Kenya Climate Smart Agriculture Project

Office of the County Project Coordinator – KCSAP Taita Taveta.

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PEST MANAGEMENT PLAN

For

LIVESTOCK DISEASE SURVEILLANCE AND CONTROL SUB PROJECT

TAITA TAVETA COUNTY

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October 2021

World Bank

KCSAP
Kenya Climate Smart Agriculture Project

EXECUTIVE SUMMARY

Livestock is one of the main livelihoods of Taita Taveta County residents. The major breeds kept being local, cross, and exotic. Livestock diseases have been a perennial challenge for the livestock farmer due to cyclic outbreaks which lead to mortality and morbidity losses. Furthermore, due to the proximity to the national park and the livestock movements, the livestock are exposed to diseases which farmers are unable to manage and control. For the last two years there have been reported outbreaks of Foot and Mouth Disease (FMD), Lumpy Skin Disease (LSD), Black quarter (BQ), Anthrax, Pleuro-pneumonia and Newcastle disease in poultry.

In the County Integrated Development Plan (CIDP) Taita Taveta envisions vaccinating all livestock against notifiable diseases in an effort to cushion farmers against economic losses that may arise from these diseases. Vaccination campaign against these diseases is also in the annual work plan of the Directorate of Veterinary Services. in the County. The County Government, through the Department of Agriculture, Livestock and Fisheries, has identified this county wide vaccination campaign as one of the projects that the county Government would like to be supported by the Kenya Climate Smart Agriculture Project (KCSAP). Livestock will be vaccinated against FMD, LSD, CBPP, Anthrax & Black Quarter, CCPP, NCD and Rabies. The livestock that will be vaccinated include cattle-114,480, goats-141,480, dogs-25,409 and chicken-232,990.

Environmental and Social Safeguard screening done on the proposed project identified several positive impacts and a few negative impacts whose mitigation measures have been highlighted in this Pest Management Plan (PMP). The positive impacts are reduced mortality losses, improved quantity and quality of livestock products, reduced chances of loss of livelihoods for people employed directly or indirectly by Livestock industry.

The negative social impacts among others includes the failure for some farmers to bring animals for vaccination especially in the zero grazing areas (Wundanyi/Mbale, Werugha, Wumingu, Mgange/Mwanda and Wusi and Ngerenyi dairy zones) with fear of animal contracting diseases-sensitization and vaccination campaigns will be implemented; chances of spreading of Covid-19 will be addressed through observing the Ministry of Health protocols of controlling the pandemic; Gender Based Violence (GBV), Sexual Exploitation and Abuse (SEA) and child abuse during the-addressed through sensitization against the vice and putting mechanisms of identifying cases and addressing them. The vulnerable and marginalized especially the disabled and those living with HIV and AIDS may not be able to bring animals for vaccination. These will be mapped and arrangement made to have their animals vaccinated during the home visits. OHS impacts will be addressed by use of PPEs and measures put to prevent injuries.

Negative environmental impacts include production of wastes from empty vaccine containers, acaricides containers, and used needles. These wastes will be managed by ensuring that they are all collected and disposed-off safely using the National Environment Management Authority (NEMA) protocols. Air pollution will be mitigated by controlling/ minimal movement of animals. Flora and fauna destruction impacts area expected to be addressed by establishing proper animals' routes, homestead vaccination and planting of trees.

The project is estimated to cost KES 32,211,013 of which 25,343,973 is the amount requested from KCSAP and KES 6,867,040 is county government contribution. The sub project funds will be managed under County Project Coordinating Unit (CPCU) project account including PMP activities. Over 513,000 livestock are targeted for vaccination. The proposed vaccination will be carried out countywide and the expected number of beneficiaries is 45,500 households. The proposed vaccination project, once carried out, will have huge positive economic benefits to the County in general and to individual livestock farmers

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ACRONYMS

BQ	Black Quarter
CCO	County Chief Officer
CDSS	County Director of Social Services
CDVS	County Director of Veterinary Services
CECM	County Executive Committee Member
CESSCO	County Environment and Social Safeguards Compliance Officer
CGTT	County Government of Taita Taveta
CIDP	County Integrated Development Plan
CIG	Common Interest Group
COVID-19	Corona Virus Disease
CPC	County Project Coordinator
CPCU	County Project Coordinating Unit
CPHO	County Public Health officer
EMCA	Environment Management and Co-ordination Act
FMD	Foot and Mouth Disease
GHG	Greenhouse Gases
GRM	Grievance Redress Mechanism
IVM	Integrated Vector Management
KCSAP	Kenya Climate Smart Agriculture Project
KEVEVAPI	Kenya Veterinary Vaccines Production Institute
LSD	Lumpy Skin Disease
M&E	Monitoring & Evaluation
MOH	Ministry of Health
NCD	Newcastle Disease
NEMA	National Environment Management Authority
OHSOP	Occupational Health and Safety Operational Policy
PDO	Project Development Objectives
PMC	Project Management Committee
PMP	Pest Management Plan
PO	Producer Organization
SCVO	Sub County Veterinary Officer
SMS	Short Message Service
VMG	Vulnerable and Marginalized Group
WVO	Ward Veterinary Officer

CHAPTER ONE: INTRODUCTION

1.1 Background Information

Taita Taveta County is one of the coastal counties of Kenya. It borders Tana River, Kitui and Makueni counties to the North, Kwale and Kilifi counties to the East, Kajiado to the North West and the Republic of Tanzania to the South and South West. The population of the county is estimated to 340,671 (2019 Census) with 50.8% being male and 49.2% female. Topographically the county is divided into three major zones. The upper zones comprise Taita, Mwambirwa and Sagalla hills regions with altitudes ranging between 304 and 2208m. The lower zones consist of low lying zones while the third zone is the volcanic foothills zone covering Taveta region.

The lower zone falls under Semi-Arid Land (ASAL). The higher zones receive some substantial amounts of rain with few experiencing sporadic droughts. The lower zones which are located within Mwatate, Voi and Taveta Sub counties experience a lot of livestock movements due to the available grazing lands in the rangelands. Most inward movements are from the neighboring Counties, including as far as from Northern Kenya. The rangelands in Mwatate Sub County borders the Tsavo West National Park to the west (see Fig.1).

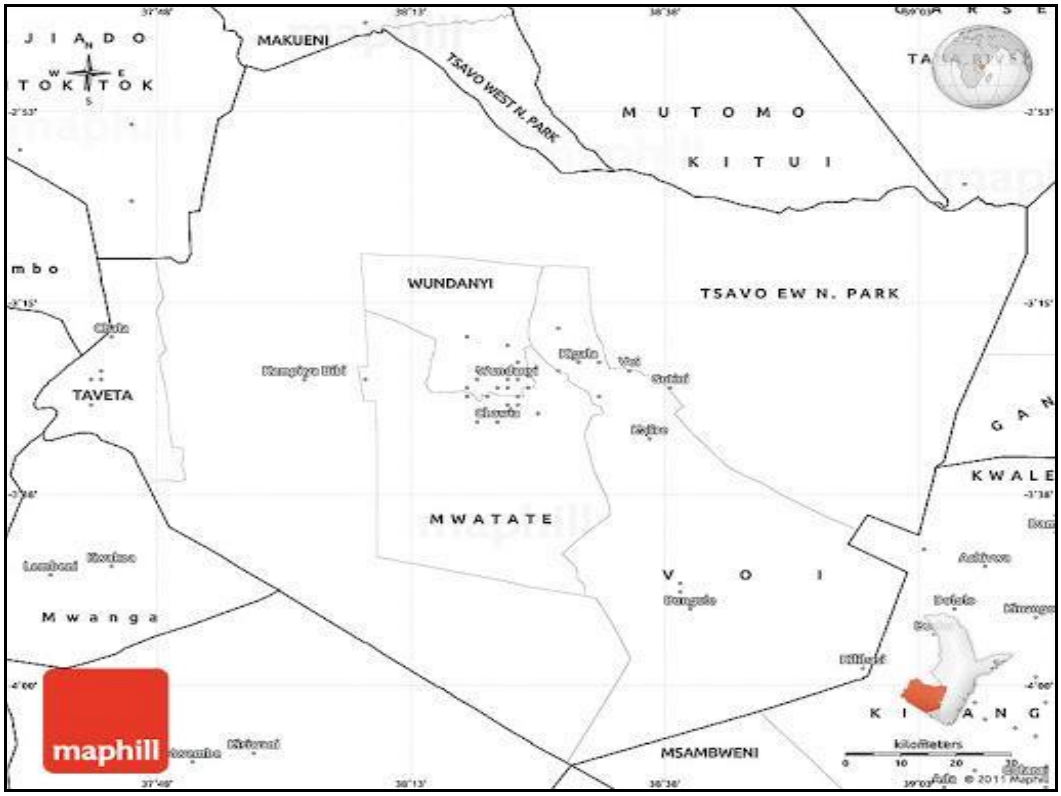


Figure 1; Map of Taita Taveta County

The climate in Taita Taveta County is strongly influenced by the South-Easterly winds. The County is largely dry except for the Taita hills which are wetter. The hilly areas have ideal conditions for condensation of moisture, which results in relief rainfall. There are two rainy seasons – the Long rains between March and May and the Short rains between October and December. Rainfall distribution is uneven, with the highlands receiving higher rainfall than the lowlands. During the Long rains, on average the highlands record 265mm while the lowlands record 157mm. Mean rainfall during the Short rains is 1,200mm and 341mm for the highlands and the lowlands respectively. The annual mean rainfall is 650mm. The average temperature is 230C; it falls to 18.20C in the hilly areas of Taita, Mwambirwa, and Sagalla, and rises to about 250C in the lower zones.

Livestock production is a major source of livelihood in the county. However, its production and productivity is faced by several challenges especially livestock diseases. The best control measure of livestock diseases is through vaccination using approved vaccines. The Kenya Veterinary Vaccines Production Institute (KEVEVAPI) is the authorized government institution charged with production of livestock vaccines. Table 1 shows the county cattle, sheep, goats chicken, population and household's numbers.

Table 1; County Cattle, Sheep and Goats (Shoats), Chicken Population and Households numbers

Sub-County	Households	Cattle (2019)			Shoats	Chicken
		Exotic Dairy	Exotic Beef	Indigenous cattle		
Taita	12,139	7,057	1,949	25,088	32,429	72,418
Mwatate	16,123	6,103	1,747	41500	58,999	151480
Voi	14,067	2,149	1,977	44,430	76,989	117,825
Taveta	14,591	1,927	2,843	42,074	80,231	95,416
TOTAL	**56,920**	**17,236**	**8,516**	**153,092**	**248,648**	**437,139**

Source: 2019 Department of Livestock Annual Report

World Bank (WB) policies on Environment and Social Safeguards especially OP4.09 on Pest Management has been triggered by this project since the project is procuring vaccines and pour-on acaricides, which are categorized as pesticides, and wastes from this activity are likely to impact negatively on the environment. OP4.09 encourages reduction in reliance on synthetic chemical pesticides, advocates for promotion of Integrated Vector Management (IVM), and calls for minimization of environmental and health hazards of pesticide use. Specifically, the project activities will generate solid wastes including empty vaccines and pour-on acaricides bottles, bent or broken injection needles, used needles, disposable plastic syringes, discarded cotton wool and expired vaccines. The triggering of the two WB policies calls for critical analysis of administration of the vaccines and management of all wastes that will emanate from this activity, hence the need for preparation of this PMP.

The project is meant to benefit farmers across Taita Taveta County and since it will be free-of-charge (farmers to contribute in kind e.g. repair of crushes), it is envisioned to reach out to the most vulnerable individuals from all parts of the County, with the number of beneficiary households estimated at 45,500.

1.2 Methodology

The methodology used to develop this PMP was based on literature review, interviews and public/stakeholders' consultation. Literature review of existing policies and legislation of the Government of Kenya and of World Bank Safeguard Policies was carried out in areas of livestock production and protection. Among the policies nd legislation reviewed includes, the Animal disease control ACT Cap 364, Veterinary Policy 2020, Occupational Health and Safety Act, 2007, EMCA (Waste Management) Regulations, 2006 and The National Policy on Gender and Development (2000). 6 consultative meetings with the County Technical Team and key stakeholder's /key informants were held one each in the KCSAP wards. One preparatory meeting for planning on of the screening exercise of beneficiaries and stakeholders in the project was held at the County Livestock Office Board room in Voi. Through use of a screening questionnaire disbursed during a public baraza, dairy farmers, ranchers and dairy cooperatives participated in giving their opinions about the disease surveillance project (See annex 5). nterviews with key informants from relevant stakeholders in livestock production and health were conducted in order to understand the impacts of the vaccines on public health and environment. Further processes of developing the PMP involved a PMP preparation/writing meeting at Voi CIT involving CTDs, CPCU and other stakeholders in the livestock department. This included the following stages:

- Collation of baseline data on agriculture, livestock and pesticide use in Kenya.
- Identification of positive and negative environmental and social impacts of vaccine use.
- Identification of environmental and social mitigation measures.
- Preparation of the PMP.

The exact dates and attendance are indicated in the sub-section 1.4 on stakeholder's participation.

1.3 Legal, Policy and Regulatory Framework

Important national policies, laws regulations as well as World Bank Policies to keep in mind are:

1.3.1 Occupational Health and Safety Act, 2007

The relevant sections to this project are sections 83 to 86. According to Section 83 handling, transportation and disposal of chemicals and other substances must be done in a way that ensure health and safety risks are avoid or minimized. Section 84 provides that the material safety data sheet should be included in the packaging of chemicals and drugs. Section 85 provides for proper labeling and marking of all chemical packaging

The project will ensure all the chemicals are properly labelled, marked, and packaged as specified in Section 85. Section 86 advocates for classification of hazardous chemicals and substances. The solid wastes generated will be collected into different waste bins for sharps, biological waste for empty vaccine bottles and general waste for the empty acaricide bottles, used syringes and cotton wool and transported to the county hospital incinerator for disposal.

1.3.2 EMCA (Waste Management) Regulations, 2006

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.

The project will generate both solid and non-solid waste. Solid waste will include but not limited to empty pour-on acaricide/ vaccines and medicines /chemical bottles, used carton boxes, used syringes and used cleaning or mopping materials/ clothes. Non-solid waste include expired acaricides/ medicine/ chemicals, chemical spills, used cleaning water etc. Solid waste generated from project activities will be collected and incinerated to avoid contaminating the soils and water bodies thus protect aquatic life. Non-solid waste will be collected and disposed at an allocated receptacle i.e. a dug pit and buried at a safe distance away from water sources

1.3.3 EMCA (Water quality) Regulations, 2006

These Regulations provide rules relative to the use and discharge of water for domestic, agricultural and industrial purposes; make provision for the protection of water resources from pollution and define water quality standards. Part V Section 24 in particular prohibits the pollution of water as well as unauthorized abstraction or use of water.

Wastes generated within the project will be handled in such manner that prevents the pollution of water as per these regulations. Empty pour-on acaricide and vaccine bottles generated from project activities will be collected and stored at an identified receptacle i.e. dug out pit that is far and safe from water sources. Field officers will be required to carry with them in the field bins to collect such waste for later proper disposal. Arrangements will also be made to incinerate these empty contaners to avoid contaminating the soils and water bodies thus protect aquatic life.

1.3.4 The Sexual Offences Act (No. 3 of 2006)

This Act of Parliament makes provision about sexual offences and aims at prevention and the protection of all persons from harm from unlawful sexual acts. Section 15, 17 and 18 focuses mainly on sexual offenses on minors (children). It also covers sexual offences related to position of authority.

The Veterinary department is obligated to put in place mechanisms which are necessary or expedient in order to achieve or promote the objects of this Act, including for instance, a sexual harassment control code of conduct, putting a person responsible for overseeing and report to such cases i.e. the area chief. A mechanism of reporting and solving such incidences should be put in place. The proposed project will ensure that this Act is adhered to, by ensuring that there will be NO sexual offences committed, especially during the construction period.

1.3.5 Children's Act 2001

The act safeguards for the rights and welfare of the child (including right to education) requiring the Government to take steps to the maximum of its available resources with a view to achieving progressively the full realization of the rights of the child. It also makes provision for the administration of children's institutions, and prohibits abuse and physical and sexual abuse of children.

Part of the project staff TOR will feature them abiding to the act. The project staff, extension officers, beneficiaries will ensure that only persons of legal age are engaged in both direct and indirect project activities. Further, the CPCU will take initiatives in sensitizing the community about the act . A mechanism of reporting and solving such incidences should be put in place.

1.3.6 World Bank Operational Policies

Word Bank policy OP4.09 on Pesticide Management is aimed at ensuring that all WB projects reduce reliance on synthetic chemical pesticides, promote Integrated Pest and/or Vector Management, and minimize environmental and health hazards of pesticide use.

1.3.7 Livestock Policies

Animal Diseases Act Cap 364 (Revised edition 2012)

This Act provides for measures that may or shall be taken by public bodies and holders of animals for the control of diseases affecting animals. It provides for the prevention of the introduction of and the prevention and control of, notifiable diseases (b) the isolation, inoculation, removal and slaughter of animals infected by or suspected to be infected by any notifiable disease, or exposed to or likely to be exposed to any such disease: (c) the burial or destruction of carcasses.

The main goal of this project is to do surveillance and hence control animal diseases especially the notifiable ones. Once a surveillance report notifies a disease, all animals at risk of contracting the deseas will be vaccinated against the notifiable animal diseases as highlighted in the Act. Vaccination is the recommended means of control of the trade sensitive diseases and quarantines will be used to control the spread of livestock diseases in case of an outbreak during the project period.

Veterinary Policy, Sessional paper No 1 of 2020

The Policy provides an enabling environment for safeguarding animal life, health and welfare as well as animal propagation and production for food security and economic development. It seeks to ensure that Kenyans benefit from proximate and quality health by guaranteeing animal health, welfare and production services. It aligns developments in the animal resource industry to the Constitution as well as the Kenya Vision 2030 and the international animal health laws, treaties, agreements and conventions ratified by Kenya.

Vaccination of livestock against notifiable and zoonotic disease during the project implementation will promote the health reduce the disease incidence thus limiting the need for treatment using antibiotics thus improved welfare. Livestock keepers will also benefit on training/ sensitization by trained extension officers on appropriate livestock keeping practices against diseases hence in turn be trained on safeguarding animal life, health and welfare as well as animal propagation and production.

1.3.8 The National Policy on Gender and Development (2000)

The policy recognizes that it is the right of men, women, boys and girls to participate in and benefit from development and other initiatives for sustainable development. All the gender groups were involved in the identification and development of the proposed project. All the gender groups will have equal opportunities to actively participate in the project implementation process from publicity and community mobilization baraza, and sensitizations.

1.3.9 Policy on Gender and Sexual Based Violence 2017

The purpose of this policy is to put in place a framework to accelerate implementation of laws, policies and programs for prevention and response to SGBV. The overall objective of the policy is to progressively eliminate sexual and gender-based violence through the development of a preventive, protective, supportive and transformative environment.

The project proponent will put in place plans through the pest management plan to develop and implement a SGBV action plan with an Accountability and Response Framework as part of the administration of the whole project cycle.

1.4 Stakeholder Consultation

This project was agreed upon after consultations which were carried out during stakeholder fora. nterviews with key informants from relevant stakeholders in livestock production and health were conducted in order to understand the impacts of the vaccines on public health and environment. The stakeholders were mainly livestock farmers, County leadership, County Technical Departments (CTDs), especially the Veterinary Department, National Environment Management Authority (NEMA), Public Health staff, Livestock traders and processors. It was noted that there was need to come up with a project that addresses issues of livestock diseases in the County. Identification of positive and negative environmental and social impacts of vaccine use was also undertaken through public consultation.

6 consultative meetings with the County Technical Team and key stakeholder's /key informants were held one each in the KCSAP wards where a total of 30 (20males: 10females) participants attended. One preparatory meeting involving 15(13males: 2females) participants for planning on of the screening exercise of beneficiaries and stakeholders in the project was held at the County Livestock Office Board room in Voi. Through use of a screening questionnaire disbursed during 4 public barazas, 41(34males: 7females) dairy farmers, ranchers and dairy cooperatives members participated in giving their opinions about the disease surveillance project (Annex 5). nterviews with key informants from relevant stakeholders in livestock production and health were conducted in order to understand the impacts of the vaccines on public health and environment. A 3 day PMP preparation/ writing meeting was held at Voi CIT involving 35(25males:10 females) CTDs, CPCU and other stakeholders in the livestock department. The total number of direct public participants in preparation of the PMP are 121(92males: 29females) (See Annex 6). Below is a table illustrating the details captured during the public consultative exercise; -

Table 2: Public Consultation Venues, Dates and Attendance

S/ No.	Activitiy	Venue	Date	Participation		
				Male	Female	Total
1	Consultation of County Technical Department	Sagala Ward	04/02/2020	3	2	5
2		Wundanyi/Mbale	13/02/2020	4	1	5
3		Wumingu/ Kishushe Ward	13/02/2020	3	1	4
4		Mwatate	13/02/2020	3	1	4
5		Werugha	14/02/2020	3	3	6
6		Kishushe	15/02/2020	4	2	6
	Sub-Total			**20**	**10**	**30**
1	Screening Planning	Livestock Board Room- Voi	09/02/2021	13	2	15

	Meeting					
	Sub-Total			**13**	**2**	**15**
1	Screening Baraza-Dairy Farmers	Mwatate	13/02/2021	7	3	10
2	Screening baraza-Mgeno Ranch	Mwatate- Mgeno	13/02/2021	11	0	11
3	Screening Baraza-Ranchers	Mwatate Livestock Office	17/02/2021	8	0	8
4	Screening baraza-Ngache Dairy Cooperative	Werugha	01/03/2021	8	4	12
	Sub-Total			**34**	**7**	**41**
1	PMP preparation meeting	CIT- Voi	19/04/2021	3	0	3
2		CIT- Voi	21/04/2021	16	7	23
3		CIT- Voi	23/04/2021	6	3	9
	Sub-Total			**25**	**10**	**35**
	Grand Total			**92**	**29**	**121**

1.5 Justification for Carrying-out Livestock Vaccination

Livestock is one of the main livelihoods of Taita Taveta County residents. Since veterinary practice was privatized, most farmers have not been able to afford these services. Due to limited resources, there has been minimal disease surveillance activities which has exposed the county to disease outbreaks. Most farmers also have inadequate knowledge on disease detection and reporting. Therefore, some disease incidences are never reported which makes it difficult to control such diseases.

Furthermore, due to the proximity to the National park and the livestock movements, livestock are exposed to diseases which farmers are unable to manage and control. As such, there has been perennial outbreak of diseases such as Foot and Mouth Disease, Lumpy Skin Disease, Black quarter, Anthrax in large and small stock and Newcastle disease (NCD) in chicken. County animal health records show that there have been outbreaks in Cattle and goats involving Foot and Mouth Disease, Lumpy Skin Disease, Goat pneumonia (CCPP), Cattle pneumonia (CBPP) occurred. In 2019 alone, there were 143 incidences of foot and mouth disease affecting over 4,290 animals across the county. During the same reporting period, there were 430 cases of lumpy skin disease affecting 12,900 animals. These outbreaks resulted in mortality about 5% mortality of the affected animals. These diseases lead to economic losses such as mortalities, reduce production and hinder access to market. This further leads to demoralization hence many farmers abandon livestock keeping.

The veterinary department also lacks the capacity to enhance disease control and surveillance. Inadequate resources to purchase enough vaccines that can be used for vaccination of the endemic diseases in the county is also a challenge. Lack of adequate cold chain facilities for storage and delivery of vaccines makes it difficult to conduct vaccination.

These diseases can be controlled through routine vaccination, vector control, treatment and control of livestock movement.

CHAPTER TWO: VACCINATION PROCESS

2.1 Targeted Diseases and Vaccines

Livestock will be vaccinated against FMD, LSD, BQ & Anthrax, NCD, Contagious Bovine Pleuropneumonia (CBPP), Contagious Caprine Pleuropneumonia (CCPP) and Rabies depending on the species as indicated in Table 2.

Table 3; Species of animals and vaccines to be administered.

Species	**Vaccines**	**No of doses to be administered**
Cattle	FMD, LSD, CBPP, BQ& ANTHRAX	359,100
Goats	CCPP	141,480
Poultry	NCD	232,990
Dogs	Rabies	25,409

2.2 Targeting and Mobilization.

Vaccination will take place in the whole county that is; 4 Sub Counties/ 20 wards and vaccination sites (See table 3 below).

Table 4; Targeted areas

Sub County	**No. of Wards**	**Wards**	**No of sites**	**Vaccination Sites**
Taita	4	Wundanyi/Mbale Werugha Mgange/Mwanda Wumingu/Kishushe	35	Mtukunyi Cattle Dip, Malela Cattle Dip, Masumbenyi, Kishenyi Cattle Dip, Mogho Shopping Centre, Iriwa Cattle Dip, Mdudonyi Cattle Dip, Wanganga Cattle Dip, Siriri Cattle Dip Serienyi, Mlechi Shopping Centre, Mwaroko, Ngilinyi Shopping Centre, Lushangonyi Cattle Dip, Mgage Dawida, Mwanda/Kishamba, Mwamkombe, Mkawasi, Nyache Cattle Dip, Mghambonyi Cattle Dip, Paranga Shopping Centre, Mbaramghodi, Kishushe Chief office, Kishushe Cattle Dip, Ngongondinyi, Ndaku, and Wanjala farms
Mwatate	5	Wusi/Kishushe Mwatate Bura Ronge Njuu Chawia	33	Godoma, Mbelenyi, Kwamnengwa, Wusi Msorongo, Charisonyi Crush, Maktau, Oza, Mramba, Manoa, Kituma, Landi, Alia, Kamtonga, Godoma, Maktau (Charisonyi), Msau , Msau Rahai, Dembwa, Mwatate, Kipusi, Mruru Mangama, Mgeno Reserve, Chawia & Mreshinyi
Taveta	5	Mahoo Bomani Mata Challa Mboghoni	38	Lelesesia/ Mrimba, Mahoo/ Kiwarwa, Chala njuu/ Chala chini, Kasokoni, Njoro manyatta, Jipe/kwa mwaura, Rubin manyata/ Mata, Aboli A/ Kachelo Lake Jipe Salaita, Kasaani, Kimorigo, Rotima A, B, C, Ngutini, Chumvini, Njukini, Manjengo mapya, Kedongo, Chaka reli, Marodo, Masegeteni, Aboli B/ Aboli C
Voi	6	Sagalla Mbololo Ngolia Marungu Kaloleni Kasighau	40	Ikanga, Lebanon, Kifuso, Kirutai, Ndome, Ilangenyi, Makutano, Ndii, Ghazi, Mwakajo, Manga/Mbulia, Mabomani, Kaloleni, Birikani, Kivumbi, Mleghwa, Marapu, Zongwani, Talio Kajire, Mwambiti, Mwakoma, Maungu, Bondeni, Kale, Sasenyi, Buguta, Makumbusho, Kiteghe / Birikani, Rukanga, Makwasinyi, Jora, Bungule, Miasenyi, Msharinyi, Mole, Begha, LMD Bachuma/ KALRO S&G, Mwangoni, Mwalangi, Mwambungu and Kizumanzi

The Mobilization exercise (Table 4) will be undertaken by the Veterinary Directorate staff in collaboration with local community leaders. During mobilization Sub-County Administrators, Wards Administrators, Chiefs, Assistant Chiefs, Nyumba kumi leaders and influential community elders will mobilize target communities through barazas/meetings which shall be held in strict compliance of COVID-19 regulations and through short messages (SMSs). Publicity will be done through the most popular radio in the county in both Kiswahili and Taita languages so as to create awareness to all livestock farmers in the County. This will ensure that all vulnerable and marginalized groups (the aged, the widows, the HIV/AIDS infected, the youth, the women and the disabled) farmers in the County get informed of the vaccination activity and participate in it.

All staff and beneficiaries shall be sensitized on human resources policy against sexual harassment and exploitation that is aligned with national law. The process will integrate provisions related to sexual harassment in the employee cord of conduct. There will be personnel appointed to manage reports of sexual harassment and exploitation according to this policy. The targeting and mobilization process shall put as a condition/measure that children under the age of 18 years will not be involved in the exercise or be hired on site as provided by Child Rights Act (Amendment Bill) 2014.

The County Government of Taita Taveta through the Directorate of Veterinary Services will ensure that there are adequate personnel and vaccination crushes in each ward. Arrangements will be made for aged farmers who may not be able to drive their cattle to the crushes to have their animals vaccinated on their farms. Political leadership will be informed on the project through the CECM. Various stakeholders have been mapped as depicted in table 4

Table 5; Mobilization and publicity

Channel of communication	**Communication point**	**Responsibility**	**Roles**
Use of mobile phone (calls and SMS)	• Individuals/groups • SCVO's	CDVS	Overall coordination and communication
Oral Communication (word of mouth)	• Watering points • Livestock markets • Chiefs' baraza • Churches • Schools	Chiefs, Ward admin	Public education, sharing of the publicity materials and sensitization
Print media (Banners, Fliers and posters	• Watering points • Livestock markets • Ward, Chiefs' and County livestock offices	Chiefs, Ward Admins, Ward Veterinary officers	Sharing of the vaccination programs and disease information

Electronic media	• Use Local radio station for:
	  • Announcements
	  • Talk shows
		CDVS, SCVOs CECM/ CCO	Public education and sensitization /mobilization through radio

2.3 Stakeholder Mapping

Table 6; Outline of stakeholders and their roles in the vaccination exercise.

Stakeholder	**Role**
Farmers/ beneficiaries	○ Take their animals for vaccination. ○ Construction and repair of crushes ○ Provide & prepare venue where vaccination will take place ○ Cooperate with the vaccination team ○ Participatory monitoring

	○ Complying with the ministry of health guidelines in containing the spread of COVID-19 disease by wearing face masks, keeping the required physical distance, and washing hands as necessary during the vaccination exercise. ○ Comply with GBV, SEA and Child abuse policies
Administration (Chiefs,Assistant Chiefs,Ward& Sub-County Administrators and *Nyumba Kumi* Leaders	○ Publicity ○ Monitor the vaccination exercise ○ Reporting on any incidences and grievances which may require the attention of their Ministry.
MOH-CG	○ Assist in implementation and monitoring of COVID-19 guidelines ○ Sensitizing communities on Covid-19 control measures ○ Provide incinerator services for biological and face mask waste
Department of Vet Services - CDVS,SCVO and WVO	○ Provide technical teams to undertake the vaccination exercise ○ Participate in mobilization ○ Provide technical expertise ○ Ensure the vaccine cold chain is properly maintained ○ Prepare the program for the vaccination exercise ○ Procurement of vaccines and equipment ○ Reporting on progress, coverage, challenges, and coping mechanisms ○ Participate in Monitoring
NEMA	○ Environmental safety ○ Supervise collection and safe disposal of waste ○ Reporting
GRM Committees	○ Receive and handle all complaints and conflicts that may arise ○ During the implementation process
County Government (Chief officer – Livestock and Fisheries)	○ 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
KCSAP/ CPCU	○ 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
Social Services Department personnel	○ Identification and coordination of the vulnerable groups ○ Registration of groups ○ Capacity building on group dynamics ○ Follow up on GBV, SEA and Child rights ○ Monitoring and evaluation

Risks associated with the vaccination program are environmental pollution, livestock injury during restraint, hypersensitivity, and vaccine's reaction, dog bites and its associated risks, spread of Covid-19. These will be communicated to the community during mobilization. To mitigate the associated risks, this PMP will be implemented, safety of crushes improved for proper restraint and antihistamine 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. Measures against spread of Covid-19 will also be practiced.

2.4 Vaccines, Drugs& Equipment Procurement

This will be the responsibility of the veterinary directorate. The CDVS will initiate the procurement process with guidance from the CPCU. 758,979 doses of assorted vaccines and cold chain equipment will be procured (See table 6).

Table 7; Vaccination equipment & consumables

S/ No.	Item	Quantity
1.	Vaccines i. FMD, ii. LSD, iii. Blanthrax, iv. CBPP, v. CCPP, vi. Rabies vii. NCD	 ➢ 114,000 ➢ 114,000 ➢ 114,000 ➢ 17,100 ➢ 141,480 ➢ 25,409 ➢ 232,990
2.	Alpha Cypermethrin acaricides (pour-on)	200 litres
3.	Refrigeration equipment	8
4.	Automatic syringes	50
5.	Assorted sampling equipment and materials	-
6.	Cool boxes	20
7.	Safety Box (to store used needles)	15
8.	Safety Box to store used syringes	15
9.	Disposable Masks	16 Cartons
10.	Hand Sanitizers (500 ML)	80
11.	Liquid Soap	50 Pcs
12.	Portable hand washing stations	10

2.5 Actual Vaccination Plan

The exercise deals with vaccines and associated chemicals, which may be harmful to human life, animal life or the environment at large if mishandled. The effect may be even more pronounced if the exercise is extended for a period. There is also the issue of generation of potentially hazardous waste. Therefore, some safety guidelines should be adopted from the outset and instilled through briefings to the vaccination team. These guidelines are informed through the regulations governing them.

The county plans to carry out the vaccinations in all the wards in Taita Taveta County. The exercise will be carried out by four teams in 37 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 shall undergo an IPM safeguards sensitization and shall wear protective gear during the period of vaccination. The vaccination equipment shall be provided by the project and office of the County Director of Veterinary Services.

The exercise will start with publicity that will take two days per sub-county. During this time of COVID-19 pandemic when public gatherings are highly discouraged, publicity will be done using electronic and print media. Radio announcements and SMS messages in the local languages and Swahili will be used to disseminate the intended information on the proposed project. Posters and banners will also be used to publicize the project and mobilize the community. Gatherings shall be conducted in line with health protocols for COVID-19.

One hundred and forty-eight sites where animals will be aggregated during vaccination were identified during community mobilization (Table 7). The status of the crushes will be verified, and repairs will be done to prime them for the exercise. The county has a limited number of crushes and as such makeshift crushes will also be constructed for vaccination exercises.

Table 7; Vaccination sites and teams

Sub County	No. of Wards	No of sites	Vaccination teams	Vaccination Sites	No of days	Estimate no. of animals Vaccinated
Taita	4	35	Veterinary officer (2) and Ward Animal Health officers (9) – 11 officers	Mtukunyi Cattle Dip, Malela Cattle Dip, Masumbenyi, Kishenyi Cattle Dip, Mogho Shopping Centre, Iriwa Cattle Dip, Mdudonyi Cattle Dip, Wanganga Cattle Dip, Siriri Cattle Dip, Serienyi, Mlechi Shopping Centre, Mwaroko, Ngilinyi Shopping Centre, Lushangonyi Cattle Dip, Mgage Dawida, Mwanda/Kishamba, Mwamkombe, Mkawasi, Nyache Cattle Dip, Mghambonyi Cattle Dip, Paranga Shopping Centre, Mbaramghodi, Kishushe Chief office, Kishushe Cattle Dip, Ngongondinyi, Ndaku, and Wanjala farms	60 days	14,000 Cattle vaccinated against FMD, LSD and BQ, 10,000 goats vaccinated against CCPP, 5,000 pets vaccinated against rabies 32,000 local poultry vaccinated against NCD
Mwatate	5	33	Veterinary officer (1) and Ward Animal Health officers (11) – 12 officers	Godoma, Mbelenyi, Kwamnengwa, Wusi Msorongo, Charisonyi Crush, Maktau, Oza, Mramba, Manoa, Kituma, Landi, Alia, Kamtonga, Godoma, Maktau (Charisonyi), Msau , Msau Rahai, Dembwa, Mwatate, Kipusi, Mruru Mangama, Mgeno Reserve, Chawia & Mreshinyi		25,000 Cattle vaccinated against FMD, LSD and BQ, 6,000 cattle vaccinated CBPP, 60,180 goats vaccinated against CCPP, 7,000 pets vaccinated against rabies 80,090 local poultry vaccinated against NCD
Taveta	5	38	Veterinary officer (2) and Ward Animal Health officers (6) – 8 officers	Lelesesia/ Mrimba, Mahoo/ Kiwarwa, Chala njuu/ Chala chini, Kasokoni, Njoro manyatta, Jipe/kwa mwaura, Rubin manyata/ Mata, Aboli	60 days	25,000 Cattle vaccinated against FMD, LSD and BQ, 5,100 cattle vaccinated CBPP, 31,000 goats vaccinated against

				A/ Kachelo Lake Jipe Salaita, Kasaani, Kimorigo, Rotima A, B, C, Ngutini, Chumvini, Njukini, Manjengo mapya, Kedongo, Chaka reli, Marodo, Masegeteni, Aboli B/ Aboli C		CCPP, 6,000 pets vaccinated against rabies 60,400 local poultry vaccinated against NCD
Voi	6	40	Veterinary officer (1) and Ward Animal Health officers (9) – 10 officers	Ikanga, Lebanon, Kifuso, Kirutai, Ndome, Ilangenyi, Makutano, Ndii, Ghazi, Mwakajo, Manga/Mbulia, Mabomani, Kaloleni, Birikani, Kivumbi, Mleghwa, Marapu, Zongwani, Talio Kajire, Mwambiti, Mwakoma, Maungu, Bondeni, Kale, Sasenyi, Buguta, Makumbusho, Kiteghe / Birikani, Rukanga, Makwasinyi, Jora, Bungule, Miasenyi, Msharinyi, Mole, Begha, LMD Bachuma/ KALRO S&G, Mwangoni, Mwalangi, Mwambungu and Kizumanzi	60 days	25,000 Cattle vaccinated against FMD, LSD and BQ, 6,000 cattle vaccinated CBPP, 40,300 goats vaccinated against CCPP, 7,409 pets vaccinated against rabies 60,500 local poultry vaccinated against NCD

2.6 Logistics & Cold Chain Management

The vaccine proposed for use will be sourced from Kenya Veterinary Vaccines Production Institute (KEVEVAPI). The cold chain shall be maintained from transportation, storage, and administration to ensure the viability of the vaccines. This will ensure that there is minimal wastage of vaccines due to viability loss arising from temperature related causes. The directorate of veterinary services will supervise the maintenance of the cold chain throughout the vaccination period. The pour-on acaricides will be kept under room temperature.

2.7 Disposal and Waste Management

Wastes that are expected from the exercise include Syringes and needles, drugs, pour on acaricides, vaccines and their containers. County departments of public Heath and NEMA will oversee waste collection and disposal at the designated waste disposal sites. 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 designated waste disposal sites. Disposal will be done in accordance with waste management best practices as coordinated with the CDVS, PHO, and NEMA.

2.8 Compliance with COVID-19 Protocols

All the farmers and the veterinary staff who will be taking part during the vaccination campaign shall be expected to observe the health protocols for COVID-19 as follows:

- Wear face masks through-out the exercise.
- Maintain good hand hygiene by washing with running water and soap, or using an alcohol-based hand sanitizer, especially after coughing or sneezing.
- Provide the means for appropriate hand cleansing readily available within the vaccination area.
- Use ideal means for hand cleansing including running water and soap. Paper towels and waste baskets should be made available.
- Frequently wash hands with soap and water or use a hand sanitizer if hand washing with soap and water is not possible and hand sanitizers are available.
- Follow standard infection prevention precautions. These include training staff in the control of infectious diseases, providing access to personal protective equipment and apparatus, and encouraging proper hand washing. Items that are often in contact with respiratory droplets and hands (e.g., doorknobs, faucets, etc.,) should be cleaned and disinfected regularly.
- Clean all common areas within the vaccination areas routinely and immediately, when visibly soiled, with the cleaning agents normally used in these areas.
- Educational materials and information should be provided to farmers in a way that can be understood by non-English and non-Kiswahili speakers.

CHAPTER THREE: POTENTIAL IMPACTS OF THE VACCINATION SUB PROJECT

The sub project is in category B and has minimal potential to cause harm to both the environment and present social risks to the community. It was subjected to screening so as to identify potential adverse impacts and propose necessary mitigation measures.

3.1 Positive Impacts of Vaccination

Vaccination improves animal immune status and resistance to diseases, which improves their health and hence improved productivity. This will lead to increased availability and accessibility of livestock products which will enhance household nutrition and increase household income through sale of livestock products. It will also cushion the farmer from effect and cost associated with managing the diseases in case of an outbreak. Since all diseases are notifiable, their occurrence calls for imposing quarantine as a measure to contain the diseases and avoid their spread to other regions. This disruption leads to reduced income as farmers cannot access market for their livestock and livestock products.

3.2 Potential Negative Environmental and Social Impacts and Recommended Mitigation Measures

3.2.1. Negative Environmental Impacts

(i) Solid waste generation

There is expected waste resulting from the materials that will be used during the vaccination exercise. These include vaccination syringes and diluents/vaccine empty bottles and pour-on containers.

Mitigation Measures

- All field officers will be trained on proper waste management. They will be trained on classification of waste, handling and disposal. This will be coordinated by NEMA together with the public health department.
- Beneficiaries will also be sensitized on proper solid waste management practices
- To manage veterinary waste disposal, the SCVO will coordinate collection of all the waste from the vaccination sites and put into safety disposal bins which shall later be incinerated at designated waste disposal sites.
- Possibility of returning the empty plastic bottles to KEVEVAPI for recycling instead of incineration will also be explored.
- Recycling of some of the waste i.e. plastics and paper/ cartons will be encouraged
- Minimization of solid waste during the proposed project lifecyle through use of durable, recyclable, long-lasting materials that will not need to be replaced often, thereby reducing the amount of waste generated over time during repair

(ii) Chemical Spills and contamination of environment

Chemicals used in the vaccination may be miss handled during procurement, transit, storage or at vaccination stage hence spill at the storage facilities, inside the transporting vehicles or vaccination site. This may contaminate the soil/ground and environment as a whole. The spills can affect the staff handling them or beneficiaries and animals when they come into contact with them.

Mitigation Measures

- To minimize vaccine spillage into the environment, the vaccination equipment will be well maintained and handled by trained personnel.
- Provision of PPEs to staff
- Provision of appropriate transporting means and containers
- Availability of chemical absorbing and cleaning materials i.e. rugs, soaps, brushes etc

- Provision of First aid kits in case a person is contaminated
- Set up of safe receptacles for disposing spilt chemicals and cleaning materials i.e. dug holes

(iii) Air pollution

The vaccination process will require animals to be moved to a central point where they will be vaccinated. These can be a large number of animals moved at one time. Movement of livestock especially on bare earth surfaces will lead disturbance of soil, create dust that will lead to air pollution.

Mitigation Measure

- Minimum movement to and within vaccination areas will be encouraged i.e. through having various vaccination sites/crushes in each village
- In addition, animals will be grouped in small numbers during the exercise

(iv) Impacts on flora and fauna

The road side crushes may lead to cutting down of vegetation. As the animals are moved to the vaccination sites, they will trample and disturb vegetation i.e. grass and shrubs on their way. Some of the grass will be eaten by the animals. In the cases where the animals will be held for long periods, over grazing may ensue. As such the animal routes and holding grounds vegetation may be destroyed. Trampling and eventually hardening of the ground these section will modify the conducive nature of the soil for fauna to flourish. However, this will be a minimal impact that mitigation measures can be put forth.

Mitigation measure

- The vaccination process will avoid movement of many animals at one time
- Selection of suitable sites for vaccination that will avoid animals going through ecologically sensitive sites i.e. sloppy areas
- Avoid holding animals in one point for too long
- Vaccination staff to visit animals at their owner's households rather moving the animals to vaccination centres to avoid animals moving to vaccination centres where on the way they may eat, trample or destroy flora and fauna
- Only critically affected vegetation by the projects should be removed and re-established later
- Replant trees and establishment of grass around the vaccination centres to avoid exposing the soil bare to argents of erosion
- Protect sensitive vegetation from soils excavated

3.2.2 Negative Social Impacts

(i) Low turn out

In some areas where farmers practice zero-grazing, there may be low turnout at the vaccination sites. These farmers may fail to bring the livestock for vaccination due to fear of injury to animals and production losses. This may reduce the percentage of the animals covered during the vaccination exercise.

Mitigation Measures

- Staff will have to do home to home vaccination in order to cover these animals.
- Vulnerable and Marginalized Groups including the aged, the widows, the disabled, youth, women and HIV/AIDS infected will also be identified and targeted in the exercise by constructing crushes within their neighbourhood.
- There will be vaccination campaigns and awareness to ensure that most livestock owners bring animals for vaccination. This will be through posters, radio announcements, and announcement in churches, mosques and barazas.

(ii) Leadership issues in management

During the vaccination program, some of the community members in the form of a project management committee (PMC) will be tasked to mobilize the households that their animals will require to be vaccinated. Such community leaders may want to be given first priority during the vaccination exercise making other members especially VMGs miss out i.e. poor equity and equality to access to the vaccination exercise by all beneficiaries .

Mitigation Measures

- Capacity building of beneficiaries on leadership and management skills to the management committee should be undertaken periodically by KCSAP
- The management of funds should be handled by dully elected finance committee with appropriate gender representation.
- There should be periodic update to the members on the incomes received and the expenditure to enhance transparency and confidence in the committee.
- There should be a vaccination program so that all are aware of where and when to avoid attempts to canvas for areas to be reached out that may be a source of conflict.

(iii) Occupational Health and Safety Hazards

During construction of road side crushes, the movement of construction materials may result in accidents if good supervision is not provided. Accidental cuts and bruises are common among construction workers as a result of the use of machinery and hand tools, an impact that needs due consideration. Dogs will be vaccinated thus there will also be risk of dog bites occurring. Livestock like cows may kick at vaccinating staff that may cause serious physical injuries to them. There are also risks of the staff accidentally injuring themselves with involved vaccinating equipment's such as blades and needles. Chemicals used may also be producing fumes that workers may inhale and cause respiratory issues. Spills of some of the chemicals that may touch workers skin may also be injurious.

Mitigation Measures

- Provide appropriate personal protective equipment (PPE).
- Dog's owners will be directed on how to restrain them properly during rabies vaccination.
- Vaccinated livestock i.e. cows, goats, and sheeps should be restrained in crushes during vaccination to avoid animal kicks
- Implement a program of assessment of routine monitoring of worker health.
- Train workers in general safety procedures including first aid.
- Ensure that there are provisions for reporting incidents, accidents and dangerous occurrences

(iv) Increased Spread of COVID-19

Due to staff and beneficiaries mingling together during procurement of drugs and facilities and the vaccination process there may be an increase of COVID-19 cases. Due to the current spread of COVID-19 which has become a pandemic, if not well mitigated this impact may be high.

Mitigation Measures

The vaccination process to establish prevention and implement mitigation measures against COVID-19 and arrangements for dealing with suspected and confirmed COVID-19 cases. The measures should include but not limited to;

- Scheduling of farmers to avoid overcrowding of cattle owners.
- Raise awareness on the need to take COVID-19 vaccine,
- Ensuring social distancing of not less 1.5 meters between employees in all directions,
- Hygiene promotion through use of suitable hand sanitizers or handwashing with soap and water

- Strict and proper use of face masks throughout all working hours and public places.
- Implement Ministry of Health guidelines for staff safety and health, including daily temperature checks for everyone in the workplace
- Increase frequency of disinfecting commonly touched surfaces/ objects

(v) Increased Spread of STD, HIV & AIDS

Some of the staff may have to put up in the local areas during vaccination campaigns. There will be an increase in mingling of herders from very far areas with local community where the vaccination centers/ roadside crushes will be established. There may be possibility of illicit behaviors such as prostitution increasing in the town leading to spread of STD, HIV/AIDS due to influx of workers and animal owners and to a longer run increase in household income from sales of milk and meat from the high production breeds introduced in the project.

Mitigation Measures

- The veterinary department in collaboration with the department of health to develop appropriate awareness content and implement awareness sessions for workers and beneficiaries on HIV/AIDs and other STDs i.e. through the use of educative posters and daily briefings.
- Ensure an adequate and accessible provision of condoms to workers and beneficiaries- both male and female.

(vi) Animal loss due to adverse reaction to vaccines

There are expected adverse reactions on the animals that will be vaccinated. These may affect the production of the animals or cause death. However, this will be short lived.

Mitigation Measures

The vaccination teams will be provided with adrenaline to manage the adverse reactions and farmers will be sensitized about the adverse reactions on animals that will be vaccinated to prevent panic.

(vii) Gender Based Violence(GBV) and Sexual Harassment

This impact may be triggered during interaction of different community members in the project. In the deployment of staff for the vaccination process, the employer may fail to comply with the gender inclusivity requirements in hiring of workers and entire project management as per required by Gender Policy 2011 and 2/3 gender rule. For example, males staff or beneficiaries may imply/perceive that the female gender cannot properly retrain animals for vaccination, hence be excluded from the exercise or if involved, may be cajoled, harassed or even be beaten up for failing to restrain their animals.

Mitigation Measures

- Provision of a gender sensitive and inclusive division of labor in the exercise i.e. women to be allocated duties that require less power/ strength input such as cleaning and organizing/ setting-up the vaccination sites
- Sensitize and bring awareness staff and beneficiaries on GBV and Sexual Harassment plus the policy against sexual harassment.
- Integrate provisions related to sexual harassment in the employee cord of conduct.
- Appoint personnel i.e. Chiefs to manage reports of sexual harassment according to policy
- Grievance Redress Mechanism (GRM) to manage reported cases oversight, investigations and disciplinary procedures.
- Effective and continuous community, project staff and project beneficiaries sensitizations, engagement and consultation on GBV and sexual harassment

(viii) Sexual Exploitation and Abuse (SEA)

This can occur through sexual exploitation and abuse in exchange for animals to be vaccinated. It can be committed by project staff against communities or even organizing community committees i.e. PMC against livestock owners who seek animal vaccination services. This 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

Given that the project will be smaller in nature, it is anticipated that the mitigation will be through management and coordination to include; -

- Sensitization of staff and community on SEA policy
- Integration of SEA rules in job descriptions, employments contracts, performance appraisal systems, contracts, etc.
- Grievance Redress Mechanism (GRM) to manage reported cases, oversight, investigations and disciplinary procedures.

(ix) Child Abuse

Children within project areas will be exposed to risks associated with interaction between them and Project Workers. This includes child labor and sexual abuse which coherently leads to teenage pregnancies and exposure to communicable diseases such as HIV/AIDS. The nature of the project i.e. dealing with livestock, the male child is the most likely to be abused. Male child in the society is often expected to herd animals which is in direct violation of Child Rights Act (Amendment Bill) 2014.

Mitigation Measures

- Sensitization of staff and community on Child Rights Act (Amendment Bill) 2014.
- As a matter of policy, children under the age of 18 years should not be hired on site as provided by Child Rights Act (Amendment Bill) 2014
- Both the project staff and community will develop and implement a Children Protection Strategy that will ensures minors are protected against negative impacts associated by the Project i.e. wherever possible another adult is present when working in the proximity of children.
- Appoint personnel i.e. Chiefs/Labour department personnel to manage reports of child abuse according to policy
- Grievance Redress Mechanism (GRM) to manage reported cases of child abuse

CHAPTER FOUR: PEST MANAGEMENT PLAN

Pest Management Plan is a tool used to ensure undue or reasonably avoidable adverse impacts of the project implementation are prevented and that the positive benefits of the project are enhanced. During the implementation of the livestock vaccination project, at various stages various mechanisms, safeguards and controls will be put in place to ensure that the beneficiaries, both animals and humans get maximum benefit from the vaccination exercise (See table 6).

Table 8; Pest Management Plan

S/ No.	Impact Issue/Risk	Mitigation	Inputs	Responsible Person	Monitoring / Verifiable Indicators	Means of verification	Estimated Cost (KES)
	At Procurement						
1.	Packaging of the wrong vaccine, Insufficient diluents, leaving out other materials or equipment needed during vaccination.	A team with S-12 will be responsible for confirming the packaging, expiry date, and amounts	S12, vehicle, fuel	CDVS/ SCVO	▪ No. of properly packaged, non-expired vaccines procured. ▪ No. of qualified personnel involved in procurement of the vaccines. ▪ No of accidents witnessed ▪ No of vials damaged ▪ No of temperature monitors available ▪ No of letters sent, ▪ No of SMS sent, ▪ No of emails sent, ▪ No. of phone calls made,	▪ Delivery notes ▪ Vaccine register ▪ S12 ▪ Materials checklist ▪ Purchase receipts ▪ GRMs registers ▪ Work environment safety report	300,000
2.	Packaging of poor-quality vaccines	Checklist to check the expiry dates and quantities of the drugs.	S12 and any other relevant documents				
3.	Unqualified personnel collecting the vaccines.	Qualified vet personnel to collect the vaccines.	Qualified personnel				
4.	Accidents	▪ Train staff on safety. ▪ Avail first aid kits	▪ Training materials ▪ First aid kits	CDVS/ SCVO			
5.	Less volumes and lack of labels.	▪ Verification at dispatch of vaccine. ▪ Officer collecting the vaccines should be a technical staff.	Personnel	CDVS/ SCVO			
6.	Lack of communication and proper arrangement for vaccine collection and transport	Timely arrangement with vaccines supplier and communication with supplier and destination	▪ Airtime ▪ Data bundles	CDVS			

7.	Break in the cold chain	Ensuring that the cool boxes have enough ice packs that can keep the vaccine during the vaccination process	Proper cool boxes and cool packs	CDVS	No. of cool boxes broken	Reports from the field teams on the status of cold chain	
8.	Unfavorable weather Especially rainfall	Consider the weather forecast from Kenya Metrological department when planning the vaccination	Weather focus bulleting's	▪ CDVS ▪ KMD staff	No. of periodical weather forecast bulletins	Periodical weather forecast reports	
9.	Inaccessible areas due to poor terrain	Use of motorbikes in areas which cannot be accessed by vehicle	Well serviced motor bikes especially in the poor terrain	CDVS	No. of serviced motorbikes	▪ Motorbike service reports ▪ Reports on the areas covered	
10.	Spread of Covid 19 virus due to procurement officers meeting the suppliers at their premises.	Observe Ministry of health protocols on Covid 19	▪ Sanitizers ▪ Masks ▪ Gloves ▪ Soaps ▪ Hand washing equipment ▪ Temperature gun	CDVS	▪ No. of sanitizers distributed ▪ No. of masks distributed ▪ No. of gloves distributed ▪ No. of hand washing equipments set up ▪ No of soaps in use ▪ No. of temperature gun in use ▪ No. of reported cases of covid 19	▪ Receipts ▪ S13, S12 & S11 ▪ Presence of hand washing points ▪ Use of covid prevention PPEs ▪ Temperature guns in use ▪ Reports of covid 19 cases	30,000
11.	Sexual Exploitation and Abuse (SEA) by procurement staff/ tender committee when selecting suppliers	▪ Sensitization of procurement staff on SEA policy ▪ Integration of SEA rules in job descriptions, employments contracts, performance appraisal systems, contracts etc. ▪ Grievance Redress Mechanism (GRM) to manage reported cases oversight, investigations and disciplinary procedures.	▪ Training materials ▪ GRM management personnel ▪ GRM registers	▪ CESSCO ▪ SAICs ▪ CDVS	▪ No. of reported cases of SEA ▪ No. GRM registers at various levels ▪ No of sensitizations on GRM	▪ Reports of SEA ▪ GRM registers	10,000

	On Transit from KEVEVAPI to Cold Store						
12.	Poorly maintained and serviced vehicle	Use of well-maintained and serviced vehicle,	Well maintained vehicles and Fuel	CPC/ CDVS	▪ Amount of fuel used. ▪ No. of well-maintained vehicles available ▪ No. of vehicles with Emergency stickers ▪ No. of freezers procured ▪ No. of vehicles specifically assigned vaccination duty only ▪ No. of cool boxes delivered in time ▪ No of temperature monitors installed in the cool boxes	Field reports	125,000
13.	Unnecessary police check and stoppage	Provision of labeled Stickers urgent, don't delay on the cool boxes and vehicle.	Emergency Stickers.	CPC/ CDVS			
14.	Inadequate storage facilities (freezer, plastic tubing)	Purchase of more freezers and plastic tubing	Funds	CPC/ CDVS			
15.	Diversion of the core duty.	▪ Work ticket should be Specific. ▪ Avoid double duty	Car tracker	CPC/ CDVS			
16.	Using of inappropriate tools to transport vaccines (cartons, instead of cool boxes)	Ensure the vehicle carries. cool boxes with ice packs	Cool boxes, icepacks and motorized cool boxes	M&E/CDVS			
17.	Lack of gadgets for temperature monitoring of the fridge/freezer.	Transport and storage Temperature monitors to be in the cool boxes and fridges.	Temperature monitors	M&E/CDVS			
18.	Spread of Covid 19 virus due to transporting officers meeting other persons on transit.	Observe Ministry of health protocols on Covid 19	▪ Sanitizers ▪ Masks ▪ Gloves	CDVS	▪ No. of sanitizers purchased and used ▪ No. of masks purchased and used ▪ No. of gloves purchased and used ▪ No. of hand washing equipment set up ▪ No of soaps in use ▪ No. of temperature gun in use No. of reported cases of covid 19	▪ Receipts ▪ S13, S12 & S11 ▪ Presence of hand washing points ▪ Use of covid prevention PPEs ▪ Temperature guns in use ▪ Reports of covid 19 cases	30,000
19.	Spills and Leakages during transportation	▪ Provision of PPEs to staff ▪ Provision of appropriate transporting means and	▪ PPEs ▪ Well maintained	CDVS	▪ No. of PPEs distributed ▪ No. of well-maintained vehicles	▪ Reports of PPEs use ▪ Vehicle	30,000

		containers ▪ Availability of chemical absorbing and cleaning materials i.e. rugs, soaps, brushes etc ▪ Provision of First aid kits in case a person is contaminated ▪ Set up of safe receptacles for disposing spilt chemicals and cleaning materials i.e. dug holes	vehicles ▪ Appropriate chemicals transporting containers ▪ Cleaning materials ▪ First aid kit ▪ Dug holes		▪ No. of appropriate chemical transporting containers ▪ No./amount of cleaning materials used ▪ No. of First aid kit on board vehicles ▪ No. of spills receptacles set up	maintenance report ▪ Spills reports ▪ Presence of first aid kits on board vehicles ▪	
20.	Increase spread of STDs, HIV and AIDs as transportation may take more than one day requiring sleeping in lodges	▪ Sensitize transportation staff on STD, HIV & AIDS prevention ▪ Provision of condoms i.e. by placing them at strategical places	▪ Training materials ▪ Condoms	CDVS	▪ No. of trainings on HIV/AIDS undertaken ▪ No. of condoms distributed	▪ Training reports ▪ Condoms placed at strategical places	50,000
	In CDVS Cold Store						
21.	Inadequate staff at the store to offload and count the vaccine.	Staff mobilization in good time both casuals and regulars.	Personnel	M&E/CDVS	▪ No. of both skilled and unskilled personnel deployed to the exercise. ▪ No. of firefighting equipment available ▪ Store space available for storage of vaccines ▪ No. of automatic standby generators available ▪ Volume of emergency ice cubes available, ▪ No of fridges available, ▪ No of technicians trained and available for the exercise. ▪ No. of contamination incidences, ▪ No. of staff trained in	▪ Report from the storekeeper on the status of the store. ▪ Reports from the field on daily progress ▪ Firefighting equipment in place ▪ Emergency cubes presence ▪ Fridges ▪ Training reports ▪ Stores contamination reports ▪ PPEs use reports	225,000
22.	▪ Lack of firefightingequipment ▪ Inadequate store space & equipment	▪ Ensuring proper firefighting ▪ Facilities are available, ▪ Well ventilated space & equipment.	▪ Firefighting equipment ▪ Adequate store	CDVS			
23.	Power disconnection and blackout	Timely payment of electricity bills	Automatic Standby generator.	CDVS/SCVO			
24.	Failing of Cooling system	▪ Ready ice cube for emergency ▪ Well maintained fridges ▪ Training of technical staff on basic maintenance of fridges and provision of fridge guards.	▪ Funds, ▪ personnel	CDVS/ SCVO			

25.	Danger of accidental injection with vaccination needles while handling by the officers.	Knowledge of proper handling of vaccines and management of contamination	▪ Funds for training for staff on safety ▪ Provision of PPE	CDVS/ SCVO	handling vaccinations, ▪ No. of PPEs available, ▪ developed protocols on management of vaccinations, ▪ No. of water-proof stickers available, ▪ Amount of dry ice available, ▪ No. of temp tracking sheets developed, ▪ No. of disposal receptacles available, ▪ Amount of clean water and soap available	▪ Water stickers available ▪ Temperature tracking sheets ▪ Presence of disposal receptacles ▪ Sanitation facilities in place	
26.	Faulty deep freezer/ fridges	1. Frequent checks of the freezers and fridges 2) Have a backup freezer	1) A developed checklist 2) Funds for Repairs	CDVS			
27.	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	CCO, CDVS			
28.	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	SCVO			
29.	Inadequate cold chain materials	▪ Procure enough polythene tubing for making ▪ Ice packs ▪ Alternatively dry ice	▪ Polythene tubing, ▪ Dry ice	CDVS storekeeper			
30.	Inadequate monitoring of temperature	Regular monitoring of the temperature of the freezers using a temperature tracking sheet and a thermometer	▪ Temperature tracing sheet. ▪ Thermometer	CDVS/ storekeeper			
31.	Bio safety problems	Provision of Personal protective clothing to the storekeeper	PPEs	CDVS			
32.	Spills and leakages	Provision of clean water at the store Receptacles for disposal	▪ Water supply tank ▪ Receptacles for waste	CDVS			
33.	Increase in solid	Receptacles for disposal of	▪ Receptacles	CDVS			

	waste from used storage materials like cartons and plastic containers	solid waste					
34.	Spread of Covid 19 virus due to stores officers meeting other persons at the stores.	Observe Ministry of health protocols on Covid 19	▪ Sanitizers ▪ Masks ▪ Gloves ▪ Hand washing facilities ▪ Temperature gun	CDVS	▪ No. of sanitizers purchased and used ▪ No. of masks purchased and used ▪ No. of gloves purchased and used ▪ No. of hand washing equipment set up ▪ No of soaps in use ▪ No. of temperature gun in use ▪ No. of reported cases of covid 19	▪ Receipts ▪ S13, S12 & S11 ▪ Presence of hand washing points ▪ Use of covid prevention PPEs ▪ Temperature guns in use ▪ Reports of covid 19 cases	30,000
	Transit to the Vaccination Sites						
35.	Inadequate/ missing vaccination Equipment	▪ Ensure availability of extra equipment ▪ Confirm availability of all equipment via checklist during loading	Funds for extra equipment	CPC, CDVS	▪ No. of planning meetings held, ▪ No. of Vaccination equipment available, ▪ No. of vaccination equipment to be procured ▪ No. of Checklist developed, ▪ Duty Roster prepared ▪ No. of PPEs available, ▪ No. of PPEs to be procured.	▪ Reports on the status of vaccination equipment's transported ▪ Duty roster ▪ PPEs in place	550,000
36.	Failure to collect essential equipment	▪ Prepare a detailed Checklist ▪ Assign task to specific officer to tick the checklist during loading	Detailed Checklist	SCVO			
37.	Inadequate vaccination equipment	Proper planning between CPC and CDVS to procure all required equipment prior to start of vaccination	Joint planning Meetings	CPC, CDVS			
38.	Forgetting some vaccination equipment and vaccines	▪ Detailed procurement list of -Vaccines -Disposable syringes -Vaccine Diluents Cool boxes -Ice packs	Transit of materials list	Team leaders			

		-PPE(overalls, -Gumboots, Masks, gloves) -Disposal equipment (sharp containers, biohazard bags) -Surgical spirit -Cotton wool -Stationaries -(Pens,books, -Vaccinationmanifests).					
39.	Spread of Covid 19 virus due to stores officers meeting other persons on transit.	▪ Observe Ministry of health protocols on Covid 19	▪ Sanitizers ▪ Masks ▪ Gloves ▪ Hand washing facilities ▪ Temperature gun	CDVS	▪ No. of sanitizers purchased and used ▪ No. of masks purchased and used ▪ No. of gloves purchased and used ▪ No. of hand washing equipment set up ▪ No of soaps in use ▪ No. of temperature gun in use ▪ No. of reported cases of covid 19	▪ Receipts ▪ S13, S12 & S11 ▪ Presence of hand washing points ▪ Use of covid prevention PPEs ▪ Temperature guns in use ▪ Reports of covid 19 cases	30,000
40.	Spills and Leakages during transportation	▪ Provision of PPEs to staff ▪ Provision of appropriate transporting means and containers ▪ Availability of chemical absorbing and cleaning materials i.e. rugs, soaps, brushes etc ▪ Provision of First aid kits in case a person is contaminated ▪ Set up of safe receptacles for disposing spilt chemicals and cleaning materials i.e. dug holes	▪ PPEs ▪ Well maintained vehicles ▪ Appropriate chemicals transporting containers ▪ Cleaning materials ▪ First aid kit ▪ Dug holes	CDVS	▪ No. of PPEs distributed ▪ No. of well-maintained vehicles ▪ No. of appropriate chemical transporting containers ▪ No./amount of cleaning materials used ▪ No. of First aid kit on board vehicles ▪ No. of spills receptacles set up	▪ Reports of PPEs use ▪ Vehicle maintenance report ▪ Spills reports ▪ Presence of first aid kits on board vehicles	30,000

	Vaccination campaign						
41.	Mechanical breakdown during vaccination (including punctures and tyre bursts) mobile pressure machines Driver to ensure spare tyre is in good condition	Provision for stand by vehicle (if available)	Vehicle Funds	CPC/ CDVS	▪ No of standby vehicles available for the exercise ▪ No of hired private practitioners, ▪ Allowances allocated for hiring the private practitioners ▪ No of animals vaccinated at home, ▪ Total number of animals vaccinated, ▪ No of vehicles & personnel assigned the work of home vaccination ▪ No of First Aid Kits available, ▪ Number of injury incidents reported	▪ Reports from Team leaders on the status of vehicles ▪ Hired private practitioners in place ▪ Vaccination reports ▪ First aid kits in place ▪ Accidents incidence reports	330,000
42.	Inadequate vaccination personnel ie due to staff shortage, sickness/ emergency Commitment	1) Have standby personnel 2)Co-opt from private practitioners	Provide for field allowance for the personnel	SCVO			
43.	Animals unable to visit vaccination crushes due to Pregnancy or high intensive zero grazing system	Carry out farm visits	Provide vehicles	SCVO			
44.	Accidents/ Injuries	Provide first aid kits	Kits	CDVS			
45.	Low turnout/ animals not being availed for vaccination due to cultural factors.	▪ Carryout adequate publicity ▪ Vaccinating at farmer's homestead	Publicize through electronic and print media and through SMS	CPC, CDVS	No of radio announcements, newspaper adverts, sms and posters made.	Report on number of animals vaccinated	
46.	Dog bites during rabies vaccination	▪ Vaccination of field officers against rabies ▪ Provide dog muzzle to help in handling dogs	Human pre-exposure rabies vaccine Dog muzzle	CPHO CDVS	Number of dog bites reported	Reports from field teams	
47.	Contraction of COVID-19 during the actual vaccination process	▪ Provide water, soap, sanitizers and temperature guns. ▪ All persons to wear masks, ▪ Animals to be vaccinated	▪ Face Masks, ▪ Alcohol based sanitizers, ▪ Clean running	CPC, CDVS, Director Public Health	▪ No. of sanitizers purchased and used ▪ No. of masks purchased and used ▪ No. of gloves purchased and used	▪ Receipts ▪ S13, S12 & S11 ▪ Presence of hand washing points	30,000

		as soon as they arrive at the site, ▪ Check the temperature of all participating in the vaccination exercise each day.	water. ▪ Soap ▪ Temperature guns		▪ No. of hand washing equipment set up ▪ No of soaps in use ▪ No. of temperature gun in use ▪ No. of reported cases of covid 19	▪ Use of covid prevention PPEs ▪ Temperature guns in use ▪ Reports of covid 19 cases	
48.	Air pollution due to cattle tramping and creating dust	▪ Minimum movement to vaccination areas will be encouraged ▪ Having various vaccination sites/crushes in each village. ▪ In addition, animals will be grouped in small numbers during the exercise	Vaccination crushes in villages	CDVS	▪ No. of vaccination crushes in villages	▪ Vaccination crushes in villages	500,000
49.	Solid waste generation from used needles, containers etc	▪ Solid waste collected and disposed into safety disposal bins/designated waste disposal sites. ▪ Possibility of returning the empty plastic bottles to KEVEVAPI for recycling	▪ Disposal bins ▪ Disposal receptacles	CDVS	▪ No. of disposal bins being used ▪ No. of disposal receptacles created ▪ Amount of solid waste generated	▪ Disposal bins in place ▪ Disposal receptacles in place ▪ Solid waste generated reports	70,000
50.	Impacts on flora and fauna due to animals overgrazing in one area and using routes that they destroy them	▪ Avoid movement of many animals at one time ▪ Selection of suitable sites for vaccination that will avoid animals going through ecologically sensitive sites i.e. sloppy areas ▪ Avoid holding animals in one point for too long ▪ Vaccination staff to visit animals at their owner's households rather moving the animals to vaccination	Personel	PMC and Community	▪ No. of personnel to supervise animal routes ▪ No. of animal routes ▪ Area destroyed ▪ Time taken to hold animals at one time ▪ No. of animals vaccinated at homesteads	▪ Personnel in place ▪ Established animal routes in place ▪ Reports on area destroyed ▪ Vaccination reports	30,000

		centres					
51.	Loss of biodiversity to destroyed flora and fauna	▪ Only critically affected vegetation by the projects should be removed and re-established later ▪ Replant trees and establishment of grass around the vaccination centres to avoid exposing the soil bare to argents of erosion ▪ Protect sensitive vegetation from soils excavated	▪ Tree seedlings and grass splits/stolons etc ▪ Staff to monitor destruction of biodiversity	KFS CDVS CDA CDLP	▪ Area of land destructed ▪ No. of trees or grass planted ▪ No. of staff monitoring	▪ Reports on land rehabilitation ▪ Trees and grass planted ▪ Staff in place	100,000
52.	Contamination of water by human waste(no sanitation facilities) and animal waste from dropings	▪ Sensitization of community on drinking water treatment ▪ Sensitization of community on proper use of toilets to ensure no open defecation ▪ Avoiding animals directly accessing water bodies for drinking	Training materials	CDVS, CPHO	▪ No. of training meeting	▪ Training reports	30,000
53.	Leadership issues in management of the program	▪ Periodical capacity building on management by PMC ▪ Management of funds be handled by dully elected finance committee with appropriate gender representation. ▪ Periodic update to the members on the incomes received and the expenditure ▪ Presence of a vaccination program and made public in advance to the exercise	▪ Training materials ▪ Vaccination program	CDVS, CDSS	▪ No. of training sessions ▪ Vaccination program	▪ Training report ▪ Vaccination program in place	30,000

54.	Increase spread of STDs, HIV and AIDs as staff and members of community from far will meet and mingle during the vaccination time	▪ Sensitize vaccination staff and community on STD, HIV & AIDS prevention ▪ Provision of condoms i.e. by placing them at strategical places	▪ Training materials ▪ Condoms	CDVS	▪ No. of trainings undertaken ▪ No. of condoms distributed	▪ Training reports ▪ Condoms placed at strategical places	50,000
55.	VMGs i.e. PLWHIV/ AIDS, the aged, widows not participating in the vaccination due among others, stigma, poor strength to send their animals to vaccination centers	▪ Sensitize community against stigma related to HIV/ AIDS ▪ Project staff to identify the VMGs locations and their groupings ▪ Design and implement a special plan of reaching out to VMGs and undertake animal vaccination at their homesteads	▪ Training materials ▪ Vaccination program	CDVS, CDSS	▪ No. of sensitization sessions ▪ Vaccination program for VMGs	▪ Training report ▪ Vaccination program in place	230,000
56.	Animal loss due to adverse action vaccines	▪ The vaccination teams will be provided with adrenaline to manage the adverse reactions and farmers will be sensitized about the adverse reactions on animals that will be vaccinated to prevent panic	▪ Adrenaline ▪ Personnel	CDVS	▪ Amount of adrenaline distributed	▪ Adrenaline distributed	150,000
57.	Spills and Leakages during vaccination	▪ Provision of PPEs to staff ▪ Provision of appropriate storage containers ▪ Availability of chemical absorbing and cleaning materials i.e. rugs, soaps, brushes etc ▪ Provision of First aid kits in case a person is contaminated ▪ Set up of safe receptacles	▪ PPEs ▪ Well maintained vehicles ▪ Appropriate chemicals holding containers ▪ Cleaning materials ▪ First aid kit	CDVS	▪ No. of PPEs distributed ▪ No. of well-maintained vehicles ▪ No. of appropriate chemical holding containers ▪ No./amount of cleaning materials used ▪ No. of First aid kit on board vehicles ▪ No. of spills	▪ Reports of PPEs use ▪ Vehicle maintenance report ▪ Spills reports ▪ Presence of first aid kits on board vehicles ▪	30,000

		for disposing spilt chemicals and cleaning materials i.e. dug holes	▪ Dug holes		receptacles set up		
58.	Sexual Exploitation and Abuse (SEA) by during vaccination to favor particular farmers who yield to the vice	▪ Sensitization of staff and community on SEA policy ▪ Integration of SEA rules in job descriptions, employments contracts, performance appraisal systems, contracts etc. ▪ Grievance Redress Mechanism (GRM) to manage reported cases oversight, investigations and disciplinary procedures.	▪ Training materials ▪ GRM management personnel ▪ GRM registers	▪ CESSCO ▪ SAICs ▪ CDVS ▪ CESSCO	▪ No. of reported cases of SEA ▪ No. GRM registers at various levels	▪ Reports of SEA ▪ GRM registers	10,000
59.	Gender Based Violence(GBV) and Sexual harassment especially on the female gender when they do not meet what are expected to do	▪ Provision of a gender sensitive and inclusive division of labour in the exercise ▪ Sensitize staff and beneficiaries on policy against sexual harassment that is ▪ Integrate provisions related to sexual harassment in the employee cord of conduct. ▪ Appoint personnel i.e. Chiefs to manage reports of sexual harassment according to policy ▪ Grievance Redress Mechanism (GRM) to manage reported cases oversight, investigations and disciplinary	▪ Training materials ▪ Personnel ▪ GRM registers	▪ CDSS, ▪ CESSCO ▪ CDVS	▪ Training reports ▪ No. of reported cased of GBV and sexual harassment ▪ No. of GRM registers in place	▪ Training reports ▪ GRM mechanism in place ▪ Reports on GBV and sexual harassment	30,000

		procedures. ▪ Effective and on-going community engagement and consultation, particularly with women and girls on GBV and sexual harassment					
60.	Child Abuse especially on employment of male children in herding the animals to vaccination centers.	▪ Sensitization of staff and community on Child Rights Act (Amendment Bill) 2014. ▪ As a matter of policy, children under the age of 18 years should not be hired on site as provided by Child Rights Act (Amendment Bill) 2014 ▪ Both the project staff and community will develop and implement a Children Protection Strategy that will ensures minors are protected against negative impacts associated by the Project. ▪ Appoint personnel i.e. Chiefs/Labour department personnel to manage reports of child abuse according to policy ▪ Grievance Redress Mechanism (GRM) to manage reported cases of child abuse	▪ Training materials ▪ Anti-child abuse strategy ▪ Personnel ▪ GRM registers	CDSS CESSCO CDVS	▪ No. of trainings undertaken ▪ Anti-child abuse strategy ▪ No. of personnel involved ▪ No. of reported cases of child abuse ▪ No. of GRM registers	▪ Training reports ▪ Anti-child abuse strategy ▪ Child abuse reports ▪ GRM registers in place	50,000

CHAPTER FIVE: IMPLEMENTATION SCHEDULE

Table 9; Gantt Chart-implementation

Activity	Schedule Time																			
	October 2021				November 2021				Decembe r 2021				January 2022				Februar y 2022			
Preparation of PMP																				
Presentation of PMP To NTAC, Revision and forwarding to World Bank for clearance																				
Planning meetings																				
Identification and repair of vehicles to be used in vaccination																				
Zoning and mapping of crushes																				
Procurement of vaccines																				
Collection of vaccines from KEVEVAPI by CDVS																				
Publicity																				
Collection of vaccine from CDVS store and distribution to sub counties																				
Carry out vaccination																				
M&E of the vaccination process																				

CHAPTER SIX: MONITORING AND REPORTING

6.1 Monitoring

Monitoring will be a continuous exercise throughout the implementation process (as depicted in table 8). It will be participatory by CTAC representative, CDVS, public health personnel, M&E, CPC & CPSC representatives and two drivers. The team will oversee implementation at community level by visiting vaccination teams and meeting community development committees (CDDCs) who will be overseeing the exercise. The monitoring team will address technical, environmental, social and welfare issues during the exercise.

6.2. Grievance Redress Mechanism

There will be a Grievance Redress Mechanism put in place i.e. complaints desk stationed at the SCVO office, before the project starts. All complaints will be recorded in the GRM register and necessary actions taken to address them. The responsibility of addressing the complaints will be with the SCVO and if they cannot be handled at that level, they will be escalated to CDVS. If the grievances are not resolved at this level, they will then be escalated to CPSC level. The grievance redress committee and their responsibility are as in Table 9.

Table 10; Grievance redress team and their roles

S/No	Team	Responsibility
1.	Community	Forward complaints and compliments
2.	SCVO	• Receive complaints from community or Ward officers and address them. • Escalate to CDVS those that can't be solved at this level • Maintain GRM register at Sub-County level
3.	CDVS	• Receive escalated complaints from SCVO and address them • Escalate to CPC those that can't be addressed at this level • Maintain GRM register at County level.
4.	CPC	• Redress complaints and compliments from community or CDVS • Maintain GRM register at CPC level
5.	NEMA	Part of the GRM team at CPC level to address environmental related complaints and compliments
6.	CPHO	Part of the GRM team at CPC level to address health related complaints and compliments
7.	CESSCO	Maintains the GRM register at CPC level and be the lead person to trigger addressing of issues.
8.	CPSC	The highest level in the county in addressing grievances and compliments

6.3 Reporting

During the planning meetings and vaccination process, the following reports will be generated; -

- Livestock vaccination manifest containing the following details; date of vaccination, name of the farmer, contact of the farmer, ward/sub-ward, species of animal, number of animals vaccinated and crush site.
- Other reports will be as shown in the table below:

Table 11; Reports to be generated.

Report Type	**Frequency**	**Responsible**
Vaccine procurement	Once	CDVS/CPC/Procurement Officer
Publicity report	Once	CDVS/SCVO/M&E KCSAP
Cold Chain Management	Once	CDVS/SCVO
Daily vaccination report	Daily	CDVS/SCVO
Monitoring report	Once	CDVS/M&E KCSAP
Waste disposal report	Once	NEMA/CDVS/CESSCO
Overall vaccination report	Once	CDVS/ CPCU-M&E
COVID-19 Containment report	Fortnightly	County Director of public Health
GBV and Sexual harassment reports	Fortnightly	CDSS/Chiefs
SEA	Fortnightly	CDSS/Chiefs
Child abuse reports	Fortnightly	CDSS/Chiefs

The reports will be sent to the CDVS and the M&E.

CHAPTER SEVEN: CONCLUSION

After the screening exercise, it was concluded that the proposed vaccination subproject is socially, environmentally, and technically feasible. The project has minimum adverse environmental and social impact during the implementation process. These negative impacts will be minimized or addressed through the proposed mitigation measures. Furthermore, a pest management plan is in place as a mitigation measure against all threats that may be posed by the vaccination exercise. It is broadly accepted as a development milestone by the beneficiaries and other relevant stakeholders as it will contribute to increased livestock productivity, increased resilience, and reduced greenhouse gas emission. Implementation of this Sub project will be smooth, effective, social, and environmentally friendly. Generally, the project will help improve livelihoods of Taita Taveta livestock keepers.

ANNEXES

Annex 1; List of Common Livestock Diseases

S/No	Disease	Species commonly affected.
1.	Lumpy skin Disease	Cattle
2.	East Coast Fever	Cattle
3.	Rift Valley Fever	Sheep, goats, cattle, camels, buffaloes, humans
4.	Foot and Mouth Disease	Cattle, pigs, sheep, goats, wild cloven- hoofed species
5.	Anthrax	Domestic and wild warm-blooded animals and humans
6.	Rabies	Domestic and wild mammals, humans
7.	Contagious Bovine Pleuro Pneumonia	Cattle
8.	Scrapie	Sheep, goats
9.	Heart water	Cattle, sheep, goats
10.	Newcastle Disease (Fowl pest)	Domestic fowls, humans
11.	Brucellosis	Cattle, sheep, goats, pigs, camel, buffalo, antelopes, humans
12.	Infectious bronchitis	Chicken
13.	Infectious bursal disease	Chicken
14.	Peste des Petit Ruminants	Goats, sheep
15.	Tuberculosis	Cattle, sheep, goats, equines, camels, pigs, buffaloes, wild boars, deer, antelopes, dogs, cats, rats, primates, kudus, elands, elephants, rhinoceroses, hares, lions, leopards, humans and birds
16.	Pullorum disease	Chicken, turkeys
17.	Avian Influenza	Domestic fowl, other birds, humans
18.	Sheep pox and goat pox	Sheep, goats
19.	Contagious, CaprinePleuro Pneumonia	Goats
20.	Surra and Trypanosomosis	Cattle, sheep, goats, camels, horses, donkeys, humans

Annex 2; Notifiable Diseases Reported in Kenya in the last 10 Years

1) Foot and Mouth Disease
2) Anthrax
3) African Swine Fever
4) Lumpy Skin Disease
5) East and Coast Fever
6) Rabies
7) Surra and Trypanosomiasis
8) Contagious CaprinePleuro Pneumonia
9) Rift Valley Fever
10) Brucellosis
11) Sheep pox and goat pox
12) Bacillary White Diarrhoea
13) Contagious Bovine Pleuro Pneumonia
14) Johnes Disease
15) Tuberculosis
16) Sheep scab
17) Heart water
18) Peste des Petits Ruminants

Annex 3; Vaccine Collection Checklist

VACCINE TYPE	BATCH NO.	NO. OF DOSES	EXPIRY DATE	COOL BOX NO.

Annex 4; Livestock Vaccination Manifest

VACCINATION MANIFEST

DATE…… SUB COUNTY ……..…… VENUE……

	OWNER	PHONE NO	SPECIES	NO.	VACCINE	BATCH	DATE DUE
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Annex 5; Environmental and Social screening Check list

0Annex 12A: Environmental and Social screening Check list

ESM Sub-projects Screening Checklist (Prototype)

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

Section A: Background information

Name of County TAITA TAVETA

Name of CPCU /Researcher

Sub-project location……MWANTATE……

Name of CBO/Institution……

Postal Address:……

Contact Person…Benson…Nyaga..Cell phone:…0715960819……..

Sub-project name……

Estimated cost (Kshs.)……

Approximate size of land area available for the sub-project……..

Objectives of the sub project……

……increase the resilience of livestock keepers in the county……

……increase herd & stock size at household level……

……reduce incidences of livestock trade interruptions……..

Activities/enterprises undertaken..Vaccination regimes, monitoring & Evaluation.

How was the sub-project chosen?...through Stakeholders engagement on Dairy & beef value chain.

Expected sub project duration:……1 year……

Section B: Environmental Issues

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

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

Section C: Socio-economic Issues

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

Section D: Natural Habitats

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

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

Section E: Pesticides and Agricultural Chemicals

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

1) *Pest Control practices*

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

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

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)……

(iv)……

(v) ……

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

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

Why?_____

h) If YES, what kind?_____ mask

2. Knowledge of pesticide handling and storage (tick one in each row)

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

Sometimes___ Always___Never___

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

Sometimes___Always___Never___

c) Do you mix pesticides with your hands?

Sometimes___ Always___Never___

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

Sometimes___ Always___Never___

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

Sometimes___ Always___Never___

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

Sometimes___ Always___Never___

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

Sometimes___ Always___Never___

h)Where do you store your pesticides? in their cardboard

Why do you store them there?

for safety Purposes

i) What do you do with your pesticide containers after they are empty?

burn them

j)Do you know of any beneficial insects (insects that are useful)?

Yes…… No……

k) If yes, name them:

i)_____ii)_____iii)_____

3.Pesticides and Health

a) Do you find that pesticide application is affecting the health of: Persons regularly applying pesticides?

Sometimes___Always___Never___

Persons working in fields sprayed with pesticides

Sometimes___Always___Never___

Persons harvesting the produce

Sometimes___Always___Never___

4.Options to Pesticides

a)From your experience, are you aware of other methods for controlling insects/diseases and/or weeds besides pesticides?

Yes……. No……

b) If yes, describe the practices:

i)_____

ii)_____

iii)_____

iv)_____

5.Information

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

Market access

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 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?		✓

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: Benson Nyanga

Position / Community: Farmer

Date: 18/2/2021

Field Appraisal Officer (CDE): EDITH HALO

Signature: _____

15/02/2021.

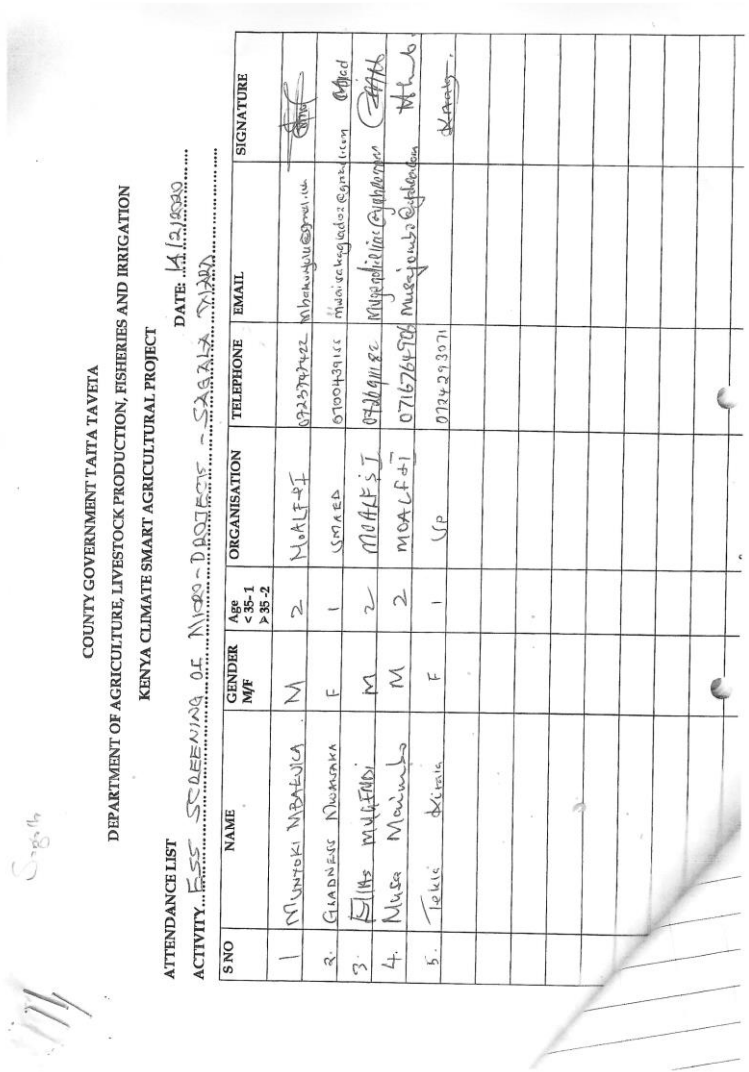
NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

18 FEB 2021

COUNTY DIRECTOR OF ENVIRONMENT
P.O. Box 142-80305,
MWATATE

Annex 6; Public Consultation Attendance Lists

a. Consultation with County Technical Departments



COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

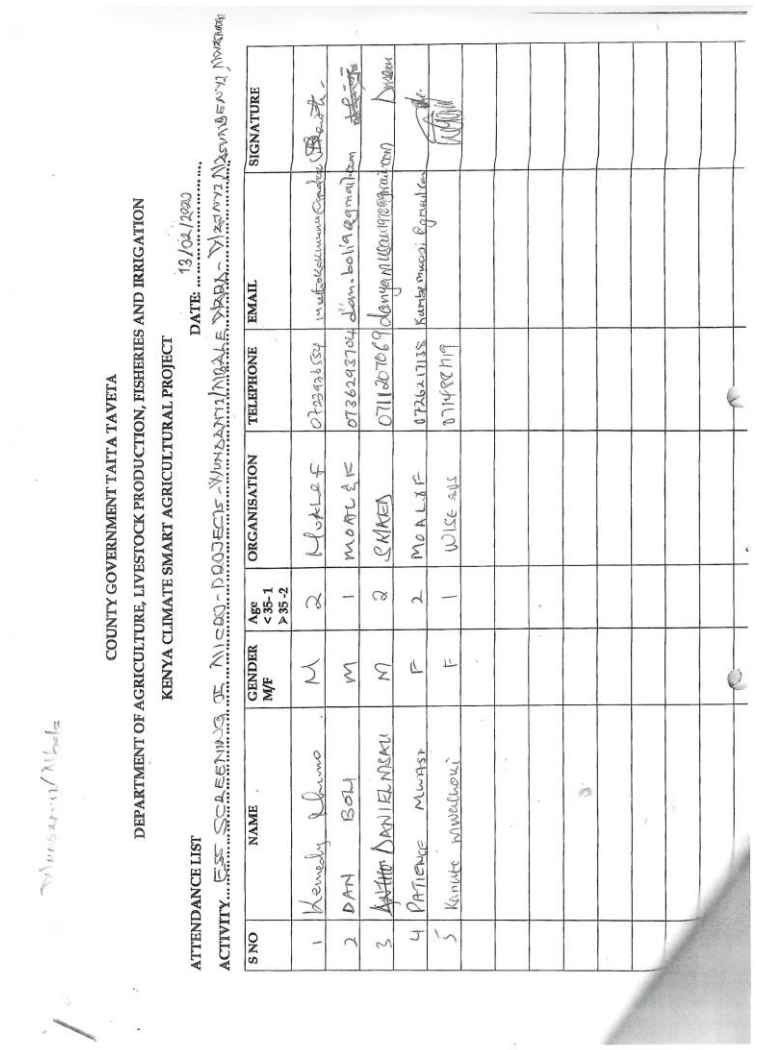
KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

DATE: 14/2/2020

ACTIVITY: ESSC SCREENING OF MICRO-PROJECTS - SAGALLA 2020

S NO	NAME	GENDER M/F	Age < 35-1 > 35-2	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1	Mwatsuki Nabaluja	M	2	MoALF&F	0725792422	Mbekenyaw@gmail.com	
2.	Gladness Nzamaka	F	1	SMAEP	0790439155	Mwanzekegladys@gmail.com	Offed
3.	Elias Mwakesi	M	2	MoALF&F	0716946456	Mwakesielias@yahoo.com	
4.	Musa Mwambo	M	2	MOALF&I	0716764706	Musajumbo@yahoo.com	
5.	Teresia Mwende	F	1	UP	0724293971		



COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

DATE: 13/02/2020

ACTIVITY: ESSC SCREENING OF MICRO-PROJECTS - MWAKALE SAGALLA

S NO	NAME	GENDER M/F	Age < 35-1 > 35-2	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1	Kennedy Khamo	M	2	MoALF	0723936552		
2	DAN BOLI	M	1	MoALF&I	0736293704	dan.boli9@gmail.com	
3	Arthur DANIELS KAU	M	2	SMAEP	0711207069	dennyn11@yahoo.com	
4	Patience Mumbi	F	2	MoALF	0726417138	Kenyapwani@gmail.com	
5	Kenneth Mwakenyi	F	1	WISE aid	0714982119		

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

DATE: 13/2/2020

ACTIVITY: ESS SCREENING OF MICRO-PROJECTS MKO/KISHAMBA - DEMBWA

S NO	NAME	GENDER M/F	Age <35-1 >35-2	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1.	PETER MASERHE MWACHIGHADI	M	1	LIVESTOCK	0705206518	Pmwachighadi01@gmail.com	
2.	BENSON K. MWAMACHI	M	2	AGRICULTURE	0725745790	Mwangachibenson@gmail.com	
3.	Patrick H. Mwachighadi	M.	1	WISE SERVICE	0710774277	ngambumpatrick@gmail.com	
4.	ALICE MGHANGA	F	1	SMAED	0714999668	alicemkawughanga@gmail.com	

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

DATE: 14/02/2020

ACTIVITY: ESS SCREENING OF MICRO-PROJECTS - SANGENYA - DIGIRIGA WARD

S NO	NAME	GENDER M/F	Age <35-1 >35-2	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1	PETER SANGETNO.	M	1	LIVESTOCK	0701964843	Pmaleti@gmail	
2	CONSTANCE SARU	F	1	SP	0704321351	saruconstance@yahoo	
3	RACHAEL K. JUMA	M	2	AGRIC.	0721882615	Rkachaelkjuma001@gmail.com	
4	STEPHEN MWAMBOCHA	M	2	LIVESTOCK	0726752404	mwambocha28	
5.	LYDIA MGHANGA	F.	1	SP	0729596243	lydiamganga@gmail.com	
6	IRENE WANJIKU	F	2	KCSAP	0725098304	Wanjikuirene90@yahoo	

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

DATE: 15/12/2020

ACTIVITY: ESS SCREENING OF MICRO-PROJECTS. KISHUSHE

S NO	NAME	GENDER M/F	Age <35-1 >35-2	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
	ANTHONY JKARIKU	M	2	SP-SNAPED	0722146321	antonikiu@gmail.com	
	MARGARET NZEL	F	2	LIVESTOCK	0725348370	nduvumzeli@gmail.com	
	ALEXINAH SAIGHADI	F	1	SP-WISEMAN	0728		
	ALI AHMED M.	M	2	AGRICULTURE	0723640273	amaghudi@gmail.com	
	PETER MIAWASI	M	1	VETERINARY	0710305024	pmyawasi07@gmail.com	
	Stanman Onanu	M	1	AGRICULTURE	0715706573	onanualexyu@gmail.com	

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

DATE: 13/2/2020

ACTIVITY: ESS SCREENING OF MICRO-PROJECTS - NDAWIRE D/ADO - SNAIL

S NO	NAME	GENDER M/F	Age <35-1 >35-2	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1.	Robert Muttoka	M	2	AGRIC. DEPARTMENT	0721953557	robmuttoka2013@gmail.com	
2	Elizabeth Mwadime	F	2	MOALF&I AGRICULTURE	0720001472	lizzydali2540gmail	
3.	JAMES MBOGHO	M	1	SERVICE PROVIDER	0719128460	jaymwaz@gmail.ku	
4	LAZARUS MUNYIKOMBO	M	2	SP	0725314006	Munyikombo0204@gmail.com	

b. Screening Planning Meeting

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

Attendance list

Activity Description: MEETING FOR ESS SCREENING OF SUB-PROJECTS (3 Rows) & PRODUCER ORGANIZATIONS

Venue: LIVESTOCK OFFICES - VOI Date: 09/02/2021

S/No	NAME	Gender M / F	Age 1 < 36 Years 2 > 36 Years	Organization	Mobile No	E-mail	SIGN
1.	ELIUD MUGENDI	M	2	MOALFI	0726411882	mugendiaw@yahoo.com	
2.	PETER SANGING	M	1	LIVESTOCK	0701965443	pmoa@live.com	
3.	STANLEY OYAMA	M	2	AGRIC	0722704582	oyamastanley@yahoo.com	
4.	SHADRACK K JUMA	M	2	AGRIC	0721882615	shadrackyuma001@gmail.com	
5.	EDITH IKALO	F	2	NEMA	0720220323	edithkalo@gmail.com	
6.	SIMON MUSYIMI	M	2	IRRIGATION	0713810276	sciotache@gmail.com	
7.	PETER MWASHIGHADI	M	1	LIVESTOCK	0710526518	pmwashighadi01@gmail.com	
8.	QUENSTIN NGETI	M	2	KCSAP	0722797326	[illegible]	
9.	RUTH MINDO	M	2	KCSAP	0727576402	mutekaminoo536@gmail.com	
10	SHABANI ZUMA	M	1	KCSAP	0703280583	[illegible]	
11	Andrew Mbogo	M	2	KCSAP	0722809864	amwambu@yahoo.com	
12	[illegible]	M	1	KCSAP	0722575[illegible]	[illegible]	
13	[illegible]	M	1	KCSAP	0706898[illegible]	[illegible]	

	NAME	Gender F	Age 1 < 36 Years 2 > 36 Years	Organization	Mobile No	E-mail	SIGN
	TACKLINE NWAZIGHE	F	1	LIVESTOCK	0728909075	jacklinenwazighe@gmail.com	
	JASPER MKIAKALU	M	1	AGRIC	0722760432	mwikambajasper@gmail.com	
16							
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COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

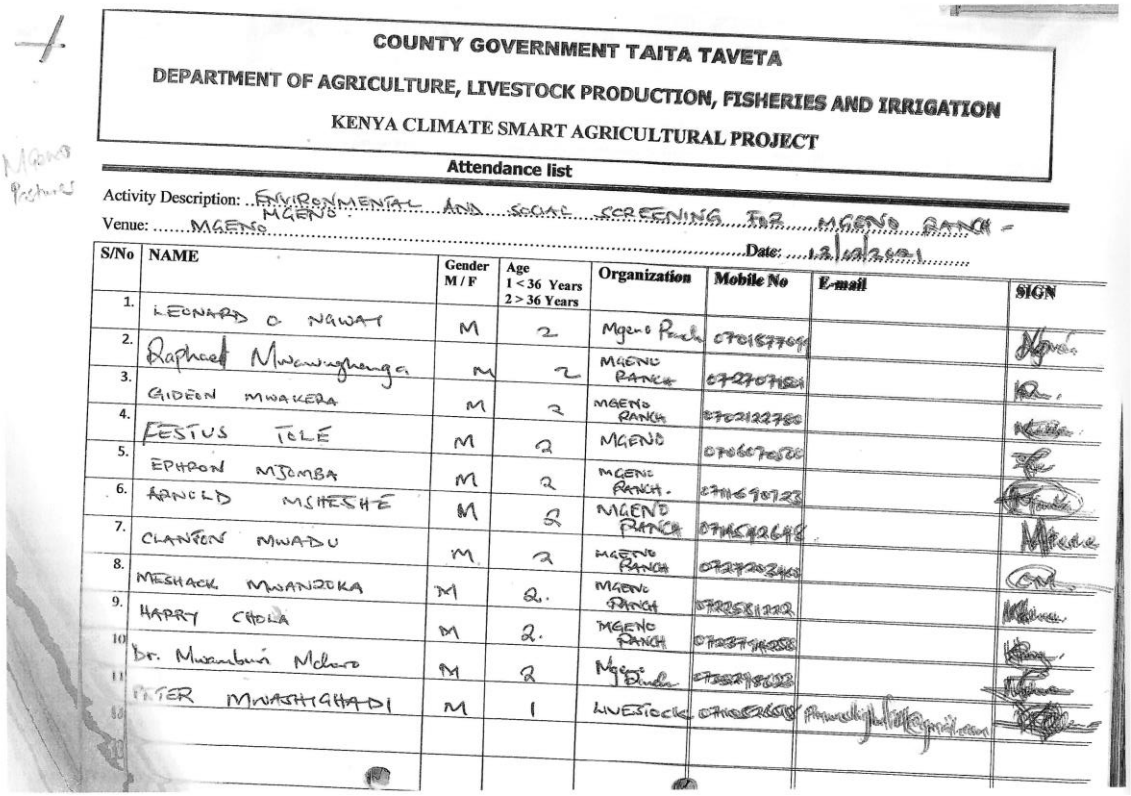
KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST DATE: 13/2/2024

ACTIVITY: ENVIRONMENTAL AND SOCIAL SCREENING

S NO	NAME	GENDER M/F	Age <35-1 >35-2	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1.	ELINA GOMBE	F	2	FARMER	0721403568		
2.	EVERSION R. KABANYA	M	2	Farmer	0710190460		
3.	Raphael Mwabiwaki Mwabili	M	2	Farmer.	0724780S-078445		
4.	JOSPHAT Mwambu	M	2	farmer	0791249334		
5.	Alphance Chola	M	1	Farmer	0714695261		
6	Monica Mchana	F	2	farmer	0701228332		
7.	Japhet Nzeva	M	2	Farmer	0732163571		
8.	Rose Wahio Maganga	F	2	farmer	0707208163		
9	Stanley mcharo	M	2	Farmer	0722752006		
10	Jonson Mwandombe	M	2	Farmer	0716189018		

d. Screening Baraza for Mgeno Ranch Farmers



COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

Attendance list

Activity Description: ENVIRONMENTAL AND SOCIAL SCREENING FOR MGENO RANCH - MGENO

Venue: MGENO Date: 13/03/2021

S/No	NAME	Gender M / F	Age 1 < 36 Years 2 > 36 Years	Organization	Mobile No	E-mail	SIGN
1.	LEONARD O NGWAT	M	2	Mgeno Ranch	0701677694		
2.	Raphael Mwawughenge	M	2	MGENO RANCH	0727071564		
3.	GIDEON MWAKERA	M	2	MGENO RANCH	0702122760		
4.	FESTUS TOLE	M	2	MGENO	0706676520		
5.	EPHRON MJOMBA	M	2	MGENO RANCH.	0716798723		
6.	ARNOLD MSHESHE	M	2	MGENO RANCH	0746926468		
7.	CLANTON MWADU	M	2	MGENO RANCH	0727202345		
8.	MESHACK MWANZOKA	M	2.	MGENO RANCH	0725611112		
9.	HARRY CHOKA	M	2.	MGENO RANCH	0723714288		
10	Dr. Mwambui Mdoro	M	2	Mgeno Ranch	0722278533		
11	PETER MWASHIGHADI	M	1	LIVESTOCK	0746876697	pmwashigha@kilimo.go.ke	

e. Screening Baraza for Lwalenyi Ranch Farmers

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

Attendance list

Activity Description: ENVIRONMENTAL AND SOCIAL SCREENING FOR DISEASE CONTROL AND ENHANCING PROJECT

Venue: MWATATE SUB-COUNTY (RANCHES) - LWALENYI & AMA Date: 17/2/2024

S/No	NAME	Gender M / F	Age 1 < 36 Years 2 > 36 Years	Organization	Mobile No	E-mail	SIGN
1.	Michael Nguvi	M	2	Farmer	0708300414	—	
2.	Lydia Mwashighadi	F	2	Farmer	0792119049		
3.	BENSON N-TANGA	M	2	FARMER	0718960819		
4.	GIFT MWASHANGA	M	2	FARMER	0714447570		
5.	Benedict Mwamboa	M	2	Farmer	0717219272		
6.	PETER MASUBEN	M	2	FARMER	0720[illegible]		
7.	CHARLES MPOMBO	M	2	FARMER	0725797538		
8.	PETER MWAISHIGHADI	M	1	LIVESTOCK DEPT	0710826518	pmwashighadi@gmail.com	
9.							
10							
11							
12							
13							

f. Screening Baraza for Ngache Dairy PO Farmers

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

DATE: 17/03/2021

ACTIVITY: NGACHE DAIRY FARMERS - ESS SCREENING

S NO	NAME	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1	PHIDILIAH AYUB	Ngache	0714893765	—	
2	PHIDILIA KULOLA	NGACHE	0716722777	—	
3	ELIZABETH M.NIWANAKE	NGACHE	0707369143	—	
4	MARGARET MWANGOMBE	NGACHE	0716358215	—	
5	Simington Mwadime	NGACHE	0720599209	—	
6	SAMUEL SAO	NGACHE	0716860790	—	
7	RODGERS MWAWASI	NGACHE	0711232724	—	
8	ROBERTSON BONGOLI	NGACHE	0713494859	—	
9	Jimson Ngombe	NGACHE	0720928589	kombeley.mson@gmail.com	
10	DARIUS KILILU	NGACHE	0756213306	—	

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

DATE: 1/03/2021

ACTIVITY: DATA COLLECTION (EI SURVEY)-NGACHE DAIRY FARMERS ESS SCREENING

S NO	NAME	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1.	SHADRACK N. JUMA	AGRIC	0721882615	Shadrackjuma001@gmail.com	
2	PHOEBE NGAZI	KCSAD	0722197326	[illegible]	

g. PMP Preparation Meeting

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

ACTIVITY: PREPARATION OF PMP's & ESMP's

DATE: 19/04/2021

S NO	NAME	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1	DR. KENNEDY MUMO	Vet. dept.	0723936554	[illegible]	
2	Dr. Jaffey Jabir	Veterinary	0725607464	jaffjabir@gmail.com	
3	QUENTIN NGALI	KCSAP	0722797328	[illegible]	
4	ANDREW MBIRIGA	KeSAP	0728749369	[illegible]	

S NO	NAME	ORGANISATION	TELEPHONE	EMAIL	
16	Quentin Ngeti	KCSAP	0722797326	gngeti@gmail.com	
17	Gershon Mugerecha	KCSAP	0720399616	gmugerecha18@gmail.com	
18	ANDREW PIBITOA	KCSAP	0722-829369	amwimbila@yahoo.com	
19	Kiprot Isaac	KCSAP	0702	Isaac.kiprot@gmail.com	
20	IBRAHIM WOKORI	KCSAP	0719418158	bakimdan05@gmail.com	
21	ISAAC MWANIKI	KCSAP	0729 343062	ijuicsaack@gmail.com	
22	Rose P Kengecha	KCSAP	0722-975594	rkengecha@gmail.com	
23	ZIPORAH MWEDO	KCSAP	0741 673699	zmwendo@gmail.com	

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

ACTIVITY: PREPARATION OF PIMP'S & ESMP'S AT CIT VET (PANEL OF EXPERTS) DATE: 22/04/2021

S NO	NAME	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1	Simon Mushimi	IRRIGATION	0713810276	sciotaveta@gmail.com	
2	Quentin Ngeti	KCSAP	0722797326	gngeti@gmail.com	
3	EDITH KALO	NEMA	0720029385	edithkalo@gmail.com	
4	Dr. Jeremiah M. Nguzi	Vet	0723 777557	cdrstaitataveta@gmail.com	
5	KIPROTICH NGENO	NEMA	0718683395	kiproj96@gmail.com	
6	RUTH MILELA	KCSAP	0727516707	milelaminou536@gmail.com	
7	Rose P. Kengecha	KCSAP	0722-975594	rkengecha@gmail.com	
8	IBRAHIM WOKORI	KCSAP	0719418158	Ibakimdan05@gmail.com	
9	ANDREW PIBITOA	KCSAP	0722829369	amwimbila@yahoo.com	

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST DATE: 23/04/2024

ACTIVITY: PANEL OF EXPERTS (PREPARATION OF PMP's & ESMP's) VDI CIT

S NO	NAME	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1.	QUENTIN NGATI	KCCAD	0722797326	[illegible]	
2	RUTH MILELA	KCSAP	0727576402	Milelaminio536@gmail.com	
3.	EDITH KALO	NEMA	0720589385	edithkalo@gmail.com	
4	Dr. Jeremiah Mbugi	Yet	0722 778807	edvsteinlodavet@gmail.com	
5	Kiprotich Ng'eno	NEMA	0718683395	kiproj06@gmail.com	
6	Rose P. Kengecha	KCSAP	0722-975394		
7	Simon Musyimi	IRRIGATION	0713810276	sctokaveta@gmail.com	
8	Ibrahim Wokoni	KCSAP	0719478958	Ibrahimdanos@gmail.com	
9	ANDREW MBIRIGA	KCSAP	0722-829369	amwambire@yahoo.com	

COUNTY GOVERNMENT TAITA TAVETA

DEPARTMENT OF AGRICULTURE, LIVESTOCK PRODUCTION, FISHERIES AND IRRIGATION

KENYA CLIMATE SMART AGRICULTURAL PROJECT

ATTENDANCE LIST

ACTIVITY: PREPARATION OF PEST MANAGEMENT PLANS (PMP) & ENVIRONMENTAL & SOCIAL SAFEGUARDS FRAMEWORK PLANS ESMP FOR 3RD ROUND APPROVED SUB-PROJECTS & POs DATE: 29/04/2021

S NO	NAME	ORGANISATION	TELEPHONE	EMAIL	SIGNATURE
1	ANDREW MBIRIGA	KCSAP	0722-829369	amwambire@yahoo.com	
2	Icha Kijoi	KCSAP	[illegible]		
3.	ANTHONY KARIUKI	AGRICULTURE	0722146938	antokariuki@gmail.com	
4	James Mbogho	Agriculture	0719124460	jayminwa@gmail.com	
5	ELIZABETH MWASIME	AGRICULTURE	0720001472	lizzydali254@gmail.com	
6.	Dr. Jaffy Jabir	Veterinary	0725900[illegible]	[illegible]@gmail.com	
7	FESTON MWAMUYE	LIVESTOCK	0721576629	mwamuyef@gmail.com	
8	VICTOR NYAMBU	NEMA	0704450145	victornyambu@gmail.com	
9.	KIPROTICH NG'ENO	NEMA	0718683395	kiproj06@gmail.com	
10	RUTH Milela	KCSAP	0727576402	Milelaminio536@gmail.com	
11	Angeresah Kenchon	Kcsap	0720389616	gmngeresah18@gmail.com	
12	JOAH LAVOGA	Environment	0724274557	lavogajoane@gmail.com	
13	DR. KENNEDY MUMO	Veterinary	0723936554	muthokakmumo@gmail.com	
14.	QUENTIN NGATI	KCCAD	0722797326	[illegible]@gmail.com	
15	Gilbert Ogunga	Nature Kenya	0723691813	[illegible]	

S NO	NAME	ORGANISATION	TELEPHONE	EMAIL	
16	Rose P. Kengech	KCSAP	0722-971594	rkengech@gmail.com	
17	EDITH KALO	NEMA	0720289385	edithkalc@gmail.com	
18	Dr. Jeremiah W. Mgaj	Kef.	0723778887	edutainttrust@gmail.com	
19	Jentech Wamwa	KCSAP	0725 627085	jaywamwa@yahoo.com	
20	Irene Wanyoke	KCSAP	0725015306	wanyikureneo@yahoo.com	
~~21~~	~~LABAN KIMAI~~ ~~KEREN PERUGYA~~	~~KESAP~~	~~0722884364~~	~~ammembole@yahoo.com~~	
21.	~~LABAN KIMAI~~	~~KCSAP~~			
22.	[illegible] Wekesa	KCSAP	0719447875P	hakimlandsc@gmail.com	
23	~~Joseph Mwendo~~	~~KCSAP~~	~~0719 673699~~	~~mwendo@gmail.com~~	

Annex 7; Approved Disease Surveillance and Control Proposal

Sub Project proposal template

1. **Project Background**

a) **Project Title:** Disease Surveillance and Control Project – Taita Taveta County**.**

b) Project duration: *1 YEAR* **Start** *Oct 2020* **End:** *Oct 2021*

c) No. of beneficiaries: … *23, 792…..* **Male.** *15,559.* **Female…***8,233***.**
Direct beneficiaries: *8,947* **Male:** *5,244* **Female:** *3,703***.**
Indirect beneficiaries: *14,845* **Male:** *9,115* **Female:** *5,730***.**
Vulnerable beneficiaries (poor, widows/widowers, orphans, physically challenged, elderly, HIV/AIDs affected/infected:Male: *295***. Female:***115*

d) **Location of the project (coordinates):** *County wide (20 wards)*

2. **Project Identification**

i. How was the project identified?
Through stakeholder engagements of the Dairy and beef value chain platform meetings and CIDP process.

ii. Who was involved?
All members of the beef and dairy value chain platform and service providers.

iii. What events took place in developing the project idea?
- *Meeting to analyze the performance of beef value chain production in Taita Taveta County.*
- *During the development of beef value chain and livestock strategic plan.*

iv. Compliance status to various statutory requirements
EIA……Water permits: *N/A*
Land ownership, legal agreements, and related procedures
N/A

Other statutory requirements
*Compliant with animal disease act cap 364***.**

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

3. **Project Framework**

a) **What is/are the expected *results* post-implementation:** increased household income, food security and reduced incidences of animal disease/mortality

b) **What is/are the *objective(s)* of the project?**
- *Increase the resilience of livestock keepers in the county by improve the health and herd immunity of their animals against common notifiable diseases.*
- *Increasing the herd sizes the flock size at household levels through reduced mortality and morbidity from diseases.*
- *Reduced incidences of livestock trade interruptions from quarantines after disease outbreaks.*

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

i. Inadequate access to animal disease control services (livestock vaccination against notifiable diseases/ livestock pests' control.

ii. *Livestock mortality and morbidity from vaccine preventable livestock diseases*
iii. *High cost of vector-borne diseases management*
iv. *Market inaccessibility from trade restrictions due to disease outbreaks.*

d) **Activities to be carried out:**

No.	Activity	Who will provide advise & training (institution or person):	Time
1.	***Disease surveillance in markets, watering points, stock routes and post vaccination monitoring***	**Veterinary dept.**	**Every Quarter**
2.	***Procurement of vaccines and pest control products,***	**Veterinary dept. / KCSAP**	**Oct 2020**
3.	***Procurement of refrigeration and freezer systems/passive cooling containers.***	**Veterinary dept. / KCSAP**	**Oct – Nov 2020**
4.	***Training of beneficiaries/ staff***	**Veterinary dept. / KCSAP**	**Continuous**
5.	***Vaccination campaigns and pest control / animal health activities***	**Veterinary, KCSAP**	**Bi annually**
6	***Monitoring and Evaluation***	**KCSAP**	**Quarterly**

*Attach a separate sheet if space is not enough

e) **List the collaborators you will work with**

No	Collaborator	Area of collaboration
1.	**Veterinary Dept.**	**Technical/ financial**
2.	**KCSAP**	**Technical/ Financial**

*Attach a separate sheet if space is not enough

4. Monitoring of Progress

a) Who will be involved in monitoring?
- *Veterinary department*
- *County technical advisory committee (KCSAP)…*

b) How frequent will the progress report be submitted?
Quarterly.

c) Who will be responsible for reporting?
Veterinary department

d) How will the report reach the community members?
During quarterly community review meetings and through the sub county disease control committees.

e) 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 the type of livestock numbers or acreage of crops/types)

Livestock keepers will easily access disease control services and thus build their resilience against shocks after disease outbreaks.
Reduced morbidity and mortality from livestock diseases and reduced impact of livestock pest's infestation/ malnutrition would result in increase in livestock productivity.

Reduced incidences of livestock market closures will increase the access to markets and thus productivity.
The County livestock vaccination project would seek to reach 23,000 households and 114,000 dairy and beef cattle and 141,800 goats thus increase the number of livestock available for the market by 20% in the first year of implementation. This will also offer a source of livelihood thus building resilience to most families.
The livestock manure would also be used to fertilize vegetable gardens or farms. This would not only enrich the soils buts also improved crop production and food security.

f) How will you measure your success in planning, implementing and managing your projects in a sustainable and socially inclusive manner? *Through setting up a participatory M& E and social audit teams using baseline data from collaborators and indictors as set out in the project proposal*

g) How will you ensure the sustainability of the project?
The livestock keepers will pay for the livestock vaccination at subsidized rates and the monies used to build a kitty to be used in future for financing the project. The improved incomes of the livestock rearing households would allow them be able to pay for the animal health services.

h) **How will you manage the benefits that will accrue from the project?**
To fund the project in future and maintenance of the project infrastructure.

i) Strategy on operation and maintenance
To constitute a disease control management committee.

Detailed Budget

Project cost including community and County Government contribution (Detailed Budget attached as an annex).

S/N	Activity	Estimated Budget (Kshs)
1	**Purchase of Livestock Vaccines and pest control products**	**18,549,293.00**
2	**Disease surveillance and sampling materials**	**825,600.00**
3	**Capacity building of disease control infrastructure**	**9,673,020.00**
4	**Vaccination personal protective equipment**	**237,500.00**
5	**Livestock Vaccination**	**1,195,400.00**
6	**Monitoring and Evaluation and branding**	**1,730,200.00**
	Total	32,211,013

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

A. Labour (man-days & value) ……

B. Materials (type, quantity & value)

……

We certify that the preceding information is true.

Chairperson: …… signature …… Date……

Secretary: …… signature …… Date……
Group member: …… signature …… Date. ……

(For official use only)
Comment s by the Relevant CTD:
……
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……
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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:

Attachment 1 – List of Project Beneficiaries

No	Name	Gender M/F	Contact
1.	Renson mwanjala	M	0733829460
2.	Godrick mwanyigha	M	0722632426
3.	Agripinah Mshai	M	Nil
4.	Martin Msagha	M	0713383157
5.	Dan Boli	M	07366293704
6.	Liverson Mwakesi	M	0710752871
7.	Maryann Kitogho	F	0727722942
8.	Patrick Krigha	M	0715144366
9.	Mwakio Antony	M	0716298167
10.	Mwawasi Mwashighadi	M	Nil
11.	Stephen kileta	M	07248920
12.	Flister Kitonga	F	Nil
13.	Joseph Esau	M	Nil
14.	Patterson Msafiri	M	0714897294
15.	Lucy Mwamburi	F	07283544948
16.	Stanely Mwambui	M	Nil
17.	Elivis Mwangura	F	0753955296

18.	Florence Mdamu	F	0707624177
19.	Dairus Mwamburi	M	0713969398
20.	Florence Mwamburi	F	0710130960
21.	Agripinah Shoghosho	F	0705291038
22.	Patrick Msagha	M	0723202100
23.	Larry Mwandoe	M	0780204944
24.	Maurice Mboza	M	0797069768
25.	Dairus Maganga	M	0728409506
26.	Henry Mwasaghu	M	0710303444
27.	Margret Mwandoe	F	0729845425
28.	Robbin Kisoghe	M	0791614322
29.	Rachel kisochi	F	0714245904
30.	Kolman mzae	M	0721345270
31.	Stephen njule	M	071053460
32.	Florian Mwangwasi	F	0715993004
33.	David Mkandau	M	0721254086
34.	Edwin Babu	M	0726021858
35.	Richard Rick	M	0716097544
36.	Kenty Shuma	M	0710939798
37.	Ladislas kirigha	F	0714848348
38.	Joseph kililo	M	0713030921
39.	Flavian Mwandigha	M	0715160946
40.	Tobias mwakio	M	0705893517
41.	Tedonsia Ndigha	M	0710656072
42.	Philip Nzaka	M	0725401601
43.	Nicholas mwambili	M	0725765993
44.	Stephen mjomba	M	0724421639
45.	Domnick Mwandau	M	0742904245
46.	Emmanuel poioa	M	0799068684
47.	Aisha juma	F	0726923321
48.	John kombo	M	0723862252
49.	Claudia wandoe	F	0703334460
50.	Jeremiah mwabili	M	0727751748
51.	Maurice mari	M	0723863987
52.	Mwadime mjomba	M	0722287486
53.	Benjamin mongera	M	0726660394
54.	James tadali	M	0729803199
55.	Manyatta ndole	M	0728950630
56.	Mushiri mwakamba	M	0717707872
57.	Hillary mdawida	M	0705995509
58.	Harrison dea	M	0705995509
59.	Judith mwakireti	F	0715621066
60.	Trizzah mughoi	F	0716575634