REPUBLIC OF KENYA

Kenya Climate Smart Agriculture Project

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (SUMMARY PROJECT REPORT) FOR

FOR PROPOSED CONSTRUCTION OF A POULTRY PROCESSING AND MARKETING FACILITY IN NORTH UYOMA WARD, RARIEDA SUB-COUNTY IN SIAYA COUNTY

GPS LOCATION: Latitude S 0^{O}14'32.6", Longitude E 34^{O}20'48.5"

SUBMITTED BY:

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SUBMITTED TO:

THE COUNTY DIRECTOR,

NATIONAL ENVIRONMENTAL AUTHORITY, SIAYA COUNTY

MARCH , 2022

DOCUMENT AUTHENTICATION

Certification by Proponent (client)

This report was prepared for and on behalf of:

THE COUNTY PROJECT COORDINATOR (CPC) KCSAP- SIAYA

Ministry of Agriculture, Livestock and Fisheries,

P.O Box 3 -40600, Siaya

SIAYA

The County Project Coordinator, Kenya Climate Smart Agriculture Project (KCSAP), hereby confirm that the contents of this ESIA (Summary Project Report) are true to the best of my knowledge and that I shall implement the mitigation measures proposed in this report and undertake to implement further instructions as **NEMA** may deem appropriate in relation to the findings of this project report and from time to time as inspections may inform

Signed by: - Willis Atiang

Institution: - County Project Coordinator (CPC)

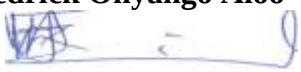
Date: - 14th March, 2021

Certification by ESIA & EA Lead Expert and Team

Fredrick Onyango Aloo ESIA lead expert registered and licensed by the National Environment Management Authority (License No. 9049) and also are members of Environmental Institute of Kenya (**EIK**) confirms that the contents of this report are a true representation of the Summary Project Report study of the proposed construction a Poultry Processing and Marketing Facility In North Uyoma Ward, Rarieda Sub-County In Siaya County. The Report was done under my supervision and that the assessment criteria, methodology and content reporting conforms to the requirements of the Environmental Management and Coordination Act (EMCA, 1999), Environmental (Impact Assessment and Audit) Regulations.2006.

Signed by the ESIA/EA LEAD EXPERT.9049

Name: - Fredrick Onyango Aloo

Signature:- 

Date: - 16th March, 2022

ACKNOWLEDGEMENT

The team of experts involved in this work would like to sincerely thank the County Project Coordinating Unit (CPCU), for the Kenya Climate Smart Agriculture Project (KCSAP) for according us the honor to participate in this exercise and for availing the required documents as well as organizing and participating in the public engagement fora. In this regard, we want to specifically appreciate Willis Atiang', The County Project Coordinator KCSAP, Siaya County and Mr. Benard Ayagah , The County Environment and Social Safeguard Officer, KCSAP.

We sincerely thank the project engineer Mr. Onno' for taking his time to highlight the project in details including proposed project designs. We also want to sincerely appreciate the National Project Coordinating Unit (NPCU) led by Dr. Muthee for guiding and facilitating the process.

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To the administration team at the proposed project site, the farmers and the other professionals we interacted with, we say thank you and God bless you all.

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ABBREVIATIONS AND ACRONYMS

AIDS Acquired Immune Deficiency Syndrome

ASALS	Arid and Semi-Arid Lands
A.S.L	Altitude above sea level
CBD	Convention on Biological Diversity
CDIP	County Development Integrated Plan
COVID 19	Corona Virus Disease
C-ESMP	Construction Environmental and Social Management Plan
EA	Environnemental Audit.
EMCA	Environmental Management Coordination Authority.
EMP	Environmental Management Plan.
ESIA	Environnemental and Social Impact Assessment
ESMMP	Environmental and Social Management & Monitoring Plan
FGD	Focused Group Discussion
GBV	Gender Based Violence
KCSAP	Kenya Climate Smart Agriculture Project
NEAP	National Environmental Action Plan.
NEMA	National Environmental Management Authority.
NPEP	National Poverty Eradication Plan
PAPs	Project Affected Persons (PAPs)
PLWD	People Living with Disabilities
PPE	Personal Protective Equipment
SEA	Sexual Exploitation and Abuse
SH	Sexual Harassment
OSH	Occupational, Safety and Health
OSHA	Occupational, Safety and Health Act.
ToR	Terms of Reference.
VMGs	Vulnerable Marginalized Groups
WB	World Bank

EXECUTIVE SUMM ARY

The proposed construction of a Poultry processing and marketing facility In North Uyoma Ward, Rarieda Sub-County in Siaya County at GPS Latitude S 0O14'32.59608", Longitude 34O20'48.47964. The poultry slaughter facility will have a place for storage, processing, packaging and marketing of poultry products. It will enhance poultry production and provide employment to the community at large. The main objective of the proposed project is to increase agricultural production for food and nutritional security, income generation and as an intervention to empower communities to build resilience against the challenges of climate change and reduce post-harvest losses from slaughtering of chicken.

The proposed project will be implemented through the Kenya Climate Smart Agriculture Project (KCSAP), a Kenya Government initiative funded by the World Bank whose development objectives is increasing productivity and incomes, enhancing resilience to climate change and reduction of Green House Gases(GHGs).

The proposed interventions for the project include: Fencing, construction of a cold storage facility, installation of solar unit, processing unit packaging and marketing. There will be construction of washrooms installation of solar panels and water pump.

The Environmental and Social Impact Summary Project Report (SPR) has been conducted in compliance with the Environmental regulations, the EMCA, 1999 (Rev 2015) and its subsequent supplements regulating major developments including the World Bank Environmental and Social Safeguard Policies. Among the legislation reviewed included The Constitution of Kenya, 2010; the Environmental Management and Coordination Act, 1999 (Revised 2015) and its subsidiary legislations; the Occupational Health and Safety Act 2007, Meat Control Act Cap(356); Public Health Act Laws of Kenya, Chapter 242; and Sexual Offenses Act, 2006.

The SPR process involved literature reviews relating to the project, baseline studies of the proposed project area, reviews of relevant legal, institutional, regulatory and policy framework, public consultations and stakeholder engagements through public meetings, focused group discussions and key informants' interviews as well as house hold interviews.

The total number of participants during the public participation meeting conducted on 9th March, 2022 were 50 people of which 34 men 16 women among them men 4 were disabled. During the public participation meeting, data was also collected using structured questionnaires. A total of 20 questionnaires were distributed out of which 15 questionnaires were filled and returned. Additionally, 10 stakeholders were consulted to obtain more information on the proposed project. The main issues raised during the public participation and stakeholders' consultation include: liquid and waste generation from the factory, increased demand and usage of water, increased energy resources, households and air pollution, noise pollution. Cases of accidents Occupational Health Safety. To address these issues the following measures were proposed: Provision of personal protective equipment, construction of a soak pit for liquid waste disposal, recycling of solid waste installation of water roof catchment water harvesting structures, training of management committee on leadership and governance.

The anticipated positive impacts of the proposed project include creation of employment opportunities, increased household incomes, food security, readily available manure from the wastes, ready markets for poultry products. The anticipated negative impacts of the proposed project include increased solid waste and waste water generation, animal to human infections; gender based violence and sexual harassment (GBV/SH); risks of increased incidences of Human Immuno-deficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) and Sexually Transmitted Infections (STIs); and risks of increased spread of corona virus disease (COVID-19). Appropriate mitigation measures have been provided in the Environmental and Social Management and Monitoring Plan (ESMMP). The main mitigation measure includes; perimeter fencing off using a chain link, construction of waste disposal systems, and roof catchment water harvesting, safe disposal of oils spills and lubricants, provision of personal protective equipment, capacity building of the beneficiaries on gender, HIV, COVID-19 and

climate smart technologies, use of recommended machinery was suggested to reduce soil erosion during construction.

The Bora Poultry production and marketing SACCO through the County Environmental and Social Safeguard Officer (CESSCO) will follow up and monitor the implementation of the ESMMP. The Contractor, PMC, supervising engineer and the community will be required to ensure the implementation of the proposed mitigation measures. The estimated cost of implementation of the ESMMP is Kenya shillings 380,000. The total cost of the project without the cost of ESMMP is Ksh. 10,000,000. The client is expected to share the ESMMP with the contractor who then is expected to prepare and implement a contractor-specific ESMMP.

Recommendations

It is recommended that a copy of the environmental and social management plan be given to the contractor prior to construction. The contractor needs to demonstrate how the ESMMP will be implemented in the construction process and the proponent must implement ESMMP during operation phase

Conclusion

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

CHAPTER ONE: INTRODUCTION

1.0 Introduction

The Government of Kenya and the World Bank are jointly financing the KCSAP project which seeks to sustainably increase agricultural productivity, enhance resilience to climate change risks and reduce GHG emissions in the environment. The KCSAP is being implemented in 24 counties over a five-year period (2017-2022) under the framework of the Agriculture Sector Transformation Growth Strategy (ASTGS) (2019-2029) and National Climate Change Response Strategy (NCCRS, 2010). The main development objective of KCSAP is to increase agricultural productivity and enhance resilience/copying mechanisms to climate change risks in the targeted smallholder farming and pastoral communities in Kenya, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response. The Bora Poultry processing and Marketing Cooperative Society, hereafter referred to as proposed project, discussed in this ESIA Summary Project Report (SPR) falls in KCSAP program. The KCSAP Siaya County intends to construct Poultry aggregation, processing and marketing unit to promote improved indigenous chicken products agribusiness enterprises amongst farmers through aggregation, slaughter, packaging, preservation and marketing. Once complete, the project will be handed over to BORA Co-operative |management committee drawn from BORA Cooperative Society. The project will entail a poultry aggregation unit and slaughter facility, waste management facility, administration block, staffs changing rooms and washrooms

Bora Poultry Marketing Cooperative Society Limited was formed in August, 2015 with a total membership of 2,147 farmers and obtained a registration Certificate No Cs/18682 from the Commissioner for Co-operative Development.

The Co-operative Society is situated in Rarieda and Bondo Sub counties of Siaya County with a Physical office at Asembo Farers Co-operative house in Aram Market center along Kisumu, Ndori - Lwanda Kotieno Road

The society intends to start up an enterprise of buying, slaughtering and selling of quality meat and other value added products of improved local birds. With a starting stock of 4000 birds acquired from chicken value chain farmers groups in the county the society will process and market these products through already establish contracted buyers as well other emerging markets within its locality and even far places.

Chicken production is profitable but it becomes more profitable with increase in the scale of production and improved marketing. Currently, the farmers are producing an average of 25 birds per household per annum. With an average price of 350 shillings per bird, the average income is 8,750 shillings. Production costs are estimated to be Ksh. 70per bird which gives about 1750 shillings. This gives a gross margin of 7,000 shillings. However, in spite of the high level of profitability, the income from chicken production is low because the scale of production is extremely low. The low productivity is attributed to the challenges in production and marketing of the birds of which Bora Poultry and Marketing Society is out to bridge. The proposed poultry project will also provide jobs, collective bargaining power and safe food for the consumers. This would result in increased incomes and food and nutrition security. The overall objectives would include: Increased incomes, improved community livelihoods and reduced emissions which is in line with the core objectives of KCSAP

1.1 Justification

The government of Kenya lays emphasize on Small Medium Enterprises (SMEs) through promotion of small scale industries. Poultry production is among the value chains that has a potential for promotion of small cottage industries under the producer organization. Bora SACCO is

a cooperative society that have been undertaking poultry aggregation and marketing. The World Bank funded project under support of KCSAP producer organization provides an opportunity for Bora SACCO to undertake construction of a poultry slaughter house which will add value to the processed poultry and trigger increased poultry production and provide link to markets through collective bargaining.

1.2 Justification for ESIA

The proposed project is categorized as a Low-Risk Project under Legal Notice No. 31, Legislative Supplement No. 16 published in the Kenya Gazette Supplement No. 62 on 30th April 2019 i.e. Amendment of the Second Schedule which lists the projects to undergo EIA [Section 58 (1) of EMCA, 1999 (Cap. 387) Revised 2015]. The proposed project falls under the category described as 'Low Risk Projects' [Sub-sections 1 (c), (e), (j) and (m) of this Legal Notice] as it focusses on establishing a poultry aggregation, slaughter preservation packaging and marketing facility, therefore only require an SPR. Although the proposed project poses insignificant adverse environmental and social impacts, an ESIA is required before it is implemented in accordance with Section 31 (3) (a) (ii) of the Environmental (Impact Assessment and Audit) Regulations, 2003. Further, this SPR was as a result of the recommendation of the County Director Environment (CDE) based on the screening report (see Annex I). The main purpose of the SPR is to assist the Proponent, NEMA and other stakeholders in understanding the proposed project and its potential environmental consequences and thus provide a basis for making informed decisions on the project.

1.1.1 Environmental Social Impact Assessment Summary Project Report

The CPCU, KCSAP Siaya contracted Peak Consultants to undertake an Environmental and Social Impact Assessment and prepare a Summary project report based on the recommendation of the County Director of Environment Siaya. This followed screening using the Environmental and Social Safeguards Checklist Annex 1 The SPR was conducted in compliance with the Environmental regulations, the EMCA,1999(Rev 2015) and its subsequent supplements; the Environmental (Impact Assessment and Audit) Regulation, 2003 (Rev. 2009); EMCA (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006; the Land Acts, the Water Act 2002 and the Public health Act, Meat Control Act Cap 315 among other pertinent legal and institutional frameworks regulating major development including the World Bank Environmental and Social Safeguard Policies. O.P 4.01 Environmental assessment (EA) of projects proposed, and OP 4.11 Physical Cultural Resources. All environmental and social issues related to the proposed project have been considered. The main objective of this report is to ensure that all the potential Environmental and Social Impacts have been identified and appropriate mitigation measures proposed for adoption during project's cycle.

1.2 Objective of the Summary Project Report

The objective of this study was to undertake a SPR of the proposed construction of a poultry processing unit to establish potential impacts of the project's activities on the environment including social concerns and to identify mitigation measures.

The specific objectives include: -

- To comply with EMCA 1999 and World Bank Safeguard Policies
- To establish the baseline status of the proposed Project site
- To identify the impacts of the proposed project's activities on the environment and social aspects
- To propose mitigation measures for the significant negative environmental and social impacts
- To develop an Environmental and Social Management and Monitoring Plan (ESMMP)

1.3 SPR Approach and Methodology

1.3.1 Overview

This study adopted an integrated approach which included desk review, field investigations, consultations among experts, interviews and discussions with stakeholders and affected parties. Desk review entailed review of literature of the existing documents regulations and guidelines such as Environmental Management and Co-ordination Act (EMCA) as well as other related statutes and international codes on land use. Reconnaissance surveys including field visits were undertaken for physical evaluation of site of interest including taking soil samples. The specific focus was on the biophysical and socio-economic environments. The sensitive environmental receptors, biodiversity, land use and development trends, physiographical features and climatic conditions along the project route were evaluated and analyzed. Public participation meetings (Annex III) and consultative meetings at the administrative and community levels were held to collect information on the beneficiaries` perceptions on biophysical and socio-economic impacts of project implementation.
The data collected focused on the following:

- ✓ Baseline data which included; biodiversity, socio-economic and environmental factors
- ✓ Legal policies, Legislative and Institutional Framework governing the proposed project
- ✓ Perception of the proposed project from the local communities
- ✓ Compatibility of the proposed project with the environment
- ✓ Types of waste to be generated, proposed management and disposal methods
- ✓ Potential positive and negative impacts of the project

The study assessed the possible impacts of the proposed project to the environment, residents in general and other administrative areas that share resources with the project beneficiaries.

1.3.2 Site visits

Information gathering was conducted through site visits, transect walk and interview with the key informants of the project which included the area chief, assistant chief, project management Committee and opinion leaders. A transect walk was carried out during the field visit to quantify the perceived impacts of project on land use, land conflicts and ownership, existing institutions in the area, vegetation cover and ecologically sensitive areas such as underground and surface waters;. The information gathered also included the existing strategies towards environmental protection

1.3.3 Public Participation and Stakeholder Consultation

One public participation meetings was conducted on 9th March, 2022, in full adherence to the government directive on the COVID-19 pandemic - social distancing, wearing of face masks, use of sanitizers and limiting the number of contact hours. The participants during the public consultation are attached together in this report (Annex II). Focused group discussions were also conducted during the public participation targeting the youth, the women and differently abled persons. A total of 8 stakeholders including county officials in the Departments of Agriculture and irrigation, Department of Water, Department of Livestock, Department of Public Health and Sanitation and local administrations (area chief and ward administrator). Detailed outcome of the public participation and stakeholder consultation is presented in chapter five of this ESIA project report.

1.4 Structure of the report

The report is organized into seven substantive chapters. Chapter one presents the introductory chapter, Chapter 2 gives the Nature of the project, and Chapter 3 presents the Location of the project Chapter 4 present public participation and stakeholder consultation. 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 presents the conclusions and recommendation followed by references and appendices.

CHAPTER TWO: NATURE OF THE PROJECT

2.0 Introduction

Kenyan government is implementing Kenya Climate Smart Agriculture project. The project promotes Climate Smart Agriculture through Technological Innovation Management Practices (TIMPs). Construction of a poultry processing and marketing unit is one of the five identified producer organization projects in Siaya County for implementation.

The major activities of the project will include:

- ✓ Fencing of the proposed site
- ✓ Clearing of selected vegetation
- ✓ Construction Abattoir structure and offices(Slaughtering dressing and cold storage)
- ✓ Connection to the milele water supply system from the county water and sanitation project
- ✓ Construction of washrooms
- ✓ Installation of solar panels and plastic water tanks
- ✓ Installation of one outlet piping system
- ✓ Construction of a soak pit and incinerator
- ✓ Construction of an aggregation centers.

2.1 Project Activities for the proposed Project

a. Preliminary activities

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

b. Initial Site Meeting

This will entail initial site meeting to introduce the contractor to the site and to the project management committee by the KCSAP CPCU and the supervising engineer.

c. Mobilization of plants and machinery

This will involve assembling all the machines and equipment required for the planned activities for the proposed project

d. Erection of Signboard

This will involve putting up a signboard for the proposed project with all the necessary information as prescribed in the contract. This will go a long way to increase project visibility and disclosure of the project to the public.

2.2 Construction works

This will involve fencing off the site, an area of about 2acres. There will be clearing of selected vegetation, excavation and laying of foundation for the construction through installation of prefabricated containers. Installation of solar panels and installation of processing machinery

2.3 Materials and Equipment

- **Materials**

  The materials required for the proposed project include cement, sand, stones, ballast and timber for slab support, fencing barbed wires of gauge 30, binding wire, chain links and concrete poles will be required to fence.

- **Equipment**

  The equipment required for the proposed project include excavation equipment, concrete mixer and assorted masonry tools.

2.4 Design

The siting, design concept and criteria for were developed in accordance with the general guidelines and standards used in the design of structures/pans in Kenya and are in line with international standards for best practice by the County Government of Siaya, through the Kenya Climate Smart

Agriculture Project (KCSAP). An approved project design has been attached to this report (Annex VII).

Topography of the area
The average slope of the site is 2.0%, towards eastern side and the land has significant amount of rocks

2.4.1 Design Calculations

Table 1: Design Calculations

Building and structures		Purpose	Square feet	Features	Cost	location
Existing	Proposed					
	Abattoir structure And offices	Slaughtering dressing and cold storage, Administration and sales offices.	1800	Slaughter floor Cold rooms Effluent disposal area Tripe room Solid waste and blood disposal Changing rooms Offices.	7,000,000	Rarieda Sub county.
	Bore hole	Water supply	150 m deep	Fitted with Electric and solar water solar pumps	1,500,000	Rarieda Sub county.
	Piped water supply	Clean water supply		With overhead storage tanks-10,000L	600,000	Rarieda Sub county
	Aggregation centers.	Collecting all purchased birds before slaughtering	20 x 30	Roofing Wall flour	1 500,000	Bondo, Gem, Siaya Town, ugunja, ugenya.

2.4.2 Production requirement machine capacity calculations

Table 2 Production requirement machinery calculations

Machine /Tools /Equipment		Capacity	Cost	Source/Supplier	Servicing
Existing	Proposed				
	Cold trucks/refrigerator vans	7 tons	4,000,000	dealers	
	Generator	240 volts	1,000,000	dealers	

2.4.3 Production requirement: Material requirements

Table 3 Production requirement Material requirements

Material required	Quantity	Cost	Source
Operating license	1	30,000	NEMA
Mature improved local poultry	4000	2,000,000	CIG`s/VMG`s

2.4.4 Population Projections

The following relationship will be used for population projection.

$$Pn = Pp (1 + r)^n$$

Where Pn = Population at n years
Pp = Present Population
r = Population growth rate
n = Number of years.

The population figures used in calculating the water demand are based on Kenya Population and Housing Census 2019. As per 2019 population census, the growth rate for Rarieda Sub County was 2.6% per annum. Therefore, the 2.6% rate will be used in projecting the population.
Number of households = 1362
Average number of persons per household =4
Total number of persons = 5448
School going children (42%) = 2288
Adults 58% = 3160
Percentage of Households with Livestock = 43%
=586 H/Holds
Average number of cattle +donkeys per household = 3
Total number of cattle + donkeys = 1758
Average number of shoats per household = 4
Total number of shoats =**2344**

Present period – year 2021
Initial period – year 2025
Future period – year 2035
Ultimate period – year 2045

2.4.5 Human Projection

Table 4 Human projection

	2019	Present 2021	Initial 2025	Future 2035	Ultimate 2045
primary school Pupils	2288	2347	2958	3727	4696
Adults	3160	3242	4085	5147	6486

2.4.6 Water demand analysis

Table 5 Water Demand m^3 /day

Category	Rate	2019	Present 2021	Initial 2025	Future 2035	Ultimate 2045
Primary school	5L/h/day	11.44	11.74	14.8	18.6	23.5
People	15L/h/day	47.4	48.6	61.28	77.21	97.28
Cattle	20L/h/day	35.2	36.07	45.45	57.27	72.2
Shoats	5L/h/day	11.72	12.02	15.15	19.09	24.05
Total						**217**

With ultimate water demand of 217m^3/day this to translates to 217m^3/day *30days*5months=32550m^3 for the dry period.

Population of Poultry by sub County

Table 6: Poultry population by Sub County

		Broilers	**Layers**	**Indigenous Chicken**
Siaya	Ugenya	13399	19520	271583
	Ugunja	8648	13288	119335
	Alego	10121	7852	122936
	Bondo	25346	29221	250234
	Rarieda	**17899**	**13793**	**149975**
	Gem	48678	11635	222723
Total		**124081**	**95309**	**1136786**

2.5 Project Output

The project outputs will include increased poultry production to meet the demand for quality poultry meat. Other outputs are increased agricultural productivity and farm incomes from farming activities that will accrue from the poultry value chain. There will be increased agricultural

knowledge and skills on poultry management and sustainability due to trainings that will be conducted to the project beneficiaries and project management committee.

2.6 Project Cost

The estimated costs of BORA poultry project is approximately Kshs 10,000,000

CHAPTER THREEE: LOCATION OF THE PROJECT

3.0 Introduction

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

3.1 Project location

The proposed site is located is located in in Rarieda and Bondo Sub counties of Siaya County with a Physical office at Asembo Farmers' Co-operative house in Aram Market center along Kisumu, Ndori - Lwanda Kotieno Road. The proposed slaughter house is strategically located at Chianda village along Ndori Luanda Kotieno tarmac road, off. Murram road the site is approximately 2 kilometers from the road. The project when fully operational will serve poultry farmers in the entire Bonda and Rarieda Sub County and extend to the entire Siaya County. Currently the only poultry slaughter house is at Kisumu Mamboleo slaughter house and it is not automated. The project location is presented Figure 1

Figure 1 Google earth map indicating the site of proposed poultry slaughter house facility

3.2 Soils

To determine the soil texture, a transect walk was undertaken in and around the proposed facility. It was noted that the soil texture is uniform in the said area and the soil profile was indicative of moderately calcareous soils. To determine the soil texture further below depth texture, a trial pit was dug to a depth of 1.2m deep. The soils are well drained moderately deep to deep, dark reddish brown to dark red friable to firm, sandy clay to clay in many places with stonelines (chromic VERTISOLs)

The soils are provide a good opportunity for establishing a foundation being the area is fairly rocky

3.2 Ecological and Climatic Conditions

The proposed project site is in Agro climatic Zone III -3 and is within an altitude of about 1200m above sea level. Rainfall is bimodal; with long rains expected in the months of April to May while

the short rains are received in the months of October to November. Rainfall expected per year ranges between 800mm and 1400mm. Temperatures are high all year round ranging from 22° and 24°. The zone is mainly used for agriculture and livestock rearing.

3.3 Vegetation Conditions

The natural vegetation in the area largely comprises of grass, shrubs and indigenous trees including Acacia spp and other semi-arid species in the drier parts, most of the agricultural zoned area is covered by crop vegetation such as maize, beans and sorghum, Lantana (Lantana camara) and guava (Psidium guajava) are the most common plants of the area. Other plants observed were Eaucalyptus spp, Cassia siamea (Caesalpiniaceae) and Aloe vera,

3.4 Demographic attributes

The population figures used in calculating the water demand are based on Kenya Population and Housing Census 2019. As per 2019 population census, the growth rate for Rarieda Sub County was 2.6% per annum. Therefore, the 2.6% rate will be used in projecting the population.
Number of households = 1362
Average number of persons per household =4
Total number of persons = **5448**
School going children (42%) = 2288
Adults 58% = **3160**

3.5 Infrastructural access

The proposed project site is accessible through Ndori, Luanda Kotieno tarmac road off Gagra Madiany murram road about 2km from the road. The Location has electricity supply and is connected to the national grid the nearest transformer is about 600meters from the site. However, the main source of energy for cooking is fire wood. There is low utilization of other sources of energy like Liquefied petroleum gas (LPG), fuel, solar and wind. Telecommunication network is good. Housing and shelter is largely semi-permanent houses which are iron roofed. A high proportion of people live in semi-permanent houses that seldom have access to essential basic services and infrastructure thereby leading to insecure and unsafe living conditions. The most or notable infrastructure include Chianda, Gagamoyo, Gagra, Ochienga and Kobonyo primary schools and the Secondary Schooln are Chinda, Gagra, Acheing Oneko and Ruma. The nearest health facility is at Papkodero dispensary and Odede a private mission hospital

3.6 Land Ownership

Land in the County is categorized as per the Article 61 of Kenya's Constitution, Land Act, 2012 and Community Land Act, 2016. The first category of land that constitutes bulk of the land parcels is private land. The community land is further categorized as registered community land and unregistered community. The second category is the public land which are mostly land owned by National, Governments, public institutions and they include road reserves, riparian, ridges, lakes and forests the land for the proposed project land is owned by BORA Cooperative society as per the attached Title Deed Number Siaya/ Masala /2950 Sheet Number 23

Land Use

The dominant land use is low density residential rural homes and smallholding peasantry mixed farming. The project is sited on a private land bought by members of the Bora Poultry producers for purposes of construction of a poultry slaughter facility. The project therefore does not pose any land use conflict in terms of biodiversity conservation.

3.6.1 Crop production

Among the crops cultivated include food crops (green grams, maize, Kunde, kales, water melon) and horticultural crops such as kales and tomatoes. The community relies on rainfed agriculture which has led to low crop production due to frequent rainfall failures. On marketing, most of the produce is sold locally in the nearby town of Madiany, Ndori, Aram and Bondo

3.6.2 Climate change effects

The evidence of climate change in the locality and the entire County has been observed in terms of increase in variability of erratic rainfall.

Climate change mitigation strategies which aim at reducing the emission of greenhouse gases (GHGs) from human induced activities need to be put in place. The strategies include: Solar energy, increase in ground cover by planting food crops, quality palatable pastures and fodder that will enhance carbon sinks and also provide high quality animal feeds.

3.7 Conflict and Grievance Resolution Mechanism (GRM)

The main grievances were those involving succession and inheritance, natural resources, grabbing of public utility spaces and land boundary disputes, tenancy and labour. Domestic violence relating to sexual exploitation and abuse and gender-based violence are some the cases relevant to project implementation. Several methods are used in resolving these household conflicts as reported during the survey.

The instruments used in the resolution of the reported conflicts in the area include.

- ✓ Extended family members
- ✓ Religious institutions/ religious leaders
- ✓ Chief/Assistant chief
- ✓ Elders
- ✓ Courts

Even though men make decisions in the whole process of development, all the genders including men, women and youth implement the activities. The positive side in the project area is that the Nyumba Kumi head and village elder has been bestowed on female gender to signal that gender roles will not limit community responsiveness and implementation. As this project is guided by the Social Accountability and Integrity Committee principles, the PMC has been tasked with forming an Accountability subcommittee to provide leadership in the GMR process.

CHAPTER FOUR: PUBLIC CONSULTATIVE PROCESS AND DISCLOSURE

4.0 Introduction

The Kenyan government has enshrined the need for human societies' involvement in project development in the Constitution of Kenya 2010. This has been set out in the EMCA, 1999 and Environmental (Impact and Audit) Regulations, 2003 and subsequent amendments (2015 &2019). The proposed project has incorporated public consultations in order to understand the local impacts, needs and wishes of the community and eventually incorporate them into the final designs and operations of the project.

4.1 Objectives of the Public Consultations/meetings

The key objectives of the consultation and public participation for proposed construction of BORA Poultry aggrgation slaughter and marketing facility

was to:

- Disseminate and inform the public and stakeholders about the project with Special reference to its key components and description
- Create awareness among the public on the need for the ESIA for the proposed project
- Gather comments, suggestions and concerns of the interested and affected parties
- Incorporate the information collected in the ESIA
- Build community consensus and acceptance of the proposed project.

4.2 Stakeholders identification

During the SPR exercise, relevant stakeholders were identified. Each stakeholder was consulted on specific aspects of the projects ranging from the design, views on benefits, likely negative impacts and involvement at all stages of implementation. A total of 15 stakeholders were consulted and their views, issues and suggestions were documented. (See Annex 3)

4.3 Methodology of Public Participation and Stakeholder Consultations

The first stake holders' participation was held on 9th March, 2022 to gather information on environmental, social and economic issues relating to the project through focused group discussions. In attendance was 50 people of which 34 men 16 women among them men 4 were disabled A simple household questionnaire was used to collect information from the public. Key informant interviews and focused group discussions were also used.

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

During public consultations, members of the community concentrated on the direct benefits accrued from the facility. Among the benefits are availability of market for poultry, employment generation, use of wastes and manure. Other positive impacts raised included reduction in poverty levels among households, increased incomes from sale of poultry, creation of employment opportunities.

Positive social issues raised were: reduction of idleness amongst the youth due to an increase in income generating activities either directly or indirectly. Incidences of abuse of drugs due to idleness will decline.

The community did not dwell much on negative impacts but the consultant's team assessed the site and came up with possible negative impacts arising from the project.

During the consultative meetings, the following areas of interest were discussed;

- **Employment opportunities**

  The respondents consulted indicated that the project will create employment opportunities during the project cycle from construction to operation and the staff that will be involved in the daily cores within the project after its completion such as guards and working in the slaughter facility

- **Socio-economic and environmental challenges in the area.** The socio-economic and environmental challenges during project implementation were raised by the public. The public were concerned about social issues like provision of labor and building materials during construction. The leaders form the area said there was need to inform the contractor to source materials and labor as much as possible.
- **Support of local businesses and Improve Revenue Generation:** The proposed project will require construction materials of different types during the construction stage. These will include building blocks, ballast, sand, marram, cement, steel, tiles and iron sheets among others. These will be procured locally from hardware shops around Aram, Ndori and Bondo town. Food business will also increase and women in particular will greatly benefit from the project by selling food to workers on the construction site. .
- **Accidents during various phases of project activities** There is likelihood that during the construction phase of the proposed project, construction workers may get involved in accidents as a result of falling building stones/bricks, sharp metals and machines used in the construction. The proponent will strictly adhere to safe working practices to protect the workers, neighbors and passers-by
- **Flora and fauna may be destroyed during construction**. The public expressed the need of minimizing clearing of trees. This issue will be addressed by the ESMMP on conservation of biodiversity.
- **Community Conflicts**. This concern was raised due to demand for labor. This concern will be addressed through project management committee and public meetings.
- **Inclusion of Vulnerable and Marginalized Groups (VMGs):** The project will empower women economic participation in higher margin value chains. The proposed project is likely to create business opportunities for the youth, women and disabled persons. This will have a positive impact on the VMGs in the project area.
- **Improved crop productivity:** Subsidized manure from waste of slaughter facilities

Plate 1: Rarieda Livestock Production officer sensitizing the society members on environmental management

Plate 2: The Food Scientists taking participants through environmental issues on a modern poultry abbatoir

CHAPTER FIVE: ANTICIPATED IMPACTS AND PROPOSED MITIGATION MEASURES

5.0 Introduction

This chapter presents the assessment of the issues likely to arise as a result of implementation of the proposed construction of BORA poultry processing facility. The anticipated impacts are discussed in three phases namely construction, operational and decommissioning phases.

5.1 Anticipated Impacts during Construction Phase

5.1.1 Positive Impacts during Construction

- **Employment Opportunities**

There is anticipated increase in job opportunities through; recruitment of unskilled and skilled labor from the locals, service provision to the construction workers in terms of meeting their food, accommodation and transport requirements.

- **Improved Infrastructure**

The access roads that will be improved to enable the heavy machineries to reach the proposed site. It will contribute to improvement of the road network system for both input and output markets.

- **Increased Incomes**

The construction works will provide a market for the locally available materials while the services required by the construction workers will boost the local businesses.

5.1.2 Anticipated Negative Impacts and Mitigation measures during Construction phase

The negative impacts during the construction phase will be short lived but may pose a great danger to the environment. Lack of effective maintenance of the construction site environment is likely to impact on the project area and its environment adversely. Some of the negative impacts include; -

1. **Vegetation and wild life Loss**

There is anticipated increase in clearing of vegetation in the proposed site, leading to loss of biodiversity of flora and fauna. The area is also a home to many bird species that may migrate as well indigenous trees that have cultural and medicinal values to the local community.

Mitigation Measures

Limited clearing of vegetation and avoidance of construction within key ecologically sensitive habitats. Wherever clearing occurs the land should be landscaped and indigenous trees be planted to restore the lost biodiversity.

2. **Soil Erosion**

The topographical nature of the proposed project site is a gentle slope. The activities involved in the site preparation such as bush clearing and excavations in order to construct the foundations may have minor negative impact on soil and geology of the project site.

Mitigation measures

- Avoid excavation works during heavy rainy/wet conditions
- The stockpiling of construction materials shall be properly controlled and managed.
- Materials to be delivered on site in installments.
- Provide soil erosion control measures i.e. suppressing open surfaces with water or use of soil erosion control structures on soil-erosion prone areas within the site.

- Avoid unnecessary movement of soil materials from the site.
- Re-surface open areas on completion of the project and introduce appropriate vegetation.
- Leveling of the project site to reduce run-off velocity and increase infiltration of storm water
- Building of physical barriers to prevent mass movement where necessary

3. Air Quality

The construction phase will give rise to fugitive dust and vehicle exhaust emissions during the delivery of construction materials to the site. Cement handling, machinery exhaust fumes, ground excavation, handling ballast/sand and building blocks are expected to cause a lot of dust emissions thereby affect air quality. Although air pollution from these activities, will be short term, moderate and localized, they are likely to pose potential health risk to workers and residents near the project site.

Mitigation Measures

The following measures will be adopted to reduce degradation of the air quality that can result from implementation of the proposed project.

i. Provide personal protective equipment (PPE) to the workers
ii. Stockpiles of fine materials (e.g. sand and ballast) should be wetted or covered with tarpaulin during windy conditions.
iii. Regularly service machinery and equipment.
iv. Use of dust nets or screens at high levels of the building
v. Regular watering of all the exposed areas to prevent fugitive dust violations.
vi. Use environmentally friendly fuels such as low Sulphur diesel
vii. Ensure no burning of waste on sites/non-designated areas
viii. Monitor the air pollution levels regularly as per the Air Quality regulations, 2014.

4. Noise and Excessive Vibrations

The noise is inevitably expected to emanate from vehicular activities, excavations and heavy equipment during construction, building works and borehole drilling and this may create a nuisance for nearby homes. This negative impact will be short-term (limited to the construction phase). Noise beyond permissible level as specified EMCA regulations 5, 6(1), and 11(1) to be avoided.

Potential Mitigation measures

i. Construction works to be carried out only during day time i.e. from say 0800hrs to 1800 hrs.
ii. Machineries shall be serviced regularly to reduce noise resulting from friction.
iii. Workers should be provided with suitable PPE such as earmuffs when operating noisy machinery and when in noisy environment.
iv. Drivers delivering materials shall be advised to avoid unnecessary hooting or acceleration of trucks/vehicles should not exceed 84 dB(A)
v. Use technologies that does not cause excessive vibrations exceeding 0.5 centimeters per second beyond any source property boundary or 30 meters from any moving source

5. Oil leaks and spills

Though this may not be common at the site, it is wise to control and observe the little that could occur especially during maintenance of the involved machinery.

Potential Mitigation measures

i. All machinery shall be maintained to manufacturers' specifications

ii. Maintenance will be carried out in a well-designed and protected area, where oils/grease is completely restrained from reaching the ground. Such areas should be covered to avoid storm water from carrying away spilled oils into the soil/water systems.
iii. All oils/grease and materials will be stored in a site's store, in the contractor's yard.
iv. Drainage facilities shall be fitted with adequate functional oil-water separators and silt traps.

6. Solid Waste Management

Solid waste will be generated in the construction phase, through the site clearing process and construction activities. The proponent should take the initiative of segregation of wastes at source to enable recycling and removal of the unrecyclable solid wastes.

Mitigation measures

The following measures shall be put in place to ensure effective management of solid waste:

- Ensure that there is minimal generation. Provide waste collection facilities (waste bins) for the temporary storage of wastes prior to collection for disposal.
- The contractor to engage services of licensed waste handlers
- The contractor will also sensitize construction workers on proper disposal of wastes.

f) Fire Occurrence

The operations that can potentially lead to fire outbreaks include poor handling of electricity systems, faulty electrical equipment, carelessness etc.

Potential Mitigation measures

i. Hire competent and properly authorized electrical contractor to do electrical works
ii. Provide adequate number of appropriate firefighting equipment
iii. Train and induct the workers on the appropriate use of firefighting equipment
iv. Post 'No smoking signs' where flammable materials will be stored
v. Develop and post at the site, fire emergency and evacuation procedures
vi. Maintain on site telephone contacts for Siaya County fire brigade, and St. Johns ambulance service provider.
vii. Designate fire assembly points at the site

g). Occupational Health and Safety (OHS)

During construction, there will be increased dust, air and noise pollution. It is expected that employees are likely to encounter occupational health risks due to accidents during operations. Because of operations activities, workers are exposed to risks of accidents and injuries. Injuries such as cuts and bruises can arise from use of tools and equipment or falling from slippery floor and collisions.

Mitigation measures

- The Contractor to place labels and warning signs in areas posing risk of injury or accidents
- The contractor labels and warn the public on the danger of construction activities
- The contractor to provide all workers with full protective gear (PPEs)
- The contractor to train and provide First-aid Kit to the workers
- The contractor to have Incident and Accident Registers on site for recording of injuries or any OHS incidence
- Contractor to prepare a contingency/emergency management and preparedness plan for accident response.
- Ensure the availability of Emergency contacts for police, ambulance, etc.
- Emergency plans should be communicated and well understood.

- Train workers on administering first aid, and provide a functional first aid kit
- Contractor to hire a qualified health and safety officer to oversee OSH issues.
- Proper site sanitation to be ensured by the selected contractor.
- Discourage unauthorized people from the project site
- Contractor to procure insurance for workers, machinery and third parties

In case of 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.

7. Extraction of Construction Materials

There is a heavy demand for construction materials in bulk such as sand, gravel and rocks. These will be extracted from the local sources. The extraction and transport of these materials is likely to result in the distortion of the ground structure, vegetation loss, dust emission, oil spills, noise and potential for accidents. Further, the barrow pits associated with extraction of materials may result to water that will become suitable breeding grounds for mosquitoes and other diseases vectors, leading to increase of water borne diseases.

Mitigation Measures

- The materials should be sourced from an approved site
- There should be adequate re-use of the excavated waste materials
- The proposed site for barrow pits/rehabilitation plans should be indicated in the construction plan and approved by the local authorities as well as done appropriately to minimize impacts on various land uses.
- There should be adequate landscaping, backfilling and draining of the depressed areas to prevent breeding grounds for disease vectors

8. Liquid Wastes

Liquid wastes including oil spills, during storage and refueling of machines, grey and black water, concrete washing, run off from workshop areas and various liquid wastes from the washing of construction vehicles and equipment will be generated during construction works. These wastes are likely to cause imminent threats to the groundwater quality.

Mitigation Measures

- The grey water runoff from the working areas should be contained and properly channeled and be reused.
- Water containing pollutants such as cement, concrete, lime, chemicals and fuels should be discharged into a conservancy tank for removal from the site
- Potential pollutants should be stored, kept and used in such a manner that any escape can be contained to avoid degrading the water table
- Any pollution incidents on site should be resolved immediately
- The maintenance of vehicles and other machineries should be on designated locations where potential pollution is unlikely such as on concrete platforms
- There should be regular maintenance of machineries to ensure they are in good working conditions and are free from oil leakages
- There should be fast oil spill containment and clean-up of equipment at the requisite places

There should be adequate operator training to adopt measures that are preventive in use of such machineries

5.1.2.1 Social impacts

1. Gender Based Violence (GBV) and increased spread of STDS/HIV/ AIDs

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

Mitigation Measures

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

2. Increased risk of spread of covid-19 pandemic.

Covid-19 pandemic spread among people during construction may occur in the project area. The human interactions may increase the risk of spread of the pandemic.

Mitigation measures.

- Sensitizing the public on covid-19 government of Kenya regulations to reduce risk of the spread.
- Providing a container with a tap and running water and soap for public to wash their hands.
- Provide hand sanitizers in construction site for people to sanitizes their hands

3. Sexual Exploitation and Abuse (SEA)

This impact refers to sexual exploitation and abuse committed by Project staff 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.

Mitigation Measures to Risk of SEA

- ✓ Develop and implement an SEA action plan with an Accountability and Response Framework as part of the C-ESMP. The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing involving Major Civil Works (Sept 2018). The SEA action plan will include how the project will ensure necessary steps are in place for:

- ✓ **Prevention of SEA**: including COCs and ongoing sensitization of staff on responsibilities related to the COC and consequences of non-compliance; project-level IEC materials;

- ✓ **Response to SEA**: including survivor-centered coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management;

- ✓ Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of PSEA awareness-raising in all community engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA-related rights;

- ✓ **Management and Coordination**: including integration of SEA in job descriptions, employments contracts, performance appraisal systems, etc.; development of contract policies related to SEA, including whistle-blower protection and investigation and disciplinary procedures; training for all project management; management of coordination

mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA focal points in the project and trained community liaison officers.

4. Child Abuse

Children within project areas will be exposed to risks associated with interaction between them and Project Workers. This includes child labour and sexual abuse which coherently leads to teenage pregnancies and exposure to communicable diseases such as HIV/AIDS.

Mitigation Measures to Child Protection

- ✓ The contractor will develop and implement a Children Protection Strategy that will ensures minors are protected against negative impacts associated by the Project including on SEA...
- ✓ All staff must sign, committing themselves towards protecting children, a contract which clearly defines what is and is not acceptable behaviour
- ✓ Children under the age of 18 years should not be hired on site as provided by Child Rights Act (Amendment Bill) 2014.
- ✓ Wherever possible, ensure that another adult is present when working in the proximity of children.
- ✓ Not invite unaccompanied children to workers home, unless they are at immediate risk of injury or in physical danger.
- ✓ Refrain from physical punishment or discipline of children).
- ✓ Refrain from hiring children for domestic or other labor, which is inappropriate given their age, or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.
- ✓ Comply with all relevant local legislation, including labor laws in relation to child labor specifically provisions of Kenya's Employment Act Cap 226 of 2007 Part VII on protection of children against exploitation

5 Insecurity, theft, vandalism and destruction of property on site

During construction the contactor will supply items to the site. If appropriate security measures are not put in place there can be theft, vandalism or destruction of property on site.

Mitigation measures

- Ensure general safety and security of the project materials and equipment at all times by providing day and night security guards;
- Ensure only authorized personnel get access to the site. Develop a good feedback mechanism for addressing complaints at the site or from community members in order to foster good coexistence.
- Ensure community engagement and ownership of project activities.
- The project site is enclosed using a perimeter wall and there is a guard house at the gate to beef up security of the site.
- The guards stationed at the gates will document movements in and out of the site/property
- Contractor shall provide adequate security during the construction period when there are no works on the site.
- Installation of CCTV cameras at strategic points for monitoring and enhancing the security of the property during operation phase.

6. Increased exposure to HIV/AIDS and STIs

The influx of people may contribute to increase in the aforementioned diseases to the project area, this can result in an additional burden on local health resources...

Mitigation measures

- Sensitize workers and community members on HIV/AIDS;
- Controlled access to Contractor's Workforce Camps by outsiders.
- Strategically display sensitization messages on HIV/AIDS and STIs
- Provide standard quality condoms at the construction site during the construction period.

5.2 Operation Impacts during the Operation phase

5.2.1 Positive Impacts

a) Employment Creation

Through poultry keeping and sale of poultry product income levels are likely to increase and indirectly through the provision of auxiliary services such as marketing. Banking, transport, communication among others

b) Increased income level

The expansion of the poultry facility will lead to increased poultry production and consequently increased household incomes.

c) Increased productivity

Due to demand for white meat there will be increased production which will enhance food security among households in the area. In addition, the increased production will sustain and support expansion of the factory

d) Improved food security

The project will increase food production and incomes in the households. It will also improve the health status of the people and eliminate malnutrition problems that are prevalent in the area.

5.2.2 Negative Environmental Impacts during operation phase

a) Solid Waste

Solid waste generated during operations include papers used for packaging, plastics, feathers, carcasses from dead chicks, byproducts and spillage. Dumping around the site will interfere with the anesthetic status and directly affect the immediate neighbors. The off-site effect could be pest breeding, pollution to the physical environment including water resources.

Mitigation measures

The following measure shall be put in place to ensure effective management of solid and liquid waste disposal

b) Carcass for dead chicks

- Minimize mortalities through proper sorting during aggregation and scoring at the receiving bay and disease prevention;
- Collect carcasses on a regular basis to prevent putrefaction; and
- Dispose carcasses by incineration.

c) Solid waste from spillage and by-products

- Ensure minimal spillage of waste.
- An appropriate temporary holding facility should be put in place.

- Provide solid waste facilities (waste bins) for temporary disposal of waste before disposal to appropriate and designated locations;
- Liaise with the County Government of Siaya for guidance on licensed waste collectors and suitable dumping sites for generated wastes; and
- All materials must be removed and recycled/reused as far as possible.

c) Solid waste disposal

The solid waste will comprise mainly of packaging materials, soil excavated and rock debris, metal cut offs plastics, cardboards, paper, wood and waste concrete among several others, which can cause water pollution and animal health risks.

Proposed Mitigation Measures

- Establish a waste disposal site for hazardous waste in a location approved by NEMA in accordance with the waste management regulations
- Regular monitoring of waste management status in the poultry processing facility

b) Change in ambient air quality (Air quality degradation /smell from chicken waste)

During project operation, offensive smell will emanate from the slaughtered chicks' waste. This is likely to be a nuisance to the neighbors. Therefore, appropriate measure should be put in place to minimize this smell.

Mitigation measures

The following measures can be put in place to mitigate possible negative impacts of smell from the improved chicken waste. Persons involved in the management of the project should

- Use of appropriate disinfectants to suppress the offensive smell from chick waste
- Ensure regular collection and disposal of waste off the site in composting pad
- Ensure regular cleaning of the hatchery

c) Increased demand for Water

The proposed project will result in increased demand for water. Water in the slaughter facility will be required to clean the premise.

Mitigation measures

- Water saving devices such as push taps to be installed to minimize water lose.
- Use of 'nipple' watering systems for the chickens.
- Sinking of borehole specifically for the project can be done as per the condition of permit already issued Water Resources Authority.
- Installation of roof rainwater harvesting systems to the premise.
- Sensitized workers on appropriate water use and conservation technologies applicable.

d) Increased demand and consumption for Energy

The proposed project will result in increased demand for electricity. Energy will be consumed for internal climate adjustment (heating, cooling, ventilation, lighting and humidity control) and for the operation of production equipment (feeding, milling, sanitation, and eggs' production).

Mitigation measures

- Energy saving bulbs to be used in lighting in offices.
- The backup generator should be automatic to save on fuel consumption
- Proper ventilation of the premise to ensure optimum natural light during the day.

- Provide automatically fused control boxes for equipment in the power distribution panel to prevent interruption in case of tripping.
- Undertake regular energy audits.
- What about installation of solar powered energy

e) Water pollution

Excessive amount of waste from the poultry slaughter house can cause pollution and eutrophication of nearby water resources (surface and ground). This can impact adversely the aquatic life due to high levels of ammonia. This could also affect the required standard of water for domestic use if the affected water resource is a community water point.

Mitigation measures

- Installation of temporal storage equipment for litter from the slaughter not used immediately to ensure that it does not enter into water sources.
- Have a nutrient management plan for the production of manure from the poultry slaughter plan.
- Waste should be disposed through a NEMA registered waste disposal company and in a designated site.

g) Waste water

Indiscriminate sewage disposal can also result to contamination of underground water resources. Wastewater during operational stage if not properly managed can cause contamination of water resources, land and also air pollution. Thus all waste water shall be channeled to septic tank.

Potential Mitigation measures

- The design of the internal sewerage system shall consider the estimate discharges from individual sources and the cumulative discharge of the entire project
- All drain pipes passing under building, driveway or parking should be of heavy duty PVC pipe tube encased in concrete surround. All manholes on drive ways and parking areas shall have heavy-duty covers set and double sealed airtight; as approved by specialists.
- Sanitary facilities will be kept clean always, through regular cleaning.
- Frequent monitoring of the internal drainage system.
- Blockages and damages shall be fixed expeditiously.
- Provision of adequate and appropriate sanitary facilities for the workers
- Ensure regular maintenance of foul water drainage works at the premises to prevent clogging and fore-stall breakdowns

h) Storm water drainage

The clearance of site vegetation cover and excavation works will lead to increased soil erosion at the project site and release of sediments into the drainage systems. The building roofs and pavements may lead to increased volume and velocity of storm water or run-off flowing across the area covered by the buildings. This can lead to increased amounts of storm water entering the drainage systems, resulting in overflow and damage to such systems.

Mitigation measures

- Regularly inspect and clean drainage ditches/ gullies;

- Semi permeable materials will be used for construction of pavements;
- Comprehensive landscaping after completion of construction,
- Regularly inspect leachate collection and treatment facilities, wheel wash system, water supply and sewerage network at administration;
- Drainage channels shall be covered with gratings to avoid occurrence of accidents and entry of dirt; and
- Construct gently sloping drains to convey water at non-erosive speed.

5.2.3 Anticipated health and social impacts during operation phase

I) Outbreak of Poultry related illnesses on humans

Litter and solid wastes produced from the slaughter facility and poultry by products may contain pathogens such as avian influenza virus and salmonella. Antimicrobial resistant bacteria are also found in poultry related production activities. Human population exposed to water polluted with chicken waste may suffer gastroenteritis, headache and fatigue due to increased toxic microorganisms spurred by eutrophication. Poor drainage of effluent from the hatchery will create a suitable habitat for disease vectors such as mosquitoes causing an upsurge of malaria in the project area.

Mitigation measures

- For biosecurity reasons there will be measures to protect the project site by fencing and separating administration block from coops.
- Keep the poultry processing facility clean and disinfected regularly
- Workers in the processing facility should be trained on biosafety regulations and provided with PPEs.
- Handwashing equipment should be provided in the premise.
- Workers to be provided with PPEs.
- Proper management of both liquid and solid waste from the processing facility through having a good drainage system and provision of waste receptacles, respectively.

k) Risk of social conflict among members managing the project

Conflicts may arise between the management team and the community in terms of resource allocation, utilization and sharing of the benefits arising from the project operations.

Mitigation measures

- Establish a management team with the requisite skills on hatchery operations
- Establish an effective and efficient grievance redress mechanism where all conflicts related to the project are addressed.

l) Occupational Health and Safety Hazards

During operation, there will be increased dust, air and noise pollution. It is expected that employees are likely to encounter occupational health risks due to accidents during operations. Because of operations activities, workers are exposed to risks of accidents and injuries. Injuries such as cuts and bruises can arise from use of tools and equipment or falling from slippery floor and collisions.

Mitigation measures

- Labels and warning signs in areas posing risk of injury or accidents
- Provide all workers with full protective gear (PPEs)

- Establish Incident and Accident Registers on site for recording any OHS incidence
- Prepare emergency management and preparedness plan for accident response.
- Ensure the availability of Emergency contacts for police, ambulance, etc.
- Train workers on administering first aid, and provide a functional first aid kit
- Hire a qualified health and safety officer to oversee OSH issues.
- Procure insurance for workers, machinery and third parties

- In case of 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.

a) Social impact – risks of animals and people

The entire area will be fenced and will be provided with a lockable gate. This will prevent entry of animals, children and unauthorized people into the designated areas or become hazardous areas where domestic animals and children may drown.

Proposed Mitigation measures

- ✓ The facility will be fenced to keep off unauthorized people
- ✓ Put warning signs at the slaughter facility to alert children and other people of the dangers associated with entering the plant without proper protective clothing

b) Gender based violence and sexual harassment (GBV/SH)

This impact is triggered during project operation phase when the Proponent or project management fail to comply with the following provisions:

- ✓ Gender Inclusivity requirements in hiring of workers and entire project management as required by Gender Policy 2011 and 2/3 gender rule; and
- ✓ Failure to protect human risk areas associated with, disadvantaged groups, interfering with participation rights, and interfering with labor rights.

The proposed Mitigation Measures of Human Rights and Gender Requirements are:

- Integrate provisions related to sexual harassment in the employee Code of Conduct.
- Ensure all employees and any personnel thereof engaged in the project implementation to individually sign and comply with a Code of Conduct with specific provisions on protection from sexual exploitation and abuse.
- Implement provisions that ensure that GBV at the community level is not triggered by the project, including:

i) Effective and on-going community engagement and consultation, particularly with women and girls.

ii) Review of specific project components that are known to heighten GBV risk at the community level, e.g. compensation schemes; employment schemes for women; etc.

- Develop specific plan for mitigating these known risks, e.g. sensitization around gender-equitable approaches to compensation and employment.
- Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation.

c) Sexual Exploitation and Abuse

This impact refers to sexual exploitation and abuse (SEA) 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.

The proposed mitigation measures to risks of SEA include:

- Develop and implement a SEA action plan with an Accountability and Response Framework as part of the C-ESMP. The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing involving Major Civil Works (Sept 2018).
- The SEA action plan will include how the project will ensure necessary steps are in place for:

i) Prevention of SEA: including Code of Conducts and ongoing sensitization of staff on responsibilities related to the Code of Conducts and consequences of non-compliance; project-level IEC materials.

ii) Response to SEA: including survivor-centered coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management.

iii) Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of PSEA awareness-raising in all community engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA-related rights.

iv) Management and Coordination: including integration of SEA in job descriptions, employments contracts, performance appraisal systems, etc.; development of contract policies related to SEA, including whistle blower protection and investigation and disciplinary procedures; training for all project management; management of coordination mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA focal points in the project and trained community liaison officers.

d) Risk of Increased incidences of HIV/AIDS and STIs

The influx of people may bring communicable diseases to the project area, including sexually transmitted infections (STIs), or the incoming workers may be exposed to diseases to which they have low resistance. This can result in an additional burden on local health facilities and resources. Local health and rescue facilities may also be overwhelmed and/or ill-equipped to address the industrial accidents that can occur in a large construction site.

Proposed mitigation measure for this are:

- Sensitize workers and community members on HIV/AIDS awareness and other communicable diseases to be instituted and implemented as part of the contractor's Health and Safety Management Plan. This will involve periodic HIV/AIDS and other communicable diseases Awareness Workshops for Contractor's Staff.
- Controlled access to private offices and working places by outsiders.
- Provide standard quality condoms at the site at all times.

e) Grievances/conflicts

Common grievances expected to arise during the proposed project implementation include:

- ✓ Negative project impacts which may include disruption of income, physical harm, and nuisance from construction activities;
- ✓ Health and safety risks;
- ✓ Socially-unacceptable project staff relations with the communities and other stakeholders;
- ✓ Conflicts over employment ; and
- ✓ Pollution and other environmental related impacts.

Mitigation measures

The following are possible mitigation measures to manage grievances:

- Establish a grievance redress mechanism (GRM) for the proposed project;
- Seek to establish amicable relationships with stakeholders and manage the impact of the project activities on affected communities;
- Put in place a pre-emptive community liaison structure aimed at identifying potential issues arising from project-related impacts and addressing them before they become grievances;
- Ensure the grievance redress mechanism is available to the affected community members and stakeholders at no cost;
- Address all raised grievances, real or imagined and take reasonable steps to maintain confidentiality of the parties to the mechanism and regardless of the complainants' participation in this process, give a guarantee that the complainant's statutory rights to undertake legal proceedings remain unaffected; and
- Educate all project stakeholders on the availability and use of the grievance redress mechanism in a manner that is understandable to all, before, during and after construction of the proposed project.

f) Child abuse

Children within the project area will be exposed to risks associated with interaction between them and project staff. This includes child labour and sexual abuse which coherently leads to teenage pregnancies and exposure to communicable diseases such as HIV/AIDS.

Mitigation measures

- The Proponent will develop and implement a Children Protection Strategy that will ensure minors are protected against negative impacts associated with the project.
- Children under the age of 18 years will not be hired at the site as provided by Child Rights Act (Amendment Bill) 2014.
- Comply with all relevant local legislation, including labour laws in relation to child labour specifically provisions of Kenya's Employment Act, 2007 (Cap. 226) Part VII on protection of children against exploitation.

g) Risk of increased spread of COVID-19

During project operation, there will be a lot of interactions among different people at the site. The potential for the spread of any infectious disease like COVID-19 is high. There is also the risk that the project may experience large numbers of its workforce becoming ill and will need to consider how they will receive treatment, and whether this will impact on local healthcare services including the project host community.

The proposed Mitigation Measures against spread of COVID-19:

- The CBO and County department of health will develop a SOPs for managing the spread of COVID-19 during project operation. 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 PPE shall be required for all project personnel.
- The project shall put in place means to support rapid testing of suspected workers for COVID-19.
- Avoid concentrating of more than 15 persons or workers at one location. Where more than one person is gathered, maintain social distancing at least 2 meters.
- 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.
- Ensure routine sanitization of shared social facilities and other communal places routinely including wiping of workstations, door knobs.

5.3 Anticipated Impacts during the decommissioning phase

Decommissioning refers to the formal process of removing something from the operational status. It requires time in order to properly deal with potential hazards and risks that may be encountered.

5.3.1 Decommissioning activities

A typical decommissioning involves demobilization of the slaughter facility, pumps and plant and disconnection from the solar powered mains, removal of unstable fills and configuration for long term drainage, which includes closure of the solid waste and soak pit

The decommissioning exercise will have both positive and negative impacts.

5.3.2 Positive Decommissioning Impacts

Employment Creation

For demolition to take place properly in good time, there will be need to employ people who will be involved in the demolition exercise for the proposed project on its decommissioning.

Rehabilitation

During the decommissioning stage rehabilitation works will be undertaken at the proposed site to restore it to its original state. This will include replacement of topsoil and re-vegetation, which will enhance the aesthetic value of the area

5.3.3 Negative Decommissioning Impacts

a) Generation of Solid and Liquid waste

Solid waste generated during decommissioning include broken stones from walls of buildings. Dumping around the site will interfere with the aesthetic status and directly affect the immediate neighbors. The off-site effect could be pest breeding, pollution to the physical environment including water resources.

Proposed Mitigation Measures

- Debris from demolition and all other solid waste to be handled, managed and disposed according to the EMC (Waste Management) Regulations 2006.
- Solid waste to be disposed only at licensed disposal sites

b) Air quality/dust emissions

Dust will be generated during demolition from debris once the project comes to its decommissioning.

Mitigation Measures

- Dust suppression through water sprinkling.
- Proper servicing of equipment to reduce exhaust fumes.

c) Occupational health and Safety risks

It is expected that employees are likely to encounter occupational health risks due to accidents Because of demolition activities, workers are exposed to risks of accidents and injuries. Injuries can arise from use of tools and equipment. The injuries can include cuts and bruises.

Mitigation Measures

- Sensitize the decommissioning team on occupational health and safety
- Discourage unauthorized idlers at the site
- Provide adequate PPE's to workers
- Adhere to Site Occupational Health and Safety rules and regulations as stipulated in the Occupational Safety Act of Kenya of 2007 and revised in 2010.
- Sensitize all the workers on occupational health and safety

Provide adequate first-aid facilities in the project sites to handle medical emergencies

d) Water Pollution

Waste from demolished material if not properly disposed can cause pollution and eutrophication of nearby water resources. This can impact adversely the aquatic life. This could also affect the required standard of water for domestic use if the affected water resource is a community water point.

Mitigation Measures

- Dispose through a NEMA registered waste disposal company and in a designated site only.
- Exhaust the septic tank fully through a licensed exhauster
- Scoop and remediate the site from any oil spills immediately and seek advice from NEMA on how to dispose

e) Loss of employment

A number of people who are employed in the slaughter facility will lose their jobs if the project is decommissioned by either abandonment or demolition.

Mitigation Measure

- Prior notification of BORA Poultry management, employees, local community members

and relevant local leaders

- Where possible provide an alternative source of livelihood

5.4 Grievance Redress System

The proponent shall also develop a Grievance Redress System (GRS) and make it accessible to all stakeholders internal and external. The GRS will always seek to address grievances through legally acceptable methods and as fast as possible whilst not preventing any complainants from seeking other legally acceptable methods to justice. The GRS shall be monitored to improve the project's health and safety strategies. As part of monitoring and review all grievances should be reported to the relevant authorities and the corrective actions taken, to ensure the system is credible and transparent.

CHAPTER SIX: ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

The overall objective of the Environmental Management and Monitoring Plan (ESMMP) is to ensure that mitigation measures of identified adverse effects throughout the design, construction, operation and decommissioning phases are implemented and that they are effective so as to promote the positive effects. It will also enable response to new and developing issues of concern. The ESMMP is vital output of an Environmental Impact Assessment as it provides a checklist for project monitoring and evaluation.

6.0 Responsibilities

The ESMMP has various components with the respective stakeholders involved towards the implementation of the corrective actions. Various persons and organizations are to be involved in the project. The following should be involved in the implementation of the ESMMP;

6.1 ESMMP monitoring

There should be continuous monitoring and follow up on the project activities to ensure that the ESMMP is implemented and that its objectives are achieved. The implementing staff, the community, and the contractor should ensure that the mitigation measures are put in place as outlined in the ESMMP. The monitoring guidelines are based on the following parameters:

- Effluent waste disposal
- Public safety and health awareness
- Safety of equipment and property
- Capacity building and skills improvement of water users and slaughter facility
- Maintenance of infrastructure

6.2 Auditing the ESMMP

The proponent community based organization should conduct annual audits to ensure the systems are operating effectively. The audit needs to ensure that the auditing procedure is in place to ensure that: -

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

6.3 Design and Construction Phase

The necessary objectives activities, mitigation measures and allocation of costs and responsibilities pertaining to prevention, minimization and monitoring of significant negative impacts and maximization of positive impacts associated with construction phase of the proposed poultry slaughter are outlined below:

Table 7: Environmental, social management and monitoring plan during construction phase

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
Clearing of vegetation	✓ Proper demarcation of construction sites to minimize disturbance ✓ Avoid cutting indigenous trees and vegetation within the survey area path of the water conveyance ✓ Strict control of construction vehicles to ensure that they operate only within the area to be disturbed by access routes and other works ✓ As much as possible, avoid cutting down indigenous tree species of socio-economic importance	-Acreage of area demarcated and construction sites identified -Acreage area of indigenous trees secluded -% of vegetation cover -No. of trees within the project areas	reports/photographs -Site plan showing demarcation	Contractor Supervising Engineer	Throughout construction period	Contractor cost
Solid and liquid waste	• The contractor should scoop the affected soil and dispose in a designated site • Compact loose soils to minimize wind erosion • Contractor should provide solid waste facilities (waste bins) for temporary disposal of waste before disposal to appropriate and designated location • Cement wrappers, debris and all other solid waste to be handled, managed and disposed	• No of litter bins at the site No of designated waste disposal points • Quantity of wastes generated, reused or recyclable • Licensed waste handler in place • Latrine for workers	•Site inspection •Contracts with licensed waste handler	• Proponent • Contractor site engineer	2 months	Constructors cost

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	according to the EMC (Waste Management) Regulations 2005. • The contractor to engage services of licensed waste handlers to disposed solid wastes only at licensed disposal sites • Covering of the trucks during transportation, all the building materials and waste Provision of adequate and appropriate sanitary facilities for the construction workers					
Air pollution	- Ensure construction machinery and equipment are well maintained to reduce exhaust gas emission - The contractor should secure the site with appropriate dust screens which are capable of capturing fine dust without releasing it into the neighborhood. - Drivers of construction including tippers, Lorries, earth-movers etc. will be under strict instructions to minimize unnecessary trips, reduced speed and minimize idling of engines. - The contractor should ensure	- No of well-maintained machinery - Frequency of water sprays and mists - No of suitable PPE - No of personnel with appropriate PPE/ ear muffs. - No of drivers trained/advised on proper vehicle maintenance	- LPOs for PPEs purchased - Reports - Signed contracts between Contractor & employees –	– Proponent – Contractor	2 months	Constructor's cost

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	regular sprinkling of water on open surface and dust grounds unless paving is done - After construction, any open area should be planted with appropriate trees, flowers and grasses; - The contractor should provide all employees involved in the construction with dust masks - Contractor to enforce strict use of PPEs by workers;					
Noise and excessive vibrations	- Construction activities to be restricted to daytime i.e. 8am to 6pm - All employees likely to be exposed to ear noise to be provided with ear protectors; - Contractor to ensure strict enforcement on use of ear protectors; - There should be less use of noisy equipment on site. - Immediate neighbors to be notified in advance on the date of commencement of construction work. -	Public notice - LPOs for PPEs purchased - Number of workers using PPEs. - Available servicing cards/receipts/ - Frequency of vehicle/ machine servicing	- LPOs for PPEs purchased - Reports - Vehicle/machine service records	- Contractor	2 months	Contractor's cost
Traffic congestion	• Employ traffic marshals to control traffic in and out of site • Ferry building materials during off-peak hours	• Daily working hour register • Traffic control sign boards	- Speed limit sign boards - Employee contracts	- Proponent - Contractor - Drivers	2 moths	15,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	• Provide traffic control signs at the site/entrance to notify motorists and general public about the development • Enforce speed limits for construction vehicles especially along the roads leading to the site • Ensure that the vehicles comply with axle load limits • Employ well trained and experienced drivers	• Number of traffic marshals on site				
Oil spills	✓ Vehicle maintenance should be done on purpose built ✓ Impervious concrete platforms with oil and grease traps. ✓ Standard operating practices for re-fueling mobile equipment such as a minimum 15m from any water channel should be practiced	No of Oil and grease traps established	Records Register on vehicle maintenance	Contractor Supervising Engineer	Construction phase	Contractor cost
Occupational health and safety	✓ Availability of adequate and appropriate sanitary facilities ✓ Ensure workers health and safety throughout the campaign ✓ Train at least one employee on first aid skills ✓ Have fire extinguishers and train workers on how to use them ✓ Have dust suppressants to reduce dust	No Latrines constructed and in use No of employees trained on first aid skill No of workers trained on use of fire extinguishers No of fire extinguishers installed No of sensitization trainings and participants	Safety records Recorded accidents occurrences and near misses OSH sensitization conducted	Contractor	Construction	20,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
Anticipated Health and Social Impacts						
SEA by project workers against community members	– Develop and implement a SEA Action Plan with an Accountability and Response Framework as part of the construction ESMP in accordance with the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing involving Major Civil Works (Sept 2018)	Number of cases of SEA Number of persons sensitized	Incident reports	- Proponent Supervising Engineer Social Worker	2 moths	20,000
GBV/SH	– Develop a human resources policy against sexual harassment – Develop a Code of Conduct – Create awareness on the dangers associated with GBV/SH and the need to take precautions against them – Establish a GRM	Number of reported cases of GBV/SH Number of awareness creation meetings	Incident reports	Contractor and Consultant Social Worker	2 moths	20,000
Child abuse and/or child labor	• Develop and implement a Children Protection Strategy • Ensure all staff and workers sign, contracts which clearly defines what is and is not acceptable behavior • Do not hire underage at the site as provided by Child Rights Act (Amendment Bill) 2014	Number of cases of child abuse	Incident reports	Contractor and Consultant Social Worker	2 months	20,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
Risk of spread of COVID-19	• Put in place measures to prevent and manage the spread of the COVID-19 • Develop SOPs for managing the spread of COVID-19 • Provide and enforce and use of appropriate PPE by project personnel	Number of reported cases of COVID-19 from among construction staff and people interacting with the construction staff	Incident reports	Contractor, Supervising Engineer		20,000
Risk of increased HIV/AIDS and STIs	• Sensitize workers and community members on HIV/AIDS /STIs, • Ensure HIV/AIDS and STIs, and other communicable diseases awareness workshops for project staff and workers • Install condom dispenser in appropriate places	No. of trained workers Rate at which dispensed condoms are used/picked	Training reports List of attendants	Contractor and Consultant Social Worker		-N/A

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
Impacts related to occupational and public/community safety and health	✓ Have a fully equipped First Aid Kit (containing a first aid manual and is equipped with all the necessary accessories) at the site at all times ✓ Provide appropriate PPE including face masks, goggles, scarfs, boots and overalls among other protective clothing to all workers and people at the site and sensitize them	Number of Fully equipped first Aid Kits available Number of reported accidents	Reports	Contractor/Project Management Unit	Continuous	20,000
Grievances/conflicts	✓ Establish a grievance redress mechanism targeting communities and other project stakeholders but not applicable to commercial and employee-employee relationships ✓ Ensure the grievance redress mechanism is available to the affected community members and stakeholders at no cost ✓ Educate all project stakeholders on the availability and use of the grievance redress	Number of reported cases on grievances Number of sensitization awareness creation workshops on GRM Number of community members trained on GRM	Reports Existing records	Contractor, Project Management Unit	Continuous	20,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	mechanism in a manner that is understandable to all,					
Destruction of cultural heritage sites	✓ Proper identification and demarcation of sites of cultural heritage ✓ Establishing mechanisms for negotiation where disturbance of such sites is inevitable ✓ Protection of identified cultural sites	Affected cultural sites in the project area Number of mechanisms/meetings undertaken	Reports Photos Existing records at the county government office	in case of chance find the contractor will secure the area and notify the NMK and County Department of Culture National Museums of Kenya and County department of Cultural services Contractor	Construction period	-
Sub Total:	**ESMMP Construction phase**					**120,000**

8.4 Environmental Social, Management and monitoring plan during operation phase

The environmental management and monitoring plan for the operational phase provides specific guidance related to the operational activities associated with the irrigation project. It is centered on sound environmental management practices that will be undertaken to minimize adverse impacts on the environment through normal operations of irrigated agriculture. The plan further identifies measures to be taken in an event of emergencies or incidences during the operation of the scheme. The table below shows operation phase of the irrigation project

OPERATION PHASE

Table 8: Environmental Social Management and Monitoring plan for operation phase

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
Liquid waste	• Regular inspection and maintenance of the internal sewer system. • Establishment of septic tank	Water analysis on the Effluent disposal sites	Septic tank	- Proponent -BORA poultry Project committee	- weekly inspection - Routine maintenance	30,000
Water pollution	- Exhaust the septic tank through a NEMA licensed exhauster once full - Ensure the septic tank-soak pit system being used is not situated near a well, bore hole or close to the shore to avoid groundwater contamination - Installation of storage temporal storage equipment for litter from the processing facility not used immediately to ensure that it does not enter into water sources. - Waste to be disposal should be through a NEMA registered waste disposal company and in a designated site.	- No. of waste receptacles installed - No. of waste receptacles - No. of licensed waste handlers contracted	- Location of the septic tank soak pit Waste disposal system through NEMA registered companies	BORA poultry Project manager	Routine inspection and maintenance	10,000
Solid Waste management	-Establish waste disposal site for hazardous waste in allocation approved by NEMA in accordance with waste management regulations --Designed waste collection points established -The disposal site need to be more	-Number of Waste deposition points -Number Waste disposal	Monitoring Reports	Project Management Unit in collaboration with the CBO BORA poultry Project manager	Throughout operation period	50,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	that 100 meters from water course and in a position that will facilitate prevention of storm water run-off from the site from entering the pan	facilities/contract collector				
	Other wastes • Encourage segregation of waste (organic and inorganic) • Provide for clearly marked dustbins to serve the specified use. • Ensure that wastes generated are efficiently managed through recycling, reuse and proper disposal procedures. • Establish compost pad • A private NEMA licensed company to be contracted to handle solid waste and dispose it of in designated dumpsites. • Routine cleaning of the waste collection points/cubicles	Contracts with private refuse collection firms, Number of litter bins	Waste disposal facilities available	BORA Poultry Project committee	Continuous	20,000
Conflicts	-Build capacity of local conflict resolution mechanisms -Conflict among beneficiaries over water access and utilization	Number of farming communities trained on conflict resolution Number of beneficiaries targeted	Reports Fewer incidences of conflicts	Project management Committee Community members project implementation team	Operation period Operation period	50,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	-Conflict among beneficiaries over allocation of the operations and maintenance costs	Water committee be established responsible for resource mobilization			Operation period	
Occupational Health and Safety risks	• Sensitize the all workers on occupational health and safety • Provide adequate first-aid facilities in the project sites to handle medical emergencies during construction • Discourage unauthorized idlers at the site • Provide adequate PPE's to workers during construction • Comply with the National and International Labor laws • Comprehensive HIV/AIDs sensitization program for workers and the local community	No of workers sensitized Number of first aid facilities Number of PPEs provided Number of workers sensitized	Report on first facilities Reports on PPEs Field visits	Project management Committee Community members project implementation team	Operation period	20,000
Covid 19	○ Mandatory provision and use of appropriate Personal Protective Equipment (PPE) ○ Avoid concentrating of more than 15 workers at one location. ○ Maintain social distancing at least 2 meters. ○ All workers and visitors accessing worksites every day or attending meetings shall be	No Availability of: SOP(s), No of Training material, PPE, Sanitizing facilities, Installed handwashing equipment	SOPs, Project assessment reports, Purchase orders/receipts, Photos	All the Project components	monthly	30,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	subjected to rapid Covid-19 screening which may include temperature check and other vital signs. o The project shall put in place means to support rapid testing of suspected workers for covid-19.					
Anticipated Health and Social Impacts						

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
Social impact – risks of animals and people entering the pan without consent of the concerned authorities	✓ Put warning signs at the pan site to alert children and other people ✓ Carry out public awareness and education. ✓	Warning signage Number and specific sites where warning signs are placed Number of public awareness meetings	Reports Photos	BORA Poultry Marketing management committee	Continuous	20,000
Gender-based Violence (GBV) at the community level	o The contractor will implement provisions that ensure that GBV at the community level is not triggered by the Project, including: o Effective and on-going community engagement and consultation, particularly with women and girls; ✓ Review and updating of specific project components that are known to heighten GBV risk at the community level, e.g. compensation schemes; employment schemes for women; delivery of water supplies; etc.	Number of SEA action plans prepared Code of conduct prepared Number of staff trainings on SEA held. -Number of PSEA community liaison trainings carried out Number of IEC materials available	GBV plans Attendance registers GBV action plans	Supervision Consultant GBV Expert	Continuous	20,000
Sexual Exploitation and Abuse by project workers against community members	✓ Develop and implement a SEA action plan with an Accountability and Response Framework as part of the C-ESMP. The SEA action plan will follow guidance on the World Bank's Good Practice	SEA Action Plan Code of Conduct Number of staff trainings SEA FP	SEA action plan Attendance registers	Contractor GBV Expert	Continuous	20,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	Note for Addressing Gender-based Violence in Investment Project Financing involving Major Civil Works (Sept 2018).	Community Liaison trained in PSEA IEC materials for workers' sites and community Discrete SEA reporting pathway				

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
Risk of Increased incidences of HIV/AIDS and STIs	✓ Sensitize workers and community members on HIV/AIDS awareness and other communicable diseases to be instituted and implemented as part of the contractor's Health and Safety Management Plan,	Number of awareness, creation, consultative workshop/meetings Number of condoms distributed	Reports	Project management unit County public health	Continuous	-
Grievances/conflicts	✓ Put in place a pre-emptive community liaison structure aimed at identifying potential issues arising before they become grievances; ✓ Ensure the grievance redress mechanism is available to the affected persons at no cost; ✓ Address all raised grievances, real or imagined and take reasonable steps to maintain confidentiality of the parties to the mechanism and regardless of the complainants'	Number of conflict related cases reported and addressed Number of awareness creation workshops/meetings	Reports	BORA Poultry management unit	Continuous	20,000
Child Abuse	✓ Develop and implement a Children Protection Strategy that will ensure minors are protected ✓ Comply with all relevant local legislation, including labour laws in relation to child labour specifically provisions	Number of child abuse related cases reported and addressed Number of awareness creation workshops/meetings	Reports	BORA Poultry management unit	Continuous	10,000
Spread of COVID-19 amongst workers	o The Contractor will develop a SOPs for managing the spread of Covid-19. The SOPs shall be	Number of PPEs supplied	Reports	BORA Poultry management unit	Continuous	20,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	in line with the World Bank guidance on COVID-19, Ministry of Health Directives, and site-specific project conditions. o Mandatory provision and use of appropriate Personal Protective Equipment (PPE) o Avoid concentrating of more than 15 workers at one location. o Maintain social distancing at least 2 meters. o 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.	Number of hand washing facilities Amount in liters of sanitizers and liquid soap				

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
occupational and public/community safety and health	✓ Have a fully equipped First Aid Kit (containing a first aid manual and is equipped with accessories) at the site at all times. ✓ Provide appropriate PPE including face masks, goggles, scarfs, boots and overalls among other protective clothing to all workers and people at the site	Number of first Aid Equipment Number of awareness sensitization workshops/ meetings	Reports	BORA Poultry management unit	Continuous	40,000
Total ESMMP Cost for Operational Phase						**350,000**
Grand Total cost of ESMMP						**470,000**

8.6 EMMP for the Decommissioning phase

Decommissioning refers to the formal process of removing something from the operational status. This being the final phase in the project cycle, decommissioning may present possible opportunities associated with the return of the land for alternative use. However, depending on the nature of the operational activity, the need to manage risks and potential residual impacts may remain well after operation ceased

The EMMP will direct the initial stages of decommissioning phase. The table below shows the EMMP of the decommissioning phase for the irrigation project.

Table 9: EMP for decommissioning phase of proposed project

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
Demolition Waste	-Use an integrated solid waste management system i.e. Through a hierarchy of	Registered waste collector engaged	Inspection and observation	Contractor	One-off	50,000

Expected Negative Impacts	Recommended Mitigation Measures	Performance Monitoring Indicator	Means of Verification	Responsibility Monitoring Implementation	Time Frame	Cost
	options: Recycling Reuse; Sanitary land filling					
Occupational health and safety risks	-Adherence to the Occupational Health and Safety Rules and Regulations stipulated in the occupational Safety and Health Act, 2007 -Provision of appropriate personal protective equipment	Number of reported incidences	Inspection and observation	Contractor	Throughout decommissioning period	5000
Spread of COVID-19 amongst workers	○ Mandatory provision and use of appropriate Personal Protective Equipment (PPE) ○ Avoid concentrating of more than 15 workers at one location. ○ 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 ○	Availability of: SOP(s), Training material, PPE, Sanitizing facilities, Installed handwashing equipment	SOPs, Project assessment reports, Purchase orders/receipts, Photos	All the Project components Supervising Eng. & Contractor(s)	monthly	100,000
Total cost of decommissioning						**155,000**

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

7.0 Introduction

The proposed project presents multiple environment and social benefits including: Increased agricultural production, increased household incomes, local economic growth and enhanced climate resilience in the region. It will also allow for optimal use of natural resources in the County. On the other hand, the project could spur negative environmental impacts. These include: vegetation clearance construction of a poultry aggregation, sorting preservation, slaughter and marketing the negative impacts however can be mitigated trough technical design consideration, community sensitization, strategic partnerships, staff capacity building-implementing agencies and continuous monitoring of environmental conditions against the baseline

7.1 Conclusion

From the findings of the study that is detailed in this report, the BORA poultry project will play an important role in improving the livelihoods of the local community through increased and improved poultry production. It will enhance food security, generate local employment and increased household incomes of targeted BORA SACCO members and the larger Rarieda community

9.3 Recommendations

In addition, to following the laid down guidelines and according to the information collected, collated and analyzed during the study, it is the lead experts considered opinion that:

- The project DOES NOT pose any irreversible environmental impacts identified that are generally related to development projects and the mitigation measures for those that have been clearly articulated;
- The project will bring positive environmental impacts that surpass the few and minor negative impacts identified. The negative environmental impacts are addressed by the detailed environmental management plan, which will be executed during the project implementation and operation phases to safeguard the environmental interests
- The proponent has agreed to adhere to the laid down laws and procedure of NEMA in setting up the project. It successful implantation will contribute to the economic growth of the country in regards to poverty eradication as well as reducing the water use conflicts
- The proposed project is a socially environmentally and economically viable venture the befits support in order to contribute to the Vision 2030 development goals; its implementation will be beneficial to the country through its contribution to food security, poverty eradication and improved water resource management and reduced water related conflicts
- A copy of the environmental and social management plan must be given to the contractor prior to construction. The contractor needs to demonstrate how the ESMP will be implemented in the construction process.

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ANNEXES

Annex 1: Duly Filled ESS Screening Checklist

WORLD BANK GROUP
Agriculture

Producer Organization Screening Checklist 2022

Section A: Background information

Name of County.....SIAYA.....
Name of CPCU/NEMA .....VIOLET ATIENO.....
Producer Organization Ward...NORTH UYOMA.....
Name of CBO/Institution.....BORA POULTRY MARKETING COOPERATIVE SOCIETY.
Contact Person..FREDRICK ODONGO..Cell phone..0734693041.....
Producer Organization name..BORA POULTRY MARKETING COOPERATIVE SOCIETY.
Estimated cost (Ksh.) .....9M.....
Approximate size of land area available for the producer organization.....0.44HA (1.1 ACRES).
Objectives of the producer organization..AGGREGATION, MARKETING, STORAGE FOR POULTRY.
Activities/enterprises undertaken..COLD STORAGE, SLAUGHTER & MARKETING.
How was the producer organization chosen?..ALREADY IN POULTRY FARMING.
Expected producer organization duration.....1 YEAR.....

Section B: Environmental Issues

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

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

Section C: Socio-economic Issues

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

Section D: Natural Habitats

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

Use irrigation system in its implementation?		

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

Section E: Pesticides and Agricultural Chemicals

This questionnaire will be used with the farmer's groups for purpose of implementing the IPMF

1) *Pest Control practices*

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

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

If No, WHY?_____

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

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

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

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

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

If No, WHY?

c) How do you decide when to use the pesticides (tick all that apply)?

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

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

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

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

(v) Other(specify)____

d) Do you use a knapsack sprayer? Yes No____

If yes,

(i) Do you own it Yes No?

(ii) Do you rent it Yes No?___

(iii)Do you borrow it Yes No?____

e) From your experience, are there any negative/harmful effects of using pesticides?

Yes..... No.....

f) If yes, list the negative effects:

(i) .....

(ii) .....

(iii).....

g) Do you use any kind of protective clothing while applying or handling pesticides?

Yes..... No.....

Why?_____

marketing?

6.Training

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

Integrated Pest Management Yes..... No.....
No. of times/past year. .....
b). Pesticide Usage Yes..... No.....
No. of times/past year. .....
c). Pesticide Safety: Yes..... No.....
No. of times/past year. .....
d). Insect Identification Yes..... No.....
No. of times/past year. .....
e). Disease Identification Yes..... No.....
No. of times/past year. .....
f). Quality aspects of production Yes..... No.....
No. of times/past year.....

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

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

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

Are there:	Yes	NO
People who meet requirements for OP 4.10 living within the boundaries of, or near the project?		
Members of these VMGs in the area who could benefit from the project?		
VMGs livelihoods to be affected by the sub project?		

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 producer organization:	Yes	No
Require that land (public or private) be acquired (temporarily or permanently) for its development?	✓	
Use land that is currently occupied or regularly used for productive purposes (e.g. gardening, farming, pasture, fishing locations, forests)		✓
Displace individuals, families or businesses?		✓
Result in temporary or permanent loss of crops, fruit trees and pastureland?		✓
Adversely affect small communal cultural property such as funeral and burial sites, or sacred groves?		✓

Result in involuntary restriction of access by people to legally designated parks and protected areas?		✓
Be on monoculture cropping?		✓

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

Section H: Proposed action

(i) Summarize the above:	(ii) Guidance
☐ All the above answers are 'No' ☐ There is at least one 'Yes'	• 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).

(iii) Recommended Course of Action

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

☐ CPCUs and County Director of Environment (CDE) will provide detailed guidance on mitigation measures as outlined in the ESMF; and

☐ Specific advice is required from CDE and CPCUs regarding sub-project specific EIA(s) and also in the following area(s)

☐ All sub-project applications/proposals MUST include a completed ESMF checklist. The KCSAP-CPCU and CDE will review the sub-project applications/proposals and the CDEs will sign off;

☐ The proposals will then be submitted to NPCU for clearance for implementation by communities in the proposed subprojects.

Expert Advice

☐ The National Government through the Department of Monuments and Sites of the National Museums of Kenya can assist in identifying and, mapping of monuments and archaeological sites; and

☐ Sub-project specific ESIAs, if recommended, must be carried out by experts registered with NEMA and be followed by monitoring and review. During the process of conducting an EIA the proponent shall seek views of persons who may be affected by the sub-project. The WB policy set out in OP 4.01 requires consultation of sub-project affected groups and disclosure of EIA's conclusions. In seeking views of the public after the approval of the sub-project, the proponent shall avail the draft ESIA report at a public place accessible to project-affected groups and local NGOs/CSOs.

Completed by:

Name: Ag FREDRICK ODONGO

Position / Community: CHAIRMAN.

Date: 10/2/2022

Field Appraisal Officer (CDE): William Odongo

Signature:

Date: 10/2/22

Annex 2: Title Deed of the Land

REPUBLIC OF KENYA

THE LAND REGISTRATION ACT

THE REGISTERED LAND ACT

Title Deed

MLS/TD/02/A202

No. 3303916

REPUBLIC OF KENYA

THE LAND REGISTRATION ACT

THE REGISTERED LAND ACT

Title Deed

Title Number

Approximate Area

Registry Map Sheet No.

This is to certify that

is (are) now registered as the absolute proprietor(s) of the land comprised in the above-mentioned title, subject to the entries in the register relating to the land and to such of the overriding interests set out in section 28 of the Land Registration Act (No. 3 of 2012) as may for the time being subsist and affect the land.

GIVEN under my hand and the seal of the District Land Registry

this day of 20

Annex 3: Minutes of the Consultation Meetings

MINUTES OF A MEETING HELD FOR PROPOSED CONSTRUCTION OF A POULTRY PROCESSING AND MARKETIN FACILITY HELD ON 28th FEBRUARY, 2022 AT CHIANDA VILLAGE AT 10.00 AM

Date: 28th February, 2022
Time: 10.00 a.m.
Present: List of participants attached
Absent with Apology
Location: Rarieda
Project: Poultry aggregation

Agenda
Project Brief
Community Sensitization on ESIA
Public participation
AOB

Min 1/ 9/3/2022: Introduction
The meeting commenced at 10a.m with a word of prayers from Madam Peninah Anyango The Chairman Mr. Fredrick Adede welcomed everyone in the meeting and introduced the members present and their roles. He went ahead and informed the members on the purpose of the meeting giving a brief highlight on the main agenda before handing over the meeting to the sub county Livestock officer Mr. Henry Dundo who introduced the County Environmental Social Safeguards Officer Mr. Benard Ayagah,

Min 2/ 9/3/2022: Project Background
After all the introductions the Chairman of the BORA poultry Cooperative Society gave a brief introduction of the SACCO. Mr. Benard Ayagah the CESSCO informed members that the aim of KCSAP project and its activities is to increase agricultural productivity and build resilience to climate risks in the targeted smallholder farming and pastoral communities in Kenya and in the event of an eligible crisis or emergency to provide immediate and effective response Through KCSAP, the County government want to provide farmers with services that increase productivity and increase resilience through five main value chains poultry farming, honey production, fish farming , sorghum and tomato.
As a smallholder farming community and through BORA poultry marketing group the county government of Siaya funded by World Bank want to establish a poultry aggregation, slaughter, preservation packaging and marketing facility. By implementing this project the community members will benefit from established market, improved incomes, increased value of basic production as well as enhanced local and national markets

Min 3/ 9/3/2022: -Kenya Climate Smart Agriculture Project (KCSAP) County Environment and Social Safeguards officer (CESSCO) Mr. Bernard Ayagah
In order for such a project to take place, an environmental Impact Social Assessment must be done by an independent body (NEMA) and report written approval. This ESIA process must involve stakeholders through public participatory meeting to inform community members on all positive and negative impacts with possible mitigation measures
He informed participants that a screening checklist was undertaken to determine the nature of the project its impacts and whether it can be categorized as a Summary Project Report as per NEMA Legal Notice No 31 and 32.

Min 3/ 9**/3/2022 Project Brief**

The chairman Mr. Fredrick Adede reported that Bora Poultry Marketing Cooperative SACCO was registered in 2015 in Bondo Rarieda .Initially the members started poultry farming in 2013 and it used to be called RAMCO limited. The members bought land and identified a site for poultry processing. The members requested for funds to construct a poultry mini processing plant

Objective of the SACCO is to

- Train farmers
- Bulking of poultry feeds
- Provide chicks from the hatchery
- Aggregation and sale of poultry
- Slaughter and preserve in order to undertake value addition

The society offers financial services to its members through loans and deposits. It was given an inclusion grant of Kshs 500,000 by World Bank funded KCSAP project

Min 4/ 9/3/2022 Community Consultation/Sensitization on ESIA

The Consultant ESIA Lead Expert informed the participants about the importance conducting ESIA and that the focus on any development initiative is to improve the economic well-being of an area. In the same line these development should always consider the environmental well-being of the current population and the generation to come and thus a balance is attained between the two hence termed as sustainable development.

The participants were enlightened about the ESIA; its purpose/objectives; legal framework including legislation and policies governing environment; the rights and role of community towards environment protection and management. They were informed that in Kenya, it is a requirement that every project has to be environmentally friendly. Section 58 of Environmental Management and Coordination (Amendment) Act (EMCA), 2015 and Regulation 4 of Environmental Management and Coordination (Strategic Assessment, Integrated Impact Assessment and Audit) Regulations, 2018, indicates that no proponent shall implement a project that is likely to have a negative environmental impact; or for which an environmental impact assessment is required under the Act or these Regulations; unless an environmental impact assessment has been concluded and approved in accordance with these Regulations.

They were further informed that EMCA (Amendment) 2015 requires involvement of community/ neighbors/ stakeholders during public participation in order to provide an opportunity to give their views with respect to the benefits; impacts both negative and positive and establish whether the project is economically viable, socially acceptable and environmentally friendly/sound. The participants were also informed that public participation objective is to avoid white elephant projects.

The CESSCO then invite ESIA Lead Expert a Mr. Fredrick Aloo and his team to lead stakeholders in identification of positive impacts, negative impacts and the mitigation measures

Mr. Aloo explained importance of performing ESIA before any project is implemented. The main reason is to identify the potential environmental and social impacts and suggest the best practices and possible mitigation measures by engaging the community members through discussion several issues were raised

Min 4/9/3/2022: Public engagement and opinion Session on the proposed Bora Poultry processing facility

1. Joan Ahidi

She appreciated the poultry project and did not anticipate any negative impact, .However she wanted to know whether there will be job opportunities and if the opportunities are there then what criteria will be used to engage people

Her proposal was that 80 percent of all unskilled labour be recruited from the members of SACCO and the community at large. Some members will also be trained on various skills. This will in turn create sense of ownership sustainability and improve quality of lives for he households

2. Festua Adipo

He informed the meeting that the factory will require skilled and unskilled personnel to work in the facility and hence the need for maintenance which has to be done after every 7 days in order to ensure the processing unit does not breakdown

3. Edwin Ogola

He was thankful for the poultry processing facility, however he posed a question on what will be done in case of power black outs. The answer was that there has to be provision for installation of solar energy

4. Okumu Macogola

He informed the participants that a number of negative aspects may affect the processing unit among them being

Vegetation removal resulting in Land degradation,

Security issues and vandalism of poultry infrastructure,

Conflict on poultry sales to the facility and employment of skilled and unskilled labor in the processing facility.

He emphasized on the need to empower the youth through skills development

5. Rose Odera

She welcomed the project and caution on chances of poultry disease outbreaks spreading and even causing havoc to the neighboring communities she also noted that there will be both direct and indirect benefits including provision for markets under collective bargaining tools

6. Fredrick Adede

He informed that the expansion of the project would improve livelihood of the local community including increasing income, employment, food security and improved infrastructure. He requested KCSAP and the local administration to mitigate the negative impacts resolve emerging conflicts related to the proposed poultry project.

7 Apollo Miruka

He requested that once the project starts its operation security measures to be put in place the ensure theft cases are minimized or eradicated.

8. Fred Ouma

He welcomed the project and reported that the benefits are many. He requested that the project to be constructed and managed properly so that it does not fail. He discouraged mismanagement/vandalism and that such need to be dealt with firmly and security provided for safety of water infrastructure.

Min 5/ 9/3/2022 possible adverse effects of the project and suggested mitigations

- The community were unanimous that there will be no serious negative environmental impacts resulting from the irrigation scheme rehabilitation activity.
- However, some minimal environmental degradation as a result of selective bush clearing and thinning might occur while opening the area for expansion during excavation
- There will be incidences of disease outbreak from the local aggregated poultry during operation, however measures will be put in place by screening the chicken bought for slaughter There will be an aggregation unit where the sick will be separated from the healthy ones
- Air pollution from chicken waste smell. There will be an incinerator to burn all the dead chicken and bury the ashes
- Bio Security in order to control deaths of poultry or spread of diseases there will be structures in place that will control movements of locals within the slaughter facility. Only accredited persons with safety measures will be allowed to work the poultry facility

Min 6/11/11/2021: A.O.B

OWNERSHIP OF THE LAND TO BE OCCUPIED BY THIS PROJECT INVESTMENT?

The Society reaffirmed that the land is owned by the BORA Poultry marketing society and they did provide a copy of the title deed

CONSENT FOR THE PROJECT

The Community members present agreed unanimously gave consent for the project.

The NEMA Expert thanked the Community for giving consent for project implementation. He stated that the Community response to the ESIA exercise will go to the experts to facilitate issuance of other certification.

CLOSING REMARKS

The County Project Coordinator thanked the participants for attending the meeting and informed them that he will be available frequently during project implementation to monitor progress. He noted that success of the project depends on all stakeholders The Management Committee from the society remain as a family and know that there will be maintenance cost.

There being no other business to discuss to discuss, the meeting was closed with a word of prayer at 2.30 pm.

Signed  Date 9/3/2022

Fredrick Aloo Lead Expert
Taking Minutes

Annex 4: Attendance list

Republic of Kenya

Kenya Climate Smart Agriculture Project (KCSAP)

Office of the CPCU - Siaya

REGISTRATION FORM

ACTIVITY: DAY TWO PUBLIC ENGAGEMENT WITH THE COMMUNITY DATE 09/03/2022.

NO	NAME	ORGANIZATION	DESIG	CONTACT		SIGN
				MOBILE	EMAIL	
1.	JUDITH NELLY OKUMU	AKILI (SELF HELP)	BORA	0720972087	—	
2.	KEVIN OCKO	AKILI SELF HELP	BORA	0708779993		
3.	Phestus Adipo Mbogo	MWANGAZA GROUP	BORA	0703 937366		
4.	Mary Anyango Omollo	BORA	MEMBER	0734010447		
5.	DOUGLAS OSEWE MONYE	BORA	MEMBER	0729581543		
6.	JOYCE AFIENO OMBATO	BORA	MEMBER	0704360359	—	
7.	Christine Anyango Odhiambo	BORA	MEMBER	0715153513		
8.	Enol Odesy Ogola	AKILI (SELF HELP)	MEMBER	0712195085	enologola@gmail.com	
9.	Vincent Ochieng' Andaro	AKILI SELF H G	MEMBER	0713302 600		
10.	Collins Ochieng	Akili	Member	0799858454		

P. O. Box 3 - 40600, SIAYA

Mob: +254 722 943269

REGISTRATION FORM

ACTIVITY: PUBLIC PARTICIPATION WITH BORA POs DATE 08/03/2022

NO	NAME	ORGANIZATION	DESIG	CONTACT MOBILE	CONTACT EMAIL	SIGN
1.	John Omic Omic	Bora	Member	0795845025		
2.	JOHN SEU	BORA	member	0722378409		
3.	James Owuor Aduda	Bora	member	07—		
4.	William Kndithy	Bora	"	0715824596		
5.	LEONIDA OPUODHO	Bora	"	072737241		
6.	Pamela Awino	Bora	Member	0710395158		
7.	Henry Othambo Dindo	DoALF	SCAPO	0714299820	henrydindo@yahoo.com	
8.	Richard Juma	DoALF	SCAO	0721855567		
9.	FRED ADEDE	BORA	CMA	0724 694551	adedefred@gmail.c..	
10.	FRED Ima	ATDC	AT.	0713793???	fanyx9@gmail.com	

Kenya Climate Smart Agriculture Project (KCSAP)

Office of the CPCU - Siaya

REGISTRATION FORM

ACTIVITY: PUBLIC PARTICIPATION WITH BORA POs DATE 08/03/2022

NO	NAME	ORGANIZATION	DESIG	CONTACT MOBILE	CONTACT EMAIL	SIGN
1.	John Omic Omic	Bora	Member	0795845025		
2.	JOHN SEU	BORA	member	0722378409		
3.	James Owuor Aduda	Bora	member	07—		
4.	William Kndithy	Bora	"	0715824596		
5.	LEONIDA OPUODHO	Bora	"	072737241		
6.	Pamela Awino	Bora	Member	0710395158		
7.	Henry Othambo Dindo	DoALF	SCAPO	0714299820	henrydindo@yahoo.com	
8.	Richard Juma	DoALF	SCAO	0721855567		
9.	FRED ADEDE	BORA	CMA	0724 694551	adedefred@gmail.c..	
10.	FRED Ima	ATDC	AT.	0713793???	fanyx9@gmail.com	

P. O. Box 3 - 40600, SIAYA Mob: +254 722 943269

Kenya Climate Smart Agriculture Project (KCSAP)

Office of the CPCU - Siaya

Republic of Kenya

REGISTRATION FORM

ACTIVITY: VISIT SITE AND MARKET CATCHMENT DATE 07/03/2022

NO	NAME	ORGANIZATION	DESIG	CONTACT MOBILE	CONTACT EMAIL	SIGN
1.	SALOME OGOLA	BORA	MEMBER	0721237001	[illegible]@gmail.com	
2.	PAMELA OLALI	BORA	MEMBER	0722817103	olalipam@gmail.com	
3.	FELISTER APIYO	BORA	MEMBER	072433539	fapiyo17@gmail.com	
4.	ALLAN OKATCH	BORA	MEMBER	0720695497	aokatch@gmail.com	
5.	CHRISTOPHER [illegible]	BORA	MEMBER	0725718279	chris[illegible]@gmail.com	
6.	ERICK OCHIENG [illegible]	BORA	MEMBER	070537857	—	
7.	BERNARD A. OKANG	BORA	MANAGER	0720682746	[illegible]	
8.	BOB O. MISEDA	BORA	MEMBER	0716053173	[illegible]@yahoo.com	
9.	ROBERT PHILIP OLWANDE	BORA	Member	0722600895	Phillip[illegible]@gmail.com	
10.	MESHACK OMWANDA	Bora	member	0740964565	—	

Mob: +254 722 943269

P.O. Box 3 - 40600, SIAYA

Republic of Kenya

Kenya Climate Smart Agriculture Project (KCSAP)

Office of the CPCU - Siaya

REGISTRATION FORM

ACTIVITY: MEETING BORA FOR PMC DATE: 24/03/2022

NO	NAME	ORGANIZATION	DESIG	CONTACT		SIGN
				MOBILE	EMAIL	
1.	JOAN AHIDI AMBAYO	BORA	MEMBER	0720485917	ahidiambayo68@gmail.com	
2.	RAEL ATIENO NYANGIDI	BORA	MEMBER	0718089436		R. A
3.	APOLLO OMIL GOR	BORA	MEMBER	0720775225	-	
4.	FAMILY ZIMULI	BORA	MEMBER	0708421813		
5.	EDWIN OGOLA	BORA	Member	0722742386	info.maniaje@gmail.com	
6.	BSP JASHON GOR MIRAMBE	BORA	VICE CHAIR.	0717613605	survivalofgod@yahoo.com	
7.	JOSEPH OKUMU DYUGA.	BORA	MEMBER	0716817414		
8.	NICHOLAS O. K AWITI	BORA	Member	0726714200	nkawiti@yahoo.com	
9.	OKUMU MAKOGOLA	BORA	MEMBER	0721940705	okumumakogola@gmail	
10.	JAPHETH MANYALA	BORA	MEMBER	0729871485		

ANNEX 5: Public Consultation Questionnaire

ENVIRONMENTAL SOCIAL IMPACT ASSESSMENT (ESIA) FOR PROPOSED CONSTRUCTION OF A POULTRY PROCESSING AND MARKETIN FACILITY IN NORTH UYOMA WARD, RARIEDA SUB-COUNTY IN SIAYA COUNTY

County Project Coordinator (**CPC),** Kenya Climate Smart Agricultural Project **(KCSAP)**, Ministry of Agriculture, Livestock and Fisheries. P.O. Box 3 - 40600 Siaya through BORA Sacco a producer organization intends to construct a poultry aggregation, slaughter, packaging and marketing in Chianda village in Siaya County.

To ensure that the project is implemented in an environmentally and social sound manner, the proponent the **County Project Coordinator (CPC),** Kenya Climate Smart Agriculture Project **(CPC)** in consultation with EIA Lead expert is conducting an Environmental Social Impact Assessment (**ESIA**) for the proposed site.

The main objective of the **ESIA** study is to identify key environmental, health, social and economic issues associated with the proposed project and establish appropriate mitigation measures for the negative impacts while enhancing the positive impacts.

Public Participation of interested and affected parties in the **ESIA** is a requirement of the Environmental Management and Coordination Act, 1999.

In public and partnership participation, you have been identified as one of key informant. You are requested to document your views, opinions and concerns regarding the proposed irrigation project

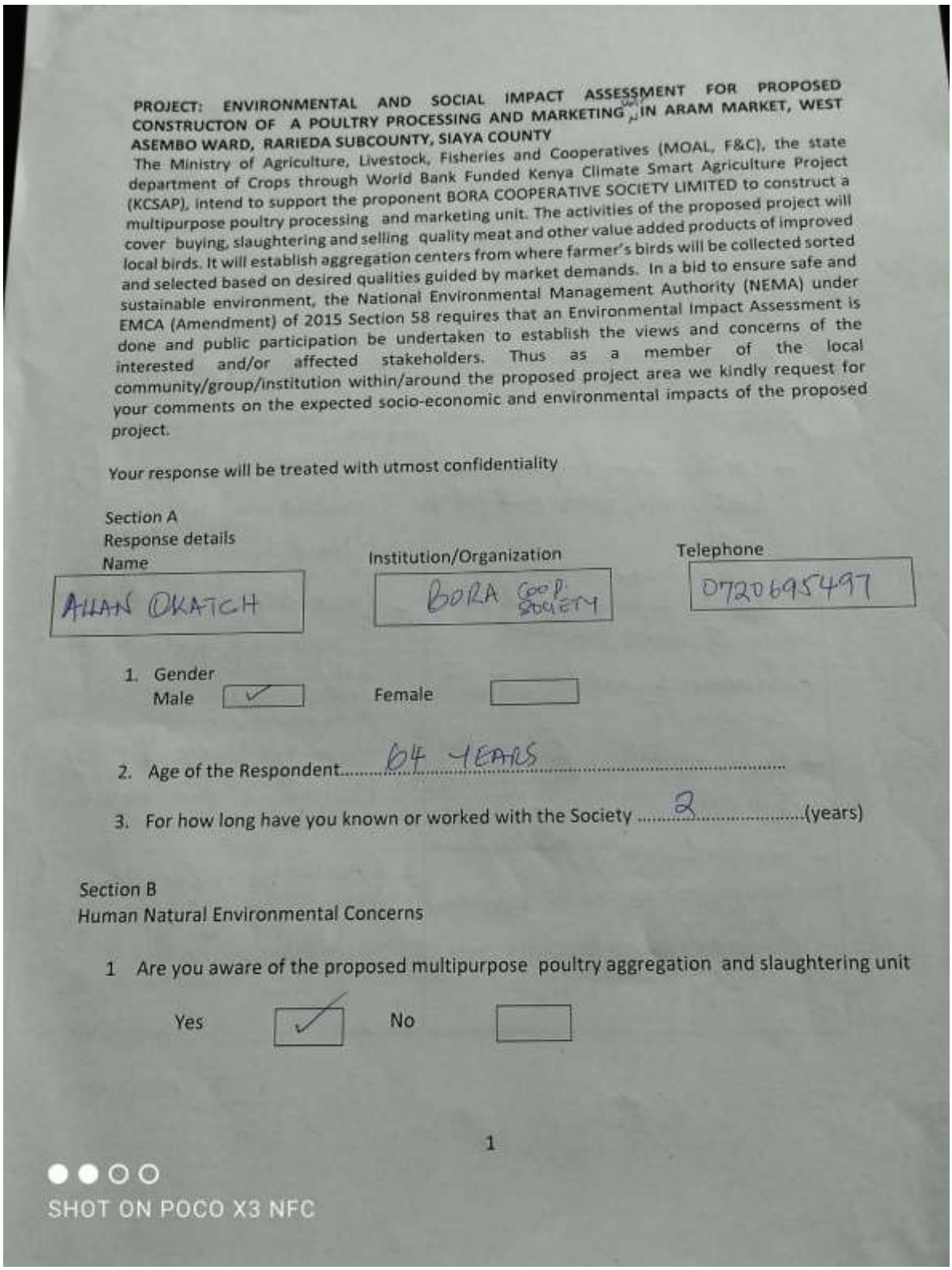
This questionnaire acts as a guide for the respondent to provide relevant information on the proposed project. All the information obtained shall be used entirely for the proposed study on the project and shall be treated confidential.

We appreciate your cooperation and thank you for your willingness to participate in this exercise.

Please return the completed questionnaire to the ESIA/EA lead Expert.

Fredrick Aloo
Phone numbers: -
+254-726-589 117
E-mail address: -
fredrick.aloo@gmail.com
Address: -
P.O. BOX 34188-00100
NAIROBI – Kenya

Annex 6: Sample Questionnaire Filled by Respondent



PROJECT: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR PROPOSED CONSTRUCTON OF A POULTRY PROCESSING AND MARKETING IN ARAM MARKET, WEST ASEMBO WARD, RARIEDA SUBCOUNTY, SIAYA COUNTY

The Ministry of Agriculture, Livestock, Fisheries and Cooperatives (MOAL, F&C), the state department of Crops through World Bank Funded Kenya Climate Smart Agriculture Project (KCSAP), intend to support the proponent BORA COOPERATIVE SOCIETY LIMITED to construct a multipurpose poultry processing and marketing unit. The activities of the proposed project will cover buying, slaughtering and selling quality meat and other value added products of improved local birds. It will establish aggregation centers from where farmer's birds will be collected sorted and selected based on desired qualities guided by market demands. In a bid to ensure safe and sustainable environment, the National Environmental Management Authority (NEMA) under EMCA (Amendment) of 2015 Section 58 requires that an Environmental Impact Assessment is done and public participation be undertaken to establish the views and concerns of the interested and/or affected stakeholders. Thus as a member of the local community/group/institution within/around the proposed project area we kindly request for your comments on the expected socio-economic and environmental impacts of the proposed project.

Your response will be treated with utmost confidentiality

Section A
Response details

Name: ALLAN OKATCH

Institution/Organization: BORA COOP SOCIETY

Telephone: 0720695497

1. Gender
   Male [✓] Female [ ]

2. Age of the Respondent..... 64 YEARS .....

3. For how long have you known or worked with the Society ..... 2 .....(years)

Section B
Human Natural Environmental Concerns

1 Are you aware of the proposed multipurpose poultry aggregation and slaughtering unit

Yes [✓] No [ ]

1

SHOT ON POCO X3 NFC

2 Do you think the proposed construction/establishment of the unit and its activities pose any danger to the environment

Yes [ ] No [✓]

If yes explain .....

3 Do you have any rejection/reservation on proposed construction/establishment of the multipurpose poultry slaughtering and marketing unit

Yes [ ] No [✓]

If yes explain .....

4 What do you think are the positive and negative socio economic and environmental impacts on the proposed project

Positive	Negative
- Create employement at both farm level and fading level - Improve living standards due to improved cash flow in the farm families - Increased nutrition to the community - Open marketing for poultry farmers - Improved poultry production by many farmers/economic empowerment.	- Expose the surrounding families to vagaries of life eg. HIV/AIDS. - Security challenges arising from high concentration of farmers - Increased waste disposal routine in foul smell - Possibility of accident in the poultry processing Unit

5 Suggest mitigation measure for any negative impact that may result from implementing the project Creating awareness thro public health
Conduct a waste disposal site

6 a) Do you anticipate any conflict or complain against the proposed poultry slaughtering, selling and marketing project with respect to:

- Land Yes ☐ No ☑
  If yes indicate.....
- Water Yes ☐ No ☑
  If yes indicate.....
- Public health and safety? Yes ☐ No ☑
  If yes indicate .....
- Loss of livelihood? Yes ☐ No ☑
  If yes indicate .....
- Cultural/heritage? Yes ☐ No ☑
  If yes indicate .....
  Others .....

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

i. Public health awareness
ii. Employing Security / Outsource experts
iii. .....

7 On the whole, would you have any objections to the project being implemented? ND

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

Neighbour resident ☐ Project official ☐ Stakeholder ☑

Stakeholder ☐ Community leader/Member ☐

Other Specify ☐

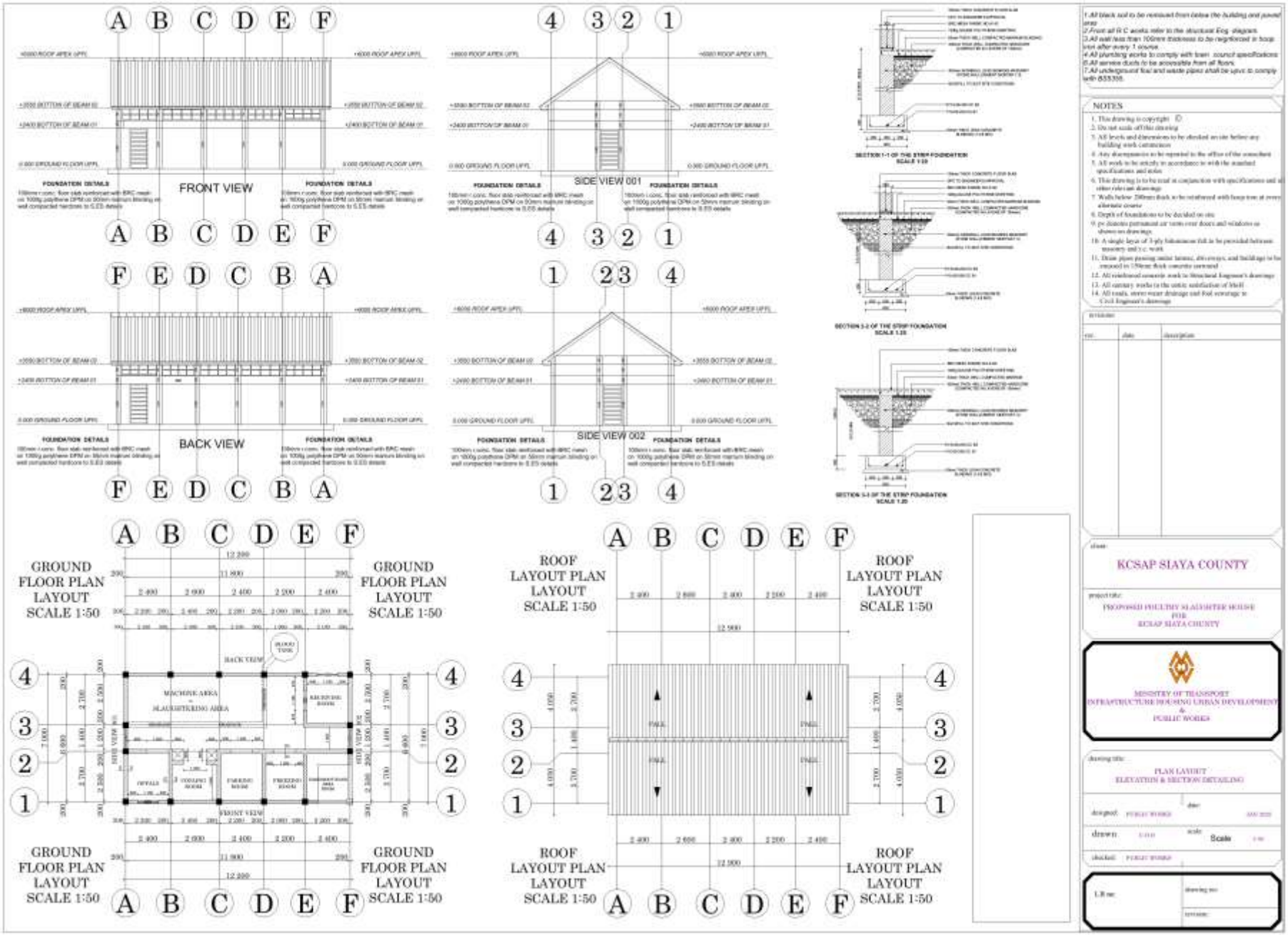
PERSONAL INFORMATION

.Signature.....

Thank you for your cooperation

[*Please provide these details for the purpose of authentication in this EIA study only*

Annex 8: Design of a poultry slaughter facility



Annex 9: ESIA Certificate and Practicing License

FORM 7 (r.15(2))

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

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

License No : NEMA/EIA/ERPL/13629

Application Reference No: NEMA/EIA/EL/18097

M/S **FREDRICK ONYANGO ALOO**
(individual or firm) of address

P.O. Box 34188-00100, Nairobi

is licensed to practice in the

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

registration number **9049**

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

Issued Date: **1/5/2021** Expiry Date: **12/31/2021**

Signature.....

(Seal)
Director General
The National Environment Management Authority

P.T.O.