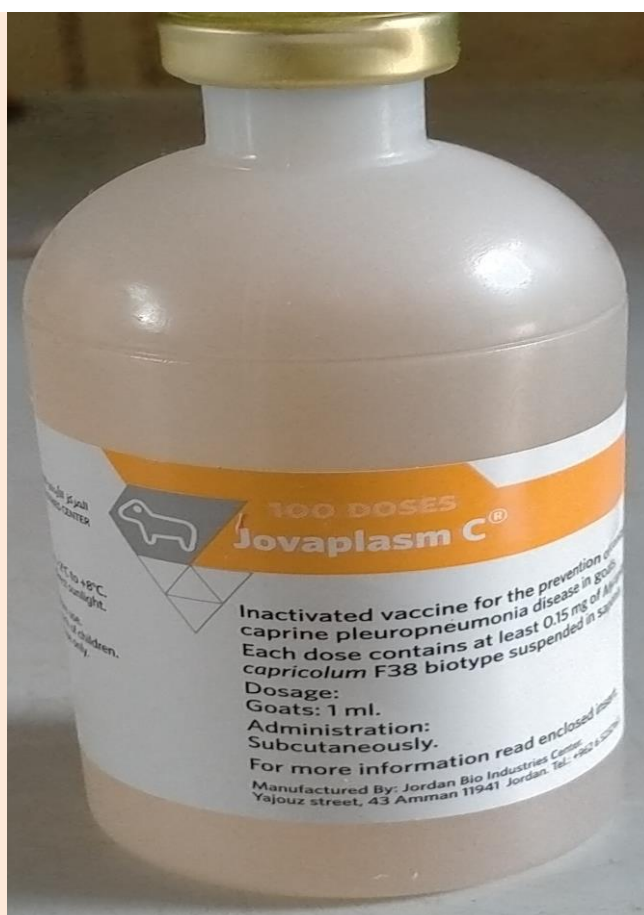




MINISTRY OF AGRICULTURE, LIVESTOCK AND FISHERIES

Kenya Climate Smart Agricultural project

KAJIADO COUNTY CONTAGIOUS CAPRINE PLEUROPNEUMONIA PEST MANAGEMENT PLAN



March, 2021

CERTIFICATION

This Pest Management Plan for the proposed Contagious Caprine Pleuropneumonia Pest Management Plan in Kajiado County was prepared by the following consultants as per the requirements of the World Bank Group Environment and Social Safeguard Policies.

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ACKNOWLEDGEMENT

We, the lead persons in preparation of pest management plan for the proposed Contagious Caprine Pleuropneumonia vaccination, Dr. Nazaria Nyaga and Mr. Athanus Chesire, wish to acknowledge and express our gratitude to the Kajiado County Project Coordinating and County Department of Veterinary Services for commissioning this study.

We also acknowledge the co-operation and contributions of all the stakeholders who without their support this pest management plan would not have been successful.

We affirm our appreciation to the National Project Coordinating Unit and World Bank ESIA Experts especially Dr. Gilbert Muthee for reviewing and their contributions towards the study.

EXECUTIVE SUMMARY

Kajiado County is located in the southern part of Kenya, and it is predominantly semi-arid with livestock keeping being the main economic activity. The livestock species kept are beef and dairy cattle, sheep, goats, donkeys, camels, commercial poultry (broilers and layers) and indigenous chicken. The main output from these livestock includes sale of mature animals and their products including meat, milk, eggs, skins and hides. The major constraints for these livestock include the rampant livestock diseases which affects cattle, sheep and goats, with major diseases being TADS (FMD, CCPP, CBPP, PPR, LSD), zoonotic diseases such as Brucellosis, Rift valley fever ,Anthrax, production diseases such as Mastitis and vector borne diseases such ECF and Anaplasmosis.

The main objective of this CCPP-PMP is to guide a successful delivery of the CCPP vaccination campaign that is aimed at protecting over 800,000 vulnerable goats raised in Kajiado County. The sub-project complies with the CIDP and the annual work plan of the technical department of veterinary services. The target number of beneficiaries is 2,000 households located across the 4 sub-counties: Kajiado central, Kajiado west, Kajiado east and Kajiado south. The vaccination project is projected to cost KES 17,939,050.00.

This document presents the vaccination process which includes mobilization and targeting, vaccine and equipment procurement, actual vaccination plan, organizing logistics and cold chain management, disposable and waste management, Monitoring, Grievance redress mechanism and reporting.

Implementation of the plan will support resilience of Kajiado pastoral community who are faced with adverse climate impacts including prolonged droughts, scarcity of feeds and frequent occurrence of livestock diseases. The document has highlighted potential impacts of the livestock vaccination including both positive and negative environmental and social impacts including their mitigation measures. In addition, Covid-19 challenges and livestock vaccination and potential site of activities related to KSCAP health concerns are also highlighted.

In conclusion, the CCPP-PMP will guide and inform the vaccination process from the beginning to the end. All relevant legal and policy guidelines have been considered while designing this Pest management plan.

TABLE OF CONTENTS

CERTIFICATION.....	ii
ACKNOWLEDGEMENT.....	iii
EXECUTIVE SUMMARY	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vii
LIST OF FIGURES	viii
ABBREVIATIONS & ACRONYMS	ix
1.0 BACKGROUND INFORMATION.....	1
1.2 Methodology	3
1.3 Policies & Regulations.....	3
1.4 Stakeholder Engagement.....	4
2.0 VACCINATION JUSTIFICATION.....	5
3.0 VACCINATION PROCESS	6
3.1 Mobilization and Targeting.....	6
3.2 Vaccine & Equipment Procurement	8
3.3 Actual Vaccination Plan.....	10
3.4 Logistics & Cold Chain Management.....	14
3.5 Disposal and Waste Management	14
4.0 POTENTIAL IMPACTS OF THE VACCINATION.....	15
4.1 Positive Impacts	15
4.2 Potential Negative Environmental and Social Risks and Recommended Mitigation Measures .	16
4.2.1 Environmental Risks	16
4.2.2 Social Risks.....	18
4.2.3 Occupational Health & Safety Risks.....	18
4.2.4 Economic Risks.....	19
4.3 COVID-19 Pandemic	19
4.4 Public Health Concerns.....	20
5.0 PEST MANAGEMENT PLAN	21

6.0 MONITORING & REPORTING	31
6.1 Monitoring	31
6.2 Grievance Redress Mechanism	31
6.3 Reporting.....	32
ANNEXES.....	33
Annex 1: Proposal for CCPP Vaccination.....	34
Annex 2: Stakeholder Consultation	46
Annex 3: ESS Screening Checklist.....	47

LIST OF TABLES

Table 1. 1: County Livestock Population figures, 2020	1
Table 1. 2: Stakeholder Mapping.....	4
Table 3. 1: Mobilization channels.....	7
Table 3. 2: Mobilization Stakeholders and their Roles.....	8
Table 3. 3: Pre-Vaccination equipment & consumables.....	8
Table 3. 4: Actual Vaccination equipment & consumables.....	9
Table 3. 5: Summary of CCPP Application Process	11
Table 3. 6: Vaccination stakeholders and their roles	13
Table 6. 1: Grievance team composition and their roles	31
Table 6. 2: Reports to be generated	32

LIST OF FIGURES

Figure 1. 1: Kajiado County Map	2
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ABBREVIATIONS & ACRONYMS

ASAL	Arid and Semi-arid Lands
CBO	Community Based Organization
CCPP	Contagious Caprine Pleuropneumonia
CDSO	County Disease Surveillance Officer
CDVS	County Director of Veterinary Services
CECM	County Executive Committee Member
CESSCO	County Environmental and Social Safeguards Compliance Officer
CIDP	County Integrated Development Plan
CO	Chief Officer
COVID-19	Corona Virus Disease 2019
CPC	County Project Coordinator
CPCU	County Project Coordination Unit
CPSC	County Project Steering Committee
CTAC	County Technical Advisory Committee
ESS	Environment and Social Safeguards
GPS	Global Positioning System
GRM	Grievance Redress Mechanism
IPM	Integrated Pest Management
KCSAP	Kenya Climate Smart Agriculture Project
KEVEVAPI	Kenya Veterinary Vaccines Production Institute
M&E	Monitoring and Evaluation
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
OP	Operational Policy
PMP	Pest Management Plan
PPE	Personal Protective Equipment
PPR	Peste des Petits Ruminants
SCVO	Sub County Veterinary Officer
VO	Veterinary Officer

1.0 BACKGROUND INFORMATION

1.1 Introduction

Kajiado County is located in the southern part of Kenya. It borders Nairobi County to the North East, Narok County to the West, Nakuru and Kiambu Counties to the North, Taita Taveta County to the South East, Machakos and Makueni Counties to the North East and East respectively, and the Republic of Tanzania to the South. It is situated between Longitudes 360 5' and 370 5' East and between Latitudes 10 0' and 30 0' South. The County covers an area of 21,900.9 square kilometers (Km²).

The county has a bi-modal rainfall pattern. The short rains fall between October and December while the long rains fall between March and May. There is a general rainfall gradient that increases with altitude. The bimodal rainfall pattern is not uniform across the County. The long (March to May) rains are more pronounced in the western part of the County while the short (October to December) rains are heavier in the eastern part. The rainfall amount ranges from as low as 300mm in the Amboseli basin to as high as 1250mm in the Ngong hills and the slopes of Mt. Kilimanjaro.

Most parts of the county are Arid and Semi-Arid (ASAL) with livestock rearing being the predominant economic activity. Similarly, most of the land is not arable, with small proportion of the population undertaking subsistence farming. The main livestock kinds kept are beef and dairy cattle, sheep, goats, commercial poultry (broilers and layers) indigenous chicken. Livestock products in the county include meat, milk, eggs, skins and hides.

Table 1. 1: County Livestock Population figures, 2020

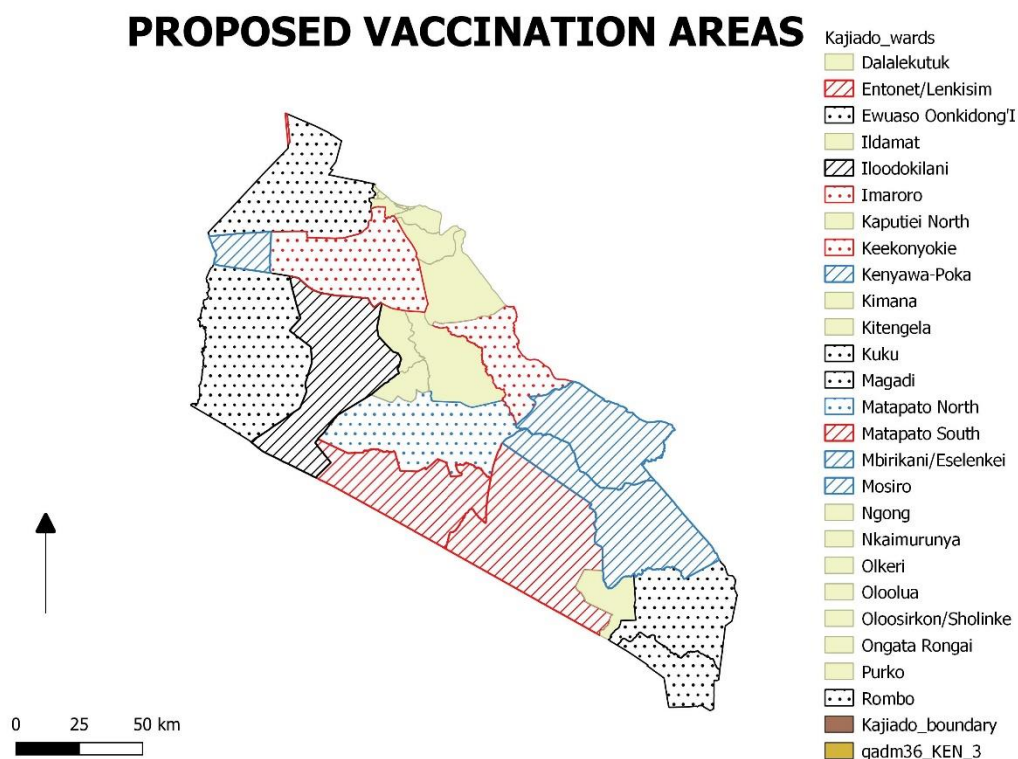
Breed	Number
Exotic Dairy cattle	36,547
Exotic Beef cattle	56,696
Indigenous cattle	484,467
Sheep	1,120,649
Goats	877,744
Camels	3,584
Donkeys	50,153

Pigs	12,390
Indigenous Chicken	493,473
Exotic Chicken-Layers	174,525
Exotic Chicken- Broilers	150,124
Rabbits	9,100

Source: 2019 population and household census-Vol 4

The most prevalent livestock diseases are Foot and Mouth disease, Contagious Caprine PleuroPneumonia, Contagious Bovine PleuroPneumonia, PPR, Sheep and Goat pox, blackquarter and Anthrax. Blue tongue and Rift valley fever are common during above normal rainfall.

Figure 1. 1: Kajiado County Map



1.2 Methodology

In the development of this PMP, literature review, key informant interviews, focused group discussions were employed. World Bank policies as well as Government of Kenya policies and legislations on livestock production and protection, environmental management and public health were reviewed during the study. Key informants from relevant stakeholders were conducted in order to understand the impacts of the vaccines on public health and environment. Public consultation meetings took place during development of this PMP. Further, collation of baseline data on livestock and pesticide use in Kenya, identification of positive and negative economic and environmental and social impacts of vaccine use and their proposed mitigation measures was carried out.

1.3 Policies & Regulations

The constitution of Kenya spells out the fundamental rights of every Kenyan citizen. Article 42 of the bill of rights of the Constitution provides that ‘every Kenyan has the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations. Waste Management (EMCA) Regulations 2006 particularly sections 33, 34, and 35 (Part V on Pesticides and Hazardous wastes). The sections give provisions for classification, registration, labeling, packaging, advertising, distribution, storage, transportation, handling and disposal of pesticides.

Animal disease control act-Cap 364 (Revised 2012),Veterinary Surgeons and Veterinary paraprofessionals Act of 2011, prevention of cruelty to animals act ,Cap 360 (Revised 2012) Occupational Health and Safety Act 2007 (sections 83 to 86). gives provisions for handling, transportation and disposal of chemicals and other substances, material safety data sheet, proper labeling and marking of all chemical packaging and classification of hazardous chemicals and substances.

World Bank policies on Environmental Assessment especially OP4.09 on Pesticide Management and OP4.01 on Environmental Assessment have been triggered by vaccination against contagious caprine pleuropneumonia in goats . These policies are aimed at ensuring that projects reduce reliance on synthetic chemical pesticides, promotes Integrated Pest and/or Vector Management, and minimize environment and health hazards of pesticide use.

1.4 Stakeholder Engagement

Several stakeholders have been engaged through out the development of this vaccination project right from proposal development. The stakeholders consulted comprised of pastoralists, County leadership, County Technical Departments (CTDs) especially the Veterinary Department, NEMA, Public Health staff, KCSAP among others (See Annex 2). Table 1.2 presents the roles to be played by every stakeholder during the implementation of the project.

Table 1. 2: Stakeholder Mapping

S/No.	STAKEHOLDER	ROLE
1	Farmers/Pastoralists/beneficiaries	<ul style="list-style-type: none">-Own the project and take their animals for vaccination-Construction and repair of crushes-Provide and prepare the venue where vaccination will take place-Cooperate with the vaccination team-Participatory monitoring
2	Ministry of Interior and Coordination (Chiefs)	<ul style="list-style-type: none">-Publicity-Monitor the Vaccination exercise-Reporting
3	County technical department of Veterinary Services	<ul style="list-style-type: none">-Provide the technical teams to undertake the vaccination exercise-Provide technical expertise-Ensure the vaccine cold chain is properly maintained-Prepare the program for the vaccination exercise-Procurement of vaccines and equipment-Reporting-Participate in monitoring
4	NEMA	<ul style="list-style-type: none">-Ensure environmental safeguard issues are taken care of in the exercise-Supervise waste management-Reporting
6	GRM Committees(at	Receive and handle all complaints and conflicts that may arise

	the county and sub-project level)	during the implementation process
7	County Government (Office of the Chief Officer)	<ul style="list-style-type: none"> -Contribute 20% of the total cost of the vaccination sub project -Release officers to participate in the vaccination exercise -Provide means of transport to enhance mobility of officers during the exercise -Publicity (ward administrators) -Participate in monitoring
10	KCSAP CPCU	<ul style="list-style-type: none"> -Coordination of the subproject activities -Ensure safeguard issues are taken care of in the implementation process -Monitoring the implementation process -Reporting -Undertake an impact assessment of the subproject

2.0 VACCINATION JUSTIFICATION

Productivity of livestock is affected by several factors including feeding (nutrition), diseases and routine management practices. Prevalent livestock diseases are major constraints to livestock productivity and marketing. Contagious caprine pleuropneumonia (CCPP) is one of the most severe diseases of goats. This disease, which affects the respiratory tract, is extremely contagious and frequently fatal; in some naive flocks, the morbidity and mortality rates may reach 100%. CCPP causes major economic losses in Africa, Asia and the Middle East, where it is endemic.

The subproject complies with the CIDP and the annual work plan of the technical department of veterinary services. Owing to the high economic disadvantages of the disease, there is need to prevent its occurrence. Over 800,000 goats are at risk of CCPP targeted for vaccination. The proposed vaccination will be carried out on livestock within the county with priority given to the hotspots. The target number of beneficiaries is 2000 households.

3.0 VACCINATION PROCESS

3.1 Mobilization and Targeting

Vaccination will take place in four Sub Counties namely Kajiado West, Kajiado East, Kajiado Central and Kajiado South. 20 wards from these sub counties will be targeted. Neighboring counties like Narok & Makueni and Republic of Tanzania will be informed of the vaccination programme.

The target areas for the activity include the following wards;

- i. Kaputiei North
- ii. Purko
- iii. Kitengela
- iv. Iloodokilani
- v. Oloosirikon/Sholinke
- vi. Matapato South
- vii. Ildamat
- viii. Matapato North
- ix. Dalalaekutuk
- x. Lenkism/Entonet
- xi. Imaroro
- xii. Imbirikani
- xiii. Kuku
- xiv. Rombo
- xv. Magadi
- xvi. Ewuaso
- xvii. Mosiro
- xviii. Keekonyokie
- xix. Kenyewa Poka
- xx. Kimana

The mobilization exercise will be undertaken by the Veterinary Department staff in collaboration with local community leaders. During mobilization local chiefs and influential community elders will mobilize target communities through barazas and meetings. Political leadership will be informed on the project during mobilization.

Risks associated with the vaccination program are environmental pollution, injury to livestock, hypersensitivity and vaccines reaction. These will be communicated to the community during mobilization. In order to mitigate the associated risks IPM plan will be implemented, good crushes put up and others repaired for proper restraint. Antihistamine will be availed.

To effectively cover and reach the target animals good publicity and mobilization of the community to agree on dates and sites of vaccination will be undertaken.

Table 3. 1: Mobilization channels

Channel	Plan of action	Responsibility
Chiefs' baraza	Announcements	Local administrators, CDVS office, KCSAP
	Posters	
Livestock markets	Posters	Local administrators, CDVS office, KCSAP
	Announcements	
	Crier	
Schools	Announcements	Local administrators, CDVS office, KCSAP
	Posters	
Churches	Announcement	Local administrators, CDVS office, KCSAP
	Posters	
Local FM stations- Mayian FM	Prime time ads	CDVS, KCSAP
	Talk Shows	
Print media	Banners	CDVS, KCSAP
	Posters	
	Fliers	
Watering points	Posters	Local administrators, CDVS office, KCSAP
	Fliers	

Table 3. 2: Mobilization Stakeholders and their Roles

Stakeholder	Role of the Stakeholder
Local administrator	Passing information and addressing concerns that may arise (publicity)
Community	Site identification and consultation , Repair of crushes , restraint of animals
Media	Passing information on the vaccination through talk shows and prime time ads
KCSAP - CPCU	Facilitation of the teams doing mobilization
CDVS	Provide officers and transport for mobilisation
	Addressing issues raised during mobilisation
Team Leaders	Consultation and site identification together with the community, formation of Crush site conflict resolution committee

3.2 Vaccine & Equipment Procurement

This will be the responsibility of the veterinary department. The CDVS will initiate the procurement process with guidance from the CPCU. 800,000 doses of Contagious Caprine pleuropneumonia (CCPP) vaccine will be procured. The county has adequate cold chain system (cool boxes, deep freezers and fridges) in good condition and veterinary department will collaborate with the health department for provision of temperature monitors for use at cold stores. This will be activated before the arrival of the vaccines.

Table 3. 3: Pre-Vaccination Surveillance equipment & consumables

No.	Equipments & Reagents	Quantity
1.	Latex Disposable Gloves pkt (100 pcs)	20
2.	Disinfectant (litres)	20

3.	Face masks (5 0 pcs cartons)	5
4.	Sanitiser lts	5
5.	First Aid Kit	2
6.	Sampling bottles (doz)	10
7.	Vacutainer tubes - EDTA (100 pcs pkt)	20
8.	Vacutainer tubes -PLAIN (100 pcs Pkt)	10
9.	Vacutainer (Eclipse safety needles) 48 pcs pkt	50
10.	Cyrovials - 100 pcs pkt	30
11.	Surgical Blades pkts	25
12.	Surgical Spirit (Ltr)	15
13.	Gloves - arm length (100 pcs pkt)	12
14.	Cotton Wool roll	5
15.	Pipettes/droppers (100 pcs pkts)	20
16.	Alcohol swabs - pkt	25
17.	Test tube rack	5
18.	Forceps – pair	12
19.	Sharps Container - pcs	12
20.	Blade holder No. 4 - pcs	4

Table 3. 4: Actual Vaccination equipment & consumables

No.	Equipment & Vaccine procurement	Quantity
1.	CCPP doses	800,000
2.	Automatic Syringes 50 ml (German)	25
3.	Barrels 50 ml (German)	40
4.	hypodermic needles 16 x1/2 gauge (German) doz	40
5.	Spare/repair kits	30
6.	Aerosol spray	30
7.	Antihistamine inj	24

8.	Biohazard bags - Roll	20
9.	Sharp containers	40
10.	Dust masks (Dozen)	24
11.	Face masks (50 pcs cartons)	60
12.	Sanitiser Its	60
13.	First Aid Kit	10
14.	Cello Tape 1"	12
15.	Medium sized cool box	5
16.	Waste Incineration Cost	1

3.3 Actual Vaccination Plan

The county plans to carry out vaccinations against CCPP in the following sub counties and wards;

1. Kajiado Central

- Matapato South
- Ildamat
- Matapato North
- Dalalaekutuk
- Purko

2. Kajiaso East

- Kaputiei North
- Oloosirikon/Sholinke
- Imaroro
- Kenyewa Poka
- Kitengela

3. Kajiado South

- Kimana
- Lenkism/Entonet
- Rombo
- Kuku
- Imbirikani

4. Kajiado West

- Magadi
- Ewuaso Kedong
- Mosiro
- Keekonyokie
- Illoodokilani

The exercise will be carried out by five teams in 28 days. Before rolling out the vaccination exercise, there will be proper briefing to staff participating in the activity prior to its commencement. The officers involved have undergone IPM safeguards sensitization and will wear protective gear during the period of vaccination. The vaccination equipment will be provided by the project and County Director of Veterinary Services, Kajiado County.

The exercise will start with publicity that will take 5 days. The community will be mobilized using county ward administrators, chiefs and local leaders in form of barazas and telephone calls. Posters will also be used which will be distributed to shopping centers, notice boards, schools and churches. About 140 crushes are to be covered names of which are to be provided by the community during publicity and community mobilization. The status of the crushes will be verified and repairs will be done to prime them for the exercise. The County has limited number of crushes and as such makeshift crushes will be constructed for vaccination exercises.

Table 3. 5: Summary of CCPP Application Process

Team/ Areas	Team list	P/ No or ID/No.	Ward	Days	Approx. delivery/ Day	Total

TEAM A	LUCAS MUVEU	1986046351	Matapato South, Matapato North	28	CCPP- 5700	CCPP- 159,600
	KITESH MORENO	20170016654				
	RAPHAEL MULWA	1986050774				
	DR. BARACK OUGO					
	INTERN					
	MUCHEMI KINGORI	1988058906				
	DRIVER					
TEAM B	DR LYDIA NZOKA	2009055036	Entonet/Lenkism, Imaroro	28	CCPP- 5700	CCPP- 159,600
	EZEKIEL SARUNI	20170019066				
	LUKA SAIBULU	26457407				
	BERNARD KIRUMBA	1984047848				
	TERRY MWAMBURI	1988060856				
	EMMANUEL RITEI	20170064801				
	DRIVER					
TEAM C	DR. MARK MELITA LEIN	30913702	Mosiro, Ewaso Kedong,kjd North	28	CCPP- 5700	CCPP- 159,600
	PETER MUTISO	1984047822				
	JACOB KOPEJO	2009097737				
	SYLVIA AJIAMBO					
	VIRGINIAH WANGUI	2009055484				

	DAVID THOGO	1987058424				
	DRIVER					
TEAM D	DR. JAMES WAKHUNGU	2009054797	Imbirikani/Eselenkei, Rombo	28	CCPP-5700	CCPP-159,600
	MATHIAS SAIBULU	27501924				
	JACINTA SARIJORE	2662317				
	DORCAS RORUA	1981162129				
	DR TOPIRIAN					
	BARBANAS MUOKI					
	DRIVER					
TEAM E	DR. FREDRICK SURURU	28477225	Kenyewa/Poka, Kuku	28	CCPP-5700	CCPP-159,600
	WILLY MUTINDA	2009098505				
	PASIYO NTUTU	1996045331				
	ANDREW KIMOTHU	1985042011				
	JAMES KAIYAA	20170016510				
	INTERN					
	DRIVER					

Table 3. 6: Vaccination stakeholders and their roles

Stakeholder	Role of the Stakeholder
KCSAP – CPCU	Procurement of vaccines, avail funds for vaccination
KEVEVAPI	Supply of quality vaccines and right quantities
CDVS	Requisition of vaccines and associated equipment, transport

	logistics, training on IPM and PMP development
Stores Officer	Stores and Cold chain management, timely and adequate supplies
CPCU	Facilitation of the field teams, supervision of the vaccination process
NEMA CESSCO	Waste management supervision, liaising with licenced firm for incineration
Public Health Officer	Assist NEMA on waste management and cold chain management
Supply Chain Assistant	Ensure adequate and timely supplies
Community	Avail livestock for vaccination, Maintaining the crushes, restraining the animals,
Vaccination teams	Administration of vaccine, site cold chain management, site waste management, daily reporting

3.4 Logistics & Cold Chain Management

A team comprising of four (4) staff, including public health officer and a driver and a designated vehicle will be in-charge of cold chain supervision and distribution of additional ice blocks. The team will be composed of the following:

No.	Responsible officer	Department
1	CDVS /Stores manager	Veterinary
2	Procurement officer	KCSAP
3	County Disease Surveillance Officer	Veterinary
4	Public Health Officer	Health
5	Driver	

3.5 Disposal and Waste Management

NEMA will oversee waste collection and disposal at the licensed incinerator at Athi River.

Waste will be segregated and put in well labeled biohazard bags and sharps containers which

will be provided to the field teams and a schedule for collection given to them. The waste will then be deposited at the county headquarters and later, be disposed in accordance with waste management best practices.

The Waste Disposal team will include:

Responsible officer	Department
CDSO (County disease Surveillance Officer)	Veterinary
County Director- NEMA (Supervisor)	NEMA
County Environment & Social Safeguards Compliance Officer (CESSCO)	KCSAP
Driver	

4.0 POTENTIAL IMPACTS OF THE VACCINATION

The sub project is in category B and has potential to cause harm both to the environment and the social aspect of human life. It was subjected to screening so as to identify potential adverse impacts and propose necessary mitigation measures. Several partners were consulted during the screening exercise including County veterinary staff, NEMA, public health staff and a few community members representing the beneficiaries.

4.1 Positive Impacts

- Vaccination improves animal health hence improved productivity. This will lead to increased availability and accessibility of livestock products; milk and meat which will enhance household nutrition.
- Increased livestock productivity will lead to increased household income through sale of livestock products e.g meat and milk.
- Vaccination will also ensure stability of markets. Since CCPP is a notifiable disease, its occurrence calls for imposing of quarantine as a measure to contain the disease and avoid its spread to other regions.

- Reduced cost of production as farmers will not spend money on disease treatment which is a threat in absence of vaccination. This will lead to increased investment in agriculture as farmers will plough back the profit accrued leading to increased agricultural productivity.

4.2 Potential Negative Environmental and Social Risks and Recommended Mitigation Measures

In line with World Bank Environmental and Social Safeguard Policies, an agricultural development project which uses pesticides in a wide scale such as this will trigger **World Bank's Operational Policy OP 4.09** (Pest Management Plan-PMP). This policy supports safe use, effective and environmentally sound pest management and promotes the use of biological and environmental control methods. This PMP covers the existing national and international legislations, current practices on the use of pesticides for pest management. It has identified a number of Pesticide handling, storage, vaccination, transportation, environmental and health and disposal risks that may be encountered in Kajiado county and how to mitigate against each one of them. Each specific risk or impact issue has mitigation measures as proposed which have been captured through the earlier held consultation conducted under the PMP preparation. Major groups consulted and trained on IPM included all county veterinary staff, NEMA, cold chain store managers, drivers, private veterinary practitioners, public health staff and County waste disposal staff. The key risks and impact areas in the county were identified in procurement, on transit to county, in the county cold stores, on transit to vaccination sites, during actual vaccination, post vaccination and disposal. General mitigation practices have been outlined to be carried out.

4.2.1 Environmental Risks

Unightly filthy veterinary waste around vaccination sites

Vaccination team may leave waste in the field creating unsightly scenes, and livestock owners may pick the containers and reuse them oblivious of the danger. The disposal team will ensure that waste collected at the crush sites is sorted out, grouped and effectively disposed according to set waste disposal regulations.

Waste disposal containers shall be handled by licensed waste handlers, documentation of volume or the quantity will be done.

Soil contamination

Waste materials if left on the ground by the vaccination team will contaminate the soil by infiltration, percolation and/ or run-off during rainy season.

Proper care will be taken by qualified personnel in delivering the vaccines to the animals and effective waste preventing spillage on the ground. In case of contamination through spills the team will ensure decontamination of the soils and disposal by licensed waste handlers.

Surface and Groundwater Contamination

Rainwater surface runoff may transport pesticides to streams, rivers, and other surface-water bodies. Groundwater contamination may also occur from pesticide residue in surface water, such as drainages, streams, and municipal wastewater. There are four major routes through which pesticides reach the water: they may drift outside of the intended area when sprayed, may percolate, or leach, through soil, may be carried to the water as runoff, or may be spilled.

Proper care will be taken by qualified personnel in delivering the vaccines to the animals, therefore effectively preventing spillage on the surface and ground water. Location of the crushes will be strategic avoiding marshy and those areas with stagnant water or run-offs.

Air Pollution

Though most of the Pesticides the project is procuring are not to be sprayed, accompanying supportive pesticides procured by counties or other stakeholders may be released into the air, and if the chemical compound is very stable, vapor may travel beyond the project site. Whether pesticides are applied by spraying or by surface application, air is the usual medium through which the chemicals move to their intended and unintended targets. Reliable data on how pesticides behave in air, such as distance travelled, are lacking, because adequate monitoring is unavailable.

Vaccines to be used will not lead to contamination of air since they will be delivered by way of subcutaneous injection.

Harm to Non-target Species

The environmental impact of pesticides consists of the effects of pesticides on non-target species. Runoff can carry pesticides into aquatic environments while wind can carry them to other fields, grazing areas, human settlements and undeveloped areas, potentially affecting other species. Other problems emerge from poor production, transport and storage practices. Over time, repeated application increases pest resistance, while its effects on other species can facilitate the pest's resurgence.

The project officers will ensure that vaccine will only be administered to target animals (goats) hence no harm to non-target species.

4.2.2 Social Risks

Failure by farmers to bring livestock, failure of some marginalized communities to avail animals for the vaccination, cultural factors that may hinder this vaccination, social and/or professional misconduct by the vaccination team, handling of grievances/complaints arising out of the vaccination are some of the social risks foreseen with this sub project.

Proper publicity and mobilization of the community to agree on dates and sites of vaccination will be undertaken and a team of seven members headed by CPC is already in place as county grievances redress committee to handle complaints/ grievances received from communities before, during and after vaccination campaign. VMGs will also be identified and purposively targeted in the exercise.

4.2.3 Occupational Health & Safety Risks

Pesticides can enter the body through inhalation of aerosols, accidental self-jabbing, dust and vapour that contain pesticides; through oral exposure by consuming food and water; and through skin exposure by direct contact or in some cases drug abuse by use of pesticides as human drugs by pastoralists. The effects of pesticides on human health depend on the toxicity of the chemical and the length and magnitude of exposure. Farmers, vets, farm workers and their families experience the greatest exposure to pesticides through direct contact. Children are more susceptible and sensitive to pesticides, because they are still developing and have a weaker immune system than adults. Children may be more exposed due to their closer proximity to the ground and tendency to put unfamiliar objects in their mouth.

PPEs will be used by all the vaccinators, therefore minimizing cases of injury and exposure to the vaccines. The supervisors will ensure proper sensitization of the community on potential exposure risk and ensure that children and the vulnerable members of the community are kept away from vaccination crush sites to avoid injury from the animals.

Consumption of livestock products such as meat and milk from the vaccinated animals before the elapse of the chemical residual period may cause human health problems both within and outside the project area as the products may as well be sold by the beneficiaries. The vaccination team will create awareness of the vaccination exercise and the side effect of such during the publicity barazas.

To mitigate the potential negative impacts through injury of the vaccination team by the animals. The animals will be restrained in crushes; worn out crushes will be repaired and new ones constructed in areas without. In addition, provision of first aid kits in case of injury will be provided.

4.2.4 Economic Risks

Beneficiary households will be deprived of income from sale of livestock products (meat and milk during the vaccination period).

This will be a short term effect that will be overcome through sensitization of the beneficiaries to have an alternative source of income during the vaccination period.

4.3 COVID-19 Pandemic

Cognizant of the ongoing COVID-19 pandemic and realizing the measures provided by the ministry of health in an effort to prevent spread of the disease, the project will endeavor to institute both environmental and social safeguards to prevent spread of the disease during vaccination.

The vaccination teams and the community beneficiaries will observe all the guidelines and protocols provided by Ministry of Health including:

- a) *Screening of livestock farmers at the vaccination sites:* Public health officer accompanying the teams will screen people on site using temperature monitors and those found to have fever immediately referred to nearest health care for further screening.

- b) *Use of personal protective equipment:* All participants at the site will be required to wear face masks. Vaccinators will in addition wear gloves while handling animals and vaccines. They will also put on protective clothing (overalls, caps and gumboots).
- c) *Hand washing with soap and water:* The project will provide potable water jerry cans with taps for hand washing at every vaccination site. Every person will be required to wash hands immediately they arrive at the vaccination site. In addition, alcohol based hand sanitizers will be provided for the vaccination teams.
- d) *Keeping social distance:* Social distancing will be implemented and no large crowds of people will be allowed. Community will be required to organize themselves in a manner that prevents crowding and allow procedural driving of animals to and from the vaccination sites. More crush sites will be established to prevent livestock keepers from crowding in one location. More time will be allowed to ensure all animals are vaccinated in established crush sites.
- e) *Practicing good respiratory hygiene:* Vaccinators and pastoralists will be sensitized on importance of covering mouth and nose with ones' bent elbow or tissue when coughing or sneezing, then thereafter dispose off the used tissue immediately.
- f) *Covid-19 Vaccination:* All persons involved during the implementation of this vaccination will be sensitized on the need to go for a covid vaccine especially the elderly who are above 58 years and those in the front line including veterinary personnel.

4.4 Public Health Concerns

- a) Consumption of animals under chemical pest control could cause health hazards to humans and animals within and around the project site.
- b) Chemical intoxication especially after drinking pesticide contaminated water is a medium to high likelihood. This is a crucial potential impact considering that most of the locals get drinking water from surface and groundwater sources
- c) Skin, eye, and nose irritation
- d) Possibility of cancers, neurologic, endocrine and reproductive problems from direct and indirect exposure to pesticides
- e) Occupational health and safety risks. Long term inhalation of toxic pesticides sprayed, could eventually result in respiratory illnesses or disease conditions

5.0 PEST MANAGEMENT PLAN

The purpose of the Pest Management Plan is to ensure that environmental and social impacts and risks identified during the study are effectively managed during all phases of vaccination project.

The PMP specifies the mitigation and management measures for each impact/ risk, party allocated responsibility, means of monitoring and frequency and an indicative budget to undertake the proposed mitigation.

Table 5. 1: Pest Management Plan

IMPACT ISSUE/RISK	MITIGATION	INPUT	RESPONSIB LE PERSON	MONITORING VERIFIABLE INDICATORS	ESTIMATED COST (KES)
At procurement					
Packaging of the wrong vaccine, Insufficient diluent	A team with S-12 will be responsible for confirming the packaging the expiry date at amounts	Night outs for the persons, vehicle, fuel	CDVS/CDSO	No of properly packaged, non-expired vaccines procured.	10,400,000.00
Packaging of poor quality vaccines	Checklist, check the expiry dates and quantities of the drugs.	S12 and any other relevant documents	CDVS/CDSO	No of vials damaged	
Un-qualified personnel collecting the vaccines.	Qualified vet personnel to collect the vaccines.		CDVS/CDSO	No. of qualified personnel involved in procurement of the vaccines	
Accidents on the road	Use well trained drivers		CDVS/CDSO	No of accidents witnessed	
Leakages, less volumes and lack of labels.	Verification at dispatch of vaccine. Officer collecting the vaccines should a technical staff	Personnel	CDVS/CDSO	No of vials with leakages	
Absence of temperature monitors during transit.	Use temperature monitor	Temperature Monitors	CDVS/CDSO	No of temperature monitors available and deployed	

Lack of communication and proper arrangement for vaccine collection and transport	Timely arrangement with vaccines supplier and communication with supplier and destination	Airtime and data bundles	CDVS/CDSO	Schedule of airtime purchased and issued to officers No of calls and texts made	
On transit					
Poorly maintained and serviced vehicle	Use of hardtop carrier and reliable well maintained and serviced vehicle, rescue vehicle in case of breakdown.	Fuel	CPC/CDVS	Amount of fuel purchased and used. No of vehicles maintained and dispatched for vaccination	1,652,000
Unnecessary police check and stoppage	Provision of labeled stickers urgent, don't delay on the cool boxes and vehicle.	Emergency stickers.	CPC/CDVS	No of vehicles with Emergency stickers	
Inadequate storage facilities(freezer, plastic tubing)	Purchase of more freezers and plastic tubing	Funds	CPC/CDVS	No of freezers procured	
Diversion of the co-duty.	Work ticket should be specific. Avoid double duty	car tracking	CPC/CDVS	No of vehicles specifically assigned vaccination duty only	
Using of inappropriate tools to transport	Ensure the vehicle carries cool boxes with ice packs	Cool boxes, icepacks and motorized cool	M&E/CDSO	No of cool boxes delivered in time	

vaccines(cartons, instead of cool boxes)		boxes			
Lack of gadgets to monitor vaccines temperatures	Transport and storage temperature monitors to be in the cool boxes and fridges.	Temperature monitors	M&E/CDSO	No of temp monitors installed in the cool boxes	
Lack of communication on transit	Prior communication between the person delivering and the store ETA(Expected time of arrival);	Airtime	M&E/CDSO	Schedule of airtime purchased and issued to officers No of calls and texts made	
In Kajiado Cold Storage store					
Inadequate staff at the store to offload and count the vaccine	Staff mobilization in good time both casuals and regulars.	personnel	M&E/CDSO	No of personnel deployed	150,000
Lack of firefighting equipment.	Ensuring proper firefighting facilities are available, liaise with County department responsible for fire fighting	Firefighting equipment	CPC/CDVS	Firefighting equipment available and serviced	
Inadequate store space & equipment	Ensure there is adequate well ventilated space & equipment	Adequate store	CDVS/CDSO	Appropriate store designated	
Power disconnection and blackout.	Timely payment of electricity bills.	Automatic standby generator.	CDVS/CDSO	Stand by genset in good working condition	
Failing of Cooling system	Ready ice cube for emergency, well maintained fridges, training of technical staff on	Funds , personnel	CDVS/CDSO	No of fridges in working condition No of technicians on	

	basic maintenance of fridges and provision of fridge guards.			stand by
Lack of gadgets to monitor vaccines temperatures	Transport and storage temperature monitors to be in the cool boxes and fridges.	Temperature monitors	CDVS/CDSO	No of temperature monitors available
Danger of infection from some vaccines while handling by the officers.	Knowledge of proper handling of vaccines and management of contamination.	Funds for training for staff Provision of PPE	CDVS/CDSO	No of PPEs provided
Faulty deep freezer/fridges	Frequent checks of the freezers and fridges Have a backup freezer	Develop a check list Funds for repairs	CDVS/CDSO	Monitoring check list No of freezers/fridges repaired
Inadequate adherence to the protocol of acquisition of vaccines from the stores	All officers including VO should be sensitized on the need to follow the protocols	Memo produced and circulated to all relevant persons	CO/CDVS	No of sensitization meetings No of MEMOs developed
Inadequate labeling especially of vaccines returned from the field,	The VO from the field should clearly inform the cold chain manager of the vaccines , the batch numbers and expiry dates of the vaccines returning from the field before receiving them for storage	Water proof stickers clearly labeled with the details of vaccine details	Team Leaders	No of water proof stickers

Inadequate cold chain materials	Procure enough polythene tubing for making ice packs or alternatively dry ice	Polythene tubing Dry ice/frozen Carbon dioxide	CDSO/Store man	No of polythene tubing purchased	
Inadequate monitoring of temperature	Regular monitoring of the temperature of the freezers using a temperature tracking sheet and a thermometer	Temperature tracing sheet. thermometer	CDSO/Store man	No of temp tracking sheets	
Bio safety problems	Provision of Personal protective clothing to the store man	PPEs	CDVS	No and type of PPE provided	
	Provision of clean water at the store	Water supply tank	CDVS	Water and soap available	
	Receptacles for disposal	Receptacles for waste	CDVS	No of receptacles provided	
Transit to the Vaccination sites					
Inadequate/ missing vaccination equipment	Ensure availability of extra equipment	Funds for extra equipment	CPC/CDVS	No of planning meetings held,	250,000
	Confirm availability of all equipment via checklist during loading		Team leader/store man	No of Vaccination equipment available,	
	Ensure availability of all required vaccination equipment during planning process		CDVS/CDSO	No of vaccination equipment to be procured Number of Checklist	

Failure to collect essential equipment	Prepare a detailed checklist	Detailed Checklist	Team Leader	developed,	
	Assign task to specific officer to tick the checklist during loading		Team Leader	Duty Roster prepared	
Inadequate vaccination equipment	Proper planning between CPC and CDVS to procure all required equipment prior to start of vaccination	Joint planning Meetings	CPC/CDVS	Number of PPEs available,	
	Forgetting some vaccination equipment and vaccines	Detailed procurement list;	Team Leaders	Number of PPEs to be procured.	
	Actual Vaccination				
Mechanical breakdown during vaccination (including punctures and tyre bursts)	Provision for stand by vehicle (if available) Provision for hire of vehicle Purchase of tyres, repair kits and mobile pressure machines Driver to ensure spare tyre is in good condition	Vehicle Funds	CPC/CDVS	No of standby vehicles available for the exercise	4,850,000
	Provision of vehicle dislodging equipment (Panga, Spade, winch)	Funds	CPC/Driver	No of hired private practitioners, Allowances allocated for hiring the private practitioners	
Lack of gadgets to monitor vaccines temperatures	Transport and storage temperature monitors to be in the cool boxes and Fridges.	Temperature monitors to be in place.	CDSO	No of animals vaccinated at home Total number of animals vaccinated	

Inadequate vaccination personnel ie due to staff shortage, sickness/ emergency commitment	Have standby personnel	Personnel	SCVO	No of vehicles & personnel assigned the work of home vaccination
	Co-opt from private practitioners	Provide for emergency per diems	CDVS	
	Co-opt technical staff from neighboring Project County		CDVS	
Shortage of fuel in the field	Provide extra fuel in jericans	Provide fuel Containers	CDVS	No of First Aid Kits available,
	Stand by vehicle to deliver fuel		CDVS	Number of injury incidents reported
Delay in replenishment of cold chain (ice.)	Cool boxes to be in good condition		CDVS/CDSO	No of radio announcements, newspaper adverts, sms and posters made.
High turnover of animals	Proper planning		Vaccination Team	
	Set targets with community prior to vaccination		Team leader	
Sick animals left at bomas	Provide for transport to move and take samples	Vehicle	Team leader	
High temperatures restricting use of protective clothing(above 37 degrees celcius)	Timing of vaccination to start early and end before noon. Resume vaccination at evening		Vaccination Team leader	
Accidents / injury/	Provide first aid kits	Kits	CDVS /CPC	

Contraction of COVID-19 by staff during procurement and transportation of vaccines, and during publicity	<p>Provide double-cab vehicles carrying only two staff to ensure social distance</p> <p>Staff and driver to wear face mask at all times</p> <p>Vehicle to be equipped with alcohol based sanitizer.</p>	<p>Double-cab vehicles</p> <p>Face masks</p> <p>Alcohol based sanitizers.</p>	CDVS	<p>No of Double Cab vehicles available,</p> <p>No of face masks, soap and sanitizers procured,</p> <p>Amount of clean running water availed</p> <p>No of people whose temperature is checked</p>	270,000
Contraction of COVID-19 during the actual vaccination process	<p>Provide water, soap, sanitizers and temperature guns.</p> <p>All persons to wear masks,</p> <p>Animals to be vaccinated as soon as they arrive at the site,</p> <p>Check the temperature of all participating in the vaccination exercise each day.</p>	<p>Face Masks</p> <p>Alcohol based sanitizers</p> <p>Clean running water</p> <p>Soap</p> <p>Temperature guns</p>	CPC/CDVS/Public Health		

Table 5. 2: Implementation Schedule

ACTIVITY	TIME															
	APRIL 2020				MAY 2021				JUNE 2021				JULY 2021			
Preparation of PMP																
Holding planning meetings																
Presentation of the PMP to NPCU & WB for review and clearance																
Procurement of vaccines- ordering and preparation																
Zoning and mapping of crushes																
Identification and repair of vehicles to be used																
Carrying out publicity																
Collection of vaccines from KEVAVAPI by CDVS																
Collection of vaccines from CDVS stores and distribution to vaccination sites																
Carrying out the Vaccination exercise																
Monitoring and evaluation of the vaccination process																

6.0 MONITORING & REPORTING

6.1 Monitoring

This will be a continuous exercise throughout the implementation process. It will be a participatory process comprising representative members of CPSC, CTAC, CDVS and CPCU. The team will oversee implementation at community level by visiting teams and meeting community committees formed to oversee the exercise. This team will address technical, environmental, social and welfare issues during the exercise.

6.2 Grievance Redress Mechanism

Complaints/grievances received from communities before; during and after vaccination campaign will be channeled to the CDVS and escalated to County Grievance Redress committee for redress. The community will be given the contacts of the CDVS to forward their complaints and compliments. A Grievance log register for the sub project will be opened to launch all complaints.

Table 6. 1: Grievance team composition and their roles

CGRC Member		Responsibility
1.	<i>County Project Coordinator (CPC)</i>	Focal Point at the county level where all grievances by the community will be lodged; he will be the initiator of the grievance resolution process.
2.	<i>County Monitoring and Evaluation Officer</i>	Record the entire grievance in the log and responsible for tracking and monitoring all issues raised. Report to the NPIU focal point.
3.	<i>Environmental and safeguards officer (CESSCO)</i>	Guide in environmental impacts posed by the project and mitigations provided for as per law or in the project documents
4.	<i>NEMA county Representative</i>	To ensure that all environmental impacts of the project have been mitigated.
4.	<i>Representative from Persons affected by the project</i>	To ensure that the complaint lodged is dealt with in a just and transparent manner
5.	<i>CEC in charge of Livestock & Veterinary Services</i>	County Government representation in the project area

6.	CDVS	Responsible for supervision of the project investment
7.	Relevant County Service Unit member	To give guidelines on issue where a complaint has been raised.
8.	<i>Women representative</i>	To ensure all views of vulnerable groups have been heard.
9.	<i>Representative of active NGO's or CBO's in project area</i>	To represent all views of other interested parties working with the community.

6.3 Reporting

During the preparation and actual vaccination exercise, the following reports will be generated. The reports will include information on:

- a) Copy of livestock vaccination manifest detailing the Ward, Sub location, Crush site & GPS Coordinates, Names of farmer, Number of goats vaccinated, number of households
- b) Photographs during the exercise

Table 6. 2: Reports to be generated

Report type	Frequency	Responsible
Vaccine procurement	Once	CDVS/CPC/Procurement Assistant
Publicity report	Once	CDVS/M&E KCSAP
Cold Chain Management	Once	County Disease Surveillance Officer/ Public Health Officer
Daily vaccination report	Daily	Vaccination team leaders
Monitoring report	Once	CDVS/M&E KCSAP
ESS Safeguards report	Once	CESSCO/NEMA/CDVS
Waste disposal report	Once	NEMA/CDVS/CESSCO
Knowledge management report	Once	CPCU-M&E
Overall vaccination report	Once	CDVS/ CPCU-M&E

ANNEXES

Annex 1: Proposal for CCPV Vaccination

COUNTY GOVERNMENT OF KAJIADO



County Director of Veterinary Services

Address: P.O Box 30 00100 Kajiado

Email: cdvskajiado@gmail.com

CONTAGIOUS CAPRINE PLEUROPNEUMONIA VACCINATION

Sub-project Proposal Submitted to:

County Project Coordination Unit
Kenya Climate Smart Agriculture Project
KAJIADO

SEPTEMBER 2020

CONTAGIOUS CAPRINE PLEUROPNEUMONIA VACCINATION

Introduction

The livestock sub-sector plays an important role in the economy of Kajiado County. The most important contribution and value of livestock are: source of food, drought power, social and cultural assets, and source of income.

Productivity of animals is low mainly due to: disease, poor nutrition, unimproved genotypes, inappropriate management, socio-economic and institutional constraints. The widely prevalent livestock diseases are major constraints to livestock productivity and marketing. Contagious caprine pleuropneumonia is a contagious pneumonia with pleurisy, which occurs in goats causing weakness loss of appetite cough labored breathing and nasal discharge.

Contagious caprine pleuropneumonia(CCPP) is recognized is a serious Transboundary Animal Disease (TAD) and notifiable disease because of its potential for rapidly spreading across regions and international borders through animal movement, resulting in devastating economic effects through losses in the trade of animals, animal products and animal deaths. The disease is epidemiologically simple. The disease is spread by direct or close contact between infected and a susceptible animal. Only live animals transmit the disease

Outbreaks of Contagious caprine pleuropneumonia in susceptible animal are preventable through sustained programmes of animal vaccination. Kajiado is among the counties with an endemic presence of this disease spread across the county mainly due to continuous restocking by farmers with stock from varied pastoral areas. This has resulted in reduced performance and deaths of goats herds.

Quarantine measures have been instituted whenever outbreaks are reported with little success due to the vaccination coverage being low as the resources allocated for the control of this disease are inadequate.

1. Project Background

a) Project Title: **Contagious Caprine Pleuropneumonia Vaccination**

b) Project duration: 3 months Start: May 2021 End: July 2021

c) No. of beneficiaries: 416,112 Male: 284,384 Female: 131,728

Direct beneficiaries: 312,084 Male: 213,288 Female: 98,796

Indirect beneficiaries: 104,028 Male: 71,096 Female: 32,932

Vulnerable beneficiaries (poor, widows/widowers, orphans, physically challenged, elderly,

HIV/AIDs affected/infected: 4500 Male: 7200 Female

d) Location of the project (coordinates):

The sub-project will be implemented in Kajiado East, Kajiado Central, Kajiado West, Kajiado South

2. Project Identification

i. How was the project identified?

It was based on past outbreak and field disease surveillance reports.

ii. Who was involved?

- Veterinary field extension staff
- Farmers
- Slaughter house meat inspectors

iii. What events took place in developing the project idea

- Disease surveillance situations
- Epidemiological data

iv. Compliance status to various statutory requirements

- ❖ EIA: A Pest Management Plan will be prepared after the screening exercise
- ❖ Water permits: N/A
- ❖ Land ownership, legal agreements and related procedures: N/A
- ❖ Other statutory requirements:
 - Safe use and disposal of chemicals and other equipment.
 - Waste management Regulations will be adhered to as stipulated in the waste management guidelines during the vaccination exercise.

- v. Beneficiary management committee: for instance, give details on- how they were Constituted e.g. democratically; composition, GRM, Frequency of meetings.

- This is a whole community intervention and the local leaders and pastoralist representatives are the ones who coordinate activities at the vaccination sites

3) Project Framework

- a) What is/are the expected results post-implementation (increased household income, livelihood diversification, food security through water availability/accessibility, reduced land degradation etc.)

- Livestock diseases are a major constraint to livestock production and the control of these diseases or their vectors can contribute significantly to the livestock sector reaching its full potential.
- Pastoral communities relying on goat production as their livelihood are highly vulnerable to the threat of CCPP disease.
- The economic impacts of CCPP include death of animals, jeopardization of animal trade, devastating food security and cost of control.

- b) What is/are the objective(s) of the project?

- Local eradication or control of CCPP disease hence increased livestock productivity and incomes.
- Removing the threat of CCPP will give confidence to goat keepers and will decrease the risk of food insecurity in the community.

- c) What problems does the project aim at addressing at the community level?

- i. High incidences of CCPP
- ii. Occurrence of CCPP is a major threat to livestock production and productivity through deaths of goats and reduced performance from this disease
- iii. Stoppage of Livestock trade due to quarantine measures

- d) Activities to be carried out:

No.	Activity	Who will provide advise & training (institution or person)	Time
1	Community mobilization	Chiefs Ward Administrators County Director Veterinary Services	November 2020
2	Planning and publicity	Department of Veterinary Services CPCU - KCSAP	November 2020
3	Procurement of vaccines	County Director of Veterinary Services CPCU - KCSAP	October 2020
4	Purchase of vaccination equipment	County Director of Veterinary Services CPCU - KCSAP	October 2020
5	Vaccination	County Director of Veterinary	November/Decem

		Services	ber 2020
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*Attach a separate sheet if space is not enough

c) List the collaborators you will work with

S/No.	Collaborator	Area of collaboration
1	Local leaders	Mobilization and publicity
2	Department of Public Health	Supervision of waste management handling and covid-19 prevention measures
3	National Environment Management Authority (NEMA)	Development of waste management protocol and field supervision
4	Director of Veterinary Services, State Department of Livestock Production	Disease reporting data
5	Farmers/pastoralists	Repair of vaccination crushes

*Attach a separate sheet if space is not enough

4. Monitoring of Progress

a) Who will be involved in monitoring?

- County Project Coordinating Unit (CPCU)
- County Director of Veterinary Services

b) How frequent will the progress report be submitted?

- Monthly, Quarterly and sub-project completion report.

c) Who will be responsible for reporting?

- County Director of Veterinary Services
- County Project Coordinating Unit -M&E

d) How will the report reach the community members?

- Through community meetings

e) How will the proposed project assist in responding to any excess rains/EL NINO during the year

There will be reduced incidences of livestock diseases especially the CCPP and other associated diseases which are rain-related

f) . How will the proposed project assist in achieving the Project Development Objective (PDO) which is to increase agricultural productivity, build resilience and reduction of GHG emissions in the long term? (indicate the targeted coverage in terms of type of livestock numbers or acreage of crops/types)

- The proposed sub-project targets to vaccinate about 700,000 goats. Hence overall the proposed sub-project will contribute to the Project Development Objective of increased resilience of vulnerable pastoral households, benefiting an estimated 14,000 households (approx. 50 goats per HH).
 - The economic impacts of CCPP include death of animals, jeopardization of animal trade, devastating food security and cost of control. Pastoral communities relying on a livestock economy are highly vulnerable to the threat of disease to their livestock such as CCPP.
 - The impact of CCPP on producers will have repercussions along the livestock value chain (production and market activities) and its ancillary services. Therefore, by controlling this disease, cumulatively, the impact on other service providers within the livestock supplies chain is great.
 - Reduced livestock mortalities hence increased production
- g) How will you measure your success in planning, implementing and managing your projects in a sustainable and socially inclusive manner?
- Farmers will be sensitized on the surveillance and reporting mechanisms so that early reporting will be done to control the disease once detected. Future incidences of these diseases are expected to be reduced
- h) How will you ensure sustainability of the project?
- The county government plans will be including budgets to address this disease, and also further collaborative efforts of this nature with other stakeholders.
- i) How will you manage the benefits that will accrue from the project?
- By sensitizing farmers to practice improved management of their livestock and through climate smart agriculture which addresses control of disease spread
- j) Strategy on operation and maintenance
- The community will be expected to continue managing and maintaining the livestock vaccination structures

5. Detailed Budget

Project cost including community and County Government contribution

S/ No.	Activity	Budget item	No.	Unit Cost	Total Cost	County Contribution	Community Contribution	KCSAP Grant	Total Amount
1	Livestock Disease Surveillance	<u>Equipments & Reagents</u>							
		Latex Disposable Gloves pkt (100 pcs)	20	450	9,000			9,000	9,000
		Disinfectant (litres)	20	1250	25,000			25,000	25,000
		Sampling bottles (doz)	10	960	9,600			9,600	9,600
		Vacutainer tubes - EDTA (100 pcs pkt)	20	3850	77,000			77,000	77,000
		Vacutainer tubes -PLAIN (100 pcs Pkt)	10	2500	25,000			25,000	25,000
		Vacutainer (Eclipse safety needles) 48 pcs pkt	50	2500	125,000			125,000	125,000
		Cyrovials - 100 pcs pkt	30	1000	30,000			30,000	30,000
		Surgical Blades pkts	25	1000	25,000			25,000	25,000
		Surgical Spirit (Ltr)	15	300	4,500			4,500	4,500
		Gloves - arm length (100 pcs pkt)	12	450	5,400			5,400	5,400
		Cotton Wool roll	5	450	2,250			2,250	2,250
		Pipettes/droppers (100 pcs pkts)	20	1500	30,000			30,000	30,000
		Alcohol swabs - pkt	25	200	5,000			5,000	5,000
		Test tube rack	5	900	4,500			4,500	4,500
		Forceps - pair	12	250	3,000			3,000	3,000
		Sharps Container - pcs	12	700	8,400			8,400	8,400
		Blade holder No. 4 - pcs	4	500	2,000			2,000	2,000
		Face masks (5 0 pcs cartons)	5	1000	5000			5000	5000

		Sanitiser lts	5	2500	12500			12500	12500
		First Aid Kit	2	10,000	20,000			20,000	20,000
		Airtime	1	5,000	5000			5,000	5,000
		Sub-total			433,150			433,150	433,150
		Fuel /Maintenance	1000	115	115,000			115,000	115,000
		DSA for technical staff during field livestock disease Surveillance	71200	6	427,200			427,200	427,200
		Sub-total			975,350			975,350	975,350
2	Livestock Vaccination	<u>Equipment & Vaccine procurement</u>							
		CCPP	12	800,000	9,600,000			9,600,000	9,600,000
		Automatic Syringes 50 ml (German)	25	5800	145,000			145,000	145,000
		Barrels 50 ml (German)	40	550	22,000			22,000	22,000
		hypodermic needles 16 x1/2 gauge (German) doz	40	480	19,200			19,200	19,200
		Spare/repair kits	30	500	15,000			15,000	15,000
		Aerosol spray	30	250	7,500			7,500	7,500
		Antihistamine inj	24	750	18,000			18,000	18,000
		Biohazard bags - Roll	20	2500	50,000			50,000	50,000
		Sharp containers	40	700	28,000			28,000	28,000
		Dust masks (Doz)	24	1200	28,800			28,800	28,800
		Cello Tape 1"	12	350	4,200			2,400	2,400
		Medium sized cool box	5	10000	50,000			50,000	50,000
		Waste Incineration Cost	1	20000	20,000			20,000	20,000
		Face masks (5 0 pcs cartons)	60	1000	60,000			60,000	60,000
		Sanitiser lts	60	2500	150,000			150,000	150,000
		First Aid Kit	10	10000	100,000			100,000	100,000
		Airtime	1	50000	50000			50000	50000
		Sub - total			10,367,700			10,367,700	10,367,700
3	Other expenses	Fuel for livestock vaccination	4200	115	483,000			483,000	483,000

		DSA for tech. staff during publicity & Mobilization	67200	5	336,000			336,000	336,000
		DSA for tech. staff during vaccine collection from Nairobi	37800	3	113400			113400	113400
		Cold chain system(10fridges-5deep freezers,25cool boxes	40	45000	1,800,000	1,800,000		0	1,800,000
		Vaccination crushes construction	12	700,000	8,400,000	8,400,000		0	8,400,000
		Repair of Vaccination crushes	50	23000	1,150,000		1,150,000	0	1,150,000
		DSA for vaccination teams	162000	28	4,536,000			4,536,000	4,536,000
		DSA for Cold Chain , waste management & supervision	94000	12	1,128,000			1,128,000	1,128,000
		Sub-total			17,946,400	10,200,000	1,150,000	5,777,400	17,946,000
		Total project cost:							29,289,050
		Community Contribution							1,150,000
		County contribution:							10,200,000
		Total KCSAP grant applied for:[1]							17,939,050

[1] Note: KCSAP grants should not pay for group members meetings or official allowances. Purchase of land and basic tools such as pangas and jembes should not be budgeted for.

List the in-kind contribution that the group will provide:

A. Labour (man-days & value)

- 300 man days each while repairing vaccination structures at 500/ = 150,000/=

B. Materials (type, quantity & value)

Material	Quantity	Value
Timber, posts, nails, cements, ballast for rehabilitation of vaccination crushes	50	1,000,000

Vehicles for vaccination teams and
other logistics

8

We certify that the preceding information is true.

Chairperson:.....Signature.....

Date.....

Secretary: Signature

Date.....

Group member: Signature Date.

.....

(For official use only)

Comments by the Relevant CTD:

.....

.....

.....

.....

.....

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.....

Recommended: Yes No Date of meeting:

.....

(Attach minutes)

Comments by the CTAC:

.....

.....

.....

.....

.....

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.....

.....

Endorsed: Yes No Date of meeting:

.....

(Attach minutes)

Chairman Name: Signature:

.....

Forwarded to NPCU by CPC

Name: Signature:

.....

Date: Official rubber stamp:

.....

ANNEX 1: GROUP MEMBERSHIP LIST

No	Name	ID No	Gender M/F	Age	Contact	Signature ¹
1						
2						
3						

¹ As much as possible, individual group members should sign against their names as indicated

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Annex 2: Stakeholder Consultation



ATTENDANCE LIST

Activity CCPP Vaccination Stakeholder Consultation Date 8/3/2021 Venue KCSAP Office

S/NO	NAME	M/F	PERSONAL NO / ID N°	DPT/ORGANISATION	CONTACT	Email address	SIGNATURE
1.	VIRGINIAH MANJUS	F	34651640	PUBLIC HEALTH	0791325281	virginiahmanjus1997@gmail.com	
2.	Athamus Chesire	M	2008083434	KCSAP	0721542421	chesireathamus@gmail.com	
3.	Alice Siantei	F	27334680	NEMA - KATADO	0720053215	asantei@nema.go.ke	
4.	Morris Njogi	M	20170143923	WATER BPT.	0726275220	morrisnjogi15@gmail.com	
5.	JOSEPH M. KOROJO	M	11219345	NEMA	072232766	jkorojo@nema.go.ke	
6.	DANIEL NYAGUAKA	M	93014467	CSK-KCSAP	0725837182	danielnyagadika@gmail.com	
7.	Florence Kasimu	F	2007018309	KCSAP	0724982653	florancekasimu@gmail.com	
8.	Dr. Achola	M		VET. SERVICES	0725247611		
9.	Dr. Nazaria Nyaga	F		VETERINARY	0722300886		

Annex 3: ESS Screening Checklist



OFFICE OF THE COUNTY DIRECTOR OF ENVIRONMENT, KAJIADO
PO BOX 620-0110, KAJIADO
Tel: 0722 232 766
Email: Kajiado@nema.go.ke.

When replying, please quote:
REF: NEMA/CDE/KJD/4/8/16/Vol. 3
And Date


16th March, 2021

THE COUNTY COORDINATOR,
KENYA CLIMATE SMART AGRICULTURE PROJECT,
KAJIADO COUNTY

RE: PEST MANAGEMENT PLAN FOR CONTAGIOUS CAPRINE PLEUROPNEUMONIA

This is to confirm that the proposed vaccination campaign for Contagious Caprine Pleuropneumonia within Kajiado County shall not require to undergo a Comprehensive Project Report approval process commonly referred to as Environmental & Social Impact Assessment process as it does not meet the threshold provided for in the Environmental Management (Impact Assessment & Audit) Regulations, 2003.

You will instead be required to prepare a **Pest Management Plan** whose implementation shall be monitored by the Authority during the implementation phase.


Joseph M. Kopejo
County Director of Environment
KAJIADO COUNTY

C.c:
Director, Compliance and Enforcement - N.E.M.A

Environmental and Social Screening Checklist for Contagious Caprine Pleuropneumonia (CCPP) Vaccination in Kajiado County

Section A: Background Information

Name of County.....	KAJIADO.....
Name of CPCU/Monitoring Officer/Researcher ...	ATHANUS CHESIRE.....
Sub-project location.....	COUNTY WIDE.....
Name of CBO/Institution.....	
Postal Address.....	
Contact Person.....	COUNTY DIRECTOR OF VETERINARY SERVICES.....
Cell phone.....	
Sub-project name.....	CONTAGIOUS CAPRINE PLEUROPNEUMONIA VACCINATION.....
Estimated cost (KShs.).....	17,939,050.....
Approximate size of land area available for the sub-project.....	N/A.....
Objectives of the subproject.....	
i. Eradicate/Control CCPP disease hence increased livestock productivity	
ii. Increase food security and incomes in the community	
Activities/enterprises undertaken.....	
• Community mobilization & publicity	
• Procurement of vaccines and equipment	
• Actual vaccination	
How was the sub-project chosen?.....	
i. Field disease surveillance reports	
ii. County Integrated Development Plan (2018-2022)	
Expected subproject duration.....	3 months.....

Section B: Environmental Issues

Will the sub-project:	Yes	No
Create a risk of increased soil erosion?		√
Create a risk of increased deforestation?		√
Create a risk of increasing any other soil degradation		√
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 ESMP with sub-project application.

Section C: Socio-economic Issues

	Yes	No
Will the sub-project:		
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 communicable diseases such as HIV/AIDS?		√
Induce conflict?		√
Have machinery and/or equipment installed for value addition?		√
Introduce new practices and habits?		√
Lead to child delinquency (school drop-outs, child abuse, child labour, etc.)?		√
Lead to gender disparity?		√
Lead to poor diets?		√
Lead to social evils (drug abuse, excessive alcohol consumption, crime, etc.)?		√

Section D: Natural Habitats

	Yes	No
Will the sub-project:		
Be located within or near environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands) or threatened species?		√
<i>NB: If the answer is yes, the sub-project should not proceed.</i>		
Adversely affect environmentally sensitive areas or critical habitats – wetlands, woodlots, natural forests, rivers, protected areas including national parks, reserves or local sanctuaries, etc.)?		√
<i>NB: If the answer is yes, the sub-project should not proceed.</i>		
Affect the indigenous biodiversity (flora and fauna)?		√
<i>NB: If the answer is yes, the sub-project should not proceed.</i>		
Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly?		√
<i>NB: If the answer is yes, the sub-project should not proceed.</i>		
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?		√
Use irrigation system in its implementation?		√

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

SECTION E: Pesticides and Agriculture Chemicals

Will the sub-project:	Yes	No
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.)?		√

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 subproject?		√

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

Section G: Land Acquisition and Access to Resources

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

Be on monoculture cropping?		√
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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
<input type="checkbox"/> All the above answers are 'No'	<ul style="list-style-type: none"> • If all the above answers are 'No', there is no need for further action;
<input type="checkbox"/> There is at least one 'Yes'	<ul style="list-style-type: none"> • 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?

☐ CPCU and CDE will provide detailed guidance on mitigation measures as outlined in the ESMF; and

☒ Specific advice is required from CDE, Lead Officer and CPCU 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 KCSAP PIU for clearance for implementation by communities in the proposed subprojects.

Expert Advice

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

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

Completed by:

Name:.....*Athanas K. Chesire*.....

Position:.....*County Environment & Social Safeguards Officer*.....

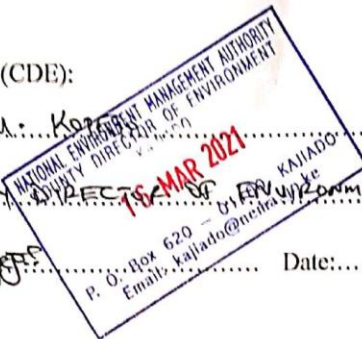
Signature:.....*[Signature]*..... Date:.....*18/3/2021*.....

Field Appraisal Officer (CDE):

Name:.....*JOSEPH M. KOSIAKO*.....

Position:.....*COUNTY DIRECTOR OF ENVIRONMENT*.....

Signature:.....*[Signature]*..... Date:.....*16-03-2021*.....



Note:

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