



Republic of Kenya



COUNTY GOVERNMENT OF KERICHO



Kenya Climate Smart
Agriculture Project

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY PROJECT
REPORT
FOR
THE PROPOSED CHEPLANGET TISSUE CULTURE BANANA SEEDLING
HARDENING NURSERY AND WATER SUPPLY PROJECT
ON
PLOT L.R NO. KERICHO/KAPKATET/550 IN BUTIIK VILLAGE, BUTIIK SUB
LOCATION, CHEPLANGET LOCATION, CHEPLANGET WARD, BURETI SUB-COUNTY,
KERICHO COUNTY**

GPS LOCATION: LATITUDE -0.657145, LONGITUDE 35.102430



PROJECT PROPONENT

CHEPLANGET BANANA FARMERS DEVELOPMENT GROUP

PROJECT SPONSOR

**GOVERNMENT OF KENYA/COUNTY GOVERNMENT OF KERICHO
KENYA CLIMATE SMART AGRICULTURE PROJECT (KCSAP)
WITH SUPPORT FROM THE WORLD BANK**



MAY, 2022

CERTIFICATION
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY PROJECT
REPORT

This Summery Project Report (SPR) for the proposed establishment of the proposed Cheplanget Tissue Culture Banana Hardening Seedling Nursery and Water Supply Project on Plot *L.R No. Kericho/Kapkatet/550* in Butiik Village, Butiik Sub location, Cheplanget Location, Cheplanget Ward, Bureti Sub County, Kericho County has been prepared in accordance with NEMA regulations under the guidance and supervision of a registered NEMA Lead Expert. It meets statutory provisions stipulated in EMCA CAP 387, the Legal Notice No. 32, the NEMA public notice 31 on processing of EIA report of 12th March 2020 and the Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2019. World Bank KCSAP triggered Environmental and Social Safeguard policies. I hereby certify that the details herein are correct and true to the best of my knowledge.

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Kericho

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ABBREVIATIONS AND ACRONYMS

CIDP	County Integrated Development Plan
COC	Code of Conduct
CSA	Climate Smart Agriculture
COVID-19	Coronavirus Disease 2019
CPCU	County Project Coordination Unit
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EMCA	Environmental Management and Coordination Act, CAP 387
GBV	Gender Based Violence
GRM	Grievance Redress Mechanism
IEC	Information, Education and Communication
KCSAP	Kenya Climate Smart Agricultural Project
NPCU	National Project Coordination Unit
NEMA	National Environmental Management Authority
PMC	Project Management Committee
SPR	Summary Project Report
SEA	Sexual Exploitation and Abuse
VMGs	Vulnerable and Marginalized Groups

EXECUTIVE SUMMARY

The proposed Cheplanget Tissue Culture Hardening Seedlings Nursery and Water Supply System Project on Plot No Plot **L.R No. Kericho/Kapkatet/550** at GPS Coordinates: *Latitude - 0.657145, Longitude 35.102430* in Butiik Village is an initiative of Cheplanget banana farmers spearheaded by Mwangaza Self Help Group. The purpose of the project is to supply clean planting materials to the banana farmers in the project area and the entire Bureti Sub County and the entire County at an affordable cost. The project is funded by the World Bank Group through the County Government of Kericho. The proposed project is relevant to the KCSAP triple wins because of its overall contribution to productivity and income, resilience to climate change through adaptive banana varieties and reduction of greenhouse gases achieved through carbon sequestration by increasing vegetation cover through established banana plantation. The main components of the proposed project include a tissue culture banana-hardening nursery of capacity 60,000 seedlings and water supply system at an estimated cost of **Ksh. 17,748,786**

This Environmental and Social Impact Assessment summary project report is based on the recommendation of the County Director of Environment (CDE) following the environmental and social safeguards screening report. The Summary Project Report (SPR) process was conducted in accordance with the Environmental Management and Coordination Act (EMCA) of 1999(Revised 2015), NEMA public notice 31 on processing of EIA reports of 12th March 2020 and the World Bank Environmental and Social Safeguard Policies. The purpose of this SPR was to identify potential environmental and social impacts and propose appropriate mitigation measures for the negative impacts and make recommendations to National Environmental Management Authority (NEMA) for approval.

The ESIA methodology included environment screening to identify the required instrument, environmental scoping that provided the key environmental issues. desktop studies to review the existing literature on related projects, relevant legal and policy framework and secondary information on the project area, site assessment to collect relevant primary information, public participation and stakeholder consultation to collect the view/concerns of the beneficiary community and stakeholders and reporting the findings in form of a summary project report.

Public participation involved two (2) public participation meetings and one (1) focus group discussion. Additional information was collected using key informant interviews and structured questionnaires during the public participation meetings. A total of 20 respondents were interviewed. The meetings were held on the 8th February 2022 and 1st March 2022 where 51 people (35 male, 16Female) participated. The meetings were held in full compliance to the Covid-19 guidelines of social distancing, sanitizing and wearing of facemasks. The major concern/issues during the public participation included employment opportunities, source of soil media for potting, management of the project and increased water demand. Some of the proposed responses to the issues /concerns included increasing the ratio of non-soil media in the potting media, establishing a project management committee with representatives from the banana groups in Cheplanget, installing an efficient irrigation system in the nursery and giving priority to locals when hiring workers during construction.

The major anticipated negative impacts included loss of vegetation, vibration and noise, generation of solid waste, worker's injuries and accidents, soil degradation, microbial contamination of water and tools, risk of introduction of pests, diseases and pathogens in production areas, gender based violence and risk of spread of COVID-19. The proposed mitigation measures as outlined in the ESMP in chapter 6 of this ESIA summary project report

Based on the environmental and social assessment, the proposed project will not result to significant, cumulative, or irreversible negative impacts as all the anticipated impacts shall be mitigated through the ESMMP. The experts therefore recommend the project for approval by the National Environment Management Authority (NEMA) subject to annual environmental audits after operating for one year. The proponent should share the ESMMP with the selected Contractor for implementation. The County Project Coordination Unit (CPCU) through County Environment and Social Safeguard Officer (CESSCO) in consultation with other relevant stakeholders shall monitor of the implementation of the ESMP to ensure full compliance by responsible persons and institutions.

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Banana is one of the crops targeted by the County to address food insecurity among smallholder farming communities. It performs well in areas with low and variable rainfall; and responds quickly to supplemental water application and irrigation. It is predominantly grown by smallholder farmers with current cropped area of about 494.1 ha (1,235 acres) yielding average total production of approximately 8,718 metric tons per annum. The estimated area under banana in the project catchment area is 50 acres with each farmer having at least 30 stools. The dominant variety in the area in Ngombe, Nusu Ngombe, Fia 17 and Grandnaine varieties. The estimated production per year is 350 tons. There is a great potential for expansion given the very conducive climatic condition and land in the project area.

The proposed project was prioritized in the Kericho CIDP 2018-2022 under the department of Agriculture, Livestock and Fisheries and proposed by Cheplanget Banana Farmers Development Group spearheaded by Mwangaza Self Help Group. The project is sited on a public land (1.0 acres) close to an existing water pan in Butiik village, Butiik Sub Location, Cheplanget Location. The site is preferred because of the availability of regular water supply which is a key requirement for nursery establishment. The nursery would enable supply of clean planting materials to the banana farmers in the project area and the entire Bureti Sub County as well as the neighbouring Sub Counties and the entire County at an affordable cost. This would help enhance productivity and the net returns for the farmers. The estimated number of direct beneficiaries are 900 banana farmers with 2500 farmers expected to benefit from the project indirectly. The project is supported by Kenya Climate Smart Agriculture (KCSAP) through funding from the World Bank and the County Government of Kericho

1.2 Justification of the Project

The proposed contributes to the KCSAP triple wins as it would result to increase banana productivity, production and marketing through increased availability clean tissue culture banana seedlings; resilience to climate change is expected through adaptive banana varieties and reduction in GHGs is expected to be achieved through carbon sequestration by increasing vegetation cover through established banana plantations.

The main considerations for supporting the implementation of this initiative include: -

- There is already high potential for expansion in the project catchment area hence the establishment of local TC nursery will avail the needed planting material
- There is high demand for clean high yielding multipurpose (cooking and ripening) banana varieties because of the increased awareness on the benefits of banana production in ensuring food security and increased incomes
- The cost of production will significantly be reduced since farmers will acquire clean seedlings at a reduced price from the nursery
- There will be enhanced productivity of banana because farmers will plant high yielding banana varieties from the nursery.
- Environmental conservation due to increased vegetative cover by the banana crop
- There will be reduced incidences of pest and diseases because farmers will plant clean banana seedlings free from any contamination

- Reliable source of water supply from Butiik Water Pan

1.3 Summary Project Report (SPR)

The County Project Coordination Unit (CPCU), Kenya Climate Smart Agriculture Kericho (KCSAP) engaged a team of ESIA expert to undertake the Environmental Impact Assessment (ESIA) Summary Project Report (SPR) as per the recommendations of the County Director of Environment (CDE), Kericho County based on the environmental and social safeguards screening report as provided for in the environmental and social management framework (ESMF). This Environmental Impact Assessment (ESIA) Summary Project Report for the project in accordance with the new regulation 7 (Environmental (Impact Assessment and Audit) regulations, 2003, vide legal notice of 2019) which provides for preparation and submission of Summary Project reports for low or medium risk projects (as classified under legal notice 31 of April 2019) and prepare an Environmental and Social Management Plan (ESMP). The Environmental Impact Assessment (EIA) Summary Project Report (SPR) for the proposed establishment and construction of Seretut hatchery was conducted in accordance with the requirements of the Environmental Management and Coordination Act, 1999 (Revised 2015) and the Environmental (Impact Assessment and Audit regulation 2003), Revised 2019 and incorporating the **World Bank Safeguard Policy 4.01 on Environmental Assessment**. The resulting report is submitted to NEMA for approval

1.4 The Objectives of EIA (SPR)

The objectives of the Environmental and Social Assessment (SPR) included

- To describe the nature of the proposed Project site including the layout, design and planned activities
- To conduct a comprehensive public participation and document the outcome for the proposed Hay Project
- To identify and analyze the potential environmental and social impact of all the project cycle phases (planning, construction, operations and decommissioning)
- To propose mitigation measures for the identified environmental and social impacts for all the project lifecycle
- To prepare Environmental and Social Management and Monitoring Plan (ESMMP) for the entire project lifecycle based on study
- To make recommendations based on the findings of the ESIA(SPR)

1.5 The EIA (SPR) Approach and Methodology

The process of the EIA (SPR) study included

- **Environmental and social screening:** This was conducted using ESS screening checklist for Sub Projects as provided for in the ESMF to determine required ESIA instruments.
- **Desktop study to review the nature of proposed project activities:** This involved documentary review of the nature of the proposed activities as well as the environmental setting of the project among others. Secondary sources of information scanned included project appraisal report, engineering design report, and policy and legislative framework documents and literature on similar projects.
- **Field Visit:** The ESIA team conducted field visits to the proposed project site for assessment and consulted the stakeholders to obtain further information. The team established the nature of the surroundings including: existing infrastructure, economic and social set up of the local

communities whose normal daily activities will be and/or likely to be affected by the implementation of the proposed project.

- **Public participation/stakeholders consultation** to gain their input on the proposed project from the beneficiary community and relevant stakeholders. The methods used included two (2) public meetings and one (1) focused group discussion. Data was also collected using structured questionnaires from 15 stakeholders

1.6 Organization of the ESIA (SPR)

This ESIA summary project report is divided into seven (7) chapters as follows: Chapter one present the introductory chapter, Chapter 2 gives nature of the project, Chapter 3 gives a description of the location of the project, chapter 4 presents the outcome of the public consultation and participation process, Chapter 5 identifies and discusses the anticipated impacts and mitigation measures of the project , Chapter 6 presents the environmental and social management and monitoring plan (ESMMP). Chapter 7 gives conclusions and recommendation followed by references and Appendices.

CHAPTER TWO

NATURE OF THE PROJECT

2.1 Introduction

This chapter gives details of the project site, proposed works, planned activities and expected outputs for the proposed establishment of *Cheplanget Tissue Culture Banana Hardening Seedling Nursery and Water Supply System Project*.

2.2 Project Design

The design of the proposed project will comprise of Banana hardening structures, office structure, septic tank system, elevated water tower, washrooms, rehabilitation of the existing water pans and fencing

2.3 Project Activities

2.3.1 Planning Phase

- (a) **Site handing over to the contractor:** This will entail a meeting at the proposed project site to introduce the contractor to the community and handing over the site to begin works.
- (b) **Mobilization of equipment and materials:** This will entail transporting the various equipment and material to be used during construction to the site.

2.3.2 Construction Phase

- (a) **Setting Out:** This will include laying out the various components as per the site layout plan supervised by the engineer
- (b) **Site clearance:** This will entail clearing the site of trees, grass, shrubs and all the vegetation, including grubbing up roots cart away risings as directed by the supervising engineer.
- (c) **Ground levelling:** This will involve levelling the whole of the nurse bed and where the structures will be laid as directed by the site engineer
- (d) **Construction of Nursery Shades:** This will entail construction of a galvanized flat net shade of dimensions 27000mm x 26000mm (Shade A), 42000mm x 26000mm (Shade B) and 55000mm x 21000mm (Shade C)
- (e) **Supply and installation of two containers:** This will entail preparation of column stands of 500mm and supply and installation of two containers of dimensions 20feet for the office and 40 feet for the store.
- (f) **Rehabilitation of the water pans:** This will involve water pan desilting, repair of embankment and construction of draw off system
- (g) **Construction of Sump Well:** This will entail sinking a well of approximately 18 feet and constructing the walls.
- (h) **Installation of water pipeline:** This will entail installation of the rising main and distribution pipelines.
- (i) **Installation of solar system:** This will entail supply of complete submersible Solar power driven pump with all necessary accessories including a battery pack capable of delivering 6.8m³/hr of water against a total head of 22m; installation, testing and commissioning.
- (j) **Construction of elevated water tank:** This entails construction of 20m³ Elevated Water Tank Tower Complete with two 10m³ Upvc Plastic Tanks

(k) Construction of septic tank: This will entail excavation and construction of a septic tank of capacity 36m³

(l) Construction of washrooms

(m)Fencing works: This entails excavation for fencing post bases and installation of reinforced concrete post with a lockable gate

2.3.3 Operation and Maintenance Phase

(a) Potting: This will entail filling substrate of soil or a mixture of soil and sand into the potting bags

(b) Procurement of plantlets: This will entail purchasing plantlet from certified nurseries like JKUAT

(c) Hardening of plantlets: This will entail watering of the plantlets, fertility management, pest and disease management.

(d) Marketing of Seedlings: Selling the seedlings to the farmers within the project catchment area, Kericho County and its environs

2.3 Materials and Equipment

2.3.1 Materials

The material includes galvanized steel, shade nets, concrete post, barbed wire, chain links, irrigation pipes, cement and ballast, reinforcement bars, polythene, solar panels, submersible pumps, UPVC plastic tank and plumbing fittings.

2.3.2 Equipment

The equipment include excavator, concrete mixer, vibrator and lorries for transportation of materials

2.5 Project Cost

The total project cost excluding the cost of implementing the ESMP is ***Ksh. 17,748,786***

CHAPTER THREE

THE LOCATION OF THE PROJECT

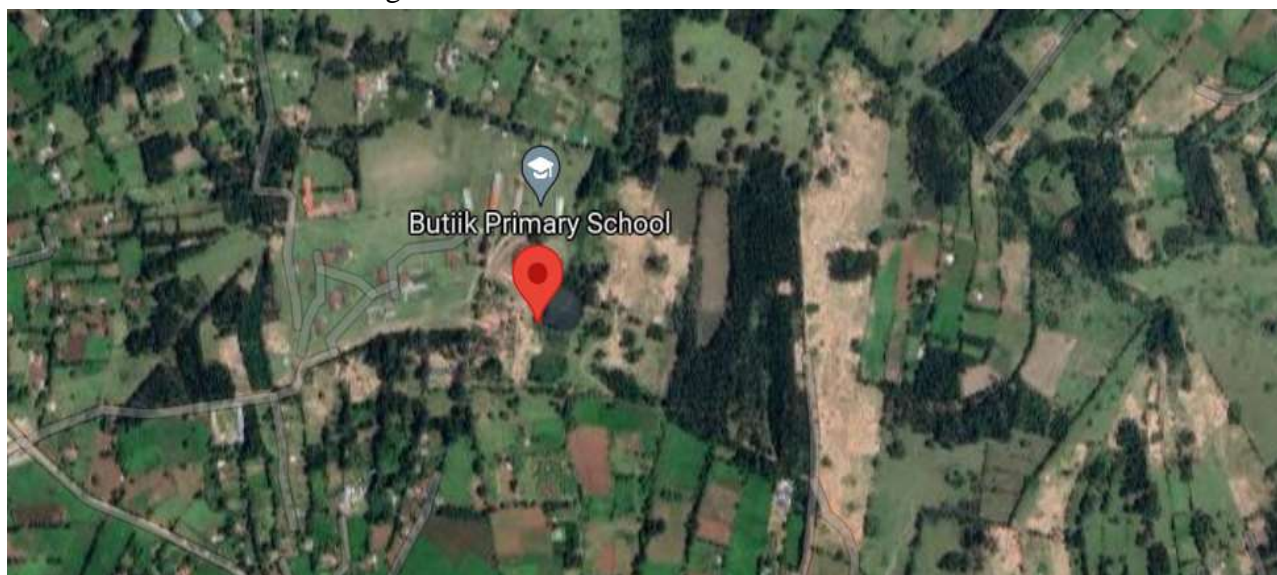
3.1 Introduction

This chapter presents project location, land ownership, conformity to land use plan and supportive environmental management infrastructure.

3.2 Project Location and Description

3.2.1 Project Location

The proposed project is located in Butiik Village, Butiik Sub location, Cheplanget Location, Cheplanget Ward, Bureti Sub County, Kericho County at GPS Coordinates: *Latitude -0.657145, Longitude 35.102430*. The project is adjacent to the Butiik shopping center, 200m from Jerons academy, 500m from Butiik Primary School Sign Board and 1.5km from Butiik Secondary School Sign Board. The site is easily accessible from Sotik Town or Cheborge market center through a 4km murram road off Cheborge Sotik Tamac Road



Source: Google Map, 21/2/2022

3.2.2 Land Ownership

The proposed project land plot *L.R No. Kericho/Kapkatet/550* is a public land of about 1 acres. Requisite approval for has been sought by the project management committee from the County Government of Kericho to allocate the land for the proposed Cheplanget TC Banana Hardening Nursery and Water Supply Project (Annex 2)

3.2.3 Water resources

The main source of water for domestic use in the project area is roof rain water harvesting. Most household have plastic tanks of capacities between 500litres and 5000litres. The other sources of water include Cheleche Spring, Kondamet Spring. Lelach Spring and Chepchabayiet Springs located 1 km from the project site. During dry periods, resident source water from a borehole at Baptist Church located about 600 meters from the project site. The main source of water for the proposed Cheplanget TC banana-hardening nursery and Water Supply Project is Kondamet Spring which pours its water to an adjacent water pan at the project site land.

3.2.4 Climate

The climatic condition in the proposed project is generally rainy with an average annual rainfall of 1500mm-1900mm per annum. The temperature within the project area ranges from 16⁰ C during the rainy season and 20⁰ C during the dry period. This climatic condition supports a wide range of agricultural enterprises including dairy, banana, maize, Irish potatoes and leafy vegetables

3.2.5 Agro Ecological Zone

The project area lies in the Upper Highland (UH) Lower Highland (LH 1-2) referred to *Tea/Dairying/Maize* zone.

3.2.6 Topography and Altitude

The project site is generally on a flat. The area is therefore prone to water logging because of poor drainage. The altitude of the area is between 1800m -2400m above the sea level.

3.2.7 Soil and Geology

The area surrounding the project area is characterized by clay to loam soils. The soil is moderately drained with low fertility and sensitive to water logging.

3.3 Conformity to Land Use Plan and Zonation Plan

The main land tenure system in the sub project area freehold tenure governed by the Land Registration Act of 2012 and is mainly utilized for farming. The ownership of land in the project area is mainly private ownership with 30% of the land owned by the public in the administration of the County Government of Kericho. The land where the project is located is a public land (Annex 2). The area where the project is located is predominantly known as dairy/tea/maize zone. The residents within the project catchment also uses the land for banana, Irish potatoes, butter nuts, pumpkins and all leafy vegetables. Land is also used for pasture production for the dairy animals as well as brick making in some areas within the project catchment. The project site land is designated agricultural land and therefore conforms to the land use plan

3.4 Supportive Environmental Management Infrastructure

The most dominant waste disposal method in the area is burning in the, burning in a pit, burying in deep pits and dumping in pit latrines. Most dairy farmer's uses animal waste as farm yard manure. Similarly, most households has a pit latrine for management of human waste. The project area has a relatively good road network regularly maintained by the County government of Kericho. The area is served by electricity and communication network hence waste from the project site can easily be transported to the designated disposal sites approved by the County Government of Kericho and NEMA. The area is served with three health facilities including Butiik Dispensary, Triita Dispensary and Chebonge Dispensary. All the facilities are within a 1km radius of the project site. These facilities can adequately handle the cases of diseases within the proposed project area as well as minor worker's injuries and/or accidents during construction.

CHAPTER FOUR

PUBLIC PARTICIPATION AND STAKEHOLDERS CONSULTATION

4.1 Introduction

The Kenyan government has enshrined the need for human societies' involvement in project development in the constitution. Public consultation with regard to the proposed development was conducted as required in the Environmental Impact Assessment and Audit Regulations of 2003 (Amendment, 2019). The law requires that community participation be part of ESIA and their issues of concern be addressed. It has also been demonstrated that projects that go through this process will acquire high level of public acceptance and accrue benefits for a wider section of the society.

4.2 Objectives

The main objectives of public consultation process were to:

- Inform all stakeholders and the community at Cheplanget of the proposed Tissue Culture Banana Hardening Nursery and Water Supply Project
- Explain to the stakeholders the nature of the proposed project, its objectives, scope, funding and any other information with regard to the proposed hatchery;
- Seek the views of the people on the proposed project
- To seek their opinions on any positive or negative impacts from the establishment of the TC banana hardening nursery and water supply project
- To find out if there are any environmental and social issues that the establishment of the proposed project.
- Obtain suggestion from community members on possible ways that they feel potential negative environmental and social impacts can be effectively mitigated.

4.3 Objectives of Public Participation and Stakeholders Consultation

The consultations aimed at informing the public about the potential impacts of the project and the mitigation measures proposed by the proponent under the advice of the ESIA experts. The consultations also acted as a forum where the public could express their concerns, expectations and communicate with the project team. Special attention was given to potentially vulnerable and marginalized groups such as women, youths and the differently abled persons.

The specific Objectives included

- Inform all stakeholders and the community of the proposed banana project
- Explain to the stakeholders the nature of the proposed project, its objectives, scope, funding and any other information with regard to the proposed project
- Seek the views of the people on the proposed project
- To seek their opinions on any positive or negative impacts from the establishment of the Cheplanget Tissue Culture Banana hardening nursery and water supply project.
- To find out if there are any environmental and social issues that the establishment of the proposed project.
- Obtain suggestion from community members on possible ways that they feel potential negative environmental and social impacts can be effectively mitigated

4.4 Categorization of Community Participants and stakeholders

The main participants included members of the community affiliated to the banana groups in Cheplanget Ward. The other participants and stakeholders included Agricultural officers, village elder, area assistant chief and Horticultural Crops Development Officer at the county, executive Committees of the banana groups in Cheplanget Ward. Detailed list of participants and stakeholder identified in Annex 5 and 6.

4.5 Methodology of Public Participation and Stakeholder Consultation

Public participation process involves public participation meetings, focused group discussion and key informant interviews. Data was also collected using structures questionnaires. The forums were held on the 8th February 2022 and 1st March 2022 where 51 people (35male, 16female) participated. *Covid-19 guidelines were followed during the whole exercise through proper social distancing, sanitizing and wearing of masks.* During the meeting participants were given opportunity to give their views on the proposed project (see minutes annex 4).

Key informant interviews were also conducted to gain an in-depth understanding about the project. Six (6) key informants were interviewed including the area assistant chief, chairperson of Mwangaza self-help group, Ward Agricultural Officer, Village elder, Sub County Agricultural officer and the County Horticultural Crops Development Officer. The views were documented and summarized below.



The experts also distributed 16 questionnaires during the public participation meeting of which 13 were duly filled and returned. The questionnaires were later analyzed and issues raised incorporated in identification of impacts in chapter 5 of this ESIA (SPR). The sample administered questionnaires including all the questions asked are included in this report as *annex 6*

4.6 Summary of Issues Raised by Community and Stakeholders and Responses

The concerns raised during the public participation and stakeholders included

- a) Reliable source of clean plantlets: After deliberations the management committee was advised to source seedlings from Jomo Kenyatta University of Agriculture and Technology

(JKUAT) nursery and if opting for any other source consult the officers from the department of agriculture.

- b) **Nursery management skills:** The agricultural officer committed to train the project management team in collaboration with Horticulture Crops Development (HCD), Kenya Agricultural and Livestock Research Organization (KALRO) and Kenya Plants Health Inspectorate Services (KEPHIS).
- c) **Source of soil media for the nursery:** It was agreed that the major source of soil media shall be top garden soil. It was recommended that the digging of top soil shall be shallow to allow regeneration. It was also recommended that the ratio of non-soil media like shall be increased to minimize degradation due to removal of garden soil.
- d) **Employment Opportunities:** It was agreed that the locals shall be given priority in employment during construction phase and that only specialized skills shall be sourced. It was further agreed that the youth , women and differently abled persons shall be given first priority in employment
- e) **Increased water demand:** It was agreed that efficient water techniques shall be used in the nursery to minimize wastage. It was recommended that the same should be included in the design.
- f) **Management of the project:** It was felt that conflict could arise during the operation and maintain ace if clear management structures were not put in place. It was agreed that a representative project management committee be established having representation from banana groups within the project catchment area.
- g) **Market demanded banana varieties:** Farmers raised issued on the varieties to be purchased and hardened in the nursery. It was agreed that before making the initial order for the plantlets, a meeting shall be held between banana farmers, the project management committee and agriculture officers to map out the market demanded varieties.

CHAPTER FIVE

ANTICIPATED IMPACTS AND MITIGATION MEASURES

5.1 Introduction

The proposed project is expected to have positive impacts. However during the implementation unintended impacts may occur. This chapter presents the anticipated impacts and mitigation measures for the negative impacts

5.1 Positive Impacts

a) Job opportunities

The proposed Cheplanget project will provide short term employment opportunities for both skilled and unskilled workers to the local community. The opportunities will arise from the nursery establishment and the water supply system. The income earned will be used to improve livelihood.

b) New business opportunity for the local community

There will be an opportunity for women supplying foodstuff to workers on site during construction. Construction items will also be purchased from the local hardware's and stores. Similarly, market will be created for local transporters who will get the opportunity to ferry construction materials to the site and for the vehicle fuel filling stations that will get the business opportunity to sale fuel to vehicles and for machinery attached to the construction.

5.2.2 Anticipated Negative impacts

a) Loss of vegetation

The construction of the tissue culture banana nursery will necessitate clearance of vegetation. This would result in loss of vegetation within the site. The impact however is low and specific to the site.

Proposed Mitigation Measures

- The contractor shall limit clearing of vegetation clearing to the nursery site
- Contractor to ensure that specific routes are used for vehicle haulage and by the construction workers
- Sensitization of construction workforce on environmental and ecological conservation and protection.
- The contractor will plant grass in any exposed ground after the completion and fencing of the project
- The contractor should plant trees within the site after completion of the project
- Re-vegetation of cleared areas with indigenous vegetation species

b) Vibration and Noise Emissions

The proposed project will most likely result in vibrations and noise emission as a result of machines like concrete mixers used on site during construction. Noise could impact negatively on the workers involved in the construction work. Noise can also be a nuisance to the local community near the site if works begins early in the morning to late in the night.

Proposed Mitigation Measures

- Contractor to ensure the use of well-maintained machineries and vehicles
- The contractor should limit all construction work to be limited to daytime only
- The contractor should notify in advance the immediate neighbors on the date of commencement of construction work.
- The contractor should provide all employees likely to be exposed to ear noise with ear protectors;
- Machines and vehicles engines to be shut off while not in use or in motion.

c) Generation of solid waste

Solid waste during construction of the proposed Cheplanget will include soil from desilting of water pans, papers used for packing cement, plastics, timber remains, shed net cuttings, landscape and land clearing debris, gravel and aggregate products, concrete, masonry scrap and excavated soil from the foundation. These will have an implication on dump environment.

Proposed Mitigation Measures

- The contractor should ensure that all site personnel are instructed in the proper disposal of all waste.
- The contractor should ensure that all facilities are maintained in a neat and tidy condition and the site shall be kept free of litter. Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse
- The contractor shall provide at all places of work litter bins, containers and refuse collection facilities for later disposal.
- Solid waste may be temporarily stored on site in a designated area prior to collection and disposal. Waste storage containers shall be covered, tip-proof, weatherproof and scavenger proof. The waste storage area shall be fenced off to prevent wind-blown litter.
- The Contractor shall provide metal refuse bins or equivalent plastic refuse bins, all with lids, for domestic waste. Refuse shall be collected and removed from all facilities at least twice per week.

d) Workers Accidents and Hazards during Construction

Construction workers are prone to accidents resulting from construction activities. These accidents may have acute or chronic impacts depending on nature, severity and intensity. In this regard, construction and mobilization activities of the nursery establishment as well as construction of the water supply system.

Proposed Mitigation Measures

- The Contractor to place labels and warning signs in areas posing risk of injury or accidents
- The contractor to provide all workers with full protective gear (PPEs)
- The contractor to train and provide First-aid Kit to the workers
- Contractor to prepare a contingency / emergency management and preparedness plan for accident response.
- Contractor to procure insurance for workers, machinery and third parties
- Construction worker safety shall be in accordance with contractor prepared site specific health and safety plan that identifies site specific risks, safety equipment, decontamination procedures, action plans, and hospital locations.

Should an accident occur on the site?

- The injured person should be given first aid and immediately taken to the hospital

- An investigation should be initiated immediately to ascertain the cause of the accident and preliminary findings released within 12 hours

e) Risk of increase incidences of HIV/AIDs and STIs

The new people at the site of people may bring communicable diseases to the project area specifically sexually transmitted infections (STIs), or the incoming workers may be exposed to diseases to which they have low resistance.

Proposed Mitigation Measures

- Contractor to sensitize workers and community members on HIV/AIDS Awareness other communicable diseases to be instituted and implemented as part of the Contractor’s Health and Safety Management Plan to be enforced by the Supervising Engineer.
- This will involve periodic HIV/AIDS and other communicable diseases Awareness Workshops for Contractor’s Staff.
- Controlled access to Contractor’s Workforce Camps by outsiders.
- Contractor to provide standard quality condoms at the construction site during the construction period.

f) Sexual Abuse and Exploitation by workers on site

This impact refers to sexual exploitation and abuse committed by workers on site against communities and represents a risk at all stages of the Project, especially when employees and community members are not clear about prohibitions against SEA in the Project

Proposed Mitigation Measures

- Sensitizing workers against sexual exploitation and abuse
- Ensuring controlled access to the site by only authorized persons

g) Risk of spread of COVID-19 at the work site

There is increased risk of the spread COVID-19 at the work site among the construction workers and supervision team visiting the site to monitor the progress of work.

Proposed Mitigation Measures

- Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including
- Avoid concentrating of more than 15 persons or workers at one location. Where more than one person are gathered, maintain social distancing at least 2 meters
- All workers and visitors accessing worksites every day or attending meetings shall be subjected to rapid Covid-19 screening which may include temperature check and other vital signs;
- Install handwashing facilities with adequate running water and soap, or sanitizing facilities at entrance to work sites including consultation venues and meetings and ensure they are used

5.3 Anticipated Impact during Operations and Maintenance Phase

The anticipated impacts in this phase would emanate from hardening of plantlets which involves soil excavation, soil treatment, soil mixing with organic manure, general nursery management

practices and marketing. Impacts would also emanate from the activities of the Tissue Banana hardening nursery construction and water supply system.

5.3.1 Positive Impacts

a) Job Opportunities

The proposed project will provide both short term and long employment opportunities to the local community. The people who will manage day to day operations of the tissue culture nursery would earn income from the employment which they can use to improve their livelihood

b) Increased productivity

The project is expected to increase the supply of clean and affordable banana planting materials hence reducing the incidences of pest and diseases in banana and contributing to higher productivity in the long run.

c) Increased household income

Since the proposed project would result to increased productivity of banana which will then be sold to earn income.

5.3.2 Anticipated Negative Environmental and Social Impacts

a) Risk of introduction of pest, pathogens or diseases in production areas

Pest and disease management is rare in a tissue culture banana hardening nursery if the plantlets are sourced from a certified institution, the nursery media is treated appropriately and water used if free from contamination. The occurrence of pest and diseases in the nursery will however require the use of agrochemicals.

Proposed Mitigation Measures

- The nursery management team shall source plantlets from certified institutions i.e. JKUAT
- The nursery management team shall apply good nursery management practices
- Regular scout for pest and diseases and applying control, measures on a need basis (Appendix 4)
- Place foot bath with appropriate disinfectant at the entrance of the tissue culture banana nursery
- The nursery management to ensure high standard of hygiene in the nursery and surrounding
- The nursery management should ensure safe use of agrochemicals in case there is need for application to control pests and diseases
- The nursery management shall collaborate with relevant institution like KEPHIS and HCD to ensure the health of the planting materials at all times

b) Soil and land degradation

This would result from continuous excavation of soil for use as potting media. The site where the soil is excavated would be degraded over time. Appropriate measure must be put in place to restore the land to near original state.

Proposed Mitigation Measures

- The proponent shall rehabilitate the degraded areas using organic materials including dry plant material
- The proponent should ensure shallow excavation of the garden soil to allow for regeneration over time
- The proponent shall increase the ratio of other non-soil media in the potting mixture to minimize the excavation of the garden soil.

c) Increased demand for water

The operations in the nursery requires a lot of clear water to ensure healthy plantlets. It is therefore necessary to expand the capacity of the existing water sources and introduce efficient technologies to minimize wastage.

Proposed Mitigation Measures

- Rehabilitation and protection of the existing water sources especially the water pan
- Installing tanks on site for roof rain water harvesting and storage
- Installing efficient irrigation systems i.e. drip irrigation to minimize wastage
- Recycling and re-use of water where possible

d) Risk of unsuitable or contaminated soils

There is a possibility of use of soils that is not suitable or contaminated for the soil media is not properly identified and tested before excavation and use.

Proposed Mitigation Measures

- The proponent shall ensure proper selection soil for the nursery media
- The proponent shall ensure that the soil is tested for presence of diseases
- The proponent shall ensure that the nursery media is treated before potting

e) Microbial contamination of water and tools

The young plantlets are sensitive and therefore there is a likelihood of contamination from the water used in the nursery if not tested for harmful chemicals. Similarly, the implements and tools used in the nursery operation can result in contamination of the plantlets.

Proposed Mitigation Measure

- Water for use in the nursery should be clean and free from microorganisms
- The proponent shall sterilize all implements and tools used in the nursery

f) Risk of exhaustion of water at source

Because of the increase demand for water for day to day use in the nursery, there is a possibility of exhaustion of water at the source

Proposed Mitigation Measures

- Training nursery management staff on correct application of water to minimize wastage
- Using efficient irrigation techniques like drip irrigation
- Installing master meter to monitor the volumes of water used on a day to day basis
- Catchment conservation to minimize siltation into the water sources

a) Water Quality Concerns

Sources of surface water pollution include livestock drinking water directly from the pan and the degradation of the catchment of the water pan due to deforestation. The pollution of surface water would lead to the deterioration of water quality algal blooms, proliferation of aquatic weeds and eutrophication.

Proposed Mitigation Measures

- Periodically sample water, test, treat and release

- Sensitize the community on development of alternative water sources for domestic use such as roof rainwater harvesting for households with iron roofs.
- Sensitization of farmers around the pan catchment on SLM practices
- Water troughs and community water drawing points have been provided in the design
- Apply appropriate irrigation procedures to prevent contamination-sensible use of agrochemicals to prevent deposition into rivers
- The proponent should adhere to waste discharge regulations

g) Risk of leakage of pipes

Over time the laid pipes are likely to leak if routine and proper measures are not put in place to ensure proper servicing and maintenance. This would result to reduced pumping pressure and loss of water. It also compromises the quality of the water by allowing contaminated water to leak into the piping system.

Proposed Mitigation Measures

- The supervising engineer should ensure the pipes used during construction meets the best industry standards
- The proponent should conduct regular inspection and maintenance including a leak detection and repair program during the operations of the facility.

h) Increased Risk of Waterborne Diseases

There is the risk that most households will use the same as drinking water and for domestic use without any treatment. This would increase the chances of contracting waterborne diseases such as typhoid and cholera. There will also be increased chances of stagnating water in the farmers and thus attracting the breeding of mosquitoes, which will be responsible for the spread of malaria. This will lead to ill health problems among the residents and even increase the chances of child mortality rates in severe cases.

Proposed Mitigation Measures

- The proponent should manage irrigation and drainage to prevent disease spread.
- The community should be sensitized on water treatment methods
- Regular surveillance to ensure water does not stagnate, and if spotted should be dried to prevent potential breeding grounds for mosquitoes
- There should regular spraying of homes to control the presence of mosquitoes
- The community should adequately be supplied with mosquito nets at subsidized prices

i) Water use conflicts

Since this is a shared resource amongst the community members, there is a risk of conflict on how and who to use the irrigation water in their farm and what quantities should be supplied at once to each farmer.

Proposed Mitigation Measures

- The proponent should establishment of an Irrigation Water User Committee

- Training of all project beneficiaries on efficient water use
- The proponent to consider installing of water meters to monitor daily usage

j) Risk of spread of COVID-19

There is increased risk of the spread COVID-19 at the premise among the employees and farmers visiting the premise to collect or purchase TC banana seedlings.

Proposed Mitigation Measures

- The project management team will develop a SOPs for managing the spread of Covid-19 during project execution and submit them for the approval of the Supervision Engineer and the Client before mobilization. The SOPs shall be in line with the World Bank guidance on COVID-19, Ministry of Health Directives and site-specific project conditions;
- Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including
- Avoid concentrating of more than 15 persons or workers at one location. Where more than one person are gathered, maintain social distancing at least 2 meters
- All workers and visitors accessing worksites every day or attending meetings shall be subjected to rapid Covid-19 screening which may include temperature check and other vital signs;
- Install handwashing facilities with adequate running water and soap, or sanitizing facilities at entrance to work sites including consultation venues and meetings and ensure they are used

k) Leadership Issues

During the implementation, conflicts may arise in the leadership of the project especially the sharing of benefits accruing from the project, payment of employees and the day to day operations the Cheplanget TC banana hardening nursery.

Proposed Mitigation Measure

- Establishment of project management Committee to oversee the implementation of the project
- Developing clear by laws to guide the implementation process
- Instituting a grievance redress mechanism at community level comprising of members of project management team, local administration and Church leaders
- The beneficiary community will be sensitized on the project operations before handing over

l) Occupational and Health risk for workers

It is expected that employees are likely to encounter occupational health risks due to accidents during day to day operations of the project

Proposed Mitigation Measures

- Sensitize and train all employees on occupational health and safety measures
- Provide adequate first-aid facilities in the project sites to handle medical emergencies during construction
- Provide appropriate PPE's to all workers
- Should there be an accident, the injured person should be given first and immediately taken to the hospital and investigation initiated immediately to ascertain the cause of accidents and preliminary report released within 12 hours

m) Gender Based Violence (GBV)

This impact refers to gender-based violence that women and girls may experience because of project implementation. This includes, for example, an increase in intimate partner violence (IPV because of inequality in sharing of funds from the proceeds of banana sale occasioned by increased productivity as a result of clean seedlings and higher returns per unit of produce.

Proposed Mitigation Measures

- Sensitizing the community against GBV
- Specific plan for mitigating these known risks, e.g. sensitization around gender-equitable approaches in sharing of resources
- Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project management team

n) Theft, vandalism and destruction of property on site

If appropriate security measures are not put in place there can be theft, vandalism or destruction of property on site during the operations and maintenance

Proposed Mitigation measures

- The project management team to ensure the general safety and security of the Cheplanget TC Banana hardening nursery.
- Providing day and night security guards of the premise
- The management team to ensure only authorized personnel get access to the premise during operation.
- Ensure that the erected perimeter wall is well maintained and that the gate is secured at all times

5.4 Anticipated Impact during Decommissioning Phase

Decommissioning may arise when the project is abandoned or converted to new use by the same proponents or different new users.

6.4.1 Generation of Solid waste from decommissioning

Decommissioning would result in solid waste from the debris from demolition of existing structures to allow for new project.

Proposed Mitigation Measures

- Re-vegetation of cleared areas with indigenous vegetation species
- The proponent shall ensure minimal clearing of vegetation
- Solid waste should be disposed in designated sites approved by the County Government of Kericho

5.4.2 Loss of Income

Decommissioning would result in loss of jobs and income hence reduced ability to support dependants and loss of quality of life.

Proposed Mitigation Measures

- Giving prior notice of the intended decommissioning to allow employees to adjust to the changes
- Offering advice and counselling to the affected employees and people

- Create a severance package in the event of abrupt closure of the facility
- Training employees on other income generating activities

6.4.3 Loss of Supply of Tissue Culture Banana seedlings

The supply of affordable supply of clean and quality TC banana seedling would cease at decommissioning or abandonment of the project. The site may be used for another purpose

Proposed Mitigation Measures

- Sensitizing farmer's other sources of tissue culture seedlings
- Training farmers on other propagation techniques like the use of banana suckers and macro propagation

CHAPTER SIX

ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

6.1 Introduction

The environmental and social management and monitoring plan provides a general outlay of the environmental and social aspects, potential impacts and mitigation measures. This environmental and social management and monitoring plan has been developed to assist the proponent in mitigating and managing environmental impacts associated with the life cycle of the project. The ESMMP involves construction, operational and decommissioning phases of the proposed project respectively. In general, the tables outline the environmental and social risks associated with the project and detail all the necessary mitigation measures, monitoring indicators, means of verification, responsibility for monitoring frequency/timelines and associated cost estimates. The ESMMP will be used as checklist in future environmental audits.

Monitoring will entail continuous assessment of environmental or social variables by the systematic collection of specific data in time and space and evaluating the data to confirm whether the proposed mitigation measures effectively address the project impacts

6.2 Environmental and Social Management and Monitoring Plan (ESMMP)

6.2.1 Environmental and Social Management Plan during Construction Phase

No.	Anticipated Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsibility	Means of verification	Timeline	Est. Cost
1.	Loss of vegetation	<ul style="list-style-type: none"> ○ The contractor shall limit clearing of vegetation clearing to the nursery site ○ Contractor to ensure that specific routes are used for vehicle haulage and by the construction workers ○ Sensitization of construction workforce on environmental and ecological conservation and protection. ○ The contractor will plant grass in any exposed ground after the completion and fencing of the project ○ The contractor should plant trees within the site after completion of the project ○ Re-vegetation of cleared areas with indigenous vegetation species 	<ul style="list-style-type: none"> ○ No of designated routes for vehicles ○ Area of land covered by the nursery ○ No of people sensitization on environment conservation ○ Area of land planted with grass and trees 	Contractor Supervising Engineer	Site Report Photos	6 Months	30,000
2.	Vibrations and Noise Emissions	<ul style="list-style-type: none"> ○ Contractor to ensure the use of well-maintained machineries and vehicles ○ The contractor should limit all construction work to be limited to daytime only ○ The contractor should notify in advance the immediate neighbors on the date of commencement of construction work. ○ The contractor should provide all employees likely to be exposed to ear noise with ear protectors; 	<ul style="list-style-type: none"> No. of times of servicing vehicle No. of neighbors informed of the commencement date of the project No of employees provided with ear protectors 	Contractor Supervising Engineer	Service records	6 Months	20,000

		<ul style="list-style-type: none"> o Machines and vehicles engines to be shut off while not in use or in motion. 					
3.	Generation of Solid waste	<ul style="list-style-type: none"> o The contractor should ensure that all site personnel are instructed in the proper disposal of all waste. o The contractor shall provide at all places of metal refuse bins or equivalent plastic refuse bins, all with lids or later disposal in designated sites at least twice per week.. 	<p>No of employees sensitized on proper waste disposal</p> <p>No of waste bins provided on site</p> <p>No of times waste is collected per week</p>	Contractor Supervising Engineer	Site Report Photos	3 Months	50,000
4.	Workers Accidents and Hazards during Construction	<ul style="list-style-type: none"> o The Contractor should sensitize all workers on accidents and hazards o The Contractor to place labels and warning signs in areas posing risk of injury or accidents o The contractor to provide all workers with full protective gear (PPEs) o The contractor to train and provide First-aid Kit to the workers o The contractor to have incident and Accident Registers on site for recording of injuries or any OHS incidence o Contractor to prepare a contingency / emergency management and preparedness plan for accident response. o Contractor to procure insurance for workers, machinery and third parties <p>Should an accident occur on the site?</p>	<p>No. of workers sensitized on accidents and hazards</p> <p>No of warning signs erected on site</p> <p>No of workers wearing PPEs on site</p> <p>No of workers trained on first aid and provided with the kit</p> <p>No of incidences reported</p>	Contractor Supervising Engineer	Attendance list Incidence Report Receipts Photos	6 months	50,000

		<ul style="list-style-type: none"> ○ The injured person should be given first aid and immediately taken to the hospital ○ An investigation should be initiated immediately to ascertain the cause of the accident and preliminary findings released within 12 hours 					
5.	Increased risk of spread of HIV/AIDS by construction workers	<ul style="list-style-type: none"> ○ Contractor to sensitize workers and community members on HIV/AIDS ○ Provide condom dispenser on site as necessary 	<p>No of workers sensitized on HIV/AIDS</p> <p>No of condom dispensers on site</p>	Contractor Supervising Engineer	Attendance List Sensitization report Photos	6 Months	30,000
6.	Risk of spread of COVID-19 by workers during construction	<ul style="list-style-type: none"> ○ Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including ○ Avoid concentrating of more than 15 persons or workers at one location and where more than people are gathered, maintain social distancing at least 2 meters ○ All workers and visitors accessing worksites every day or attending meetings shall be subjected to rapid Covid-19 screening which may include temperature check and other vital signs; ○ Install handwashing facilities with adequate running water and soap, or sanitizing facilities at entrance to work 	<p>No of workers on site with appropriate PPE</p> <p>No of incidences reported</p>	Contractor Supervising Engineer	Incidence report	6 Months	40,000

		sites including consultation venues and meetings and ensure they are used					
7.	Sexual Exploitation and Abuse (SEA) by workers on site	<ul style="list-style-type: none"> Sensitizing workers against sexual exploitation and abuse Ensuring controlled access to the site by only authorized persons 	<p>No of workers sensitized on SEA</p> <p>No of incidences reported</p>	Contractor Supervising Engineer Local administration	Attendance list Incidence Report	6 Months	50,000

6.2.2 Environmental and Social Management Plan during Operations and Maintenance Phase

No.	Anticipated Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsibility	Means of verification	Timeline	Est. Cost
1.	Risk of introduction of pest, pathogens or diseases in production areas	<ul style="list-style-type: none"> The nursery management team shall source plantlets from accredited institutions i.e. JKUAT The shall ensure proper selection and treatment of nursery media(Appendix 3) before potting The nursery management team shall apply good nursery management practices Regular scout for pest and diseases and applying control, measures on a need basis (Appendix 4) Place foot bath with appropriate disinfectant at the entrance of the tissue culture banana nursery The nursery management to ensure high standard of hygiene in the nursery and surrounding 	<p>No of plantlets from accredited institutions</p> <p>No of scouts for pest and diseases</p> <p>No of food bath with disinfectant in place</p> <p>Level of collaboration with HCD and KEPHIS</p>	PMC Department of Agriculture HCD	LPO Scouting report Photos	O&M	100,000

		<ul style="list-style-type: none"> ○ The nursery management should ensure safe use of agrochemicals in case there is need for application to control pests and diseases ○ The nursery management shall collaborate with relevant institution like KEPHIS and HCD to ensure the health of the planting materials at all times 					
2.	Soil and land degradation	<ul style="list-style-type: none"> ○ The proponent shall rehabilitate the degraded areas using organic materials including dry plant material ○ The proponent should ensure shallow excavation of the garden soil to allow for regeneration over time ○ The proponent shall increase the ratio of other non-soil media in the potting mixture to minimize the excavation of the garden soil. 	<p>Size of land rehabilitated</p> <p>Depth of excavation of garden soil</p> <p>Ration of non-soil media in the potting mixture</p>	PMC	Monthly Report	O&M	100,000
3.	Increased demand for water	<ul style="list-style-type: none"> ○ Rehabilitation and protection of the existing water sources especially the water pan ○ Installing tanks on site for roof rain water harvesting and storage ○ Installing efficient irrigation systems i.e. drip irrigation to minimize wastage ○ Recycling and re-use of water where possible 	<p>No. of tanks installed on site</p> <p>Efficient irrigation installed</p> <p>Level of recycling</p>	PMC	Daily Monitoring Report	O&M	n/a

4.	Risk of Exhaustion of Water at Source	<ul style="list-style-type: none"> ○ Training nursery management staff on correct application of water to minimize wastage ○ Using efficient irrigation techniques like drip irrigation ○ Installing master meter to monitor the volumes of water used on a day to day basis ○ Catchment conservation to minimize siltation into the water sources 		PMC		Annually	40,000
5.	Water Quality Concerns	<ul style="list-style-type: none"> ○ Periodically sample water, test, treat and release ○ Sensitize the community on development of alternative water sources for domestic use such roof rainwater harvesting for households with iron roofs. ○ Sensitization of farmers around the pan catchment on SLM practices ○ Water troughs and community water drawing points have been provided in the design ○ Apply appropriate irrigation procedures to prevent contamination-sensible use of agrochemicals to prevent deposition into rivers ○ The proponent should adhere to waste discharge regulations 	<p>No of water quality test conducted</p> <p>No of people sensitized</p>	PMC Water Department WRA	<p>Water test Report</p> <p>Attendance List</p> <p>Photos</p>	Semi Annually	30,000

6.	Risk of leakage of pipes	<ul style="list-style-type: none"> ○ The supervising engineer should ensure the pipes used during construction meets the best industry standards ○ The proponent should conduct regular inspection and maintenance including a leak detection and repair program during the operations of the facility 	No of inspections conducted	PMC Water Dept	Inspection Report	Annually	20,000
7.	Increased Risk of Water borne diseases	<ul style="list-style-type: none"> ○ The proponent should manage irrigation and drainage to prevent disease spread. ○ The community should be sensitized on water treatment methods ○ Regular surveillance to ensure water does not stagnate, and if spotted should be dried to prevent potential breeding grounds for mosquitoes ○ There should regular spraying of homes to control the presence of mosquitoes ○ The community should adequately be supplied with mosquito nets at subsidized prices 	No of surveillance conducted No of homes sprayed No of incidences reported No of people supplied with mosquitoes nets	PMC Ministry of Health	Incidence Register/Reports Monthly reports Surveillance Report	Monthly	n/a
8.	Water use conflict	<ul style="list-style-type: none"> ○ The proponent should establishment of an Irrigation Water User Committee ○ Training of all project beneficiaries on efficient water use 	No of IWUC Established No of persons trained on efficient water use No of water meters installed	PMC Local Admin	Photos Periodic Reports Incidence Register/Reports	Q&M	n/a

		<ul style="list-style-type: none"> ○ The proponent to consider installing of water meters to monitor daily usage 	No of incidences reported				
9.	Occupation Health safety risk	<ul style="list-style-type: none"> ○ Sensitize and train all employees on occupational health and safety measures ○ Provide adequate first-aid facilities in the project sites to handle medical emergencies during construction ○ Provide appropriate PPE's to all workers ○ Should there be an accident, the injured person should be given first and immediately taken to the hospital and investigation initiated immediately to ascertain the cause of accidents and preliminary report released within 12 hours 	<p>No of employees sensitized on OHS</p> <p>No of first aid facilities provided on site</p> <p>No of workers provided with appropriate PPEs</p>	PMC	<p>Attendance list</p> <p>Photos</p> <p>LPOs</p>	O&M	50,000
10.	Leadership Issues	<ul style="list-style-type: none"> ○ Establishment of project management Committee to oversee the implementation of the project ○ Developing clear by laws to guide the implementation process ○ Instituting a grievance redress mechanism at community level comprising of members of project management team, local administration and Church leaders ○ The beneficiary community will be sensitized on the project operations 	<p>PMC in place</p> <p>Clear laws developed to guide implementation</p> <p>GRM in place</p> <p>No of sensitization on operations and maintenance before handing over</p>	PMC Local Administration	<p>Copies of laws guiding implementation</p> <p>Attendance list</p> <p>Photos</p>	O&M	n/a

		and maintenance before handing over					
11.	Vandalism and theft of seedlings and equipment	<ul style="list-style-type: none"> ○ The project management team to ensure the general safety and security of the Cheplanget TC Banana hardening nursery ○ Providing day and night security guards of the premise ○ The management team to ensure only authorized personnel get access to the premise during operation. ○ Ensure that the erected perimeter wall is well maintained and that the gate is secured at all times 	<ul style="list-style-type: none"> No of security personnel on site Perimeter fence erected No of cases reported 	PMC	Monthly report Incidence Report	O&M	60,000
12.	Risk of spread of COVID-19	<ul style="list-style-type: none"> ○ The project management team will develop a SOPs for managing the spread of Covid-19 during project execution and submit them for the approval of the Supervision Engineer and the Client before mobilization. The SOPs shall be in line with the World Bank guidance on COVID-19, Ministry of Health Directives and site-specific project conditions; ○ Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including ○ Avoid concentrating of more than 15 persons or workers at one location. 	<ul style="list-style-type: none"> ○ No. of SOPs availed ○ No. of workers with PPEs ○ No. of sanitizing facilities ○ No. of handwashing equipment installed ○ No of dairy farmers sensitized on COVID-19 guidelines 	PMT Dairy Farmers Public Health MOH	SOPs Incidence report Purchase orders/receipts Photos	O&M	50,000

		<p>Where more than one person are gathered, maintain social distancing at least 2 meters</p> <ul style="list-style-type: none"> ○ All workers and visitors accessing worksites every day or attending meetings shall be subjected to rapid Covid-19 screening which may include temperature check and other vital signs; ○ Install handwashing facilities with adequate running water and soap, or sanitizing facilities at entrance to work sites including consultation venues and meetings and ensure they are used 					
13.	Gender Based Violence(GBV) and Sexual Harassment (SH)	<ul style="list-style-type: none"> ○ Sensitizing the community against GBV ○ Specific plan for mitigating these known risks, e.g. sensitization around gender-equitable approaches in sharing of resources ○ Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project management team 	<ul style="list-style-type: none"> ○ No. of community engagements and consultation meetings held with women and girls ○ No. of trainings on GBV and SEA held ○ No. of people attending trainings on GBV and SEA 	PMC Dairy Farmers Gender Dept.	Incidence Register Attendance List Photos	O&M	50,000

6.2.3 Environmental and Social Management Plan during Decommissioning Phase

No.	Anticipated Impacts	Proposed Mitigation Measures	Monitoring Indicators	Responsibility	Means of verification	Timeline	Est. Cost
1.	Generation of solid waste from decommissioning	<ul style="list-style-type: none"> ○ Re-vegetation of cleared areas with indigenous vegetation species ○ The proponent shall ensure minimal clearing of vegetation ○ Solid waste should be disposed in designated sites approved by the County Government of Kericho 	<ul style="list-style-type: none"> ○ Amount of solid waste generated ○ No of designated sites 	New user Contractor	Site Report	Decommissioning	n/a
2.	Loss of Income	<ul style="list-style-type: none"> ○ Giving prior notice of the intended decommissioning to allow employees to adjust to the changes ○ Offering advice and counselling to the affected employees and people ○ Create a severance package in the event of abrupt closure of the facility ○ Training employees on other income generating activities 	<ul style="list-style-type: none"> ○ No of persons given notice of the intended decommissioning ○ No. of affected employee advised and counselled 	PMC New management	Notice issued Severance Plan	3 Months	n/a
3.	Loss of supply of clean banana planting materials	<ul style="list-style-type: none"> ○ Sensitizing farmer's other sources of tissue culture seedlings ○ Training farmers on other propagation techniques like the use of banana suckers and macro propagation 	<ul style="list-style-type: none"> ○ No of farmers sensitized on alternative sources of TC seedlings ○ No of farmers trained on other propagation technique's 	PMC Dept. of Agriculture	Attendance List Training report	3 Months	n/a

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

7.1 Conclusion

The findings from the assessment of environmental and social issues for the proposed Cheplanget Tissue Culture hardening and water supply project show that the positive impacts will accrue from the project are significant when compared to the anticipated negative impacts that has adequately been mitigated as outlined in the ESMMP. Based on the findings the SPR concludes that construction of the Cheplanget Tissue Culture hardening and water supply project will not result into significant negative impacts that can compromise the environmental and social wellbeing as well as the health and safety of the residents of Cheplanget.

7.2 Recommendation

It is the view of the experts the proposed Cheplanget Tissue Culture hardening water supply project be allowed to proceed provided the proposed mitigation measures as outlined in the ESMMP are implemented. The experts recommend the project for National Environmental Management Authority (NEMA) approval subject to an annual audit after one year of implementation. On approval, it is recommended that the proponent should implement the proposed project based on the proposed plans. The County Project Coordination Unit (CPCU) through the County Environmental Social Safeguards and Compliance Officer (CESSCO) will monitor and report on the implementation of the ESMMP.

REFERENCES

1. Crops (Horticulture Crops) Regulation 2019, Part 2, registration and Licensing of players in the horticulture industry
2. Kenya gazette supplement Acts 2000, Environmental Management and Coordination Act Number 8 of 1999. Government printer, Nairobi
3. Kenya gazette supplement number 56. Environmental Impact Assessment and Audit (Amendment) Regulations 2019, Government Printers, Nairobi.
4. The Occupational Safety and Health Act, 2007, Government Printer, Nairobi
5. Kenya gazette supplement number 68, Environmental Management and Coordination (Water Quality) Regulations, 2006, Government printer, Nairobi
6. Kenya gazette supplement number 69, Environmental Management and Coordination (Waste management) Regulations, 2006, Government printer, Nairobi
7. Noise Prevention and Control Rules 2005, Legal Notice no. 24, Government Printers, Nairobi
8. The Netherlands Development Organization(SNV), 2017, Forage Production and Management, Training package for extension workers
9. Food and the Agricultural Organization of the United Nations 2020, Hay making for the smallholders

APPENDICES

Annex 1: Screening Checklist

KCSAP KERICHO COUNTY –ESS SCREENING CHECKLIST

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST ESM SUB-PROJECTS SCREENING CHECKLIST (SUB-PROJECTS SCREENING PROCESS BY BENEFITTING COMMUNITIES/AGENCIES)

Section A: Background information

Name of County... Kericho County	
Name of CPCU/Monitoring Officer/Researcher Okal Jacob (CESSCO)	
Sub-project location Cheplanget Ward , Butiik Village Name of CBO/Institution... Cheplanget Mwangaza Self Help Group Postal Address:..... N/A Contact Person: Antony Langat Cell phone: 0721208035	
Sub-project Name... Cheplanget Tissue Culture Propagated Commercial Banana Hardening Nursery and Produce Collection Center	
Estimated cost (KShs.)... 15 Million	
Approximate size of land area available for the sub-project 1.0 acres Objectives of the subproject To harden and distribute certified Tissue Culture banana and aggregate banana produce	
Activities/enterprises undertaken <ul style="list-style-type: none"> • Installation of Shed net Nursery Structure • Establishment of drip irrigation system • Establishment of Produce Collection Center 	
How was the sub-project chosen? Public participation during development of Kericho County Integreted Development Plan (CIDP) Expected subproject duration: 6 Months	

Section B: Environmental Issues

Will the sub-project:	Yes	No
Create a risk of increased soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Create a risk of increased deforestation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

KCSAP KERICHO COUNTY –ESS SCREENING CHECKLIST

Create a risk of increasing any other soil degradation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Affect soil salinity and alkalinity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Divert the water resource from its natural course/location?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cause pollution of aquatic ecosystems by sedimentation and agro-chemicals, oil spillage, effluents, etc.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Introduce exotic plants or animals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Involve drainage of wetlands or other permanently flooded areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cause poor water drainage and increase the risk of water-related diseases such as malaria?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Reduce the quantity of water for the downstream users?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Result in the lowering of groundwater level or depletion of groundwater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Create waste that could adversely affect local soils, vegetation, rivers and streams or groundwater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Reduce various types of livestock production?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Affect any watershed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Focus on biomass/bio-fuel energy generation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Section C: Socio-economic Issues

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

KCSAP KERICHO COUNTY –ESS SCREENING CHECKLIST

Lead to gender disparity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lead to poor diets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lead to social evils (drug abuse, excessive alcohol consumption, crime, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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? NB: If the answer is yes, the sub-project should not proceed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Adversely affect environmentally sensitive areas or critical habitats – wetlands, woodlots, natural forests, rivers, protected areas including national parks, reserves or local sanctuaries, etc.)? NB: If the answer is yes, the sub-project should not proceed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Affect the indigenous biodiversity (flora and fauna)? NB: If the answer is yes, the sub-project should not proceed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly? NB: If the answer is yes, the sub-project should not proceed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Affect the aesthetic quality of the landscape?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Reduce people’s access to the pasture, water, public services or other resources that they depend on?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Increase human-wildlife conflicts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Use irrigation system in its implementation?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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

SECTION E: Pesticides and Agriculture Chemical

Will the sub-project:	Yes	No
Involve the use of pesticides or other agricultural chemicals, or increase existing use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cause contamination of watercourses by chemicals and pesticides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cause contamination of soil by agrochemicals and pesticides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Experience effluent and/or emissions discharge?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

KCSAP KERICHO COUNTY –ESS SCREENING CHECKLIST

Export produce? Involve annual inspections of the producers and unannounced inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Require scheduled chemical applications?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Require chemical application even to areas distant away from the focus?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Require chemical application to be done by vulnerable group (pregnant mothers, chemically allergic persons, elderly, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Members of these VMGs in the area who could benefit from the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VMGs livelihoods to be affected by the subproject?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Use land that is currently occupied or regularly used for productive purposes (e.g. gardening, farming, pasture, fishing locations, forests)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Displace individuals, families or businesses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Result in temporary or permanent loss of crops, fruit trees and pasture land?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Adversely affect small communal cultural property such as funeral and burial sites, or sacred groves?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Result in involuntary restriction of access by people to legally designated parks and protected areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Be on monoculture cropping?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.

KCSAP KERICHO COUNTY –ESS SCREENING CHECKLIST

Section H: Proposed action

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

(iii) Recommended Course of Action

If there is at least one 'Yes', which course of action do you recommend?

CPCUs and CDE/NEMA will provide detailed guidance on mitigation measures as outlined in the ESMF; and

Specific advice is required from CDE¹, Lead Officer and CPCUs² 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 EIAs, 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

¹ County Director of Environment and the County Technical Team

KCSAP KERICHO COUNTY –ESS SCREENING CHECKLIST

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 EIA report at a public place accessible to project-affected groups and local NGOs/CSOs.

Completed by: **Antony Langat**


Position / Community: **Chair Person of Cheplanget Mwangaza SHG /PMC**

Date **3rd September 2019**

Field Appraisal Officer (CDE/NEMA) Recommendation

Both Components of the Project (Huben Shuko and Drop Irrigation System) require Subsequent Impact Assessment Report

Name: SATUKU OMBENTI Signature: [Signature] Date: 02-DEC-2019



Note:

Project category	Characteristics
A	Full and extensive ESIA needed- irreversible environmental impacts; impacts not easy to pick or isolate and mitigation cost expensive; ESMP design not easily done; Must have the EIA done and future annual EAs instituted
B	Site specific environmental impacts envisaged; mitigation measures easy to pick not costly and ESMP design readily done; need an ESIA and future EAs
C	Have minimal or occasionally NO adverse environmental impacts; exempted from further environmental processes save environmental audits

Annex 2: Land Ownership Documents

Form LRA-85 (r.84(3))

REPUBLIC OF KENYA

THE LAND REGISTRATION ACT

THE LAND REGISTRATION (GENERAL) REGULATIONS, 2017

CERTIFICATE OF OFFICIAL SEARCH

TITLE NO. 16210101 KAPKATET / 550

SEARCH NO. 612/2022

On the 28TH day of FEB, 2022 the following were the subsisting entries on the register of the above-mentioned title:

Part A – Property Section (easements, etc.) RESERVED FOR KIPTERAN
KRA SLAND

Nature of title ABSOLUTE

Approximate area 13.2 HAC THIRTEEN DECIMAL TWO HEE

Part B – Proprietorship Section

Name and address of proprietor 1. 1.4.71 COUNTY COUNCIL OF KIP

Inhibitions, cautions and restrictions

Part C – Encumbrances Section (leases, charges, etc.)

The following applications are pending:

(a) _____

(b) _____

(c) _____

(d) _____

The following certified copies are attached as requested:

(a) _____

(b) _____

(c) _____

(d) _____

Date 28TH day FEB 2022

Signed by the Registrar Seal _____

Name: _____

Signature: [Signature]

GPB (L) 082 – 400m – 7/18

Annex 3: Minutes Public participation questionnaires

Page No

CHEPLANGET TISSUE CULTURE BANANAS HARDENING NURSERY AND PRODUCE COLLECTION CENTRE

AGENDA

1. PROJECT IDENTIFICATION
2. SITE OF THE PROJECT
3. ELECTION OF THE MANAGEMENT COMMITTEE BEARERS AND TENURE OF OFFICE
4. A. O. B

MIN 1.03.01.2022 - PROJECT IDENTIFICATION. Crossed

The Chairman of MURANGA S.M. Co. Mr. Anthony Langat, addressed to the Community members as to why it was important to our County government of KEKIRO to establish for us a TISSUE CULTURE BANANAS HARDENING NURSERY AND PRODUCE COLLECTION CENTRE. He further stated that our farmers are unable to achieve Clean Certified plants (Pest and disease free) by their own, since they are very expensive and the Orchard to access them is very far (great inconvenience). The same Chairman, informed the community members of the project that the same had been proposed during the public participation during the preparation of KEKIRO COUNTY INVESTMENT PLAN (IP) for the year 2022-2025 because Langat secured it.

MIN. 2.03.01.2022 - SITE OF THE PROJECT.

One of the Community members, ANITA KECCH, proposed that for this project to succeed, it should be located at BUKU WAKA FORT - P.I land due to the availability of enough land constant water in the dam. She also suggested that all the required documents should be availed as quick as possible with the assistance of the area Assistant Chief and Village managers. The relevant documents are: Land Search, Land Allocation Letter and the Title Deed.

MIN. 3.03.01.2022 - ELECTION OF THE MANAGEMENT COMMITTEE AND TENURE OF OFFICE.

The members who were present opted for election of the management Committee and their tenure of office. ~~They~~ Unanimously, they all agreed for the same and the election took place and the following were elected.

P. T. O

- 1 CHAIRMAN : ANTHONY LANGAT - 7656948 - 0721 208 035 - Langat
- 2 VICE-CHAIRMAN : JOHN MILGO - 0735871 - 0711 168 430 - John
- 3 SECRETARY : MOSES TOMU - 6022142 - 0710 960 839 - Tomu
- 4 VICE-SECRETARY : FANCY YEGUN - 21062318 - 0711 685 911 - Yegun
- 5 TREASURER : FUNICA KOECH - 13024202 - 0713 279 159 - KoECH

COMMITTEE MEMBERS:

- 6 AARON KIRUI - 2260232 - 0713344 759 - Aaron
- 7 SELINA CHEBELION - 3847387 - 0713 314 054 - Selina
- 8 JOSEPH TOMUET - 5227400 - 0719 427 462 - Tomu
- 9 ZAKAYO RUTO - 6023222 - 0717114 139 - Ruto
- 10 FRANCIS RONO - 10990941 - 0712500 474 - Rono

MIN 4.03 . 01 . 2022 A 08

There being no any other business to be done, the meeting ended and closed with a word prayer at 4.00pm by Joel Kirui.

ATTENDANCE/MEMBERS PRESENT	ID. NUMBERS	MOBILE NUMBER	SIGNATURE
1 FRANCIS RONO	10990941	0712500 474	<u>Rono</u>
2 JOHN K. CHERUINYOT	10383481	0717427 355	<u>Cheruinyot</u>
3 PHILIP K. BETT	10544580	0720216 505	<u>Bett</u>
4 ISAIAH K. CHERUINYOT	6004780	0704378 185	<u>Cheruinyot</u>
5 GEOFFREY K. KIGEN	23200450	0724081 627	<u>Kigen</u>
6 LANGAT JOSEPH	13102678	0713539 005	<u>Langat</u>
7 NICHOLAS BOSUBEN	28382571	0723412 143	<u>Bosuben</u>
8 BEATRICE CHEBELION	22185723	0718265 938	<u>Beatrice</u>
9 EDWIN KIRKOECH KIRUI	34753032	0768782 836	<u>Kirui</u>
10 AURELIA CHEROTICH	8070321	0713214 636	<u>Cherotich</u>
11 JANE LANGAT	12479210	0708239 102	<u>Jane</u>
12 ALEXANDER LANGAT	0738907	0741915 223	<u>Langat</u>
13 BEATRICE LANGAT	12478975	0702285 741	<u>Bea</u>
14 MICHAEL MUTAI	3852227	0717532 706	<u>Mutai</u>
15 PHILEMON KOECH	0737241	0706278 013	<u>KoECH</u>

ATTENDANCE	MEMBERS Present	ID. NUMBERS	MOBILE NUMBER	SIGN.
16	JOSEPH BOSUBEN	6023111	0719 272 870	Joseph
17	SALOME CHERNGENO	28616757	-	Salome
18	JOEL KIRUI	0733 731	0704 708 955	Joel
19	EDINA C. NIETET	221502413	0704 929 139	Edina
20	FANCY YEGON	21062318	0711 686 941	Fancy
21	ANTHONY LANGAT	7656 948	0721 208 035	Anthony
22	WYCLIFFE K. CHERWENT	2018 9856	0722 104 481	Wycliffe
23	LINDA MARITH	2202 9050	0729 532 222	Linda
24	PHILIP CHERUYOT	600 2124	-	Philip
25	RACHEL CAPRUR	763 9009	0718 265 493	Rachel
26	HILARY K. NIETET	1077 0884	0715 548 193	Hilary
27	SELINA CHERELION	1247 0967	0713 314 054	Selina
28	DANIEL LANGAT	51858 99	0724 758 532	Daniel
29	BERNARD C. BOSUBEN	058 9270	0724 137 751	Bernard
30	HELEN C. LANGAT	1019 4519	0729 252 805	Helen
31	EUNICA KOECH	1302 4202	0713 279 159	Eunica
32	MOSES TONUI	6022 142	0710 960 839	Moses
33	JOHN MILRO	073 5371	0711 138 430	John
34	WILLIAM TENU	6022 071	0710 740 588	William
35	CAROLINE CHERUYOT	0734 608	-	Caroline

**Public participation meeting for the proposed Cheplanget Tissue Culture Banana
Hardening Nursery and Produce Collection Center on the 8th February 2022**

Attendance

(See list of attendance below)

Agenda

1. Objective of the meeting
2. Brief on proposed project
3. Discussion with community on the proposed project
4. AOB

Opening Remarks

The meeting began at 10.30 am PM with a word of prayer from Selinah Chabelion and brief on the objective of the meeting by the Environment Officer from KCSAP.

Min 1/February 8/2022: Objectives of the meeting

He told participants that the objective of the meeting was to discuss the environmental and social issue related to the proposed project and to suggest the possible mitigation measures for the negative impacts. He then handed over to the chairperson of Mwangaza to introduce the participant and give a brief of the project.

Min 1/February 8/2022 Brief on the Proposed Project

The chairperson told members that the project was initiated in the year 2019 by Mwangaza Self-help group through a proposal to the County Government of Kericho since the project had been prioritized in the Kericho County CIDP 2018-2022. The proposal was then forwarded to the KCSAP. Since then there has been continuous engagement to address some issues including land before the project is finally approved for implementation.

Minute 2/February 8/2022 Discussion with community on the proposed project

- a) Project Land

The chairperson of Mwangaza Self Help Group confirmed that the project site land was a public land L.R No. Kericho/Kapkatet/550 of size 1 acres. They were however advised to conduct a land search and also apply for authorization to use the land from the County Government of Kericho, department of Lands and provide relevant documentation to the CPCU by 4th April 2021.

b) Inventory of Beneficiaries

The chairperson of Mwangaza Self Help Group Committed to provide a complete inventory of 580 banana farmers from 12 banana groups in Cheplanget area by 4th April 2021.

e) Benefits from the proposed project

The following were given as some of the benefits from the proposed projects after discussion with the community members present:-

- o Increased availability of clean banana planting material
- o Increased banana productivity and production
- o Increased household income from the sales of banana
- o Reduced impact on the environment due to increased carbon sink from the banana plantations
- o Increased food and nutritional security
- o Job opportunities

d) Issue/ Concerns

After discussion with the community members present, the following issues were raised:-

- o Access Road to the site during rainy seasons
- o Social Conflict resulting from the management of the project
- o Sourcing of the nursery media: members were concerned about the source of the potting media
- o Water Supply for the Tissue culture hardening nursery: It was noted that water was available from the adjacent water pan but the pan had since silted
- o Injuries and accidents during construction
- o Soil degradation due to continuous removal of garden soil to use as potting media

e) Responses to the concerns

The following suggestions were given to handle some of the issues raised by community

- o Establishment of a complaint resolution committees to hand any issue arising during project implementation to address the social conflict
- o Workers to wear appropriate PPEs at construction site to prevent accidents and injuries
- o The Chairperson of Mwangaza and the Area assistant chief committed to discuss with the area Member of County Assembly to prioritize the 500m meters access road to the site from the Butiik Primary school Junction.
- o Desilting of the water pan which is the main source of water for the nursery to increase the water supply.
- o On source of potting soil, members suggested that river sand could be purchased or in some case garden soil could be used.
- o Using banana stem and vegetative matter to refill the excavated site for potting media

f) Project Sustainability

It was recommended that the community through the project management committee should prepare a business plan to guide the implementation of the project so as to ensure sustainability.

There being no other business the meeting ended at 1.00 p.m with a word of prayer from Caroline Cheruiyot.

Signed By	Name: <i>AGNES Y. LINDA</i> Position: <i>CHAIRPERSON</i> Sign: <i>[Signature]</i> Date: <i>10/2/2022</i>
Witnessed By	Name: <i>ALICE M. M. M.</i> Position: <i>SECRETARY</i> Sign: <i>[Signature]</i> Date: <i>10/2/2022</i>
	Name: <i>JOHN M. M. M.</i> Position: <i>TREASURER</i> Sign: <i>[Signature]</i> Date: <i>10/2/2022</i>

Annex 4: Copies of attendance during Public Participation Meeting

ATTENDANCE LIST

ACTIVITY ... P.0000 ... PARTICIPATION FOR FIREPLACKET 172
BANDUNG MANGROVE AND PONDOK KOLEKTOR
CENTER PROJECT
DATE 08-02-2022

No.	NAME	W/F	Organization	Telephone	Signature
1	Corolline Cheryl	F	KIPERAN	07120184	[Signature]
2	Selma Chelcia	F	KIPERAN	07120184	[Signature]
3	Yosef Nur	M	MWANARA	07120184	[Signature]
4	DAVID K. BU	M	LINACH	07120184	[Signature]
5	Kurti Philip	M	KIPERAN	07120184	[Signature]
6	SANI USAMA	M	SELECHECH	07120184	[Signature]
7	Leon Mikie	M	KIPERAN	07116945	[Signature]
8	Wahid KARA	M	BUTIK	07000000	[Signature]
9	Wahid ANYAMA	M	BUTIK	07243000	[Signature]
10	Wahid WILSON	M	BUTIK EYE	07910000	[Signature]
11	ANTHONY LANANT	M	MWANARA	07120184	[Signature]
12	BOSMAS BI-ASST. CHIEF	M	KEMAHKAMATAN	07226145	[Signature]
13	RICHARD KORIR	M	BUTIK EYE	07231000	[Signature]
14	Jano LANANT	F	BUTIK	010239102	[Signature]
15	BOSMAS LANANT	F	BUTIK	072239102	[Signature]
16	OKAL JAB	M	KCSAP	07202648	[Signature]

Annex 5: List of Stakeholder Consulted

No	Organization	Stakeholders Consulted	No Consulted	Relevance
1.	Local Administration	Area Assistant Chief and Village elder	2	Responsible for security as well as resolution of conflicts arising from the community
2.	Department of Agriculture, Livestock and Fisheries	County Horticulture Officer, Ward Agricultural Officer/Sub County Agricultural Officer	3	Provides technical support on the proposed project
3.	Horticulture Crops Development (HCD)	County Director	1	Supports the licensing of fruit nurseries
4.	Mwangaza Self Help Group	Chairperson, Secretary and treasurer	3	Proposed the project on behalf of the community
5.	Beneficiary Community (Members of Banana Groups in the Cheplanget Ward)	Banana Farmers	30	<ul style="list-style-type: none"> ▪ They will be the beneficiaries of the proposed project. ▪ They will be directly and indirectly affected by the project ▪ Will provide casual labour during the construction phase. ▪ They have information on land owners and users. ▪ Good source of information on the trends and dynamics within the project area.

Annex 6: Sample Public Participation Questionnaire

ESIA-SPR QUESTIONNAIRE
FOR THE PROPOSED CHEPLANGET TISSUE CULTURE BANANA HARDENING NURSERY AND WATER SUPPLY PROJECT IN CHEPLANGET WARD, BURETI SUB COUNTY, KERICHO COUNTY

The EIA/EA Experts are carrying out Environmental and Social Impact Assessment for the **Proposed Cheplanget Tissue Culture Banana Hardening Nursery and Water Supply Project**. In order to ensure environmental sustainability of the project, the proponent wishes to meet the requirements of Environmental Management and Coordination Act (EMCA, 1999) under the jurisdiction of National Environmental Management Authority (NEMA) in the object of Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2019, the Legal Notice No. 32 and Schedule 2 of EMCA 1999.

SECTION 1: RESPONDENT'S DETAILS

NAME: SERINA CHEPKOSGEI CHEBELION TEL: 0713314054

ID. NO: 12479967 RESIDENCE: " " SIGN: [Signature]

Gender: Male Female

Age: 18-30 30-45 Above 46

SECTION 2: QUESTIONS ON PROJECT AWARENESS

Are you aware of the proposed project intended for **Cheplanget Tissue Culture Hardening Nursery and Water Supply Project**?

(Yes) (No)

Do you support the activities of the proposed project and should the project be implemented as proposed?

Yes No

IF No, Kindly state why

.....

.....

.....

SECTION 3: QUESTIONS ON IMPACTS

What positive impacts do you think will result from the implementation of the proposed project?

No.	Impact	Enhancement Measure
1	Food security	-
2	Building Togetherness	

In your own view, are there any negative Social or Environmental impacts associated with the proposed project?

(a) Yes (b) No If Yes, please list them

(i) Environmental Concern

No.	Environmental Concerns	Mitigation Measures
1	Destruction of trees	Tree planting
2	Soil erosion	

(ii) Social concerns

No.	Social Concerns	Mitigation Measures
1	Family conflicts	-

SECTION 4: PERSONAL OBSERVATION

Give any other information that may be necessary concerning the proposed Project.

.....
.....
..... The roads should be accessible to facilitate product
..... Marketing
.....
.....
.....

Thank you for your comments

ESIA-SPR QUESTIONNAIRE
FOR THE PROPOSED CHEPLANGET TISSUE CULTURE BANANA HARDENING
NURSERY AND WATER SUPPLY PROJECT IN CHEPLANGET WARD, BURETI SUB
COUNTY, KERICHO COUNTY

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SECTION 1: RESPONDENT'S DETAILS

NAME: -- RICHARD KORIR ----- TEL -- 0721 318 301 -----

ID. NO: 25292614 RESIDENCE -- LELACH SIGN: [Signature] -----

Gender Male Female
Age 18-30 30-45 Above 46

SECTION 2: QUESTIONS ON PROJECT AWARENESS

Are you aware of the proposed project intended for Cheplanget Tissue Culture Hardening Nursery and Water Supply Project?

(Yes) (No)

Do you support the activities of the proposed project and should the project be implemented as proposed?

Yes No

IF No, Kindly state why

.....

.....

.....

7

SECTION 3: QUESTIONS ON IMPACTS

What positive impacts do you think will result from the implementation of the proposed project?

No.	Impact	Enhancement Measure
	Food security	
	Increased Income	

In your own view, are there any negative Social or Environmental impacts associated with the proposed project?

(a) Yes [] (b) No [] If Yes, please list them

(i) Environmental Concern

No.	Environmental Concern s	Mitigation Measures

(ii) Social concerns

No.	Social Concerns	Mitigation Measures

SECTION 4: PERSONAL OBSERVATION

Give any other information that may be necessary concerning the proposed Project.

.....
..... Road repair and Maintenance to and Marketing
.....
.....
.....

Thank you for your comments

ESIA-SPR QUESTIONNAIRE
FOR THE PROPOSED CHEPLANGET TISSUE CULTURE BANANA HARDENING
NURSERY AND WATER SUPPLY PROJECT IN CHEPLANGET WARD, BURETI SUB
COUNTY, KERICHO COUNTY

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SECTION 1: RESPONDENT'S DETAILS

NAME: Caroline C. Chemoyot TEL: 0701 122 891

ID. NO: 5734608 RESIDENCE: BOTUK SIGN: [Signature]

Gender Male

Female

Age 18-30

30-45

Above 46

SECTION 2: QUESTIONS ON PROJECT AWARENESS

Are you aware of the proposed project intended for **Cheplanget Tissue Culture Hardening Nursery and Water Supply Project**?

(Yes)

(No)

Do you support the activities of the proposed project and should the project be implemented as proposed?

Yes No

IF No, Kindly state why

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

SECTION 3: QUESTIONS ON IMPACTS

What positive impacts do you think will result from the implementation of the proposed project?

No.	Impact	Enhancement Measure
1	Food Security	
2	Social Cohesion	

In your own view, are there any negative Social or Environmental impacts associated with the proposed project?

(a) Yes [] (b) No [] If Yes, please list them

(i) Environmental Concern

No.	Environmental Concerns	Mitigation Measures
1	Soil erosion	planting of trees

(ii) Social concerns

No.	Social Concerns	Mitigation Measures
1	Family Conflict	Scrutiny of community members on harmonious living.

SECTION 4: PERSONAL OBSERVATION

Give any other information that may be necessary concerning the proposed Project.


To discuss with Local MCA on
access road repair

Thank you for your comments

ESIA-SPR QUESTIONNAIRE
FOR THE PROPOSED CHEPLANGET TISSUE CULTURE BANANA HARDENING
NURSERY AND WATER SUPPLY PROJECT IN CHEPLANGET WARD, BURETI SUB
COUNTY, KERICHO COUNTY

The EIA/EA Experts are carrying out Environmental and Social Impact Assessment for the **Proposed Cheplanget Tissue Culture Banana Hardening Nursery and Water Supply Project**. In order to ensure environmental sustainability of the project, the proponent wishes to meet the requirements of Environmental Management and Coordination Act (EMCA, 1999) under the jurisdiction of National Environmental Management Authority (NEMA) in the object of Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2019, the Legal Notice No. 32 and Schedule 2 of EMCA 1999.

SECTION 1: RESPONDENT'S DETAILS

NAME: COsmas Bii TEL: 0732 261 475
 ID. NO: 10886585 RESIDENCE: BUTIK SIGN: 
 Gender Male Female
 Age 18-30 30-45 Above 46

SECTION 2: QUESTIONS ON PROJECT AWARENESS

Are you aware of the proposed project intended for **Cheplanget Tissue Culture Hardening Nursery and Water Supply Project**?

(Yes) (No)

Do you support the activities of the proposed project and should the project be implemented as proposed?

Yes No

IF No, Kindly state why

.....

.....

.....

SECTION 3: QUESTIONS ON IMPACTS

What positive impacts do you think will result from the implementation of the proposed project?

No.	Impact	Enhancement Measure
1	Food security	-
2	Environmental stability	-
3	Building togetherness	-

In your own view, are there any negative Social or Environmental impacts associated with the proposed project?

(a) Yes (b) No If Yes, please list them

(i) Environmental Concern

No.	Environmental Concerns	Mitigation Measures
1	Trees destruction	
2	Soil erosion	

(ii) Social concerns

No.	Social Concerns	Mitigation Measures
1	Domestic issues - Family conflicts	

SECTION 4: PERSONAL OBSERVATION

Give any other information that may be necessary concerning the proposed Project.

Access road to the project to aid Marketing of
the products

Thank you for your comments

**ESIA-SPR QUESTIONNAIRE
FOR THE PROPOSED CHEPLANGET TISSUE CULTURE BANANA HARDENING
NURSERY AND WATER SUPPLY PROJECT IN CHEPLANGET WARD, BURETI SUB
COUNTY, KERICHO COUNTY**

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SECTION 1: RESPONDENT'S DETAILS

NAME: -- ANTHONY LANGAT -- TEL: 0706 888 321 --

ID. NO: RESIDENCE CHEPLANGET SIGN: Langat

Gender Male Female
Age 18-30 30-45 Above 46

SECTION 2: QUESTIONS ON PROJECT AWARENESS

Are you aware of the proposed project intended for **Cheplanget Tissue Culture Hardening Nursery and Water Supply Project**?

(Yes) (No)

Do you support the activities of the proposed project and should the project be implemented as proposed?

Yes No

IF No, Kindly state why

..... w/h

.....

.....

SECTION 3: QUESTIONS ON IMPACTS

What positive impacts do you think will result from the implementation of the proposed project?

No.	Impact	Enhancement Measure
1	FOOD SECURITY	—
2	EMPLOYMENT CREATION	—

In your own view, are there any negative Social or Environmental impacts associated with the proposed project?

(a) Yes

(b) No If Yes, please list them

(i) Environmental Concern

No.	Environmental Concerns	Mitigation Measures
1	Soil erosion N/A	Planting of trees.

(ii) Social concerns

No.	Social Concerns	Mitigation Measures
	N/A	

SECTION 4: PERSONAL OBSERVATION

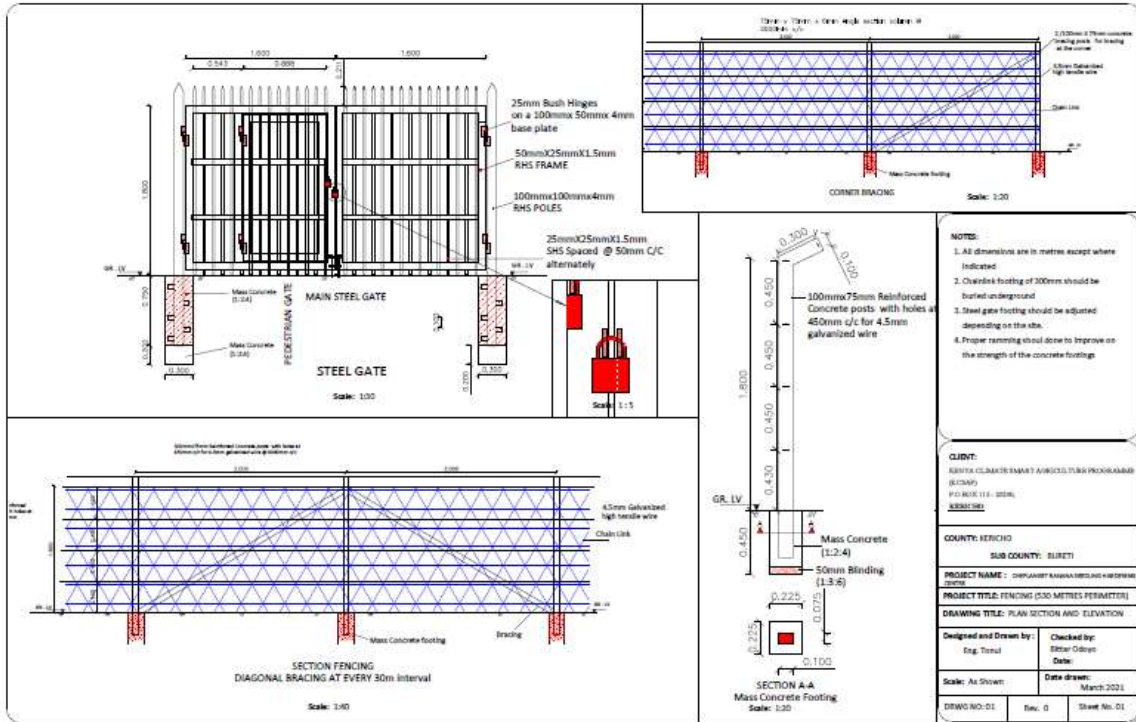
Give any other information that may be necessary concerning the proposed Project.

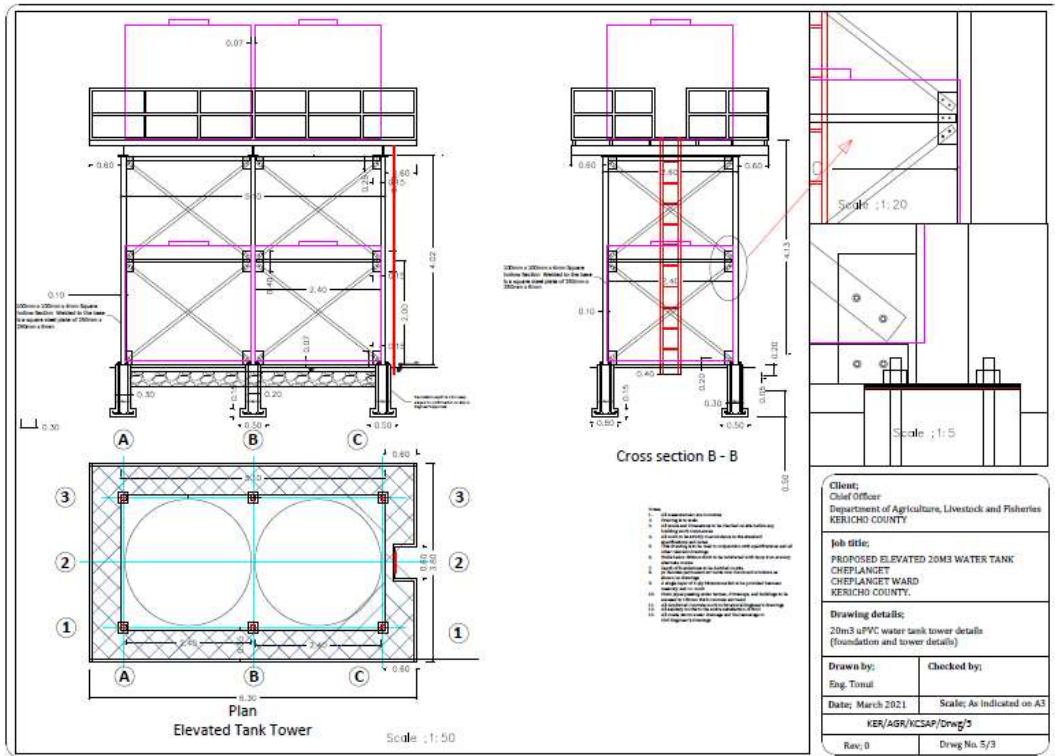
To include Avocado Genetics in
the nursery for sustainability

Thank you for your comments

Annex 7: Design and Drawings







Annex 8: Copy of Experts Practicing License

FORM 7 (r.15(2))



nema
matigaga yefu | ulhai weto | wajibu weto

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/15509
Application Reference No: NEMA/EIA/EL/20047

M/S **Raphael Kipkurui Ngetich**
(individual or firm) of address
P.O. Box 426-20210, Litein

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert**
registration number **2712**

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

Issued Date: **6/17/2021** Expiry Date: **12/31/2021**



Signature.....

(Seal)
Director General
The National Environment Management
Authority



**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/14466

Application Reference No: NEMA/EIA/EL/18681

M/S **PAUL MUHIA KARANJA**
(individual or firm) of address

P.O. Box 976-20200, KERICHO

is licensed to practice in the


capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Associate Expert**
registration number **10286**

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

Issued Date: **3/23/2021**

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

Signature.....

(Seal)

Director General
The National Environment Management Authority

P.T.O.

