</sup> August, 2021. During the public participation meetings data was collected using questionnaires from key informants. The anticipated impacts are expected during planning, construction and operation, and decommissioning phases.

## 1.5.4 Desk Study

Following the completion of the field study exercise, the experts embarked on a desk study in order to gather environmental information of the project area. Document Analysis approach was employed to obtain important relevant information on the political, social, economic and biophysical characteristics of the project area and its environs. Review of similar environmental reports, study of the project's operational activities, Government of Kenya Reports, laws and legislations were the key documents utilized towards this end.

## 1.5.5 Reporting and documentation

The Environmental Impacts Assessment Summary Project Report from the findings was compiled in accordance with the guidelines issued by NEMA for such works and was prepared and submitted by the proponent for consideration and approval.

## 1.6 Objectives and Terms of Reference of the SPR

The aim of the SPR report is to document the outcome of the ESIA Phases, which includes the following:

- i) Detailed description of the proposed activity;
- ii) Description of the property and the location of the proposed activity;
- iii) Description of the receiving environment;
- iv) Description of environmental issues and impacts associated with the proposed project
- v) Description of appropriate mitigation measures;
- vi) Environmental Social Management Monitoring Plan (ESMMP);
- v) To make recommendations based on the findings of the ESIA (SPR)

## 1.7 Organization of the SPR

The report is organized into seven substantive chapters. Chapter one presents the introductory chapter, Chapter 2 gives nature of the project, Chapter 3 presents the project location while Chapter 4 presents the outcome of the public participation and stakeholder consultation process, Chapter 5 discusses the anticipated impacts and proposed mitigation measures of the project, Chapter 6 presents the Environmental and Social Management and Monitoring Plan (ESMMP). Chapter 7 presents the conclusions and recommendation followed by references and annexures.

## CHAPTER TWO NATURE OF THE PROJECT

#### 2.1 Introduction

This section presents the design, proposed activities, materials and equipment and estimated project cost.

## 2.2 Project Design

The main components of the project are the construction of the foundation base, access road, delivery point. The design of the cooling store consists of one complete barn. The barn is well-insulated, using special sandwich cladding material for roof and walls. The well-insulated exterior ensures that the warm outside temperature is kept out during daytime.

During the cold nights the doors are kept open to allow enough cold air to flow into the barn and through the produce. During the day, the doors are closed and the cool night temperature can be kept inside. To prevent unwelcome visitors from entering, people or animal, the doors are fitted with a movable grating panel.

The required amount of ventilation is calculated to ensure optimal conditions for the stored potatoes; the airflow through the storage barn has been thoroughly investigated and calculated. The potatoes are stored in crates to maximize the airflow through the produce.

## 2.3 Project Activities for the proposed Project

### 2.3.1 Pre construction Activities

This include activities conducted before the actual works for the proposed project commence

- (a) **Initial Site Meeting**: This will entail initial site meeting to introduce the contractor to the site and to the management committee by the KCSAP CPCU and the supervising engineer.
- **(b) Mobilization of plants and machinery**: This will involve assembling all the machines and equipment required for the planned activities for the proposed project.
- **(c) Erection of Signboard**: This will involve putting up a signboard for the proposed potato store with all the necessary information as prescribed in the contract. This will enhance disclosure which is a requirement by the donor of the project.
- (d) Site Layout: This entail setting out the site for the various structures as specified in the approved design drawings.

## 2.3.2 Construction phase

This will involve

- (a) Transportation of necessary construction materials to the proposed site i.e. stones and cement.
- (b) Construction of the foundation for the container cooler
- (c) Transportation of the container cooler of capacity 50 tons
- (d) Installation of the container cooler on the constructed foundation
- (e) Fabricating the container to fit the design requirements

## 2.3.3. Operation Phase

This phase will entail

- (a) Receiving the aggregated potatoes at the store
- (b) Checking the quality of the potatoes delivered at the store
- (c) Weighing the potatoes to ascertain the quantity
- (d) Storage of the potatoes at recommended temperatures to prevent spoilage
- (e) Marketing of the potatoes

## 2.4 Materials and Equipment

#### 2.4.1 Materials

The materials required for the proposed project include Murram, sand, cement and stones, for the construction of foundation base on which the container will be installed.

## 2.4.2 Equipment

The equipment required for the proposed project are Lorries for transportation of sand and stones to the proposed site; excavators for preparation of foundation.

## 2.5 Project Cost

The estimated costs of potato project will include the cost of ESMMP implementation which is Kenya shillings 10,477,100.

## CHAPTER THREE THE LOCATION OF THE PROJECT

#### 3.1 Introduction

This section provides the project location, land ownership, conformity to land use plan and supportive environmental and social management infrastructure.

## 3.2 Description of Project Location

## 3.2.1 Project location and size.

The proposed project is situated in Kapchebelel Sub location, Kabiemit ward, Keiyo South Sub-county, Elgeyo-Marakwet County at GPS coordinates: Latitude:0.29060°N, Longitude: 35.56549°East. The proposed project is located in Eldoret –Chepkorio road. The proposed project will have a capacity to store 50 tons' potatoes when full. The cooler is expected to cool ware potato and potato seed by way of sufficient air flow in and out of the cooler.



## **3.2.2 Climate**

The temperature within the project area ranges from 12°c to maximum of 22°c. The average rainfall is 2000mm per annum.

## **3.2.3 Soils**

The soil is sandy loam to red volcanic soils which is fertile and suitable for Irish Potato production.

### 3.3.4 Population

The population of the ward where the project is located is 18,970 people (9,420 Males, 9, 550 females). The population of Kabiemit location is 5,408 while the population of Kapchebel sub location is 1,974 people. The project therefore has a wider catchment for the produce and would be sustainable.

### 3.3 Land Ownership

The land ownership of the proposed site is public land under the Department of Agriculture and Irrigation in Elgeyo Marakwet County. The Cooperative leadership requested the Department to use the land and permission was granted by the County Executive Member for Lands, Water & Environment and land search report form Ministry of lands. (Refer to annex 2& 3)

## 3.3 Supportive Infrastructure for Environmental and Social Management 3.3.1 Transportation

The area is accessed via Eldoret-Chepkorio tarmac road and many motor vehicles, lorries and motor cycles offer transport services in the area. The public will use lorries and public service vehicles to transport materials for construction and this offer an opportunity for transportation of materials for construction, solid and liquid waste from the project site to designated sites away from the project site when required.

#### 3.3.2 Telecommunication

The project area is mainly served by two major network providers Safaricom and Airtel. This is necessary to enable communication to seek support in case an emergence during the project implementation.

## 3.3.3 Waste management system

Most household have pit latrine for the management of human waste. Other waste at household level are either dumped in compost pits or burned in shallow pits. Livestock wastes are used as organic manure to improve the fertility of the soils. Proper waste management system should therefore be included in the design and implementation of the project

## 3.4 Conformity to land use plan

The land tenure in the area is private (individually) owned and the area for public use set aside. The Co-operative had requested the public land under the Department of Agriculture & Irrigation for use of the demarcated land and were given permission. This will increase utilization of the land as a resource that is currently not in use. The implementation of the proposed potato store is in line with the land use plan and zonation since the project site land is designated for agricultural utilization.

## CHAPTER FOUR PUBLIC PARTICIPATION AND STAKEHOLDER CONSULTATIONS

#### 4.1 Introduction

Public Participation and stakeholders` consultation was conducted as stipulated in the Kenya constitution 2010, County Government Act and Environmental Impact Assessment and Audit Regulations of 2003 (amendment 2019). However, due to the government restrictions and World Bank guidelines following Covid-19 pandemic, the number of those consulted was minimized to a representative number as guided and led by the area chief and those living close to the proposed project site. During all public participation meetings, COVID-19 guidelines on social distancing, wearing of face masks, use of hand sanitizers as well as limiting the number of people during the meetings were followed.

## 4.2 The Objective of Public Participation and Stakeholders Consultations

The objectives of the public participation and stakeholder consultation were to get the scope of the SPR, to probe for possible environmental and social impacts of the proposed project and how to mitigate against any negative impacts as well as the baseline information of the project area.

#### 4.3 Stakeholders identification

During the SPR exercise, relevant stakeholders were identified. Each stakeholder was consulted on specific aspects of the projects ranging from the design, views on benefits, likely negative impacts and involvement at all stages of implementation. A total of 8 stakeholders were consulted (See Annex 7) and their views, issues and suggestions were documented.

## 4.3 Methodology of Public Participation and Stakeholder Consultations

The methods used in public participation included public meetings, focused group discussion and key informant interviews. One public participation meeting and one focused group discussion were conducted on 13<sup>th</sup> and 14<sup>th</sup> August, 2021. During the public participation meetings data was collected using questionnaires from key informants (see annex 6). Focused group discussions focused on the women, youth and differently abled persons. A total of 38 people (31 males, 7 females) participated in the public participation meetings and stakeholder consultation (Refer Annex 4). The team ensured strict adherence to the COVID-19 protocols (social distancing, hand washing and wearing of face masks) as stipulated by the Ministry of health in all the public meetings to prevent the spread of the disease.

## 4.4 Summary of issues raised by the community and stakeholders and responses

During public consultations, members of the community cited the following benefits of the cooler store;

- provide employment opportunities to the youth
- stimulate economic and businesses growth within the area
- Increased storage of potatoes from farmers

• Increased incomes of potato farmers and potato clean seed storage.

The negative impacts cited by the respondents were as follows:

- Accidents during construction and or installation of the cooler due to heavy trucks.
- scarification of the site through excavation of the soil causing soil erosion.
- air pollution- the generation of dust during construction.
- noise pollution during construction and generation of waste that can pollute the environment.
- Increased incidences of human diseases like STDS and covid-19
- Discrimination on use of the facility on women and other users that may lead to conflicts.

## 4.4.1 Responses to the above issues.

The respondents also suggested the following measures to ensure that the negative issues are addressed. These included;

- fencing off the site during construction to prevent accidents
- the proponent should place signage near the road to warn motorists on presence of heavy vehicles turning to and from the site.
- all the wastes should be disposed safely in a designated site.
- The community need to be sensitized on conflict management and spread of human diseases like STDs and covid-19 pandemic.



Plate1: public consultation at the proposed site



Plate 2: One of the beneficiary member during participating in the discussion

#### **CHAPTER FIVE**

## POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

#### 5.1 Introduction

This chapter outlines the identified impacts in the phases of the project implementation including construction, operations and decommissioning. Both the positive and negative impacts are outlined as well as the proposed mitigation measures for the negative impacts.

### 5.2 Construction phase

### **5.2.1 Positive impacts**

- a) Creation of employment The project will create job opportunities for skilled as well as non-skilled labor. The presence of laborers during construction phase will stimulate growth of other businesses such as sale of construction materials, transport sector and food vendors
- b) On job transfer of skills Those employed by the project will benefit from experiences and knowledge gained on job and through exchange of ideas with other workers.
- c) There will be increased circulation of money (hence income) within the area The amount of money in circulation will increase due to the job opportunities created directly e.g. construction workers and indirectly such as hoteliers.
- d) The project will require some construction material such as cement, ballast, stone and metal. Most of these will be sourced locally. Consequently, the suppliers of these materials will benefit economically and the government will gain from the taxes levied on these materials.

## 5.2.2 Negative environmental and social impacts during construction phase

This section highlights the necessary mitigation measures for the expected negative impacts of the proposed project in the construction phase.

## a) Air pollution due to dust.

The construction activities which will include leveling and building a foundation on which the container will stand on will increase dust and gas emission. Construction machinery and trucks (including small vehicles) generate hazardous exhaust fumes such as Carbon Oxides. Dust particles caused by vibrations of machines and vehicle movement suspends in the air mostly during dry spells.

## **Mitigation measures**

- o Provide PPEs such as nose masks to workers during construction
- Regular and prompt maintenance of construction machinery and equipment. This will
  minimize generation of noxious gases and other suspended particular matter.
- Control over areas generating dust particles. Such areas should be regularly cleaned or watered
- Workers should be trained on environmental issues

 Workers should be encouraged to go for regular health check-ups to ascertain their health standards.

## b) Noise pollution due to vibration

Noise is unwanted sound that can affect job performance, safety, and health. Psychological effects of noise include annoyance and disruption of concentration. Physical effects include loss of hearing, pain, nausea and interference with communications when the exposure is severe. As explained earlier, construction activities will generate noise and hence affecting the immediate environment. Source of noise include construction machinery and equipment i.e. concrete mixers, excavators, workers, trucks and other vehicles to the site.

## **Mitigation measures**

- Construction works should be carried out only during specified time i.e. from 0800hrs to 1800hrs; when most of the neighbors will be out of their homes
- o Sensitize drivers and machinery operators to switch off idle machines
- o Provision of bill boards at the construction site gates notifying of the construction activity and timings.
- Machineries should be maintained regularly to reduce noise resulting from faulty machines
- o Drivers should be discouraged from unnecessary hooting
- Barriers such as walls should be introduced around the site to provide some buffer against noise
- Workers should be provided with relevant personal protective equipment/materials such as earmuffs and earplugs when operating noisy machinery and when in noisy environment
- o Machines should be fitted with appropriate mufflers to reduce noise

## c) Hydrology and water quality degradation

Several measures shall be put in place to mitigate the impacts that are likely to lead to surface and groundwater quality degradation. The following are mitigation measures for possible degradation of hydrology and water quality.

- The proponent and contractor will prepare a hazardous substance control systems and emergency response plans that will include preparations for quick and safe cleanup of accidental spills. It will prescribe hazardous-materials handling procedures to reduce the potential for a spill during construction, and will include an emergency response programme to ensure quick and safe cleanup of accidental spills.
- If hazardous substances are unexpectedly encountered during trenching, work will be stopped until the material is properly characterized and appropriate measures taken to protect human health and the environment.
- Appropriate personal protective equipment will be used and waste management will be performed in accordance with applicable regulations. Oil absorbent material, taps and storage drums will be used to contain and control any minor releases of engine and other equipment oil.

## d) Solid waste generation.

Construction activities may generate solid wastes within the sites such as stones, wood, containers and rods of metals among others

### **Mitigation measures**

- The contractor or proponent should work hand in hand with private refuse handlers and the county Government to facilitate sound waste handling, and disposal from the site
- o All wastes must be taken to approved dumpsite.
- The wastes should be properly segregated and separated to encourage recycling of some materials
- Use of an integrated solid waste management system; through a hierarchy of options; source reduction, recycling, composting and reuse.
- O Damaged or wasted construction materials including cabinets, doors, plumbing and lighting fixtures, marbles and glass will be recovered for refurbishing and used in other projects. Such measures will involve the sale or donation of such recyclable/reusable materials to construction companies, local community groups, institutions and individual residents or home owners.
- The proponent shall put in place measures to ensure that construction material requirements are carefully budgeted to ensure little amount of construction material is left on site after construction

#### e) Generation of exhaust emission

In order to control exhaust emissions, the following measures shall be implemented during construction.

- o Alternative, fueled construction equipment shall be used where feasible
- o Idle vehicles and machines should be switched off
- o Equipment shall be properly maintained

## f) Public Health and Safety

During construction, there will be increased dust, air and noise pollution. These will lower the quality of environment. The residents and workforce involved would be more subjected to these environmental hazards.

Food vendors may endanger workers and visitors with diseases.

## Mitigation

- o Depending on the occupational safety and health hazards encountered while performing assigned job tasks, workers may require PPEs
- Adapt effective emergence response plans. A good start of learning how to respond to an emergency is through certification in Basic First Aid.
- A first aid kit should be provided within the site. This should be fully equipped at all times and should be managed by qualified persons.
- Safety awareness may be gained through regular safety training or personal interest in safety and health.

- Local individuals preparing food for the workers at the site must be controlled to ensure that food is hygienically prepared.
- O The contractor should have workmen's compensation cover. It should comply with Workmen's Compensation Act, as well as other Ordinances, Regulations and Unions Agreements.
- Workers should be sensitized on social issues such as drug abuse, alcoholism and communicable diseases as well

## g) Increased runoff

Increased runoff from paved grounds may cause flooding and soil erosion

## **Mitigation measures**

- o Surface runoff and roof water can be harvested and stored in a reservoir for use.
- Construction and maintaining of storm drain channels within the potatoes cooling store.

## h) Obstruction of traffic

Since the project is being implemented near a busy road, chances of traffic congestions is high. Parking on road side is should be discouraged.

### **Mitigation measures**

Signs warning of heavy traffic should be put in place

## i) Spread of Covid-19 pandemic.

Immigration of externally sourced workers may be associated with transmission of diseases such as Covid-19 due to interactions during travelling. This may increase the number of local members who are at risk of contracting Covid-19 and other airborne diseases.

## Mitigation measures.

- Ensure the workers adhere to Covid-19 regulations of using masks and keeping a social distance to minimize the possibility of contracting the disease.
- Avoid/Minimize the workers who are outsiders-far from the community in which the proposed project will be established.

## j) Occurrence of fire incidences

The following should be done to mitigate incidences of fire; storage and system including fire hose reels and train workers on fire fighting.

## k) Possible accidents during construction

There is a likelihood of accidents occurring during ground preparation and operation of machinery.

## Mitigation measures.

Ensure workers are trained and use PPEs in construction of the proposed project. Accidental fires

This can occur in cases where cigarettes are smoked in places that have flammable products such as petrol. It can also occur due to carelessness in handling flammable products.

## Mitigation

- o Ensure workers are sensitized and a smoking zone provided for smokers.
- o All flammable products/containers should be labeled.

## k) Gender based Violence and Spread of diseases like STDs and HIV AIDS

Sexual relationships between community members and the construction workers may result to GBV and spread of STDS/HIV/AIDS in the area.

## **Mitigation Measures**

- Awareness creation and sensitization of workers and the local communities on the associated dangers and preventive measures
- There should be provision of adequate prevention measures such as condoms
- Establishment of grievance redress mechanisms

## l)Sexual Exploitation and Abuse(SEA)

This can be perpetrated by the management of the company and other workers against the less fortunate during operational phase of the project.

## Mitigation

The management and the community in general should be sensitized on SEA including the consequences of the offence. Proper procedures of handling such cases should be well explained.

#### m)Child abuse

This can happen in cases where children are used to provide labor during construction phase. The contractor should be conversant with the regulations of child labor.

#### n) Conflicts

This are expected to occur among workers during this phase of construction.

## **Mitigation measures**

The contractor should put in place mechanisms to address the conflicts and grievances.

- This includes a team to receive complains and resolve as soon as possible.
- Conflicts not resolved within should be advanced to a higher level.

Complains and suggestion boxes should be placed strategically to receive these complains and compliments

## 5.3 Environmental and Social Impacts during Operation Phase

#### **5.3.1 Positive impacts**

- a) The proposed facility will offer storage services to potato farmers. Therefore, farmers will benefit from this storage space
- b) The project will generate increased incomes to the beneficiaries by maximizing returns from potatoes sales
- c) Increased business opportunities-The farmers will be able to sell potatoes during off season period thus ensuring incomes throughout the year. This will attract new farmers to the business
- d) The local community will benefit from employment opportunities such as transport services, security, cleaning and clerical services among others
- e) The operation phase will come with capacity building sessions. This will improve the capacity of the local community as well

f) The operation of the proposed project will also stimulate growth of other businesses as well

## **5.3.2** Negative Impacts

## a) Generation of solid waste

Assorted solid wastes will be generated in the potatoes cooling store. These include packaging materials, rotten potatoes and paper. The proponent will be responsible for efficient management of solid wastes generated.

### Mitigation

- The proponent will provide waste handling facilities such as waste bins for temporarily holding of solid wastes
- o Wastes should be disposed regularly and appropriately

#### b) Possible soil erosion

Transportation of potatoes will be done using trucks and tractors. They are likely to cause soil erosion.

## Mitigation

- o Pave the site around the cooling store especially at the delivery point
- Avoid bare surfaces around the cooling store

## c) Conflicts arising from the use of the cooling facility

This are expected to occur among workers and project beneficiaries during operation phase.

### **Mitigation measures**

The contractor should put in place mechanisms to address the conflicts and grievances.

- This includes a team to receive complains and resolve as soon as possible.
- Conflicts not resolved within should be advanced to a higher level.

Complains and suggestion boxes should be placed strategically to receive these complains and compliments

#### d) Pressure on available social and health services

There is likelihood of pressure on available social and health facilities due to increased population around the project site which does not match with the available social facilities.

## Mitigation

The responsible authorities should always monitor population verses the available facilities so as to advise the government on the need for more social/health facilities.

#### e) Occurrence of accidents

To reduce accidents happening in the proposed project, the following mitigation measures need to be adhered to;

- Ensure the general safety & security at all times by providing day and night security guards and ensuring adequate lighting within and around the cooler.
- o Provide an information sign board at entrance/gate.
- o Train PMC/workers on accidents occupational safety and health(OSH) hazards

## f) Gender Based Violence (GBV) and increased spread of COVID 19, STDS/HIV/ AIDs

Sexual relationships between community members and the construction workers may result to GBV and spread of STDS/HIV/AIDS in the area.

## **Mitigation Measures**

- Awareness creation and sensitization of workers and the local communities on the associated dangers and preventive measures
- There should be provision of adequate prevention measures such as condoms
- Establishment of grievance redress mechanisms

## g) Sexual Exploitation and Abuse(SEA)

This can be perpetrated by the management of the company and other workers against the less fortunate during operational phase of the project.

## Mitigation

The management and the community in general should be sensitized on SEA including the consequences of the offence. Proper procedures of handling such cases should be well explained.

## 10)Child abuse

This can happen in cases where children are used to provide labor during construction phase. The contractor should be conversant with the regulations of child labor.

## 5. 4 Environmental and Social Impacts during Decommissioning Phase

### **5.4.1. Positive Impacts**

- a) Biotic species will be restored and the land returned to its original state. This will enhance the aesthetic value of the site
- **b**) Decommissioning will create employment as man power is needed in the restoration activities

## 5.4.2 Decommissioning Phase negative impacts and mitigation measures

## a) Generation of solid wastes

Solid wastes will result from demolition works. These wastes will include metal, stone, wood and glasses amongst others.

## Mitigation

Solid waste resulting from demolition or dismantling works will be managed as described in construction phase.

## b) Occupational Health and Safety Concerns

The work of decommissioning might lead to occupational incidences such as falls, accidents, inhalation of dust and noise amongst others.

## Mitigation

- Workers should be provided with safety gear such as ear muffs, nose masks and gloves.
- Workers should be sensitized on OHS
- o Work should be done between 8.00 am to 5.00 pm to reduce noise at night hours

### c) Air and noise pollution

This will occur during decommissioning resulting from the demolition activities. The heavy machinery that will be used during demolition are likely to produce a lot of noise

## Mitigation

This can be mitigated by use of PPEs such as ear muffs. The demolition should also take place during the day (working hours to prevent disturbances at night)

## d) Instability in Potato prices due to loss of cool store

The cost of potatoes will be unstable as farmers will sell their produce at a low cost during harvesting time and at a higher price at season of scarcity. This can be mitigated by providing alternative storage facility.

## e) Loss of income due to price instability from demolished store

The cost of potatoes will be unstable as farmers will sell their produce at a low cost during harvesting time and at a higher price at season of scarcity.

The mitigation measure is to link farmers to nearby alternative storage facility

### f) Vegetation disturbance

During decommissioning land deformation that may lead to soil erosion, drainage problems. The following are mitigation measures;

- Carry out an appropriate re-vegetation programme to restore the site to its original status.
- Fencing and signs restricting access will be posted to minimize disturbance to newly vegetated areas

## h) Sexual Exploitation and Abuse(SEA)

This can be perpetrated by the management of the company and other workers against the less fortunate during decommissioning phase of the project.

## Mitigation

The management and the community in general should be sensitized on SEA including the consequences of the offence. Proper procedures of handling such cases should be well explained.

### i)Child abuse

This can happen in cases where children are used to provide labor during decommissioning phase. The contractor should be conversant with the regulations of child labor.

## j) Conflicts

This are expected to occur among workers during this phase of decommissioning

### **Mitigation measures**

The contractor should put in place mechanisms to address the conflicts and grievances.

- This includes a team to receive complains and resolve as soon as possible.
- Conflicts not resolved within should be advanced to a higher level.

Complains and suggestion boxes should be placed strategically to receive these complains and compliments

#### **CHAPTER SIX**

## ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

#### 6.1 Introduction

The proponent and the consultant recognizes the fact that the proposed project will have some negative impacts as earlier predicted in the report. There will be positive impacts too, resulting from the project.

An Environmental Social Management Monitoring Plan has been developed to reduce or avoid the negative impacts of the proposed project as well as enhance the benefits of the positive impacts.

The factors considered in assessing the negative and the positive impacts are dynamic and may change over time.

The ESMMP is meant to provide guidelines for concerns identified so as to promote the mitigation of identified adverse effects throughout the design, construction, operation and decommissioning phases so as to promote the positive effects. The proponent should acquire the technical assistance and training in environmental management practices for operations of the proposed project.

## 6.2 Auditing the ESMMP

The managers of the project should conduct annual audits to ensure the systems are operating effectively. The audit will ensure that;

- o The ESMMP being used is up to date,
- o Variations to the ESMMP and non-compliance and corrective actions are documented
- o The appropriate environmental training for personnel is undertaken
- o Emergency procedures are in place and effectively communicated to the personnel
- o A register of major accidents is in place and other documentation related to the ESMP
- The appropriate corrective and preventive action is taken by the contractor once instructions have been issued.

The environmental management of the proposed project should strengthen the mobilization of the beneficiary communities with regard to environmental and health aspects and render the proposed irrigation project sustainable.

## 6.3 Responsibilities

The ESMMP has various components with the respective stakeholders involved towards the implementation of the corrective actions. Various persons and organizations are to be involved in the project. The implementation of the ESMMP should involve the contractors, line ministries, NEMA, various farmer organizations, the local administration, lands Office and the consultants.

## 6.4 Training and sensitization.

Sensitization of all the stakeholders is crucial in the implementation of the ESMMP. All the stakeholders involved in the ESMMP should to undergo environmental awareness training. Training should be aimed at practical aspects of environmental monitoring and management.

## **6.5 ESMMP Monitoring**

There should be continuous monitoring and follow-up of the project activities to ensure that the ESMMP is implemented and ensure its objectives are achieved. The implementing staff, the community, and the contractor should ensure that the mitigation measures are put in place as outlined in the ESMMP. The monitoring parameters should include improved vegetation cover, increased potential of the various water springs, preservation of species in synergy with the water springs, level of coli form and other bacteria in the sampled water not to forget the ppm solid elements, severity watershed encroachment, public safety and health awareness Malaria and other social disease prevention and control systems in place, livestock wildlife human conflicts management, safety of equipment and property and capacity building and skills improvement of water users among others as outlined in the ESMMP.

Table 1: Environmental and social management plan for the construction phase.

No.	Possible Impacts	Proposed mitigation measures	Monitoring	Responsible	Means of	Time Schedule	Cost
			Indicators	Person	Verification		(Ksh)
1	Increased surface run-off leading to soil erosion	<ul> <li>Landscaping of the site to include planting of lawn grass and flowers to restore good aesthetic values and cleaning of air.</li> <li>The excavated soil should be disposed appropriately or used in landscaping</li> </ul>	<ul> <li>Signs of erosion</li> <li>Presence of lawn grass or flowers at the site</li> <li>Presence of a fence/barrier that reduces impact of dust emission.</li> </ul>	Proponent and building contractor	Soil and land management plan and Report	<ul> <li>During excavation</li> <li>After completion of construction</li> </ul>	50,000
2	Air pollution due to production of dust and exhaust emissions.	<ul> <li>Apply water in case of dust</li> <li>Provide workers with masks to reduce inhalation of dust.</li> </ul>	<ul> <li>Evidence of reduced dust through use of water.</li> <li>Workers using masks.</li> <li>Number complaints from the neighborhood.</li> </ul>	Propone     nt and     the     contracto     r	<ul> <li>Work         progress         report</li> <li>Site report</li> </ul>	• Throughout the construction period	20,000
3	May cause obstruction of the road and traffic	<ul> <li>Reduce traffic to the site</li> <li>Use signage to warn of heavy traffic at the site</li> </ul>	Number of warning signage installed ton warn traffic	Propone     nt and     the     contracto     r	<ul><li>Incidence report</li><li>Site report</li></ul>	• Throughout construction period	20,000
4	Poor solid waste disposal	<ul> <li>Ensure proper collection and disposal of wastes.</li> <li>Use of durable, long-lasting materials that will not need to be replaced as often, thereby reducing the amount of construction waste</li> </ul>	pits done.	<ul><li>Propone nt</li><li>Contract or</li></ul>	• Site inspection	Throughout construction period	40,000

		congreted over time					
		generated over time					
		Through accurate estimation of the sizes and					
		quantities of materials required, order					
		materials in the sizes and quantities they will					
		be needed, rather than cutting them to size, or					
		having large quantities of residual materials.					
		• Ensure that damaged or wasted construction					
		materials including cabinets, doors, plumbing					
		and lighting fixtures, marbles and glass will					
		be recovered for refurbishing and use in other					
		projects.					
		Workers should be sensitized on management					
		of the environment.					
		• Ensure that construction materials left over at					
		the end of construction will be used in other					
		projects rather than being disposed of.					
		Excavated soil should be disposed at the right					
		places – not where it can cause obstruction					
		etc.					
		Provide hazardous waste handling procedures.					
5	Possibilities of	<u> </u>	• Number of	Contractor	Incidence	During	30,000
	contracting COVID	construction.		• PMC/Propo	report	construction	
	- 19	Use face masks and exercise regular hand	barriers, helmets, nose	nent	• Site register	and	
		sanitization.	masks, earmuffs issued		2102 12813001	operational	
		Provide hand washing points.	and warning signs	members		phase.	
		Provide hand sanitizers	erected.	momocis		F	
		Provide temperature check services.					

6	Accidents such as from falling objects.	<ul> <li>Secure the site to reduce injuries of people.</li> <li>The proponent is advised to use scaffolding to prevent injuries.</li> <li>Workers should be provided with PPEs.</li> <li>Hang a warning sign to warn passersby of danger zones</li> <li>Workers to put on safety gears such as working boots, overalls, helmets, goggles, earmuffs, masks and gloves</li> <li>A first aid kit should be provided within the site, fully equipped at all times and should be managed by qualified persons.</li> </ul>	Number of earmuffs and noise masks given to workers.	•	Contract or Propone nt	• Case register report at the site.	Throughout construction period	50,000
7	Noise pollution due to hooting vehicles and vibration from machine operations and metalwork	<ul><li>workers.</li><li>Switch off idle machines to reduce noise</li></ul>		•	Contract or Propone nt	<ul> <li>Sensitizatio         n Report</li> <li>Attendance         list</li> </ul>	• During construction phase of the project.	50,000

**Table 2: Environmental Management Plan for the Operation Phase** 

No.	Possible impacts	Mitigation measures	Monitoring	Responsible	Means of	Time schedule	Costs
			indicators/means	person	verification		(Ksh.)
Envir	onmental impacts						
1	Increased run-off	• Collection of water from roof	Number of water tanks	Proponent	Site inspection	At construction	100,000
	which may cause	catchment will reduce the	put in place to harvest	PMC	report	and operation	
	soil erosion	amount of run-off.	water.			phase	

	fire hose reels  Train workers on fire fighting	extinguishers installed, first aid kits in place and incidents registers kept.		register	Operational phase	, and the second
3 Occurrence or accidents	<ul> <li>Ensure the general safety &amp; security at all times by providing day and night security guards and ensuring adequate lighting within and around the cooler.</li> <li>Provide an information sign board at entrance/gate.</li> <li>Train PMC/workers on accidents occupational safety and health(OSH) hazards</li> </ul>	Number of inspections done and availability of signage.  Number of trainings done on OSH hazards.	Proponent Contractor PMC/workers	Training schedule and report Incidents report	Operational phase	100,000
4 Generation of solic waste during potato storage.	The first transfer that	pits done to	<ul><li>Proponent</li><li>Members/P</li><li>MC</li></ul>	Waste holding containers at site Waste segregation register	Operation cycle	20,000

5	Possible COVID- 19 disease spread in	•	Provide hand washing points at	Number of hand washing points	Proponent Contractor	Incidents	Whole project cycle	20,000
	the community.	•	the proposed site Provide hand sanitizers.	established.	Public health	report Medical report	Cycle	
		•	Exercise social distancing during operation.  Provide temperature checking services before commencement of operations.	Number of face masks and temperature checking points	department			
6	Spread of sexual transmitted diseases like HIV and AIDs	•	Sensitize the community on self-protection and education concerning the disease.	Number of trainings or sensitization done to beneficiaries.	Public health department Proponent Contractor	Sensitization report Availability of protective equipment	Project cycle	30,000
7.	Gender Based Violence due to increased income	•	Sensitize the community and PMC on gender and mainstreaming gender issues on training programs.	Number of trainings done and incorporating gender issues in trainings.	PMC KCSAP-CPCU Gender & Social services	Sensitization report. Training schedule.	Project cycle	30,000
8	Conflicts arising from use of the cooling facility.	•	Train and sensitize the beneficiaries on resources use and conflict resolution mechanisms  Establish conflict resolution sub-committee to solve any conflict that may arise from members	Number of trainings conducted on conflict resolution mechanisms Establishment of conflict resolution sub-committee in the cooperative.	PMC Project beneficiaries KCSAP-CPCU	Sensitization schedule. Conflict resolution guide	Implementation phase	40,000

**Table 3: Environmental Management Plan for Decommissioning Phase** 

S/No	Possible impacts	Mitigation measures	Responsible Party	Monitoring indicators	Means of verification	Time schedule	Cost(Ksh )
Envir	onmental impacts						

1	Improper disposal	•	Where recycling/reuse of	Proponent	Existence of	Inspection	During	50,000
	non-reusable solid		structures and other waste		demolition	report	decommissioning	
	waste		materials is not possible, the		waste at the			
			materials should be taken to an		decommissioned			
			approved dumpsite.		site			
2	Vegetation	•	Carry out an appropriate re-	Proponent	Number of trees		During	50,000
	disturbance		vegetation programme to restore	Project beneficiaries	or grass surface	Land/site	Decommissioning	
	land deformation		the site to its original status.		area vegetated	report		
	that may lead to soil	•	Fencing and signs restricting		Number of			
	erosion, drainage		access will be posted to minimize		drainage			
	problems		disturbance to newly vegetated		systems done at			
			areas		decommissioned			
		•	During the re-vegetation period,		site			
			appropriate surface water runoff					
			controls put in place to prevent					
			surface erosion.					
Social	Impacts							
3	Conflicts due to	•	The cost of potatoes will be		Number of	Site register	Decommissioning	20,000
	loss of income due		unstable as farmers will sell their		farmers linked	and	period	
	to price instability		produce at a low cost during		to nearby	documentation		
	from demolished		harvesting time and at a higher		alternative			
	store		price at season of scarcity.		storage facility			
							Total Cost	720,000

## CHAPTER SEVEN CONCLUSION AND RECOMMENDATION

#### 7.1 Introduction

The proposed potato storage facility has a number of benefits to the farmers and overall food security of the nation. Potato farmers within the area and the entire county stand to benefit a lot from increased prices of the commodity owing to storage and timed marketing. This will encourage more farmers to venture into this enterprise thus increasing production in the area.

#### 7.2 Conclusion.

The proposed storage facility will reduce potato wastage, increase farm incomes and stimulate growth of other businesses such as eateries, M-pesa outlets and retail shops. These are jobs created and income to the locality.

However, the EIA study showed that there will be some negative impacts as a result of the project. These include noise pollution, dust generation and possibilities of accidents among others. Mitigation measures have been recommended to avoid and reduce the impacts of these undesirable impacts.

The proponent should therefore comply with measures outlined in the EMP section of the report as well as all other Environmental policies and standards so as to reduce the negative effects and enhance positive attributes.

#### 7.3 Recommendations

The results from the study showed that there are more positive social and environmental impacts due to the establishment of potato storage cooler. These positive impacts largely outweigh the potential negative impacts and is therefore recommended for approval and issuance of license by NEMA on condition that all the proposed mitigation measures are implemented throughout the project life cycle.

#### REFERENCES

- 1. Kenya gazette supplement Acts 2000, Environment Management and Coordination Act Number 8 of 1999. Government Printer, Nairobi.
- 2. Kenya gazette supplement Acts 2015, Environmental Management and Coordination (Amendment) Act, 2015. Government Printer, Nairobi.
- 3. Kenya gazette supplement Acts Building code 2000 by Government printer, Nairobi.
- 4. Kenya gazette supplement Acts Land Planning Act (Cap. 303) Government printer, Nairobi.
- 5. Kenya gazette supplement Acts Local Authority Act (Cap. 265) Government printer, Nairobi.
- 6. Kenya gazette supplement Acts Physical Planning Act, 1999 Government printer, Nairobi.
- 7. Kenya gazette supplement Acts Public Health Act (Cap. 242) Government printer, Nairobi.
- 8. Kenya gazette supplement Acts Water Act, 2002 Government printer, Nairobi.
- 9. Kenya gazette supplement number 56. Environmental Impact Assessment and Audit Regulations 2003. Government printer, Nairobi.

#### **ANNEXES**

## Annex 1: Minutes of public participation meeting.

## MINUTES OF ELGEYO MARAKWET POTATO COOPERATIVE SOCIETY DURING PUBLIC ENGAGEMENT ON THE CONSTRUCTION OF A POTATO STORE – $14^{TH}$ APRIL, 2021

#### Present

Name	Position	Contact
David Kibuigut	Assistant Chief	0721945193
Samuel Tuitoek	Member	0721215138
Stanley Barsulai	Member	0721228051
Isaac Kangogo		0723257567
Jonathan Tuitoek	Chairman	0721108252
Margaret Kibiego	Neighbor	0715460039
Haron Kosgei		0708341988
Christopher Ruto	Lead expert	0727489471
Agui Tanui	Expert	0724763181

#### Min 1: Opening remarks

The meeting was called to order by the assistant chief at around 10.10 am. The assistant chief, who was standing in for the area chief welcomed Jonathan Tuitoek to open the meeting with a word of prayer and later welcomed all the members to the meeting and more so to the site of the proposed project.

He informed the members that the proposed project is long overdue because it will assist potato farmers realize higher incomes.

#### Min 2: Land ownership

The assistant chief informed the members that the proposed site is a public land and that they have authorized the Cooperative Society to use the land. He indicated that the said parcel has not been fenced off.

#### Min 3: Possible impacts of the proposed project

The lead expert took the members through the objective of the visit and requested them to list environmental and social concerns of the proposed project. Environmental issues raised included obstruction of the road by heavy trucks, soil erosion, soil compaction and noise.

Positive impacts included employment opportunities, increased income at the farm level, stimulation of other businesses within the area such as M-pesa outlets and retail shops. The members and the neighbors will also benefit a lot from capacity building sessions within the potato storage and the farms neighboring the facility.

Social issues included discrimination of women in using the facility, increased incidences of diseases including COVID-19

The members requested the chief to inform the KPLC to transfer an electricity post that was blocking the gate leading to the facility.

The members also pointed out the need to fence off the proposed site with a chain link.

#### Min 4: Closing remarks

The assistant chief thanked the members for turning up to represent the larger group. He advised the lend expert to move fast for the benefit of potato farmers. There being no other business, the meeting was adjourned at 12.30 pm with a word of prayer from Agui.

. . . .

The assistant chief thanked the members for turning up to represent the larger group. He advised the lead expert to move fast for the benefit of potato farmers. There being no other business, the meeting was adjourned at 12.30 pm with a word of prayer from Agui. Minutes prepared by AGUI TANU)
Sign:

## **Annex 2: Permission to utilize portion of County Government Land**



### COUNTY GOVERNMENT OF ELGEYO MARAKWET. DEPARTMENT OF WATER, LANDS, ENVIRONMENT AND CLIMATE CHANGE

Email:infor@elgeyomarakwet.co.ke Web:www.elgeyomarakwetcounty.go.ke

P. O. Box 220 -030700 ITEN-KENYA

Our Ref: EMC/LWPP/CECM/VOL.2(098)

27th Sept, 2021

Agriculture and Irrigation P.O BOX 220-30700 ITEN

RE: PERMISSION TO UTILIZE PORTION OF COUNTY GOVERNMENT LAND

The above matter refers;

The county government has no objection to the utilization of parcel of land, MOSOP/NYARU/258, for the purpose indicated in your letter, Ref: EMC/AAGRIC/CO/OTHER DEPT/31/VOL.J/33 dated 4th June,2021.

You are allowed to undertake the said works in this land where the cooperative will utilize the facility for their activities while the land ownership status stands.

For further assistance going forward, kindly liase with the department. Attached is a copy of the search.

Regards,

Dear Sir.

ELGBYO MARAK

ABRAHAM BARROSIO

CECM-LANDS, WATER, ENVIRONMENT AND CLIMATE CHANGE

- > Chief Officer Agriculture and Irrigation
- > Chief Officer Lands, Water, Environment and Climate Change

OUNTY

· 5.16

- > National Land Commission
- > County Development Control Committee

	Map sheet (1.84(3))
	REPUBLIC OF KENYA
	THE LAND REGISTRATION ACT
THE LA	AND REGISTRATION (GENERAL) REGULATIONS, 2017
	TITLENO MOSOF NYARU 258
	SEARCH NO. 29 9 2021.
egister of the above-	
Part A — Property	Section (easements, etc.) RESERVED FOR KAPCHEBELEL AGRICUTURAL HOUSE " ABSOLUTE
Approximate area	0.06 HA (ZERO DECEMBL ZERO SIX HA)
Part B — Proprietor	
and address of	proprietor 6.9.68 SIRIKWA COUNTY COUNCIL
Inhibitions, cautions	and restrictions NIL
	ances Section (leases, charges, etc.)
	- NIL
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**Annex 4: Attendance List** 

	PUBLIC P	PARTICIPATION
ELGEYO MARAKWET	POTATO FARMENS	COOPERATIVE SOCIETY
	Attendant List	
		MONTH APRIL DATE 14/2021
Stendy Barrila Jevelory		23675397 0721226051
GARREL THATEL MEMBER	THOSE SWE M.	2655 9019 0711 752559 EAZ
Jackson K. Madai member Michael Barsasso member	Timone SHG M	244288 0722-823797 Juny 24392330 0728340663 4500 3146685 0727 641094 Whim
Sac Bargoria Member	Keyo Fam M.	12633169 0722927511
Edwin Keech Member	Keine Farm M Juliu from IVI Throng the N	3866789 0114761766
STEPPEN KIPYETO Member	Thone GARSHG M	27603163 0729 400631 40
Home beater majer	Type no Tout M	32521252 0725 JE 741 Htm

13 2021  0721288951  0721288951  0721288951  0521288951  111 152551  111 152551  112 11358  112 11358  113 12108  114 152551
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## **Annex 5: Copy of Expert Practicing License.**

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/15135

Application Reference No:

NEMA/EIA/EL/20075

M/S CHRISTOPHER KIPTANUI RUTO

(individual or firm) of address

P.O. Box 111, KAPSOWAR

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) Lead Expert registration number 6116

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

Issued Date: 5/24/2021 Expiry Date: 12/31/2021

Signature....

(Seal)
Director General
The National Environment Management
Authority

P.T.O.

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SUMMARY PROJECT REPORT FOR A PROPOSED POTATOES COOL STORE  Assessment and Audit) Regulations, 2003 stipulate that before the construction and development that is likely to have impacts on the environmental Impact Assessment (FIA) study must be carried out and an EIA report stantional Environment Management Authority (NEMA) for review and successful to give your comments on the proposed project; your comments we obtain an informed position to either approve or not approve the proposed development of the EIA's process.  [AME:	onmen action ment, submitt abseque	an ted ent
requested to give your comments on the proposed project; your comments we be in an informed position to either approve or not approve the proposed developments.		
TO MILE IN THE PROPERTY OF A TOP OF THE PROPERTY OF THE PROPER	Clopin	ent
ow will you/neighbors benefit from the Proposed Project?	2151	3
The state of the s	yes	no
ility will Create employment	1	
re will be an increased circulation of money within the area	V	
facility will stimulate growth of other businesses such as transport	1	
job transfer of skills	1	
	/	
ighborhood and the environment? (if yes, kindly list them below)		
ative impacts	yes	1
facility is likely to cause soil erosion/Soil contamination	1	1
project will generate a lot of waste	V	-
e is a likelihood of accidents occurring during construction and operation	1	
ible production of detrimental dust		1
	1	7
	cility will Create employment ere will be an increased circulation of money within the area e facility will stimulate growth of other businesses such as transport job transfer of skills e project will raise the value of land around the area	cility will Create employment  ere will be an increased circulation of money within the area  e facility will stimulate growth of other businesses such as transport  job transfer of skills  e project will raise the value of land around the area  to you think the proposed project will pose any negative impacts on you/your  eighborhood and the environment? (if yes, kindly list them below)  that it is likely to cause soil erosion/Soil contamination  project will generate a lot of waste  re is a likelihood of accidents occurring during construction and operation  iible production of detrimental dust  iible production of excessive noise

Annex 7. List of stakeholders consulted.

	Relevance
1. Project Management Committee	To give input on the proposed project& ownership of ESMMP for implementation.
2. Community/Project beneficiaries	To give views on environmental& social impacts the project & ownership during ESMMP implementation.
3. Department of Agriculture & Irrigation.	To give views on the project & okay land for the Co-operative through CEC lands.
4. Local administration (chiefs &ward leadership)	To give views and ownership.
5. NEMA office	To advise on the type ESS instrument and okay the SPR report.
6.KCSAP-CPCU Elgeyo Marakwet County.	To review the ESIA SPR and support the project
7.Department of Livestock, Fisheries & Co-Operatives	To give views and support the Producer Organization
8.Department of Lands, water and climate change	To give views and letter to the co- operative to utilize the land under Agriculture& I

## Annex 8. Screening checklist.

	f County	
F	LAND-	MAFAKWET BEN KLESP
Name o	f CPCU/Mor	intoring Officer/Researcher BEN KIROR  NATHER THE CONT. IN. KAPSONAR TOO ARE STAY (ASS. SAIL)
Sub-pro	ject location.	itoring Officer/Researcher BEN KAPSOVAR (IN SOU)  KAPSI ENNI K. KAPSOVAR POTATO MARVETHY (IN SOU)  11001. ELLIED MATHEMATICAL POTATO MARVETHY (IN SOU)  195, 30705, ITEM
Name o	f CBO/Institt	ntionECULER
Contact	Person.	WALAH K. TUTTE KCell phone: 672 168252
Sup-pro	ect name	1 - Dela direction
	in allow of	land area available for the sub-project.
Objective	es of the sub	project linkage among farmers.
1. 76	increas	e market unkage annung
		a. Chinald A.
2.1	Q. Incelay	undertaken IN ATLA ASLANDO. O. PORTO. COOLING STOPE
How was	s the sub-pro	ect chosen? KIBLIC PARILCIPATION duration: 50 160 ps. 4 algore.
Expected	sub project	duration:
Section	B: Environm	Will the sub-project:
YES	NO.	Create a risk of increased soil erosion?
	100/	Create a risk of increased deforestation?
		Create a risk of increasing any other soil degradation
	4	To the state of th
	10	Affect soil salinity and alkalinity?
	10/	to the resource from its natural course/location?
		Cause pollution of aquatic ecosystems by sedimentation and agro-
	0	chemicals, oil spillage, effluents, etc.:
-	D/	Letter duce exotic plants or animals?
	1	a design of wetlands or other permanently flooded areas:
	-	Cause poor water drainage and increase the risk of water-related
	V	1 mark on employing
		Polyage the quantity of water for the downstream users?
	-	Result in the lowering of groundwater level or depletion of
]	0	10
	0	Create waste that could adversely affect local soils, vegetation, rivers
1	0	and streams or groundwater?
-	D	Reduce various types of livestock production?
		Affect any watershed?
1		Focus on biomass/bio-fuel energy generation?

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

ES	NO.	o-economic Issues Will the sub-project:
3	0	Displace people from their current settlement?
	D/	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?
1-1-		In any incorporate due to introduction of the project?
	3	Increase exposure of the community to communicable diseases such as HIV/AIDS?
0,	G/	Induce conflict?
0		Have machinery and/or equipment installed for value addition?
V	10	Introduce new practices and habits?
	0	Lead to child delinquency (school drop-outs, child abuse, child labour, etc.?
	0	Lead to gender disparity?
	d	Load to poor digts?
	0	Lead to social evils (drug abuse, excessive alcohol consumption, crime, etc.)?
Section	,	Will the sub-project:  Be located within or near environmentally sensitive areas (e.g. intact natural
	V	a supplied of threatened species
	Ø	Adversely affect environmentally sensitive areas or critical habitats – wetlands, woodlots, natural forests, rivers, protected areas including national parks, reserves or local sanctuaries, etc.)?
	Ø,	Affect the indigenous biodiversity (flora and fauna)?
	d	Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly?
	0	Affact the aesthetic quality of the landscape?
	d	Reduce people's access to the pasture, water, public services or other resources that they depend on?
	0	Increase human-wildlife conflicts?
	0	Use irrigation system in its implementation?.
NB:	cation	Pesticides and Agriculture Chemicals  Will the sub-project:
	V	Involve the use of pesticides or other agricultural chemicals, or increase existing
	82	
	0	Cause contamination of watercourses by chemicals and pesticides?
-	0	Cause contamination of soil by agrochemicals and pesticides?
	10	Experience effluent and/or emissions discharge?
0/		Export produce? Involve annual inspections of the producers and unannounc inspections?

2	10	Require scheduled chemical applications?
		Require chemical application even to areas distant away from the focus?
	100	Require chemical application to be done by vulnerable group (pregnant mothers, chemically allergic persons, elderly, etc.)?

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

	1	Are there:
	D	People who meet requirements for OP 4.10 living within the boundaries of, or near the project?
V	0,	Members of these VMGs in the area who could benefit from the project?
	N	VMGs livelihoods to be affected by the sub project?

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

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

ction H: Proposed action

(ii) Guidance					oove:		211-012
If all the above answers are 'No', there is no need for	All	the	ab	ove	answers	are	'No'
further  If there is at least one 'Yes', please describe your recommended course of action (see below).	Th	ere	is	at	least	one	'Yes'

(iii) Recommended Course of Action
 If there is at least one 'Yes', which course of action do you recommend?
 □ CPCU¹ and CDE will provide detailed guidance on mitigation measures as outlined in the

SMF; and COUNTY ORECTOR OF ENVIRONMENTS  Specific admice is required from CDE  pecific EIA(s) and also in the following area(s)  1 (S C C C C C C C C C C C C C C C C C C	the h
type here] Tregueres Jumps Tours where	list. The
KCSA-CPOU and CDE WHITE THE	
and a seals will then be submitted to KCSAP NPCU for clearance for implement	tation by
Expert Advice	
☐ The National Government through the Department of Monuments and Sites of the Museums of Kenya can assist in identifying and, mapping of monuments and archaesites; and	
□ Sub-project specific EIAs, if recommended, must be carried out by experts registe NEMA and be followed by monitoring and review. During the process of conducting an proponent shall seek views of persons who may be affected by the sub-project. The W set out in OP 4.01 requires consultation of sub-project affected groups and disclosure conclusions. In seeking views of the public after the approval of the sub-project, the pushall avail the draft EIA report at a public place accessible to project-affected groups a	B policy of EIA's roponent
NGOs/CSOs.	
NGOs/CSOs.  Completed by: [type here]  ELGEYO MARAKWET POTATO MARKETING CO OPERATIVE SOCIETY EMPMCS	
NGOs/CSOs.  Completed by: [type here]  Name: [type here] TOHAMAR ATH W. TOTOEK DIRECTOR	
NGOs/CSOs.  Completed by: [type here]  Name: [type here]   CHAIR MARK   P. O 295 30700,   TEN	
NGOs/CSOs.  Completed by: [type here]  Name: [type here]	
NGOs/CSOs.  Completed by: [type here]  Name: [type here]   CHAIR MARK   P. O 295 30700,   TEN	
NGOs/CSOs.  Completed by: [type here]  Name: [type here]	
NGOs/CSOs.  Completed by: [type here]  Name: [type here]	Project
NGOs/CSOs.  Completed by: [type here]  Name: [type here]	Project categor
NGOs/CSOs.  Completed by: [type here]  Name: [type here]	Project categor A

Annex 9. Drawing & Design for the potato store.

