

# COMMON PROGRAMME FRAMEWORK FOR LIVESTOCK DISEASES CONTROL FOR THE FCDC REGION



Common Programme Framework for Livestock Disease Control in the FCDC Region

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@ Sector Forum for Agriculture and Livestock (SFAL) of the Frontier Counties Development Council

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# FORWARD

The Frontier Counties Development Council (FCDC) counties suffer the burden of endemic livestock diseases that causes considerable economic losses to poor producers in these counties. The economic losses related to diseases arise through losses of revenue from restrictions in animal movement and trade and costs of control measures (including treatments), which can be prohibitive and have negative impacts on livestock, markets and have socio-economic influence and public health concerns. Further, some of these diseases are zoonotic and have a significant impact on public health and nutrition.

Effective control of livestock diseases is therefore critical for the FCDC counties as they are dependent on livestock as a source of food, livelihoods and as a driver of the local economy. These counties enjoy a comparative advantage for livestock and livestock products trade, the sub-sector offers an opportunity for increased employment and household incomes, but its potential is limited by trade restrictions and losses associated with livestock diseases.

The Framework took recognition of the growing challenge of livestock diseases and their impacts on the livelihoods of households in the county, significant health hazards of livestock diseases and their impacts on household food security. Furthermore, as agriculture is one of the principal functions devolved under the 2010 constitution, the county government has greater powers to decide regarding planning and implementation and will bear the full responsibility for the decisions in the sector.

In the preparation of the framework, we have received immense cooperation and support from several individuals, professional experts, NGOs, private sector actors and veterinary professionals in the public services. The Framework was developed with the support of consultants (Drs Mohamed M Yussuf and Pauline Gitonga) in consultation with SIDAI, the KMT and the County Directors of Veterinary Services, Turkana, Marsabit, Isiolo, Lamu, Tana River, Garissa, Wajir and Mandera, and their staff.

The Coordinator, Sector Forum for Agriculture and Livestock (SFAL) organised the consultative workshops, and the Swiss Embassy provided the funding through the <u>Livestock Sector Strengthening</u> <u>Project</u> implemented by the Department of Agriculture, Livestock and Fisheries, Wajir County.

We hope this Framework will help enhance the control of livestock diseases in the FCDC counties, as it focuses on building on and improving our current system of disease control, investing more in the prioritization and coordination of the current efforts. The successful implementation of the Framework will contribute to the overall goal of improving food security, trade, public health, and livelihoods of households in the FCDC counties. We, therefore, call on our partners and stakeholders to join us in this noble initiative. This Framework is not intended to be prescriptive, but rather a flexible conceptual framework and should be considered a "living document" and is open to feedback, additions and revisions based on changing needs.

#### Chairman

FCDC's County Executives Committee Member for Agriculture, Livestock and Fisheries

#### Coordinator

Sector Forum for Agriculture, and Livestock (SFAL)

# EXECUTIVE SUMMARY

The ability to plan and implement livestock disease control activities is the key responsibility of the Department of the Veterinary Services in the devolved county governments. This common framework for Livestock Disease Control, 2018 – 2028 has been jointly developed by the Department of Veterinary Services in the FCDC counties to guide the efficient and effective delivery of livestock disease control activities with these counties. The framework is subject to periodic review and was approved by the eight County Directors of Veterinary Services who will provide leadership and oversight to ensure the framework remains relevant, aligned to the national priorities, and is implemented with livestock sector stakeholders. The Directors will form the Task Group that will drive the coordinated implementation of the Framework, monitor progress, identify opportunities and collectively support its effective delivery.

The FCDC region members will need to pursue options that will sustain disease control mitigation measures. The CPF-LDC objectives include;- the provision of policy and legislative frameworks to enable efficient and effective delivery of livestock disease control activities; Mobilisation and pooling of resources within FCDC region so as to achieve wider livestock disease control impacts; and Improvement of food security, trade, public health, and livelihoods of households in the FCDC region. The Framework objectives will be achieved through nine broad areas of focus called Pillars. The pillars will first pursue a more coordinated and enhanced livestock disease surveillance, prevention and control strategies for priority diseases. Secondly, the pillars will promote collaboration between veterinary services and stakeholders across the FCDC region. The success of pillar activities will require political support and a sustainable source of funding from governments, the private sector and development partners. Also, the CPF-LDC implementation will need to be supported by effective legislation, an understanding of the epidemiological situation of prioritised diseases as well as the establishment of functional diagnostic infrastructure and effective vaccination and traceability systems.

The proposed CPF for livestock disease control in the FCDC region has nine focus areas which include;

- Pillar 1: Disease surveillance, Reporting and Laboratory Diagnosis;
- Pillar 2: Veterinary Pharmaceuticals and vaccines;
- Pillar 3: Disease Control and Treatment;
- Pillar 4: Veterinary Services Governance;
- Pillar 5: Veterinary Services Infrastructure;
- Pillar 6: Livestock Identification and Traceability System (LITS);
- Pillar 7: Animal Welfare;
- Pillar 8: Animal Resources Statistics, Information, and Communication and
- Pillar 9: Institutional Development and Knowledge Management.

The FCDC region has identified and agreed on the following seven (7) priority diseases; Peste des Petits Ruminants (PPR); Contagious Caprine pleuropneumonia (CCPP); Contagious Bovine Pleuropneumonia (CBPP); Sheep and Goat Pox (SGP); Camel Pox and Zoonotic diseases Brucellosis and Rabies.

**Pillar 1** will be implemented through three result-based components; passive and active disease surveillance; Laboratory diagnosis of livestock diseases and collection, management and effective use of animal health surveillance information. The overall outcome of pillar 1 will be strengthened disease control programmes within FCDC region. This will be achieved through enhanced disease surveillance, reporting and laboratory diagnosis. The respective County Directors of Veterinary Services (CDVS) will take leadership of this pillar. The CDVS will appoint a Disease Surveillance and

Reporting Officer (DSRO). The CDVS will ensure they coordinate and conduct regular (quarterly) FCDC region-wide disease surveillance for the identified priority diseases that will be supported by the Regional Laboratories. The processing of the surveillance data flow from the Community Disease Reporters (CDRs), livestock producers, abattoirs and livestock markets will first be received by the Sub-County Veterinary Officer who will investigate reports and will capture the confirmed priority disease occurrence information on paper (ARIS II) or in the mobile phone applications (EpiCollect or E-wallet). The sub-county veterinary officer will then submit to the DSRO and CDVS the disease reports on a weekly basis. The DSRO and CDVS will then validate the data, collate and transmit to the Disease control unit, which provides reports for international reporting (OIE) and feedback to the counties. Animal health products including veterinary pharmaceuticals, biologicals, and feed additives are tools used by veterinarians and livestock producers to keep animals healthy.

**Pillar 2** will focus on veterinary pharmaceuticals and veterinary vaccines. The pillar 2 framework recognizes the need to address the systemic constraints within the input service provision. The pillar will support key activities that will ensure quality pharmaceutical drugs and vaccines are available in the right quantities throughout the year. The key activities will focus on addressing disincentives that prevent private sector entry into input distribution; investing in public infrastructure and other business enabling environment that would reduce the transaction costs and attract private sector investment in the FCDC region; facilitate development of innovative business models that utilizes the existing infrastructure and capacities while leverage the use of technology; strengthening extension and awareness on use and risks of using counterfeit inputs amongst livestock producers; and strengthening national and county regulatory role of ensuring quality compliance of veterinary pharmaceutical and vaccine products.

**Pillar 3** will focus on identifying a more coordinated approach to control livestock disease and ensure timely and effective treatment. Disease control is a devolved function and counties are increasingly under pressure to safeguards their livestock herds as the priority diseases targeted for control within the FCDC region are ever-changing and pose a risk to FCDC region's economic development. The identified seven priority diseases are transboundary in nature as they are spread by livestock movement across borders as livestock keepers seek pasture, water and markets for the livestock. The pillar will address this challenge through four result-based components that include regular and harmonized vaccination; vector control; animal health extension and clinical services; and livestock movement control. The main strategy to achieve this pillar will be synchronised and sustained regular annual vaccination for three to five years across the FCDC region targeting the priority diseases. Vaccination coverage of 80 percent will try to be achieved every year.

Pillar 4 will achieve strengthened veterinary services governance through human resource development and improved animal health regulation and policy. FCDC member counties will need to have a sufficient number of competent and well-trained veterinarians and para-professionals who are capable of serving the region. Furthermore, there is a need for frontline workers to improve disease surveillance and control at the herd level. Currently, human resource capacities for disease control across the FCDC counties is low. For example, in all counties qualified animal health practitioners are available only at Sub-county level with one or no officers at ward level. FAO-UN recommends a ratio of one veterinarian per 100,000 Tropical livestock units with this in mind pillar 4 framework recommends recruitment of additional human resources. In Kenya, Animal Health, Welfare and Production are governed by over 26 legislative acts. Disease control initiatives will need to encompass synchronized animal health legislation and policy enforcement interventions undertaken in a coordinated manner. The success of the Framework will require sound policies at FCDC region level to ensure delivery of appropriate livestock disease prevention and control measures. As the system requires a sustained, coordinated, and complementary efforts of many individuals and groups, the policies will need to make provisions on how to engage the different stakeholders and partners at national and county level.

The 2010 constitution of Kenya devolved governance and recognised the historical ASAL marginalisation. The constitution made provision with the equalisation fund that will support infrastructure development in the ASALs. However, the DVS and ASAL counties veterinary departments need to ensure that macroeconomic policies consider the allocation of resources to build modern and maintain existing veterinary services infrastructure.

Pillar 5 will focus on strengthening the infrastructure that will support effective and efficient delivery of veterinary services across FCDC region. The pillar has three components that will focus on developing surveillance, diagnostic, disease control, public health, trade and value addition infrastructure. The pillar advocates for harmonized disease surveillance and response protocols for priority diseases in the FCDC region. The pillar will make provision to conduct a comparative advantage infrastructure study to identify which infrastructure can be shared across the FCDC region. The pillar proposes that the eight counties adopt a single E-Surveillance infrastructure, build eight laboratories across the region, ensure each county has four vehicles with Lamu supported to buy beach bikes and a speedboat. The pillar will also advocate for expansion and building of offices for staff at each subcounty level. To support control and prevention of priority diseases, each county will be required to establish cold chain infrastructure at headquarters and sub-county offices. The counties will also ensure they have at least one Holding ground/ quarantine station and construct or rehabilitate at least two fixed crushes in each ward. The creation of a department within KALRO for Camel health and production research will also contribute to the knowledge of camel diseases. The pillar proposes the establishment of Class B slaughterhouses in all major trading centres in the FCDC region as well as establish in each county at least one value addition processing industry. The pillar will also pool resources to map and gazette stock routes as well as support the strategic development of watering and feeding infrastructure along the mapped routes. SFAL and CDVS from FCDC region will lobby their respective governors and county assemblies to set up the County Veterinary Services Development Fund (CVSDF). SFAL will also lobby the 8 county governments to allocate 10% of their total county budget to the livestock sector, of this amount, 20% will be allocated to CVSDF.

Pillar 6 framework will work towards the development of functional livestock identification and traceability system that enhances disease control, trade and food safety in FCDC region. The framework has three components; Integrating international LITS guidelines into government policies and legislative acts; Increasing awareness of LITS benefits within FCDC region and Phased implementation of a LITS programme within FCDC region. The LITS implementation strategy in FCDC region will be done over a period of five years in incremental and phased manner. The County Directors of Veterinary Services of the FCDC region will spearhead the awareness campaign of the hot iron branding primary identification system and liaise with the county government to roll out LITS. The CDVS together with SFAL secretariat will also facilitate the formation of the County SFAL Livestock Disease Coordinating Unit in each of the eight counties. The County SFAL Livestock Disease Coordinating Unit will have a maximum of 4 personnel composed of 3 staff with veterinary or animal health training and 1 with ICT data management and statistical analysis training. The task force will be responsible for coordinating the implementation of the primary and secondary identification systems, database management and generating reports for monitoring and evaluation for the county and SFAL. The county veterinary services department will be the only one mandated by law to brand animals and record ownership details of the livestock. To ensure that branding is sustainable a subsidised branding fee will be charged to the livestock keeper. To ensure livestock keepers adopt and comply with the mandatory hot iron branding primary identification system, the county veterinary services department will spearhead the development of county by laws that will stipulate that livestock will not access county livestock sales yards, markets and abattoirs unless they are branded.

Animal welfare will be the main focus for **pillar 7** that will work towards integrating animal welfare guidelines and standards within FCDC region institutions and veterinary services delivery. The framework has two components they include mainstreaming animal welfare standards into county

institutions and legislation and strengthening advocacy, awareness and communication on animal welfare across livestock value chains in FCDC region. The county directors of veterinary services will take the lead role in implementing this pillar. Each county CDVS will assign an officer to spearhead animal welfare activities in the county. The officer will have a budget and one more staff attached to him. Both staffs will be trained on OIE animal welfare guidelines. The animal welfare staff will be in charge of giving policy guidance as counties mainstream OIE guidelines into county policies, strategies and programmes. The officer will also spearhead animal welfare awareness and sensitisation campaigns across all levels of the livestock value chains.

The purpose of **pillar 8** is to provide a harmonized data collection, analysis and reporting system for FCDC region. Pillar 8 has three components: common Livestock Information Management System (LIMS), identification of minimum livestock statistical core data item and common communication strategy for the FCDC region. FCDC- SFAL secretariat will engage the Kenya National Bureau of Statistics (KNBS) to ensure tools to collect the core livestock data are adequate to support decision making. KNBS will also be involved in training staff on data collection, analysis and reporting. SFAL secretariat will lobby for a meeting with KNBS and FCDC region veterinary and livestock departments. The meeting will allow KNBS to sensitise staff on data collection tools to be used during the 2019 livestock census as well as allow staff to give KNBS feedback on the tools ability to comprehensively capture pastoralist unique setting. SFAL secretariat together with counties will create the County SFAL Livestock Disease Coordinating Unit in each county The unit will oversee the actualization of the CPF-LDC pillar activities. The County SFAL Livestock Disease Coordinating Unit in each county The unit will oversee the actualization of the CPF-LDC pillar activities. The County SFAL Livestock Disease Coordinating Unit in each county The unit will oversee the actualization of the CPF-LDC pillar activities. The County SFAL Livestock Disease Coordinating Unit in each county The unit will oversee the actualization of the CPF-LDC pillar activities. The County SFAL Livestock Disease Coordinating Unit in each county The unit will oversee the actualization of the CPF-LDC pillar activities. The County SFAL Livestock Disease Coordinating Unit supported by a communication consultant will develop a common FCDC brand, identify brand ambassadors and develop targeted messages and high impact dissemination communication channels.

The ninth Pillar will aim at sustaining a long-term and coordinated approach that will ensure the successful implementation of the common programme framework for livestock disease control in the FCDC region. Pillar 9 activities will facilitate a supportive enabling environment as well as provide the evidence base for decision-making. This pillar framework has two components, institutional development and knowledge management. The pillar will identify and establish national and county institutions that will enhance livestock disease control in FCDC region. The pillar will rely on evidence to develop harmonised policy and legal reforms that will allow synchronised disease control programmes and formulate mutually beneficial Private-Public Partnerships. The pillar will ensure sustainability of the Common Programme Framework for Livestock Disease Control in FCDC region by anchoring it in the County Integrated Development Plans (CIDPs) and Ending drought Emergencies programme.

# ACRONYMS AND ABBREVIATIONS

ASALs	Arid and Semi-Arid Lands							
ARIS	Animal Resources Information System							
AU-IBAR	African Union Inter-African Bureau for Animal Resources							
CBPP	Contagious Bovine PleuroPneumonia							
CCPP	Contagious Caprine PleuroPneumonia							
CDVS	County Director of Veterinary Services							
CIDP	County Integrated Development Plans							
CPF	Common Programme Framework							
CPF-LDC	Common Programme Framework-Livestock Diseases Control							
CVIL	Central Veterinary Investigation Laboratory							
DSRO	Disease Surveillance and Reporting Officer							
FCDC	Frontier Counties Development Council							
FMD	Foot and Mouth Diseases							
EDE	Ending Drought Emergencies							
IGAD	Inter-Governmental Authority on Development							
ICPALD	IGAD Centre for Pastoral Areas Development and Livestock Development							
FAO-UN	Food and Agricultural Organisation of the United Nations							
GDP	Gross Domestic Product							
KDVS	Kenya Director of Veterinary Services							
KLWS	Kenya Livestock and Wildlife Syndromic Surveillance System							
Kshs	Kenya Shillings							
LIMS	Livestock Information Management System							
LITS	Livestock Identification and Traceability System							
NGOs	Non-governmental Organisations							
OIE	World Organisation for Animal Health							
PPP	Public-Private-Partnership							
PPR	Peste des Petits Ruminants							
RFID	Radio Frequency Identification							
RVIL	Regional Veterinary Investigation Laboratory							
SGP	Sheep and Goat Pox							
SFAL	Sector Forum for Agriculture and Livestock							
SPS	Sanitary and Phytosanitary Standard							
WTO	World Trade Organisation							

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# CONTEXTUAL BACKGROUND

# INTRODUCTION

The livestock sector is the engine of economic development in the FCDC counties and makes a substantial contribution to food security, general economy and health within these counties. Beyond the direct role in providing food and generating income, livestock serves as a store of wealth, collateral for credit and an essential safety net during times of crisis. The sector accounts for 80% of these counties economies and provides livelihoods to 90% of the population.<sup>1</sup> Livestock in the FCDC region make a substantial contribution to households food and income security as well as offer a means of accumulating wealth and collateral for credit and safety net during times of crisis. The sector is also seeing substantial growth driven by increasing demand for livestock and livestock products by the growing population, international trade and changing consumer preference from plant to animal-based proteins diets.<sup>2</sup>

Despite the importance of the sector across the FCDC counties, its development has not been supported by a harmonized and coordinated livestock development policy and strategy. A number of livestock diseases have become endemic. Livestock movements within these counties and across Somalia, Ethiopia and South Sudanese borders for migration (pasture and water) and markets are some of the factors contributing to the growing risks of emergence and persistence of livestock diseases in these counties. The emergence and persistence (endemic status) of livestock diseases in these counties have had enormous economic and social costs. It is therefore imperative that the FCDC region strengthens livestock disease prevention and control efforts to ensure food security and promote economic development.

Recognizing this gap, the FCDC region County Directors of Veterinary Services spearheaded the development of the Common Programme Framework for the Livestock Disease Control in the FCDC counties. The Framework will provide guidance and direction in the efficient and effective delivery of livestock disease control activities within the FCDC counties. The Framework follows the need for livestock disease control as has being recognized by the government in a number of current and previous strategies and policy papers including the Economic Recovery Strategy for Wealth and Employment Creation, 2003 – 2007 and the Strategy for Revitalizing Agriculture (SRA), 2004 – 2014, and Kenya's Vision 2030 flagship project Ending Drought Emergencies (EDE) that is being implemented by the Ministry of Devolution and Planning. Specifically, the EDE pillar 4 initiative, recognises that controlling and preventing livestock diseases is one of the key mitigating strategies to ensure sustainable livelihoods for drought-prone communities.<sup>3</sup> The Framework is also consistent with key priority areas identified by FCDC region as outlined in their respective County Integrated Development Plans (CIDPs).

# THE SETTING

# LIVESTOCK AND ITS IMPORTANCE IN THE FCDC COUNTIES

The FCDC region represents the counties of Turkana, Marsabit, Isiolo, Tana River, Garissa, Lamu, Wajir and Mandera and forms the largest shared platform between counties in Kenya. The FCDC region covers 57% of Kenya's land mass and hosts 51% of the national livestock herd (95% of camels, 30% of cattle, 55% of sheep, 58% of goats, and 58% of donkeys) as shown in Table 1. These livestock resources are shared between counties as they move within the counties and across into neighbouring countries of Somalia, Ethiopia and South Sudan for pastures, water and markets.

<sup>1</sup> Kenya National Bureau of Statistics (KNBS) 2010. Kenya 2009 Population and Housing Census

<sup>2</sup> A.K. Kahi, C.B. Wasike and T.O. Rewe (2006). Beef production in the arid and semi-arid lands of Kenya Constraints and prospects for research and development. Outlook on AGRICULTURE. 35:3. pp 217–225.

<sup>3</sup> Republic of Kenya, Ministry of Devolution and Planning (2016). Ending Drought Emergencies (EDE) Common Programme Framework.

Livestock in these counties provides livelihoods for 593,717 households (123,191 in Turkana, 56,941 in Marsabit, 31,326 in Isiolo, 47,414 in Tana River, 22,184 in Lamu, 58,940 in Garissa, 88,574 in Wajir and 125,497 in

Mandera). Unfortunately, the FCDC livestock resources are characterized by low productivity due to under-nutrition, the high prevalence of diseases, relatively low genetic potential for productive traits, poor management practices and weak market infrastructure.

Livestock in these counties is regarded as a cultural heritage, providing livelihoods, food and incomes for a very large number of households. 86 % of the population in the FCDC counties live in rural area<sup>4</sup>, where livelihoods depend completely or at least in large parts directly on livestock. Even urban populations are dependent on livestock either directly as a source of food or indirectly as a source of incomes and revenue through markets. Livestock is also used to accomplish many cultural and traditional practices such as marriage, dowry and religious sacrifices. Unfortunately, livestock diseases have been the biggest hindrances to ensuring livestock productivity and health.

County	Camels	Cattle	Sheep	Goats	Donkey
National	2,971,111	17,467,774	17,129,606	27,740,153	1,813,213
Turkana	832,462	1,534,612	3,517,151	5,994,861	558,187
Marsabit	203,320	424,603	960,004	1,143,480	63,861
Isiolo	39,084	198,424	361,836	398,903	22,189
Tana River	48,882	269,894	272,852	484,220	17,590
Lamu	47	81,200	15,626	68,178	2,572
Garissa	236,423	903,678	1,224,448	2,090,613	75,178
Wajir	533,651	794,552	1,406,883	1,866,226	115,503
Mandera	930,819	1,076,978	1,632,824	3,929,747	191,664
Total	2,824,688	5,283,941	9,391,624	15,976,228	1,046,744
% of National	95%	30%	55%	58%	58%

#### TABLE 1: LIVESTOCK POPULATION DISTRIBUTION IN FCDC REGION

Source: Kenya 2009 Population and Housing Census

#### LIVESTOCK DISEASE SITUATION IN THE FCDC COUNTIES

Little is known about the burden and incidence of the many notifiable livestock diseases in the FCDC region, diseases such as Foot and Mouth Disease (FMD), Rift Valley Fever (RVF), Contagious Bovine Pleuropneumonia (CBPP), Contagious Caprine PleuroPneumonia (CCPP), Sheep and Goat Pox (SGP) and camelpox are endemic hence difficult to quantify their impact due to under reporting.<sup>5</sup> In recent years, diseases such as Peste des Petits Ruminants (PPR) and Camel Sudden Death (CSD) have emerged as important diseases across the FCDC region. The endemic status of most notifiable livestock diseases adds to the existing vulnerability of the region's population that is already burdened by frequent climatic shocks such as droughts and floods. Furthermore, it is estimated that the increasing human and livestock population and deterioration of rangeland resources will increase the interaction between humans and livestock, resulting in the emergence of zoonotic diseases. This will further be worsened by increased globalisation of livestock trade and their products that will result in the rapid geographical expansion of the diseases. Livestock diseases have serious implication for animal productivity and public safety with many of these diseases having zoonotic implications<sup>6</sup>. The frequent outbreaks of livestock diseases remains one of the key complaints by pastoralists in any public participation forum. Most County governments indicate they lack adequate control strategies, infrastructure and resources to curb the frequent outbreaks. Nevertheless, counties continue to sink

6 Zoonotic disease is any disease or infection which is naturally transmissible from animals to humans. It is estimated that 75% of

<sup>4</sup> Kenya National Bureau of Statistics (KNBS) 2010. Kenya 2009 Population and Housing Census 5

Republic of Kenya, Ministry of Agriculture, Livestock and Fisheries (2015). Draft Kenya Veterinary Policy

the pathogens that afflict human beings originated from animals

resources to control the diseases, but these efforts have not yielded significant impact due to the irregular and un-coordinated control activities that does not take into consideration the mobile nature of livestock across the FCDC region.

In addition, the lack of involvement of all key players in the livestock sector, weak information sharing and lack of integrated and coordinated guidelines for managing diseases also hampers effective livestock disease control efforts. Amidst all these challenges, inadequate laboratory capacity for diagnosis of diseases is common, coupled with limited human and financial resources. Consequently, though some successes have been achieved, the gains have not been sustained. The lack of a comprehensive national, regional (FCDC) or even county-specific strategy for prevention, control and management of livestock diseases has further exacerbated the situation. There is, therefore, need for a comprehensive and harmonized approach to tackle livestock diseases in the FCDC region.

### LIVESTOCK DISEASE CONTROL AND DEVELOPMENT IN THE ASALS OF KENYA

The Government has put in place a number of strategic policy measures in the past to improve the performance of the livestock sector, and disease control is one the measures. The current livestock services consist of the National (State) and County Veterinary Services, and Kenya has



Source: Stephen G. Mbogoh and Joseph M. Gathuma (2012): Methodological Issues and Applications in Economic Evaluation of Alternative Livestock Diseases Control Strategies: The Case of the CBPP Quarantine Line in North-Eastern Kenya. Journal of Agricultural Science and Technology A 2 (2012) 640-659



an elaborate legal and regulatory framework for management of livestock diseases in Kenya. The system is hugely focussed on the detection and response to livestock diseases, and livestock producers, market actors and other stakeholders have major roles in working to implement complementary preventive measures and manage non-reportable diseases and emerging health issues.

There are provisions and regulations existing under the Animal Diseases Act, CAP 364, 1972 (revised 1989) that provides the Director of Veterinary Services with a range of sanitary powers. A number of diseases are declared notifiable and their suspicion or confirmation has to be reported to the respective County Director of Veterinary Services and the Director of Veterinary Services who notify the public of the occurrence of the disease and the measures that need to be taken for its management. The Director of Veterinary Services must report the occurrence of a notifiable disease

to the World Organization for Animal Health and trading partners at the earliest possible time7.

The Northern Counties (including all the FCDC counties and Baringo, West Pokot and Samburu counties) are endemic for most of the diseases such as CBPP, a quarantine line (Figure 1) was put in place to help prevent the spread of diseases from the arid and semi-arid areas (ASALs) to the rest of the country. The sanitary measure indicated that all cattle passing through the CBPP cordon, whether for slaughter, fattening or breeding, had to be detained for at least twelve weeks while they underwent three CBPP tests. The CBPP quarantine line (CQL) is designed to be one of the key measures in the control of the CBPP in Kenya and entails livestock movement restrictions, thus constraining unfettered livestock marketing.

Republic of Kenya, Ministry of Agriculture, Livestock and Fisheries: Kenya Veterinary Policy; April 2015

Though not exhaustive (and sometimes routine or regular) some of the key livestock disease control strategies implemented in the FCDC counties are:

- Investigation and diagnostic services, inspection of animals and approval of premises such as farms, hatcheries, breeding centres, quarantine stations, animal markets and sale yards
- Development of legal and policy framework including the Animal Diseases Control Act, Livestock and Veterinary Policy, Veterinary Surgeons and Veterinary Para-Professional Act among others
- The existence of disease surveillance guidelines and contingency plans for some priority diseases such as RVF
- Inspection of live animals before slaughter, and carcasses after slaughter, at slaughterhouses and major markets;
- Certification of animal products;
- Approval of processing facilities and enforcement of control measures.

It must be noted that Kenya has a national surveillance system for livestock disease. However, it has not been effective due to a number of reasons, including differences in the prioritisation of diseases and approaches to disease control in the neighbouring countries, while the porous border makes it easier for these diseases to be introduced into the country.

## RATIONALE AND OBJECTIVE OF THE LIVESTOCK DISEASE CONTROL FRAMEWORK

The FCDC intents on taking advantage of the devolution process in their member counties and acting as a catalyst and trigger for sustainable development and prosperity in the FCDC region. As the FCDC counties have experienced the persistence of endemic livestock diseases, which is also a primary concern to the County Government of FCDC, there is a need for these diseases to be prioritised and pursued. The process of developing this FCDC-wide Framework represents one of the first attempts that priority livestock diseases are controlled across the FCDC counties.

While currently, eradication of livestock diseases in the FCDC counties is not economically and practically feasible, the FCDC counties should pursue options for sustained mitigation of impacts of these diseases. Consequently, the purpose of this Framework is to provide guidance and direction in the efficient and effective delivery of livestock disease control activities within the FCDC counties. In addition, the Framework will be useful in funding priorities and decision making about establishing government and Non-government supported interventions. Finally, the successful implementation of the Framework will contribute to the overall goal of improving food security, trade, public health, and livelihoods of households in the FCDC counties.

As indicated earlier, since livestock diseases are a shared burden between the FCDC counties, the counties will need to determine their disease control priorities. The Framework will then be achieved by pursuing first enhanced disease surveillance, prevention and control for the priority diseases, and secondly, facilitating collaboration between the veterinary services and stakeholders in the different FCDC counties. This will need to be based on efficient and effective veterinary services, have political support and sustainable source of funding, including government, development partners and the private sector. In addition, the implementation will need to be supported by effective legislation, an understanding of the epidemiological situation of diseases, diagnostic facilities with adequate capacity, effective traceability system, and better use of vaccination and other disease response mechanisms.

One strategy used by all developed countries to effectively deliver veterinary services is a clear division of responsibilities between the public and private sector as outlined in Box 1 below.

# Box 1: Division of responsibilities between public and private sector

## Services under public sector responsibility

- 1. Formulation of national livestock policies (creates an enabling environment for private sector).
- 2. Ensuring the health of the national herds (surveillance, compliance monitoring, quarantine, quality control of drugs and vaccines, emergency planning, reporting to international agencies and neighbouring countries).
- 3. Elaboration of regulations governing animal production, processing and marketing activities.
- 4. Regulating and accreditation of the veterinary profession, training, research, diagnostics and business practices (ethical practice of public and private veterinary professionals).
- 5. Inspections and control of livestock inputs and products for food safety purposes.
- 6. Import and export certification.

### Services under shared public and private responsibility

- 1. Disease diagnosis and reporting
- 2. Compulsory testing
- 3. Tick and Tsetse control
- 4. Food hygiene and inspection
- 5. Continuous education and training
- 6. Notifiable disease control
- 7. Disease emergency response
- 8. Research
- 9. Animal management advice and extension

## Services under the responsibility of the private sector

- 1. Clinical diagnosis and treatment
- 2. Production and distribution of drugs and vaccines
- 3. Breeding Artificial insemination and embryo transfer
- 4. Management of herd health and production programmes
- 5. Marketing of livestock products

Source: FAO-UN (1997): Principles for rational delivery of public and private veterinary services with reference to Africa.

# PILLARS OF THE COMMON PROGRAMME FRAMEWORK FOR LIVESTOCK DISEASE CONTROL

#### INTRODUCTION

The overall aim of the veterinary services in the FCDC counties is to improve the competitiveness of the livestock sector and contribute to the attainment of key priorities of the county government in food security and incomes of the local populations.

The proposed Framework for Disease Control, 2018 – 2028 is organized under nine pillars.

- 1. Pillar 1: Disease surveillance, Reporting and Laboratory Diagnosis focuses on strengthening the collection, analyses, interpretation of data and dissemination of information to relevant users;
- 2. Pillar 2: Veterinary Pharmaceuticals and Vaccines
- 3. Pillar 3: Disease Control and Treatment
- 4. Pillar 4: Veterinary Governance
- 5. Pillar 5: Veterinary Services Infrastructure
- 6. Pillar 6: Livestock Identification and Traceability System (LITS)
- 7. Pillar 7: Animal Welfare
- 8. Pillar 8: Animal Resources' Statistics, Information, and Communication
- 9. Pillar 9: Institutional Development and Knowledge Management

The implementation plan will encompass the entire FCDC counties, including livestock producers, veterinary professionals, actors within livestock and livestock products market system, NGOs, private animal health providers, researchers, and other stakeholders. Currently, the institutional mechanism for disease control will be under the respective County Directors of Veterinary Services with the involvement of these stakeholders. Within the current framework, the nominated leader of each Pillar and Component will be responsible for the planning, coordination with the relevant stakeholders, implementation and reporting on each of the Pillars and Components. As the Framework aims to create and maintain active collaboration between stakeholders and proposes the establishment of an "FCDC Livestock Disease Control Coordinating Unit" which will continue to evolve, enhance, and refocus livestock disease control programs to meet existing and impending challenges.

The Framework recognizes the opportunities for private-public partnership in delivering on the key outputs of the Framework. Furthermore, in a conducive enabling environment, there are opportunities for public-private partnerships (PPPs) in the area of disease control that offers 'win-win' benefits.<sup>8</sup> Engaging and coordinating with the private sector will, therefore, be an essential ingredient when developing a livestock disease control system.

#### PILLAR 1: DISEASE SURVEILLANCE, REPORTING AND LABORATORY DIAGNOSIS

The FAO Manual of Infectious Disease Surveillance defines surveillance as "all regular activities aimed at ascertaining the health status of a given population with the aim of early detection and control of animal diseases of importance to national economies, food security and trade." It is the continuous, systematic collection, analysis and interpretation of health-related data needed for planning, implementation and planning of programs. As it enables early detection and management of animal diseases, surveillance and diagnostics are key components of the national animal health system. Disease surveillance enables the detection of the nationally significant livestock diseases providing necessary information for disease control and reporting requirements. Kenya undertakes surveillance of the internationally important livestock diseases. However, the final users of the surveillance information will be the national

Philippe Ankers and Phil Harris, Towards Safer World: Animal Health and Biosecurity.

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director of veterinary services to enable them make appropriate well informed decisions about disease control, as the international organisations such as the World Organisation of Animal Health and the Food Agriculture Organisation (FAO) simply provide means for communicating this information between countries. Depending on their wealth endowment, different countries have different surveillance systems. Kenya has a national surveillance program targeting major notifiable diseases. However, because of the uncontrolled borders and livestock movements, and failure to institute sustained control programs, the country has become endemic for some of these diseases. Nationally, surveillance is a key competence of the Department of Veterinary Services as per the Guidance of the Veterinary Services Delivery and is a critical element of the national animal health system. However, by the end of 2013, the counties had taken charge in delivering veterinary services previously handled nationally by the Director of Veterinary Services. Among these included disease surveillance and disease control, provision of clinical services and facilitation of trade in animals and animal products. Laboratory diagnostic services remain a national function. Nevertheless, the surveillance activities within the FCDC counties is achieved through both active and passive disease surveillance activities by the county veterinary services supported by the national diagnostic services.

It must be noted that before implementing animal disease surveillance, authorities must be clear about the purpose of undertaking the same: whether it is to demonstrate freedom from disease, early detection of diseases, measuring the level of disease, and finding cases of the disease.<sup>9</sup> Because of contextual similarities and the inter-connectedness of the livestock production systems within the FCDC counties, these counties will need to put in place a well-coordinated and harmonized surveillance system. To undertake such a system, FCDC counties will need to have the required surveillance capacities, which will be determined by the priorities; but should at least be able to describe the important livestock diseases present in the region and detect the occurrence of important new, emerging or exotic diseases. This will require the commitment to make available resources required to implement disease surveillance.<sup>10</sup>

Taking into consideration that the National Epidemio – Surveillance System is made up of the passive surveillance, active surveillance and laboratory diagnostic system, we describe the current situation of these different components of surveillance system nationally and within the FCDC region and what will be required to achieve the objectives of the Framework.

# COMPONENT 1: PASSIVE AND ACTIVE DISEASE SURVEILLANCE IN FCDC COUNTIES

Surveillance has its main purpose, early detection of diseases, and the objective of the national surveillance system is to collect, analyse, interpret data and disseminate information to relevant use. Under the system, there are many different approaches to surveillance that are implemented by the veterinary services. This among others includes participatory disease surveillance, syndromic surveillance, laboratory surveillance and zero reporting. Passive surveillance involves the examination of only clinically affected animals, with no special effort being made to seek out infected or diseased animals, while active surveillance involves proactive examination of animals to actively seek out infections or disease, and targeted searching for evidence of disease in livestock populations. Therefore, any activity which is frequent, intensive and aims at establishing the presence or absence of a specific disease, could be described as "active" surveillance.

The veterinary services at both national and county level undertake regular surveillance for important livestock diseases, and the County Directors of Veterinary Services within the FCDC region submit reports to the Director of Veterinary Services. In addition, regular monitoring of diseases occurs in the slaughterhouses and slabs across these counties. However, these surveillance activities lack coordination, are not harmonized and each county acts in isolation. With common interests and a diverse range of stakeholders, it is imperative that the FCDC region adopts a coordinated regional

10 These resources will include human (veterinary services staffs and stakeholders), financial, transport and communication, and laboratory services.

<sup>9</sup> Dr Angus Cameron, 2012: Manual of Basic Animal Disease Surveillance. An African Union, International Bureau of Animal Re sources.

approach to disease surveillance. Such Regional disease surveillance will require an agreement on disease surveillance priorities, after which the FCDC counties will institute a range of activities that will provide surveillance information for diseases that have the importance of food security, trade, and/or human health. These include surveillance programs for

- Peste des petits ruminants (PPR)
- Contagious Caprine PleuroPneumonia (CCPP)
- Contagious Bovine PleuroPneumonia (CBPP)
- Sheep and Goat Pox (SGP)
- Camel Pox
- Zoonotic diseases such as brucellosis and rabies.

Based on the above needs, the Framework recognizes the need to establish the baseline situation of the important livestock diseases. Considering that the region is endemic for livestock diseases, it is important to define when the surveillance activities becomes important enough to warrant an official intervention. Furthermore, where a disease has been present at a fairly constant level of prevalence only a marked upswing in the number of cases is seen to signal a change in status from endemic to the epidemic and will require investigation. Such an upswing will need to be followed by a response.

The Framework thus identifies the following key priority areas for improving surveillance activities across the FCDC region:

- 1. Participatory disease surveillance of agreed-upon priority diseases to establish a baseline situation of these diseases in the FCDC counties;
- 2. Comprehensive, coordinated surveillance of these diseases, supporting attempts to prioritize control interventions;
- 3. Routine Regional quarterly surveillance exercise coupled with regular reporting and feedback to the stakeholders;
- 4. Strengthening surveillance activities through slaughterhouses and slabs, especially for diseases that present laboratory diagnostic difficulties such as CBPP. This will require investments in meat inspection training for the staffs and recognition of characteristic lesions and regular inspection of the slaughter facilities.
- 5. Harmonization of the existing reporting systems developed by the different partners, development of a platform for sharing surveillance information across the FCDC counties, and strengthening networks for sample collection and result sharing
- 6. Strengthening diagnostic capacity and capability to support surveillance activities
- 7. Strengthened capacity for field response to disease outbreaks and of producers and livestock sector stakeholders awareness of the surveillance activities
- 8. Designating of County Disease Surveillance and Reporting Officers across the FCDC region tasked with leading disease surveillance and reporting and sharing of disease information;
- 9. Capacity building of staff in disease outbreak investigations and monitoring and surveillance, specifically those impacting trade and animal exports; and
- 10. Strengthening and institutionalizing of the current practice of implementing rumour registers across the FCDC region and sharing of the collected information.

## COMPONENT 2: LABORATORY DIAGNOSIS OF LIVESTOCK DISEASES

Laboratory-based diagnosis and characterization supports all the core functions in livestock disease control. Surveillance depends on accurate diagnoses and outbreak management, which in turn depends on quick identification of the causative agents. Hence, it is imperative that laboratory back up is obtained for as many diagnoses as possible. It is essential in cases where the epidemic disease is suspected

for the first time in an area that samples be taken for diagnosis to confirm the disease. Where the diagnosis is uncertain, repeated follow-ups, with laboratory sampling, must be made to either confirm or exclude the disease. Where it is known that a certain disease has become endemic, confirmation of each individual focus becomes unnecessary, but 10-20% of cases must always be confirmed to ensure that the epidemiological picture has not changed and that another disease, different in epidemiology but similar in appearance, has entered.<sup>11</sup>

The National Laboratory Network provides a wide range of specialized diagnostic tests, reports and data for analysis of provincial disease trends through a passive system that relies on voluntary submissions. This information supports the veterinary services in disease control and management. The Garissa Regional Laboratory is the current existing referral laboratory in the FCDC counties, while a number of smaller laboratories in Lodwar (Turkana), Isiolo (Isiolo), and Witu (Lamu) complement. As part of the National Referral Veterinary Investigation Laboratories, the Garissa Regional Laboratory is mandated to confirm animal disease diagnosis, monitor effectiveness of vaccination programs, and quality of livestock inputs and outputs. Additionally, the counties have been submitting samples to the Central Veterinary Laboratory (Kabete – Nairobi) and the National Veterinary Quality Control Laboratory (Embakasi – Nairobi).

An effective diagnostic laboratory service is expensive, requiring buildings, a wide range of expensive equipment, and adequate number of trained staff, ongoing budget to fund laboratory consumables and reagents, and maintenance costs, all which are beyond the current funding of the veterinary services in the devolved government. Consequently, the laboratory human resources and infrastructure are insufficient in the FCDC, and lack of funding has undermined improvements in these services. The existing facilities are poorly distributed and networked, and information flow is poor throughout the system. Further, considering poor infrastructure, the transportation of specimens over long distances is difficult, meaning specimens will be in a poor state when they reach laboratories or they are not even sent.

The FCDC region's capacity to find diseases will rely heavily on the diagnostic capacity of the existing national laboratories which, in turn, is based on their resources and equipment and also in their human capital. The objective of the FCDC counties should be to have a properly resourced reference laboratory that has an adequate flow of specimen to maintain high-quality diagnostic services. The Framework, therefore, proposes that FCDC members facilitate capacity building of their laboratory diagnostic capacities concerning human, technical and physical resources. To enhance the diagnostic capacity to provide quality and timely results for decision and action within the region, the Framework prioritizes the following key actions:

- 1. Nominating and enabling a network of regional reference laboratories (Garissa to serve Northeastern counties, Isiolo to serve the Upper Eastern counties and Lodwar to serve the North-Western counties – including West Pokot and Baringo counties) to coordinate the FCDC activity and offer a regional resource.
- 2. Developing of specimen processing and basic testing facilities (sometimes referred to as satellite labs) in each county. In addition to supporting basic testing, the role of these facilities is to have minimal processing and packing equipment to allow safe and reliable transport of specimens: a centrifuge, transport media, slides, a refrigerator and freezer and packing material.
- 3. Developing the concept of the twinning of the new laboratories and specimen processing units with the Regional Garissa, Isiolo and Lodwar Laboratories to help them improve their diagnostic capacity and expertise;
- 4. A more coordinated effort to network and share laboratory information to support surveillance, prevention and control;
- 5. Recruitment and training of staffs and improving specimen transportation;

- 6. Conduct regular laboratory diagnostic services to ensure that they are adequately capacitated and capable of meeting the existing needs within the FCDC region;
- 7. The use of the limited number of Mobile Veterinary Investigation Laboratories that are manned by trained staff and can focus on serious disease outbreaks;
- 8. Improving systems for horizontal and vertical communication of laboratory results;
- 9. Provide enabling environment for private sector entry and investments in the provision of diagnostic services in the livestock sector.

## COMPONENT 3: COLLECTION, MANAGEMENT AND EFFECTIVE USE OF ANIMAL HEALTH SURVEILLANCE INFORMATION

Timely and accurate animal health surveillance information supports decision making and underpins the management of livestock diseases. The current practice is that during the surveillance activities, data on animal diseases is collected, managed and collated to meet national and international reporting requirements. Though not structured, disease information is sourced from producers, market actors, local leadership, community disease reporters (CDRs) and animal health professionals (public and private service providers). At the Ward level, the information is delivered to the Sub-county Veterinary Officers who captures the information on paper (ARIS II templates) and mobile phone applications and then submits to the DSRO and CDVS on a weekly basis. The DSRO and CDVS validate, collate and transmit the data to the National Disease Control Unit (Kabete). Following the validation and collation, the data is shared with the Veterinary Epidemiology and Economics Unit, which cleans the data and provides reports for international reporting for the DVS and as well as provide feedback to the counties.

Unfortunately, the livestock disease reporting system in the FCDC counties is sadly low profile and routine administrative procedure. Nevertheless, the veterinary services have consistently reported the disease situation and have submitted samples consistently to the Regional and Veterinary National Laboratories. There has been a multiplication of tools developed for the collection and dissemination of animal health. While there are a number of data collection tools used in the national surveillance system, including narrative monthly reporting reports, notifiable disease reporting forms, rumour registers, zero reporting for specific diseases, abattoir surveillance forms and other reporting forms, other development partners such as ILRI and VSF Suisse have supported the setting up of additional tools.

The Framework recommends a proactive and real-time that is shared regionally and nationally. Nodal Disease Surveillance and Reporting Officers need to be identified/recruited and offices established at various levels and mandated to circulate/share disease situation information to relevant stakeholders. These structures will need to be strengthened with the workforce, technical skills, office spaces, computers and communication facilities. To improve the collection, management and effective use of animal health surveillance information, the Framework recognizes the need to:

- 1. Designating of County Disease Surveillance and Reporting Officers across the FCDC region tasked with leading disease surveillance and reporting and sharing of disease information;
- 2. Build the capacity of stakeholders and frontline staffs, providing incentive systems for regular reporting, and access to infrastructure for reporting;
- 3. Awareness raising sessions and training for the improvement of skills by producers on subjects related to animal health, production and trade.
- 4. Harmonization of the existing reporting systems developed by the different partners and the development of a platform for sharing surveillance information across the FCDC counties
- 5. Institutionalizing and adoption of the existing reporting templates and forms, and e-surveillance systems across the FCDC region;

- 6. Investing in rapid and more effective communication systems, including the use of mobile technology and use of the community disease reporters (CDRs) to improve early reporting of disease events and feedback to the livestock producers; and
- 7. Improving the quality and regularity of reporting to the Director of Veterinary Services.

## LEADERSHIP AND IMPLEMENTATION APPROACH FOR PILLAR 1 ACTIVITIES

The National Director of Veterinary Services provides leadership to ensure that the Kenyan veterinary service is positioned to protect the country's livestock resources and ensure economic development. Nevertheless, as the activities under Pillar 1 are mainly devolved to the county governments, the direct implementation of these activities will fall under the respective County Directors of Veterinary Services, under whose leadership disease surveillance and reporting will be managed by the designated County Disease Surveillance and Reporting Officer. A Regional well-coordinated regular (quarterly) disease surveillance for the identified important disease supported by the Regional Laboratories will be conducted. The laboratories will submits surveillance reports directly to the CDVS for onward processing and transmission, and feedback provided to respective farmers.

The processing of the surveillance data flows from the CDRs and producers to the Sub-County Veterinary Officer who capture the information on paper (ARIS II templates) and mobile phone applications and then submits to the DSRO and CDVS on a weekly basis. The data is validated by the DSRO and CDVS, collated and transmitted to the Disease Control Unit (Kabete). Following the validation and collation, the data is shared with the Veterinary Epidemiology and Economics Unit, which cleans the data and provides reports for international reporting for the DVS and feedback to the counties. Table 2 provides a summary of the activities to be implemented under Pillar 1 that is expected to result in the strengthening of disease surveillance and reporting across the FCDC counties.



#### TABLE 2: SUMMARY OF DISEASE SURVEILLANCE, REPORTING AND DIAGNOSTIC SERVICES FRAMEWORK

# **OVERALL OUTCOME:** Disease surveillance, Reporting and Laboratory Diagnosis in FCDC counties strengthened

**COMPONENT 1:** Strengthen the detection and management (prevention and control) of nationally notifiable diseases within the FCDC counties. **COMPONENT 2:** Strengthen collection, management, use and reporting of disease surveillance information nationally and within the FCDC region.

**COMPONENT 3:** Strengthen prompt laboratory disease diagnosis, and quality control of acaricides, vaccines, drugs, livestock, food and feeds.

#### Main Objective: to collect, analyse, interpret data and disseminate information to relevant users.

**RESULTS:** Improved use of passive and active disease surveillance complemented by effective diagnostic services to monitor and detect livestock diseases, including mandatory reporting within the FCDC counties

# Maintain and enhance passive disease surveillance activities through:

- Awareness creation of key stakeholders on disease surveillance, i.e., livestock keepers, butchers, CDRs, Animal Health service providers, market actors
- 2. Upscaling of the e-surveillance system across the region
- Institutionalize practice of keeping rumour registers across all sub-counties.
- Designating of Disease Surveillance & Reporting Officer and their recruitment across all FCDC counties
- 5. Structure passive disease surveillance.
- 3 tier training of pastoralists, CDRs & Frontline officers on syndromic disease surveillance.
- Establish Information sharing platform on passive disease surveillance for FCDC counties.

# Maintain an enhanced active disease surveillance activities through:

- Conducting of County-wide (across the FCDC counties) Participatory Disease Surveillance for priority diseases across all FCDC counties
- Quarterly routine active surveillance for 7 priority diseases across the region (PPR, CCPP, CBPP, SGP, camelpox, Rabies and Brucellosis). Embedded in the County plans & budget
- Training, equipping and facilitation of staff on active disease surveillance

# Enhanced livestock disease reporting through;

- Expanding disease reporting network to include agro- vets/ other private animal health service providers, meat inspectors, livestock market actors, KWS
- 2. Harmonizing and adoption of existing disease reporting tools/templates
- 3. Restructuring existing disease reporting systems
- Designating County Disease Reporting Officers (CSRO)

   to provide feedback & reports to stakeholders
- Establish a platform for sharing reports within counties (between FCDC CDVSs).
- Training, incentive systems and infrastructure for stafffacilitation (travel, airtime), equipment (mobile phone) and tools (templates, forms)
- Develop/enhance and test the different mobile and e-surveillance applications for reporting disease signs and syndromes

# Enhanced county veterinary laboratory services through:

- 1. Recruitment of laboratory staff.
- 2. Enhance the diagnostic capacity of existing county labs (Garissa Reference Laboratory for FCDC counties)
- Establishment 3 referral labs in Garissa, Lodwar and Isiolo & county laboratories across all other FCDC counties (Laboratory audit to define how minimum requirements)
- 4. Active participation by FCDC counties in the enactment and adoption of Veterinary laboratory policy.
- 5. Capacity building of technical officers on sample collection, transport and packaging.
- 6. Pilot mobile laboratory service delivery model (for rapid tests).
- Establish minimum standards and develop guidelines, mandates and obligations for the satellite and county laboratories that will be constructed.
- 8. Undertake marketing of the veterinary laboratory services to inform potential laboratory users better.

#### **IMPLEMENTATION ARRANGEMENTS**

The veterinary services discharge its disease control mandate through an administrative structure with a clear chain of command, from the Director of Veterinary Services (who provides leadership to ensure that the Kenyan veterinary service is positioned to protect the country's livestock resources and ensure economic development) through a hierarchy of veterinary services at county, sub-county and village level. Nevertheless, as the activities under Pillar 1 are mainly devolved to the county governments, the direct implementation of these activities will fall under the respective County Directors of Veterinary Services, under whose leadership disease surveillance and reporting will be managed by the designated County Disease Surveillance and Reporting Officer. An FCDC – wide coordinated regular disease surveillance for the identified important diseases will be conducted.

The processing of the surveillance data flows from the CDRs and producers to the Sub-County Veterinary Officer who capture the information on paper (ARIS II) templates and mobile phone applications and then submits to the DSRO and CDVS on a weekly basis. The data is validated by the DSRO and CDVS, collated and transmitted to the National Disease Control Unit (Kabete). Following the validation and collation, the data is shared with the Veterinary Epidemiology and Economics Unit, which cleans the data and provides reports for international reporting for the DVS and feedback to the counties.

### **FINANCING MECHANISMS**

Funding is critical to any effort at conducting the recommended FCDC – wide disease surveillance. The respective county government need to allocate additional resources to the responsible Ministry and County Service Units to finance the Framework activities. Additionally, as some of the activities under the Pillar are shared responsibilities, potential funding should also be sought nationally from the national surveillance programs. Since surveillance will need to be coordinated and harmonized across the FCDC region, there will be need to pursue joint funding of activities in order to be more effective and have better use of the existing human and financial resources. The Sector Forum for Agriculture and Livestock in collaboration with the FCDC Livestock Disease Control Coordinating Unit should play the coordinating role in such joint initiatives. The respective County Executive Committee member responsible for livestock oversee the budgeting for the joint activities and will review and agree on a proposal submitted for joint surveillance activities. Finally, there will be need to harmonize and coordinate the activities of development partners and NGOs in livestock development for more efficient resourcing of the surveillance activities, while pursuing innovative producer payment system such as introducing levy payable by the livestock producers.

TOTAL BUDGET:									
	KSHS. 1000 MILLION								
Kshs. 300m	Kshs. 200m	Kshs. 500m							

#### PILLAR 2: VETERINARY PHARMACEUTICALS AND VACCINES

Animal health products including veterinary pharmaceuticals, biologicals, and feed additives are tools used by veterinarians and livestock producers to keep animals healthy. A broad range of categories, including anti-parasitic drugs, anti-inflammatory medications, anesthetics, pain medications, antibiotics, and specialized products for managing reproductive, cardiovascular, or metabolic conditions are used by a veterinarian to treat or prevent diseases or infections. These products need to be effective and safe for both humans and the animal it is administered to. Notwithstanding the positive aspects of veterinary pharmaceuticals, such products, if not used appropriately and prudently in livestock, have the potential to give rise to public health risks.

#### **COMPONENT 1: VETERINARY PHARMACEUTICALS AND OTHER INPUTS**

Veterinary medicines constitute an important input in the scheme of animal health and welfare. As there is a direct correlation between quality of livestock production and animal health inputs and services, access to these products is essential for preventing losses in production that would otherwise jeopardize the financial viability of the farming enterprises. Furthermore, inputs are essential tools in the production of safe, quality products, and are vital for the protection of animal health and wellbeing. Hence providing quality and sustainable animal health inputs to communities is key to reducing losses and human health risks associated with animal diseases.

The supply of animal health inputs which involves production, quality control, marketing and distribution of the products and eventual use at the farm level was among the increasing number of functions (in addition to the provision of clinical services, and artificial insemination) that have been transferred to the private sector. Whereas in other parts of the country there have been a number of providers who have established themselves privately, the service provision in FCDC region has stagnated or deteriorated because the private sector was not yet vibrant – availability of professionals and infrastructure, seasonality of demand, livestock densities and economies of scale contributed to market failures in private sector development. Unfortunately, as the pastoral production is a low input system, the volumes of demand created are not adequate to sustain a private veterinary practice.

Northern Kenya though hosting over 60% of the national herd has lagged behind in the penetration of animal health products and services. Unsatisfactory and inadequate access to animal health products remains a key limitation that impacts on the productivity of livestock in the North. A difficult market condition resulting from lack of understanding and information of Northern markets by market actors, poor infrastructure leading to high transaction costs, and inadequacy of market support services has limited the penetration of inputs and services in Northern Kenya.<sup>12</sup> Consequently, one of the most frequently – and passionately – mentioned challenges that pastoralists face is the lack of access to livestock health inputs. Until recently animal health inputs were delivered by the government at highly subsidized rates. However, more recently, the sector has seen the entry of a number of the private service provider. Figure 2 provides a schematic outline of the current public and private sector distribution channels of animal health inputs.

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Mohamed M Yussuf, Animal Health Market in Northern Kenya: Mapping Animal Health Products, a report for the Kenya Markets Trust.



FIGURE 2: PRIVATE AND PUBLIC DISTRIBUTION CHAIN FOR ANIMAL HEALTH INPUTS<sup>13</sup>

Previous studies on livestock inputs in Northern Kenya<sup>14</sup> have identified the following major actors and distribution channels for animal health inputs:

- Formal distribution networks: mainly involved inputs manufacturers/distributors, and wholesalers in Nairobi who sold the products directly or through sales representatives to pharmacies and agrovets in Northern Kenya. The main suppliers included Medina Chemicals Limited, Dawa Limited, SIDAI Africa Limited, VetAgro, City Point, Nairobi Veterinary Centre, among others. Sometimes the agrovets sent their orders directly to suppliers, paid them through mobile money transfer (MPESA), and had their consignment sent as cargo by buses or trucks headed to the North. The agrovets then supplied a network of CAHWs and rural shops at the main rural settlements (permanent watering points).
- 2. Informal distribution networks: some traders from Northern Kenya who specialized in veterinary products procured these products alongside foodstuffs and many other commodities from networks in Eastleigh. Also, few private animal health service providers have direct links to drug distributors in Nairobi. They act as wholesalers selling through intermediary of traders until the product reaches the pastoralist.
- 3. Cross-border channels: In addition to sourcing from suppliers in Nairobi counterfeit drugs are smuggled into the Northern counties from the neighbouring countries: Somalia, Ethiopia, and Uganda. These products are distributed to rural shops and sold off to pastoralists at lower prices compared to better quality products from Nairobi. It must be noted that sometimes better quality veterinary drugs from Kenya are also exported informally to Somalia and Ethiopia across the porous borders.

The primary challenge with veterinary pharmaceuticals is not only the supply and availability issues but also the threat posed by misuse and/or residues, which are recognized public health risk. Genuine, counterfeit and fake veterinary products are traded informally and/or illegally.

14 Mohamed M Yussuf, Animal Health Market in Northern Kenya: Mapping Animal Health Products, a report for the Kenya Markets Trust.

<sup>13</sup> REGAL – IR (2014) Time to Change: The impact of recent livestock emergency interventions on the future of sustainable service delivery in Northern Kenya. Report prepared by Wellspring Development Ltd with field research by Dr. Hussein Mahmoud and Dr. Mohamed Yussuf

A recent study by the Kenya Veterinary Association has shown that 61% of dewormers and 33% of antibiotics respectively are substandard and/or counterfeit.<sup>15</sup>

To address the above challenges, the Framework recognizes the need to address the systemic constraints within the input service provision. Some of the following key activities were identified as being important in that direction:

- 1. Recognize and enable the private practitioners contributions to developing and improving efficient veterinary services;
- 2. Addressing the disincentives to private sector entry into input distribution, such as misuse of subsidies;
- 3. Mapping of all veterinary inputs outlets across all the FCDC counties;
- 4. Investing in public infrastructure and other business enabling an environment that would reduce the transaction costs and attract investment in the region and livestock sector;
- Addressing disincentives to private sector inputs/service provision such as the provision of animal health inputs by government and NGOs, and rampant availability and sale of counterfeit products in the market that makes private provision sufficiently unprofitable as they reduce the volume of remaining demand for inputs;
- 6. Facilitating the development of innovative business models that utilizes the existing infrastructure and capacities while leveraging on the use of technology;
- 7. Strengthening extension and awareness of the use and risks of inputs among livestock producers and stakeholders;
- 8. Strengthening the County Directors of Veterinary Services to carry out the delegated responsibility of ensuring compliance of veterinary pharmaceutical products;
- 9. Enhance inspectorate & regulatory services for veterinary inputs through domestication of inspectorate services at county levels (using appropriate county legislation); and
- 10. Research and development on Drug residues in livestock products, i.e., meat and milk. Enhance sample collection for testing drug residues in livestock products

## COMPONENT 2: VETERINARY VACCINES

Good-quality vaccines are essential for the maintenance of animal health, and an important means to control diseases. Vaccines are efficient means to prevent the transmission and the spread of contagious diseases for animals to people and animal to animal. Furthermore, vaccines are recognized as key and comparatively cheap tools for healthy livestock. Also, the use of vaccines makes it possible to introduce new technologies for intensive or semi-intensive production, to protect the environment, to care for animal welfare and to guarantee the safety of animal-derived foodstuffs.<sup>16</sup>

In Kenya, vaccines are mainly supplied by the State-owned Kenya Veterinary Vaccines Production Institutes (KEVEVAPI) and private companies. The Government generally provides highly subsidized vaccines for the control of the most important diseases such as transboundary animal diseases (TADs). Hence, for livestock producers, vaccines are mainly available through the public sector, which has an elaborate system of distribution through the State Department of Veterinary Services (SDVS) in the Ministry of Agriculture, Livestock and Fisheries Development (MoALFD). Additionally, some private service providers such as Sidai Ltd are involved in the distribution of vaccines. However, considering logistical and resource challenges for the public veterinary services, few vaccines reach the livestock producers in the FCDC counties. The main vaccines available through the SDVS are those against notifiable diseases such as PPR, CCPP, CBPP, SGP, LSD and FMD.

15 16

The Kenya Veterinary Association and Business Advisory Fund Report, 2009

Miguens, L. The opinion of the production sector on the role of vaccines in the control and eradication of livestock diseases in Argentina. Rev Sci Tech. 2007 Aug; 26(2):479-83, 485-8.

There are a number of challenges hindering access to vaccines, including constraints in vaccine production capacities for some vaccines supplied by KEVEVAPI, especially during a crisis, producers' reluctance to pay for and depend on public services for vaccinations, lack of cold chain facilities in rural areas where there is demand for vaccines due to lack of power, technical requirements in vaccine handling and delivery, and policy issues related to handling of vaccines. The demand for vaccines has been lower than other inputs as the pastoral production practiced is generally a low – input system which emphasis on treatment of diseases after they impact rather than preventive services. To address these challenges, the Framework recognizes the need for a better network of veterinarians, technicians and distributors, close to the livestock producer to improve the access and uptake of vaccines. Some key areas of interventions recommended include the:

- 1. Establishment of a regional vaccine bank to ensure rapid supply of emergency stocks of vaccines in cases of outbreaks;
- 2. Strengthening cold chain systems for vaccines, including the use of solar technologies for vaccine storage in outlying areas, and training of the public and private service providers in cold chain system maintenance;
- 3. Pursuing and strengthening public-private partnership models in the delivery and supply of vaccines;
- 4. Conducting proactive campaigns and awareness on the benefits of vaccine use and uptake, and of preventive services;
- 5. Support legislation and policies at the regional level that are conducive to improve uptake and vaccination coverage to stimulate public and private investment in vaccine development; and
- 6. Investments in innovation and vaccine research for new vaccine solutions, including the development of new vaccines (e.g., a single vaccine to control multiple diseases to reduce delivery costs) and thermostable vaccines (reduce cold chain costs).

## LEADERSHIP AND IMPLEMENTATION APPROACH FOR PILLAR 2 ACTIVITIES

Enhancing of access and utilization of veterinary inputs involves a large number of activities carried out by public and private sector actors, including national and county government, livestock producers, animal health professionals, NGOs and industry actors. The Director of Veterinary Services provides guidance on the use of vaccines in livestock disease control and prevention, while regulation of veterinary pharmaceuticals falls under the Veterinary Medicines Directorate under the Director of Veterinary Services.

The livestock producers have a pivotal role in livestock health management, creating effective demand for these inputs, whether supplied by private or public sector, and whether at a fee or provided free. The private sector delivers on the key opportunities within the privatized animal health services to ensure that there are no gaps in service delivery. Towards this end, the Ministry will address the legislative and enabling environment for private services, while ensuring the quality of services and products available to the livestock producers. Further, development partners and NGOs activities will need to be regulated to ensure they do not create a disincentive for private sector actors. Table 3 provides a summary of the activities to be implemented under Pillar 2 that are expected to result in the improved access and utilization of veterinary pharmaceuticals and vaccines in the FCDC region.

#### TABLE 3: VETERINARY PHARMACEUTICALS AND VACCINES FRAMEWORK

OVERALL OUTCOME: Quality Pharmaceuticals drugs and vaccines are available in the right quantities throughout the year						
<b>COMPONENT 1</b> : Veterinary Pharmaceuticals			COMPONENT 2: Veterinary Vaccines			
	RESULT	S				
Enl pha	hanced access and utilization of veterinary armaceuticals through	Enhanced access to veterinary vaccines through				
1.	Recognize and enable the private practitioners contributions to developing and improving efficient veterinary services;	1.	Establishment of a regional vaccine bank to ensure rapid supply of emergency stocks of vaccines in cases of outbreaks;			
2.	Addressing the disincentives to private sector entry into input distribution, such as misuse of subsidies;	2.	Strengthening cold chain systems for			
3.	Mapping of all veterinary inputs outlets across all the FCDC counties;		technologies for vaccine storage in outlying areas, and training of the public and private			
4.	Investing in public infrastructure and other business enabling environment that would reduce the transaction costs and attract investment in the region and livestock sector:	3.	service providers in cold chain system maintenance; Pursuing and strengthening public-private			
5.	Addressing disincentives to private sector inputs/ service provision such as the provision of animal health inputs by government and NGOs, and rampant availability and sale of counterfeit products in the market that makes private provision sufficiently unprofitable as they reduce the volume of remaining demand for inputs;	4. 5.	partnership models in the delivery and supply of vaccines; Conducting proactive campaigns and awareness on the benefits of vaccine use and uptake, and of preventive services; Support legislation and policies at the regional level that are conducive for			
6.	Facilitating the development of innovative business models that utilizes the existing infrastructure and capacities while leveraging on the use of technology;		improving the uptake and vaccination coverage to stimulate public and private investment in vaccine development; and			
7.	Strengthening extension and awareness of the use and risks of inputs among livestock producers and stakeholders;	6.	Investments in innovation and vaccine research for new vaccine solutions, including the development of new vaccines (e.g., a single vaccine to control multiple diseases			
8.	Strengthening the County Directors of Veterinary Services to carry out the delegated responsibility of ensuring compliance of veterinary pharmaceutical products;		to reduce delivery costs) and thermostable vaccines (reduce cold chain costs).			
9.	Enhance inspectorate & regulatory services for veterinary inputs through domestication of inspectorate services at county levels (using appropriate county legislation); and					
10.	Research and development on Drug residues in livestock products, i.e., meat and milk. Enhance sample collection for testing drug residues in livestock products					

#### **IMPLEMENTATION ARRANGEMENTS**

Enhancing of access and utilization of veterinary inputs involves a large number of activities carried out by public and private sector actors, including national and county government, livestock producers, animal health professionals, NGOs and industry actors. The Director of Veterinary Services provides guidance on the use of vaccines in livestock disease control and prevention, while regulation of veterinary pharmaceuticals falls under the Veterinary Medicines Directorate under the Director of Veterinary Services. The livestock producers have a pivotal role in livestock health management, creating effective demand for these inputs, whether supplied by private or public sector, and whether at a fee or provided free. The private sector delivers on the key opportunities within the privatized animal health services to ensure that there are no gaps in service delivery. Towards this end, the Ministry will address the legislative and enabling environment for private services, while ensuring the quality of services and products available to the livestock producers. Further, development partners and NGOs activities will need to regulated to ensure they do not create a disincentive for private sector actors.

#### FINANCING MECHANISMS

Animal health extension and public services will be financed by the respective counties, while livestock producers will pay for private goods and services. As for the regulatory functions such the regulation of veterinary pharmaceuticals and vaccines, the allocation of resources for the functions delegated to the CDVS and County Service Structure will need to be overseen by the Director of Veterinary Services and State Institutions (such as the Veterinary Medicines Directorate). Other functions such as the production and distribution of vaccines and pharmaceuticals will be managed at the national level, as these are national functions and most actors are located in Nairobi. Nevertheless, counties will need to allocate resources for technical capacities, human resources, and logistics for adequate extension and service delivery at county and sub-county levels.

#### TOTAL BUDGET:

KSHS. 500 MILLION

Kshs. 200 m

Kshs. 300 m

#### PILLAR 3: DISEASE CONTROL AND TREATMENT

Livestock disease control has not been very effective. A more coordinated, strategic approach is becoming increasingly more important for a number of reasons. First, agriculture is a devolved function and counties are increasingly under pressure to safeguard their livestock herds, as diseases present an ever-changing risk to their economy and food security, especially considering the rate of livestock movement across borders for markets, water and pasture.

As outlined in the Draft Veterinary Policy 2015, the detection and reporting of animal diseases is the responsibility of all animal value chain actors. However, the Directorate of Veterinary Services has the mandate of confirmatory disease diagnosis, notification, and management. The Animal Disease Control Act, has declared Foot and Mouth Disease (FMD), Contagious Bovine Pleuro-Pneumonia (CBPP), Peste des Petits Ruminants (PPR), Rift Valley Fever (RVF), Brucellosis, Sheep and Goat pox (SGP), Lumpy Skin Disease (LSD), Contagious Caprine Pleuro-Pneumonia (CCPP), Camelpox and Trypanosomiasis as notifiable diseases.

To control these diseases, a number of disease control mechanisms are instituted. These mechanisms are outlined in more detail under each component below:

#### **COMPONENT 1: REGULAR AND HARMONIZED VACCINATION WITHIN FCDC COUNTIES**

Vaccination is a useful tool for control of a number of livestock diseases, if effective and well-coordinated, and when it is part of an integrated disease control strategy.<sup>17</sup> The current spot vaccinations are not covering the populations well and there is a need to undertake a more comprehensive and coordinated vaccination targeting over 80% of the livestock population. Further, based on lessons learnt in rinderpest control and eradication<sup>18</sup>, vaccination should be designed around an understanding of the epidemiology of the pathogen involved and it is more likely to achieve the desired objectives when it is applied intensively. The vaccination should also include serological monitoring of vaccine effectiveness and animals must be marked for traceability.

A decisive emphasis on timely and FCDC – wide synchronized vaccination is a basic concept which is proposed in this Framework. The long-term benefits of these approaches are high, as three to five years of decisive and well-timed vaccination will bring down the incidence of diseases in these counties. The current practice of non-routine limited areas vaccination has no impact on diseases occurrence. The significant limitation of vaccine availability, resources, workforce and administrative/ political willingness to undertake regular and harmonized vaccination across FCDC counties makes it prudent to identify and target priority diseases with high impacts. Of particular importance, the following diseases were identified: **PPR, CCPP, CBPP, SGP, Camelpox, Rabies and Brucellosis.** 

The Framework also recognizes the opportunity of using vaccination in a gradual, phased approach aimed at gradually reducing the burden of infection until eradication becomes the eventual outcome. To this end some of the key priority activities will be:

- Regular and harmonized annual vaccination policy across the FCDC region targeting economically important diseases, including PPR, SGP, CCPP, CBPP at appropriate seasons for 3 – 5 years with a minimum coverage of 80% to achieve a 90% herd immunity;
- 2. Strengthening the availability of resources and the epidemiological capacity of the county veterinary services is a major prerequisite for undertaking the recommended regular and harmonized annual vaccinations;
- 3. Undertaking of high impact vaccination and other disease control interventions to reduce livestock diseases;

<sup>17</sup> World Organization for Animal Health (OIE), 2014: Guidelines for Animal Disease Control

<sup>18</sup> Roeder P.L and Tayolr W.P (2007): Mass vaccination and herd immunity: cattle and buffalo. Rev. sci. tech. Off. int. Epiz., 2007, 26 (1), 253-2

- 4. The regular and high impact vaccination should be supported by regular sero-surveillance to determine the effectiveness of the vaccination exercises;
- 5. The undertaking of strategic management of zoonotic diseases such as brucellosis and rabies, and epidemics such as rift valley fever;
- 6. Strengthened collaboration with neighbouring countries and regional and international organizations for the control and eradication of TADS, zoonosis and other important diseases learning from rinderpest experience;
- Addressing the supply chain constraints in access to vaccines through the establishment of a single FCDC-wide vaccination depot or partnering with private input providers to keep strategic vaccines reserves;
- 8. Meeting the cold chain requirements of the counties and investing in alternative technologies such as solar systems for cold chain maintenance; and
- 9. Investments in FCDC wide coordination mechanisms to harmonize the disease control activities within the region.

## COMPONENT 2: VECTOR CONTROL

Tsetse and tick are among the most important constraint to rural development, as they are vectors of diseases such as trypanosomiasis and tick-borne diseases. For example, In Kenya, the total tsetseinfested area is about 138,000 Km<sup>2</sup>, which translates to 38 out of 47 counties. Eleven million people in endemic areas are at risk of sleeping sickness infection. In animals, trypanosomiasis causes abortions, loss of milk, loss of draught power and therefore threatens livelihoods.<sup>19</sup> Consequently, the African Head of States and Government in Summit in Lome in 2000 adopted a decision that culminated in the establishment of Pan – African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC), whose mandate was to initiate, organize, support and coordinate the campaign for progressive creation of tsetse and trypanosomiasis free areas and to mobilize the requisite human, financial and material resources to achieve the objectives. Kenya is one of the signatories to the decision, it has developed a national policy for tsetse control, and is making investments in tsetse-free areas. It has also established a research institute, The Kenya Trypanosomiasis Research Institute (KETRI).

Currently, there is a state corporation in Kenya, the Kenya Tsetse and Trypanosomiasis Eradication Council (KENTTEC) that is a successor to PATTEC and whose mandate is to coordinate eradication of tsetse in the country, set standards and mitigate the socio-economic constraints brought by tse tse fly and tick infestation and assume the role previously undertaken by PATTEC. The control methods used includes parasite control (use of trypanocidal), vector control (aerial spraying, ground spraying, traps and insecticide-impregnated targets, insecticide-treated cattle and the Sterile Insect Technique - SIT), use of targets and traps, insecticide-treated livestock, sterile insect technique (SIT), and use of trypano-tolerant livestock such as the Orma Boran breed.

In the FCDC region, KENTTEC is present in Lamu and vector control activities are undertaken by the respective CDVS under the leadership of the national Director of Veterinary Services who supplies the synthetic pyrethroids used across the region. However, despite the implementation of vector control activities, tsetse and tick remain a challenge in FCDC region. The incidence of tsetse and other vector-borne diseases has been escalating and past control approaches have been unsustainable. To address the challenge, the Framework recommends the following key activities to enhance vector control in the FCDC region:

- 1. Enhance community publicity and awareness creation on the importance of vector control.
- 2. Enhance veterinary extension on the usage of insecticides/pesticides
- 3. Develop and maintain vector control infrastructure.
- 4. Harmonize routine vector control efforts across the FCDC counties.

- 5. Review and domesticate policy on judicious use of acaricides (SFAL develops a prototype policy for all FCDC counties.)
- 6. Encourage private sector/or public to manage vector control infrastructure (public-private partnership).
- 7. Monitoring of acaricides efficacy alongside disease control activities.
- 8. Recruit additional technical staff (including zoologists)

#### **COMPONENT 3: ANIMAL HEALTH EXTENSION AND CLINICAL SERVICES**

Traditionally, animal health extension and clinical services in Kenya were provided by the government staffs employed within the public sector. However, Kenya liberalized its agricultural input and output markets in the early 1990s following the introduction of reforms in the sector<sup>20</sup> (funded by World Bank and other agencies) and the private sector has made significant inroads in marketing animal health inputs, seed, fertilizers, and crop protection products. Unfortunately, whereas in other parts of the country there have been a number of providers who have established themselves privately, the service provision in Northern Kenya has stagnated or deteriorated because the private sector was not yet vibrant – availability of professionals and infrastructure, seasonality of demand, livestock densities and economies of scale contributed to market failures in private sector development.

Even for the few existing service providers, the attributes commonly found in pastoral environments in the FCDC region such as low population densities and insecurity, mean that traditional extension models (which are a town based without mobility and poorly motivated with a negative attitude towards pastoralists) are inappropriate for use in a pastoral environment. Consequently, Due to a limitation in access, quality and frequency of interaction with government extension services, the major source of information for pastoralists remain local (neighbours, friends, markets, CAHWs and NGOs). In response to this challenge, development organizations trained Community Animal Health Workers. However, the system remains ineffective because of lack of incentives for CAHWs and skills limitation. CAHWs were proposed as a means to extend basic services to remote areas, improve animal health extension, enable community involvement in service design and develop better disease reporting systems.

To improve the efficiency and coverage of the animal health extension and clinical services, the Framework recognizes opportunities provided by emerging technologies and tools to reach larger populations in remote areas. Some of the key activities and interventions recommended have included:

- 1. The use of community-based radios and FM stations, which have been set up recently by NGOs, the private sector and county governments;
- The use of mobile technology for extension service delivery mode mobile service providers in Kenya have developed some SMS platforms for dissemination of extension and livestock market information;
- 3. Revitalizing of the Agricultural and Pastoral Training Centre to develop extension (locally adaptable) and train extension agents;
- 4. Recognize and enable the private practitioners' contributions to developing and improving efficient animal health extension and clinical services; and
- 5. Increasing the numbers and capacities of public extension services providers.

#### COMPONENT 4: LIVESTOCK MOVEMENT CONTROL

Majority of the livestock within the FCDC counties are kept under pastoral production system; animals move between the counties and across the international borders for water, pastures and markets.

<sup>20</sup> Most developing countries were dependent on development partners for financing of recurrent costs and capital projects in animal health.Following the introduction of Structural Adjustment Programs, a market liberalization program that advocated the privatization of services that the private sector had competitive advantage there was decline of quality of services.

Unfortunately, livestock diseases are spread through the movement of animals and animal products. The management of risk for disease spread via these movements is therefore essential for goals of disease reduction and eradication to be achieved.

The current status of compliance and enforcement of livestock movement, quarantines and border control does not meet the legislative requirements adequately. The Framework recommends the progressive implementation of more effective and holistic compliance with these functions, coupled with the better engagement of stakeholders and instituting of comprehensive outbreak management system. There would be the need to strengthen disease surveillance along migratory routes and cross-border trade entry points. As the current Department's workforce is not adequate to monitors migratory routes and border points, there will be need to strengthen the workforce in addition to instituting priority activities for managing livestock movement including:

- 1. Strengthening of TADs control along international borders by posting animal health personnel at strategic entry points and equipping them with TADs testing capability.
- 2. Designating migratory routes and border inspection points and procedures, and instituting veterinary measures: veterinary checks including laboratory testing;
- 3. Instituting biosecurity measures at border control points and response plan in case of identification of new cases and outbreaks;
- 4. Upgrading and improving the quarantine systems to ensure that it meets the international standards;
- 5. Protect, secure and establish livestock movement and handling facilities along border and stock routes, including holding grounds and crushes

### LEADERSHIP AND IMPLEMENTATION APPROACH FOR PILLAR 3 ACTIVITIES

The different components of the Pillar are coordinated by different institutions and organization, though all are implemented by the respective County Directors of Veterinary Services. For example, disease control activities though implemented by the CDVS are under the leadership of national DVS, all the activities related to tsetse and trypanosomiasis eradication are under the KENTTEC, animal health extension and clinical services in both public and private sector functions, while livestock movement control/quarantines (including border control) are both county and national functions under the leadership of the DVS.

The livestock producers, the private sector and other stakeholders have a critical role in financing and implementing disease control activities. For example, opportunities for vaccination, vector control and provision of extension and clinical services through the private sector exists. However, all these activities will need to be coordinated by the CDVS within each county and by the FCDC Livestock Disease Control Coordinating Unit if harmonized approaches are to be undertaken. Table 4 provides a summary of the activities to be implemented under Pillar 3 that are expected to result in the strengthened livestock disease control in the FCDC region.

## TABLE 4: SUMMARY OF DISEASE CONTROL AND TREATMENT FRAMEWORK

OVERALL OUTCOME: The disease risks to FCDC counties animal resources are prevented, reduced and/or managed							
COMPONENT 1: Disease control		COMPONENT 2: Vector control		<b>COMPONENT</b> <b>3:</b> Animal health extension & Clinical services		<b>COMPONENT 4:</b> Livestock movement control/quarantine (includes border control)	
			RESULTS				
1.	Carry out prioritization of diseases to vaccinate across FCDC counties (i.e. PPR, CCPP, CBPP, SGP & Camel Pox). Do strategic vaccination against specific county	1.	Enhance community publicity and awareness creation on the importance of vector control. Enhance veterinary extension on the	1.	Promote public- private partnership in clinical services & extension provision. Recruit more extension officers	1.	Establish livestock movement border control points (inter-county, across counties and cross- border).
3.	Do strategic management of zoonotic & epidemics for three priority Zoonotic diseases (i.e., RVF, Rabies & Brucellosis)	3. 4.	pesticides Develop and maintain vector control infrastructure. Harmonize routine	3.	Develop prototype policies/bills on clinical & extension services Promote innovative	2.	Establish livestock movement control infrastructure, i.e., livestock
4.	Conduct pre-and post- vaccination sero-surveillance		vector control efforts across the FCDC		extension methodologies &	3.	holding grounds. Harmonize
5.	Conduct routine and synchronized vaccinations across FCDC counties for five priority diseases (Vaccination calendar) Centralized vaccines depot for ECDC counties	5.	counties. Review and domesticate policy on judicious use of acaricides usage of (SFAL develops a prototype policy for all		tools-PFS/FFS, radio, mobile	4.	livestock movement permits across FCDC counties- consultation on finance bills. Protect and
7.	Establish three centralized cold chain facilities (vaccines depots) at the county reference laboratories in Garissa, Turkana & Isiolo and cold rooms at county headquarters-freezers, ridges (Use of renewable energy, i.e., solar, wind power) for the FCDC counties.	6.	Encourage private sector/or public to manage vector control infrastructure (public-private partnership). Monitoring of acaricides efficacy alongside disease			5.	secure existing livestock movement control infrastructure. Creation of more holding grounds.
8.	Strengthen coordination structures for disease control within and between FCDC.	8.	control activities. Recruit additional technical staff				
9.	Domesticate regulatory measures/legislation for disease control across FCDC counties.		(including zoologists)				
10.	Enhance Integrated pest management-Set up and maintain incinerators in all FCDC counties for waste disposal						
### **IMPLEMENTATION ARRANGEMENTS:**

The different components of the Pillar are coordinated by different institutions and organization, though all are implemented by the respective County Directors of Veterinary Services. For example, disease control activities though implemented by the CDVS are under the leadership of national DVS, all the activities related to tsetse and trypanosomiasis eradication are under the KENTTEC, animal health extension and clinical services in both public and private sector functions, while livestock movement control/quarantines (including border control) are both county and national functions under the leadership of the DVS. Nevertheless, the livestock producers, the private sector and other stakeholders have a critical role in financing and implementing disease control activities. For example, opportunities for vaccination, vector control and provision of extension and clinical services through the private sector exists. However, all these activities will need to be coordinated by the CDVS within each county and by the FCDC Livestock Disease Coordinating Unit when harmonized approaches are to be undertaken.

#### **FINANCING MECHANISMS**

Disease control is a function of both national and county government considering the impacts of diseases on national food security, food safety and health of the population. Hence resources will need to be allocated by both the national and county government. However, considering that some of the impacts may be localized to the FCDC region and that agriculture is a devolved function, specific county government will need to take leadership. The specific CDVs will do direct activity implementation and as the activities will need to be coordinated and harmonized across the FCDC region, there will be need to pursue joint funding of activities to be more effective and have better use of the existing human and financial resources. The Sector Forum for Agriculture and Livestock in collaboration with the FCDC Livestock Disease Control Coordinating Unit should play the coordinating role in such joint initiatives. Vector control activities, through coordinated by KENTTEC and some activities funded by them, resources have mainly been from the Director of Veterinary Services and Development Partners. While financing from these sources will remain critical, there will be need to advocate and set aside funding from the county government and from innovative producer payment system such as introducing levy payable by the livestock producers, as some of the vector control activities are more private good and localized. Similar funding mechanisms (a mix of public and private financing) will need to pursued for components under animal health and extension services, while resources for livestock movement control, especially border control remains a national function, though counties with international borders will be required to make investments to protect their herds from international incursion of transboundary animal diseases.

## TOTAL BUDGET:

	KSHS. W MILLIC	N	
Kshs. 1000 m	Kshs. 500 m	Kshs. 300 m	Kshs. 200 m

#### PILLAR 4: VETERINARY GOVERNANCE

Veterinary services must comply with international standards for the safety of international trade in animals and animal products and disease surveillance. The OIE Performance of Veterinary Services (PVS) is accepted as the global process to assist countries in reaching international Veterinary Services (VS) standards. The compliance with these international standards will require the enhancement of animal health and disease control system, both nationally and locally (within the FCDC region). The improvement of the overall veterinary governance, when implemented in a well-coordinated manner across the FCDC region will reduce the occurrence of livestock diseases.

In considering the governance of livestock disease control, the Framework concentrated on two key ingredients in developing functional livestock disease control system in the FCDC region: human resource development for accessible and sustainable quality veterinary services; and animal health regulation and policy as discussed below:

#### **COMPONENT 1: HUMAN RESOURCE DEVELOPMENT**

The role of the veterinary profession is to promote animal health, animal welfare, public health and protection of the environment. Therefore, FCDC member counties will need to have a sufficient number of competent and well-trained veterinarians and para-professionals who are capable of serving the region. Further, there will be need to help frontline workers hone their skills and knowledge of disease risk factors and control measures in order to respond to new outbreaks.

Currently, human resource capacities for disease control across the FCDC counties are low. For example, there are only 44 veterinarians, 51 livestock officers, 102 animal health assistants, 5 laboratory technicians and 19 hides and skins officers in the public services (Table 5). Further, both the public and private services fail to ensure geographic representation and coverage of services, with higher concentration in urban centres, thus affecting the availability, affordability and accessibility of services and inputs to producers in the FCDC counties.

County	No of Wards	Vets	Los	AHAs	Lab Tech	Hides/Skins	Zoologist	Total
Garissa	30	7	12	14	2	7	0	42
Wajir	30	4	5	16	0	4	0	29
Turkana	30	14	1	14	0	1	0	30
Mandera	30	4	15	7	1	0	0	27
Isiolo	10	3	6	9	0	1	0	19
Tana River	15	5	3	17	0	3	0	28
Lamu	10	3	1	7	1	1	0	14
Marsabit	20	4	8	18	1	2	0	33
Total	175	44	51	102	5	19	0	222

TABLE 5: PUBLIC VETERINARY SERVICES HUMAN RESOURCE CAPACITY IN THE FCDC REGION

FAO-UN recommends a ratio of one veterinarian per 100,000 livestock units and using this norm will result in the FCDC counties increased number of veterinarians supported by an adequate number of veterinary para-professionals to carry out disease control, laboratory diagnostics and veterinary public health, which are the minimal requirements for a basic service. In this regard the Framework recommends the :

- 1. Recruitment and training of additional human resources across the FCDC region to address the gaps (see Tables 6 and 7);
- Provision and strengthening of the skills and core competencies required in public and private veterinary services, especially in disease surveillance, reporting, diagnostic, emergency preparedness and response;

- 3. Improvement and expansion of accessibility of animal health services to producers through partnerships with private sector. For example, the county governments should consider engaging the private sector in offering some services on their behalf;
- 4. Facilitate the engagement of private sector in the delivery of animal health services through enhancing public-private-partnerships; and
- 5. Collaborate with development actors and NGOs in supporting service provision and implementing capacity development program.

County	No of	Vets	LOs	AHAs	Lab Tech	Zoologist	Hides/	Total
	vvaros						Skins	
1. Garissa	30	8	18	16	3	1	0	46
2. Wajir	30	11	25	14	3	0	2	65
3. Turkana	30	3	29	16	3	1	6	55
4. Mandera	30	13	15	23	2	0	7	55
5. Isiolo	10	6	4	1	3	0	2	16
6. Tana River	15	4	12	0	3	0	0	19
7. Lamu	10	6	9	3	3	1	2	25
8. Marsabit	20	9	12	2	2	0	3	28
TOTAL		60	124	75	22	3	22	

TABLE 6: PROPOSED HUMAN RESOURCE CAPACITY FOR PUBLIC VETERINARY SERVICES IN FCDC REGION<sup>21</sup>

Key: Vets- Veterinary surgeons; LOs-Livestock Officers; AHAs- Animal health Assistants; Lab tech- Laboratory Technicians.

In addition, the Framework identified challenges pertaining to the scope of veterinary services in the FCDC counties considering the additional skills and specializations required by the veterinary service for efficient and effective service delivery. For example, the early detection of animal diseases calls for competent veterinary field epidemiologists who know how to rapidly gather information from animal owners and wildlife experts in the field; and to investigate, assess, analyse and report the findings effectively. The Framework, therefore, recommends the recognition of these specializations and skills in addition to vacancies in the services. While the need for conducting a more detailed human resource audit in the provision of public veterinary services was identified, some of the key competencies and skills to support the development of livestock disease control skills identified during the development of the Framework are shown in Table 7.

## TABLE 7: ADDITIONAL SKILLS AND COMPETENCIES REQUIRED TO EFFECTIVELY DELIVER VETERINARY SERVICES IN FCDC REGION

Ke	y skills and competencies for Veterinarians	Ke	y skills and competencies for Para-Professionals
•	Laboratory Techniques	•	Laboratory Techniques
•	Disease Surveillance	•	Management Courses
•	Senior Management Courses	•	Diploma, BVM
•	LEGS	•	Meat Inspection
•	Postgraduate = MSc and PhD	•	Artificial Insemination
		•	Meat Grading and Abattoir Management

In addition to the public services, formal service provision is available through a number of private services such as Sidai Ltd, FACTS, Silo, Wajir Agrovet, and Muzamil among others. However, there is a limited partnership between the county government and these service providers, especially where

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Information gathered from County Directors of Veterinary Services (CDVS) during the technical workshop to develop a Common Programme Framework for Livestock Disease Control in FCDC region. Workshop was held between 17th and 20th April 2018 at Almond Hotel, Garissa County

the private sector provider is better placed to provide some services. While the number of service providers may be few, a number of informal providers exist. It is prudent that the county strengthens the regulation and accreditation for such private sector entities wishing to offer services to the livestock producers.

#### **COMPONENT 2: ANIMAL HEALTH REGULATION AND POLICY**

This component will strive to achieve a collaborative and concerted national and county effort to respond to livestock disease control. The component activities will focus on supporting the revision to accommodate animal health technicians concerns and passing into law of the 2015 draft Kenya Veterinary Policy as well as the adoption of the 2014 guidelines for delivery of veterinary services in Kenya. The veterinary policy will allow repealing of obsolete sections or the revision of the 26 acts of parliament that currently govern animal health, welfare and production. The justification of this component is based on the fact that in the past a broad range of strategies and programmes have been pursued by various governmental and non-governmental entities to address the livestock disease control in Kenya. However, these initiatives have taken place without a coherent policy framework and therefore appear reactive and uncoordinated. Accordingly, the FCDC region county governments will be encouraged to pursue the development of a common animal disease control bill (Mandera has a prototype bill) that will mirror the national efforts. The harmonised animal diseases control bill will reflect the FCDC region commitment to formulating a proactive, coherent and integrated livestock disease control strategy that will focus on reducing disease burden and reduce the vulnerability of FCDC communities through securing their livestock assets. Component 2 will achieve the following results;

- 1. Revision and enactment of the Kenya Veterinary Policy.
- Prototype FCDC region Animal disease Control bill and Livestock disease control strategy harmonised or developed.

#### LEADERSHIP AND IMPLEMENTATION APPROACH FOR PILLAR 4 ACTIVITIES

The Department of Veterinary Services needs to be equipped with an optimum number of staff with relevant skills mix, knowledge and attitudes in tandem with the competency framework, with a view to promoting a value based public service. Towards this end, the respective County Public Service Board that is mandated with the human resource functions in the county needs to address the identified gaps to ensure smooth delivery of the animal health functions. The Board will take the lead facilitating the empowerment of the Department to manage the said functions and to put in place system for recruiting the right skilled personnel, train and develop its staff, allocate adequate funding for training and capacity development and put in place conducive human resources policies and practice in place. Table 8 provides a summary of the activities to be implemented under Pillar 4 that are expected to result in the strengthened livestock disease control in the FCDC region.

As outlined in the Guidelines for Delivery of Veterinary Services, 2014, county and national government must prioritize staff capacity development. Departmental and Ministerial Training Committees as provided for in the National Training and Recruitment Policy need to be set up in the counties to efficiently manage the training functions.<sup>22</sup> The County Executive Committee Member responsible for Finance will need to ensure that adequate funds for Human Resource Development programmes are availed on a timely basis to ministries and departments. However, training programs have to be supported by the development partners, other agencies and the private sector.

#### TABLE 8: SUMMARY FRAMEWORK FOR VETERINARY SERVICES GOVERNANCE

0	OVERALL OUTCOME: The disease risks to FCDC counties animal resources are prevented, reduced and/or managed					
CC	MPONENT 1: Human Resource Development	<b>COMPONENT 2:</b> Animal health regulation and policy				
	RESULTS					
1.	Recruitment of additional human resources across the FCDC region to address the gaps (see Tables 6 and 7);	1.	Revision and enactment of the Kenya Veterinary Policy.			
2.	Provision and strengthening of the skills and core competencies required in public and private veterinary services, especially in disease surveillance, reporting, diagnostic, emergency preparedness and response;	2.	Prototype FCDC region Animal disease Control bill and Livestock disease control strategy harmonised or developed.			
3.	Improvement and expansion of accessibility of animal health services to producers through partnerships with private sector. For example, the county government should consider engaging the private sector to offer some services on its behalf;					
4.	Facilitate the engagement of private sector in the delivery of animal health services through enhancing public- private-partnerships; and					
5.	5. Collaborate with development actors and NGOs in supporting human resource development, service provision and implementing capacity development program.					
	IMPLEMENTATION ARRANGEMENTS					
The to dev hui dev and	The respective County Public Service Board will take the lead facilitating the empowerment of Department's to manage the said functions and to put in place system for recruiting the right skilled personnel, train and develop its staffs, allocate adequate funding for training and capacity development and put in place conducive human resources policies and practice in place. County and national government must prioritize staff capacity development. Departmentmental and Ministerial Training Committees as provided for in the National Training and Recruitment Policy need to be set up in the counties to efficiently manage the training functions.					
	FINANCING MECHAN	ISM	IS			
The for hav	e County Executive Committee Member responsible for Fin HRD programmes are availed on a timely basis to ministries ve to be supported by the development partners, other agen	anc and icies	e will need to ensure that adequate funds departments. However, training programs s, and the private sector.			

#### TOTAL BUDGET:

KSHS. 717.3 Billion

Kshs. 717 Billion (239 new staff Average monthly salary of Kshs. 300 m 50,000 x 60 months)

#### PILLAR 5: VETERINARY SERVICES INFRASTRUCTURE

Infrastructure can be defined as the fundamental physical facilities and systems that a country needs for its economic function and development. The recent improved growth of African economies is largely attributed to increased Infrastructure development. Developing Africa's infrastructure is more expensive than in any other continent in the world. This is because of the lack of economies of scale in production; the continent is characterised by low overall population density (36 people per square kilometer), low rates of urbanization (35 percent) but relatively rapid rates of urban growth (3.6 percent a year). This is further complicated by the high prices of unreliable services that support infrastructure growth such as power, water, road freight, mobile telephones or Internet services. The tariffs paid in Africa are several times higher than in any part of the developed world. The explanation for Africa's high tariff prices sometimes lies in genuine higher costs of providing the services but in other times the unscrupulous dealing to make high-profit margins.<sup>23</sup>

The world bank classifies Infrastructure into two main categories:

- 1. Physical or Hard Infrastructure: These make up the physical systems that make it necessary to run a modern and industrialized nation. Examples include roads, bridges, tunnels, water supply, sewers, electrical grids, telecommunications (including internet connectivity and broadband speeds). The physical infrastructure support commodities flow and service delivery that sustains or enhance the societies standard of living. Physical infrastructure has a high investment cost and is funded publicly, privately or through public-private partnerships.
- 2. Software or institutional infrastructure: These are institutions that help maintain the economy. They usually require human capital and help deliver certain services to the population. Examples include veterinary legislation, financial institutions, governmental systems, law enforcement and education systems. The veterinary legislation is an essential element of the national infrastructure that enables Veterinary Services (VS) to carry out its key functions of epidemio-surveillance efficiently; early detection and reporting of diseases; rapid response; and prevention and control of diseases through ensuring sanitary standards are adhered to. In the face of increasing global trade, climate change and the emergence and re-emergence of diseases that can rapidly spread across international borders, the veterinary services must be supported by effective and modern legislation. This is why legislation to support veterinary service infrastructure development is among the 46 critical competencies identified in the World Organisation for Animal Health (OIE) Performance of Veterinary Services (PVS) tool that is used to evaluate of the performance of veterinary services.24

The decision to develop veterinary services infrastructure cannot be divorced from existing macro and microeconomic policies of a country. The justification to reform macroeconomic policies to support veterinary services infrastructure in developed countries has been credited with the establishment of sophisticated veterinary services infrastructure with the capacity to translate research findings into practical applications and implement area-wide disease control and herd health programmes. Consequently, most developed countries have been able to eradicate major Transboundary Animal Diseases (TADs) within their borders. Furthermore, livestock keepers in the developed world have guaranteed access to veterinary services, inputs, research institutions and extension. These developed countries have ensured that infrastructure is developed all across the value chains and this has fostered a continuous improvement of the livestock industry.

The 2010 constitution of Kenya devolved governance and recognised the historical ASAL marginalisation. The constitution made provision with the equalisation fund that will support infrastructure development in the ASALs.

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<sup>23</sup> Foster, Vivien; Briceno- Garmendia, Cecilia. 2010. Africa's Infrastructure: A time for Transformation. Africa Development Forum. World Bank. © World Bank. License: CC BY 3.0 IGO https://openknowledge.worldbank.org/handle/10986/2692 24

Kenya OIE PVS Gap Analysis report (2011).

However, the DVS and ASAL counties veterinary departments need to ensure that macro economy policies include the allocation of resources to build modern and maintain existing veterinary services infrastructure. During the 2011 OIE-PVS gap analysis in Kenya, the assessment noted that the country had the suitable physical infrastructure at all levels (national and county) to support veterinary service delivery however what was lacking was financial and technical mechanisms to maintain them. Pillar 5 will focus on the following veterinary services infrastructure categories;

- Surveillance and disease reporting infrastructure
- laboratory diagnostic infrastructure
- Disease prevention and control infrastructure
- Public health, trade and value addition infrastructure

In addition to the above infrastructure, it was found that most counties lacked offices at sub-county and ward level. All counties had offices for their staff at headquarters, however, most required expansion, furniture and computers.<sup>25</sup>

Pillar 5 provides a common strategy around which all stakeholders can renew their efforts to enhance veterinary service delivery through infrastructure investment. The Pillar has three components;

- 1. Component 1: Strengthening surveillance and laboratory diagnostic infrastructure
- 2. Component 2: Strengthening disease preventive and control infrastructure
- 3. Component 3: Strengthening public health, trade and value addition infrastructure

## COMPONENT 1: STRENGTHENING SURVEILLANCE AND LABORATORY DIAGNOSTIC INFRASTRUCTURE

The fundamental objective of syndromic surveillance is to identify syndrome reported clusters early before diagnoses are confirmed. Most of the FCDC member counties except Tana River and Mandera counties have in place an E-surveillance and disease reporting ICT infrastructure that integrates information sourced from the conventional passive (rumour register) and active (sero-surveillance) surveillance activities. The E-surveillance infrastructure development was supported by FAO-UN/KDVS and more recently the International Livestock Research Institute (ILRI) project entitled Accelerated Value Chains Development (AVCD). The main challenge noted is that the E-surveillance and disease reporting infrastructure are not effectively linked to the Kenya Director of Veterinary Services (KDVS). The KDVS is the only OIE recognised authority mandated to report disease status of a country and its regions. The KDVS together with AU-IBAR had piloted ARIS II an ICT based disease outbreak reporting and surveillance system that was rolled out before devolution came into effect. ARIS II was proven to;

- Comprehensively capture information on livestock health, production, farm gate and consumer prices across the livestock value chain in 45 African countries;
- Have the ability to share data across many different sectors, organizations and livestock value chain actors as well as regulatory institutions such as KDVS and OIE;
- Robust data statistical analysis and a database that can be able to be linked in the future to OIE-World Animal Health Information System (WAHIS) and FAO-UN Transboundary Animal Diseases Information (TAD-Info) platform. ARIS II also can be linked to other national-level databases such as Livestock Identification and Traceability System (LITS), Laboratory Information System (LIS) and Kenya Director of Veterinary Services (DVS) disease outbreak and surveillance tools (EpiCollect).

However, ARIS II has a significant flaw of being paper-based at the primary data collection point (herd, abattoir and markets). This flaw makes data capture a labor-intensive process. Noting this gap, the Kenya Director of Veterinary Services (KDVS) together with Washington State University (WSU)

<sup>25</sup> Information gathered County Directors of Veterinary Services (CDVS) during the technical workshop to develop a Common Programme Framework for Livestock Disease Control in FCDC region. Workshop was held between 17th and 20th April 2018 at Almond Hotel, Garissa County

is launching a new comprehensive syndromic surveillance system. The electronic system dubbed the 'Kenya Livestock and Wildlife Syndromic Surveillance System' (KLWS). The new system will build on the EpiCollect platform and improve on it as it will have the server based at the KDVS instead of the cloud. The KLWS will not only allow syndromic reporting but will also allow input of tentative diagnosis, data verification and editing starting from sub-county, county and KDVS level. The KLWS will also have modules that will allow laboratory results input and, in the future, it will be able to capture livestock market producer and consumer information as well as abattoir production information.<sup>26</sup>

The FCDC region has two functional Regional Veterinary Investigative Laboratories (RVIL) that are under the KDVS as laboratory functions have not been devolved. The first is the Mariakani RVIL that serves the coastal region which includes Lamu and Tana River counties. This Regional laboratory has two satellites laboratories at Ukunda and Witu. The second is the Garissa RVIL that serves the regions of Garissa, Wajir, Mandera and Tana River. Turkana, Isiolo and Marsabit Counties do not have access to a regional laboratory. All the RVIL have a chronic shortage of funds and human capacity. This has forced all FCDC counties to rely on the main central laboratory based in Kabete, Nairobi for disease agent confirmation or sero-surveillance. Furthermore, only Isiolo and Marsabit counties have functional county laboratories that are single rooms that do not meet the minimum laboratory safety standards.<sup>27</sup> It was largely agreed that each FCDC county should strive to lobby for investment in laboratory infrastructure and equipment that can support microscopic haematology and faecal analysis as well as other rapid tests. The County Directors of Veterinary Services (CDVS) indicated that the World Bank Regional Pastoral Livelihoods Resilience Project (RPLRP) was funding establishment of county laboratories. Determining true disease status of an animal population requires both active and passive surveillance and laboratory diagnostic services. The component will achieve the following results:

- 1. Harmonized disease surveillance and response protocols for priority diseases in the FCDC region;
- 2. All eight counties adopt a single E-Surveillance infrastructure that will allow syndromic surveillance and disease outbreak reporting. The adopted system will enable sharing of disease information between FCDC region members and with the Kenya director of veterinary services department as mandated by OIE;
- 3. FCDC region has eight laboratories that are staffed and equipped to support surveillance and disease outbreak investigation activities.

## COMPONENT 2: STRENGTHENING DISEASE PREVENTIVE AND CONTROL INFRASTRUCTURE

Veterinary vaccines are cost-effective tools used to promote animal health, animal welfare, food production and ensure public health as they reduce the need to use antibiotics to treat infections. Several studies have shown that vaccination offers one of the highest returns on investment (ROI) for livestock keepers and donors. One such study commissioned by Galvmed was able to estimate that Peste des Petits Ruminants (PPR) vaccine that costs dollar (\$) 1.60 was able to protect a herd of goats worth \$ 800. At this high ROI, most livestock keepers are willing to pay for the vaccination service.<sup>28</sup> Proper transportation, storage, and administration of veterinary vaccines are areas that are frequently overlooked when creating or implementing vaccination programmes.

Vaccines used in veterinary medicine include modified-live virus (MLV) vaccines, killed and adjuvant vaccines and recombinant vaccines. The different forms of vaccines have different cold chain storage conditions. Vaccines exposed to temperatures outside the recommended range can lead to reduced protection against infectious disease. MLV vaccines can be inactivated by even the slightest variation

<sup>26</sup> Personal Communication from Dr. Harry Oyas, head of the Veterinary Epidemiology and Economics Unit (VEEU) Department of Veterinary Services, Ministry of Agriculture, livestock and Fisheries, Nairobi, Kenya on 30th April 2018.

Kenya accreditation service (KAS): General criteria for Accreditation of Veterinary Laboratories contained within ISO/IEC 17025:2005.

<sup>28</sup> Stakeholders' Workshop on Veterinary Service Delivery in Underserved ASAL Counties of Kenya: Transition from VSD by CBAHWs to VSD by KVB Registered Practitioners. 4-5 October, 2017 Sportsman Arms Hotel Nanyuki, Kenya

of temperatures while adjuvant vaccines are sensitive to freezing temperatures because the adjuvant may separate from the antigen and form a precipitate. This precipitate may not be visible in the vial but may cause local inflammation when injected.<sup>29</sup>

The CDVS in the FCDC region has developed a minimum required infrastructures to support livestock disease prevention and control (drawing on best practices from the region) which will form the basis of the expected results from this component. The desired results are:

- 1. Each FCDC region county department of veterinary services has purchased four appropriate vehicles (4-wheel drive with in-built fridges that can run with the car battery).
- 2. Lamu has requested instead of vehicles, two beach bikes and 1-speedboat;
- 3. FCDC region counties have expanded headquarters veterinary staff offices and build at least one veterinary office in each sub-county. The offices will have modern furniture and computers;
- 4. Strategic establishment and decentralisation of Cold chain infrastructure (cool boxes, freezers and fridges with a large capacity to allow minimal vaccine bulking) at headquarters and subcounty offices. The cold chain infrastructure should be connected to the main grid and with backup solar panels and generator at headquarters, while at sub-county the main power supply or back up can be solar panels;
- 5. Each FCDC region county has at least one Holding ground/ quarantine station legally recognised and secured;
- 6. Each FCDC region county has constructed or rehabilitated at least 2 fixed crushes in each ward and purchased at least four mobile crushes;
- 7. Each FCDC region county has constructed one spray race at each sub-county level and at major markets in the county;
- 8. A department within Kenya Agriculture and Livestock Research Organization (KALRO) in Marsabit and Garissa that focuses on Camel health and production research created.

## COMPONENT 3: STRENGTHENING PUBLIC HEALTH, TRADE AND VALUE ADDITION INFRASTRUCTURE

The minimum infrastructure to support public health and trade infrastructure include;

- 1. Slaughterhouses Class A, Class B and Slaughter slabs
- 2. Livestock markets with supporting infrastructure auction yard, weighing scales, spray race, veterinary surveillance room, public toilet.
- 3. Value addition infrastructure hides and skin sheds, tannery, milk processing units, meat processing units and honey refinery

The United States Agency for International Development (USAID) through partners has built 12 markets in Isiolo and Marsabit Counties. USAID will support Turkana, Wajir and Garissa with similar facilities. In line with the realisation of vision 2030, the national government constructed modern export livestock slaughterhouses through the Economic Stimulus Programme (ESP). Most of the slaughterhouses have still not been completed 5 years after been devolved to county governments. This component focuses on veterinary infrastructure that promotes commercialisation of pastoralists production systems. The component will contribute to the following results;

- 1. Veterinary services Infrastructure comparative study for the FCDC region conducted;
- 2. Establishment of Class B slaughterhouses in all major trading centers in the county. The slaughterhouses will be equipped and adequately staffed with animal health assistants who will be recruited and trained on meat hygiene;
- 3. Establishment of livestock markets at major trading centres across the FCDC region;

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- 4. Using evidence from comparative study each county in the FCDC region will establish a livestock product value addition processing industry. Value chain actors will be capacity built with relevant skills on product improvement;
- 5. FCDC region will pool resources to map and gazette stock routes as well as support the strategic development of watering and feeding infrastructure along the routes.

#### LEADERSHIP AND IMPLEMENTATION APPROACH FOR PILLAR 5 ACTIVITIES

The framework proposes commissioning of a veterinary services infrastructure comparative study for the FCDC region. This will allow the region to make informed decisions on which infrastructures to prioritise and explore the possibility of pooling resources to build shared infrastructures such as regional veterinary laboratories, abattoirs and tanneries. SFAL and CDVS from FCDC region will lobby their respective governors and county assemblies to set up the County Veterinary Services Development Fund (CVSDF). Guidelines on fund establishment and modalities for fund disbursement can be adopted from the Exchequer and Audit act Cap 412 legal notice No.109 of May 1996 that was used to set up the Veterinary Services Development Fund (VSDF). Table 9 provides a summary of pillar 5 framework that is expected to result in the improvement of livestock disease control infrastructure in the FCDC region.

SFAL secretariat and County SFAL Livestock Disease Control Coordinating Unit will lobby and mobilise resources from government, the private sector and development partners to support pillar 5 activities. The financing mobilised will be put into the CVSDF. SFAL will lobby the eight county governments to allocate 10% of their total county budget to the livestock sector, of this amount, 20% will be allocated to CVSDF. The total budget for the first year of implementation is estimated to be Kshs. **2,455 million** (2.45 Billion) (Table 9). The budget will be refined during stakeholders meetings since more information is needed to determine the precise funding situation in each county.



#### TABLE 9: SUMMARY OF VETERINARY SERVICES INFRASTRUCTURE FRAMEWORK

	OVERALL OUTCOME:						
li –	nfrastructure that supports ef	fecti	ve and efficient delivery of vetering	nary	services across FCDC region		
CO	MPONENT 1:	COMPONENT 2:		COMPONENT 3:			
Strengthening surveillance and laboratory diagnostic Infrastructure		Strengthening disease preventive and control infrastructure		Strengthening public health, trade and value addition infrastructure			
	RESULTS		RESULTS		RESULTS		
1.	Harmonized disease surveillance and response protocols for priority diseases in the FCDC	1.	Each county department of veterinary services has purchased 4 appropriate vehicles.	1.	Veterinary services Infrastructure comparative study for the FCDC region conducted;		
2.	All eight counties adopt	2.	Lamu has purchased 2 beach bikes and 1 speedboat;	2.	Established Class B slaughterhouses in all major		
	a single E-Surveillance	3.	FCDC region counties have		trading centres in the county.		
3.	FCDC region has eight laboratories staffed and		offices and build at least 1 veterinary office in each sub county;		Establish livestock markets at major trading centres in FCDC region;		
equippea.		4.	Strategic establishment and decentralisation of Cold chain infrastructure at headquarters and sub-county offices;	4.	Establish livestock product value addition processing industry and train value chain actors		
			Each county has at least 1 Holding ground/ quarantine stations legally recognised and secured;	5.	FCDC region will pool resources to map and gazette stock routes as well as support the strategic development		
		6.	Each county has constructed or rehabilitated at least 2 fixed crushes in each ward and purchased at least 4 mobile crushes;		of watering and feeding infrastructure along the routes.		
		7.	Each county has constructed 1 spray race at each sub-county level and at major markets in the county;				
		8.	Creation of a department within KALRO for Camel health and production research				
		IMP	LEMENTATION ARRANGEMEN	ITS:			

SFAL and CDVS from FCDC region will lobby their respective governors and county assemblies to set up the County Veterinary Services Development Fund (CVSDF), guidelines on fund establishment and modalities for fund disbursement can be adopted from the Exchequer and Audit act Cap 412 legal notice No.109 of May 1996

## FINANCING MECHANISMS:

SFAL will lobby the 8 county governments to allocate 10% of their total county budget to the livestock sector, of this amount, 20% will be allocated to CVSDF.

## **Total BUDGET:**

2,455 N

Kshs.125 Million	

455 Mi	llion	(2.45 Billion)	
Kshs.	280	Million	

Kshs. 2,050 Million

#### PILLAR 6: LIVESTOCK IDENTIFICATION AND TRACEABILITY SYSTEM (LITS)

The requirements of countries to have a Livestock Traceability and Identification Systems (LITS) has emerged as one of the leading Non-Tariff barriers (NTB) hindering access to international markets for most developing nations. The World Organization for Animal Health (OIE) in its Terrestrial Animal Health Code (TAHC) chapters 4.1 and 4.2 published the general principles for animal identification and traceability for disease prevention and control. TAHC recognizes that animal identification and traceability systems are important tools used to monitor animal health (including zoonoses), ensure food safety and foster trust during trade. In addition, the Codex Alimentarius Commission of hygienic practice for meat advocates for animal identification practices and systems that allow practicable trace-back from the abattoir to the place of origin to allow regulatory investigation when necessary. Furthermore, FAO in 2004 published a good practice guide for the meat industry; the guide was targeted at aiding developing countries to raise their quality and safety standards for their livestock meat products. The FAO document acknowledges that an animal identification and traceability system is a new standard that is becoming a norm in animal health management and assures consumers of quality and safe livestock products.<sup>30</sup>

The importance of LITS has resulted in more technical standards and guidelines developed for identifiers by the International Organisation for Standardisation (ISO) and the International Committee for Animal Recording (ICAR). The ISO standards 11784 and 11785 ensure compatibility between electronic identifiers and readers. ISO standards 24631 lays down the test procedures for conformance and performance of electronic identifiers and readers. Since 1995 ICAR has continuously updated its guidelines on animal identification methods, performance recording and genetic evaluation with a particular focus on cattle. ICAR has also established quality standards for conventional plastic ear tags which are the most commonly used identification and traceability system in the world. On its part, the World Trade Organization (WTO) has developed the Sanitary and Phyto Sanitary Standards (SPS) that guide quality and safety standards for live livestock and livestock products. The WTO SPS does not specifically mention LITS, but in the equivalence trade-facilitation tool, it allows LITS enforcement, the tool indicates that a country adopts an animal traceability system for their domestic livestock production to protect animal or human health. This standard will also apply to imports if appropriate justifications are made.<sup>31</sup>In the African continent adoption of LITS has been attempted with various success rates.

In Southern African countries of Botswana and South Africa, adoption of LITS enabled the countries to have OIE recognised Foot and Mouth Disease free zones. The LITS has also allowed them access to the highly regularised and lucrative European Union (EU) markets. The IGAD region due to its inadequate capacity to monitor animal diseases and control the frequent outbreaks has faced numerous trade bans of its live livestock and livestock products by the Middle East and North African (MENA) countries.<sup>32</sup> To address this gap and with financial support from EU, the African Union - InterAfrican Bureau for Animal Resources (AU-IBAR) partnered with Intergovernmental Authority on Development (IGAD) to develop regional guidelines on Livestock Identification and Traceability System (LITS) for the IGAD region. The proposed LITS guidelines will aid member countries to improve the effectiveness of TADs control activities and improve livestock trade in the region. IGAD hopes that by adopting LITS the member countries will;

- Enhance individual or group of animal's identifications;
- Support management of disease outbreaks and promote food safety;
- Inform planning and increase coverage of vaccination programmes;
- Minimise livestock rustling incidences;
- 30 OIE (2017). Terrestrial Animal Health Code (TAHC) 26th Edition
- 31 Joel L. Greene (2010). Animal Identification and Traceability: Overview and Issues. Report by Congressional Research Service prepared for Members and Committees of US Congress.
- 32 Regional Guidelines on Livestock Identification and Traceability System (LITS) in the IGAD Region (2016). A legal framework validated in a workshop held between 2nd and 3rd May 2016 in Fairway Hotel, Kampala, Uganda.

- Improve herd/flock husbandry practices;
- Allow for zoning/compartmentalization of disease-free areas;
- Enhance surveillance, early response and notification systems;
- Regulate animal movement control, inspection and certification;
- Promote fair practices in trade;
- Control use of veterinary drugs and pesticides at farm/herd level.

The IGAD guideline proposes that member countries ensure that their LITS have two basic components to make them functional; Animal identification component such as the ISO certified and numbered ear tag and Database component that can monitor individual or groups of animals along the value chain to the final destination. The IGAD LITS guidelines propose that member countries choose one LITS identifier device that can meet the requirements for all production systems.

The IGAD LITS strategy recommends in order of priority the following;

- Visual tamperproof ear tags with ISO coding;
- Visual tamperproof ear tags (with ISO coding) plus hot iron branding for livestock rustling areas;
- Radio Frequency Identification (RFID) ear tags;
- Radio Frequency Identification (RFID) Bolus (for ruminants).
- Microchip implants (for controlled trials) with hot-iron branding to deter theft.

IGAD guideline acknowledges that implementing and running a LITS system requires a high level of organization within an industry where all actors in the value chain must first be consulted, the role of each stakeholder clearly defined and their cooperation sought before it is rolled out. With regard to the implementation strategy the guideline suggests that the ministry responsible for livestock should be tasked with implementing the national LITS and the actual task be assigned to a team composed of two or three staff members who are employed by the ministry and/or private sector and have the full-time responsibility to implement the LITS programme. The IGAD LITS guideline strongly recommends that member countries put in place a legislative framework that must enforce strict penalties to those who do not comply. The guideline also proposes that LITS should be under the responsibility of the OIE recognised veterinary authority of the country. In Kenya, this is the Director of Veterinary Services (KDVS). The guideline also acknowledges that other authorities can have jurisdiction over other aspects of the food chain especially traceability.

Kenya has piloted various livestock identification and traceability trials; the first was the 'Dumisha Amani I' project in 2003. The project used hot-iron branding to mitigate cattle rustling incidences in the then 15 districts. The target districts included Trans Nzoia, Turkana, Trans Mara, Mount Elgon, Baringo, West Pokot, Marakwet, Marsabit, Moyale, Isiolo, Samburu, Tana River, Laikipia, Kuria and Keiyo. Over two million cattle, camels and donkeys were branded. A follow-up project dubbed 'Dumisha Amani II' introduced the RFID rumen boluses between 2007 and 2010. The project was implemented by the Department of Veterinary Services in collaboration with Terra Nuova and aimed at tracking cattle to the end markets. Under the same initiative, a second field trial using combined identifiers of RFID bolus and hot-iron branding was carried out in cattle rustling hot spot areas. In total, 150,000 cattle were identified using RFID ruminal bolus and more than 2.5 million livestock were branded. The project was also able to track cattle from Garissa market to Taita ranches using global positioning system; the information was then used to develop spatial-temporal maps of cattle trade routes. However, all these pilot programmes stopped due to lack of funding.<sup>33</sup>The livestock sector in the FCDC region has significant potential to contribute to household food security and economic growth of the region. However, the sector is burdened with constant outbreaks of TADs which hinders access to regional and international trade.

Daudi E. Ekuam (2008/2009). Livestock Identification, Traceability and Tracking: Its Role in Enhancing Human Security, Disease Control and Livestock Marketing in IGAD region

It is this realisation that has informed the inclusion of LITS as an important pillar as the region develops a Common Programme Framework for Livestock Disease Control (CPF-LDC).

To be able to effectively monitor disease status the FCDC region requires a harmonised animal identification and traceability system. Currently, there is no FCDC member that has a functional LITS system with most livestock identified using traditional brand marks that can identify animals up to clan or family level. However, the brand marks are sometimes similar and, in most cases, cause hide destruction. Previous LITS pilots in the region failed due to initial community entry, for example, in Turkana County, the community was informed that the RFID bolus would track the rustled cattle and when this was not possible the community rejected further adoption of the bolus. While in Isiolo, the county government is supporting ear tagging of livestock. However, it is not clear if the ear tags meet OIE, ISO and ICAR requirements. In addition, the adoption by the community is waning as there are no incentives or benefits to the livestock keeper other than having the county have records of their animals. There is, therefore, need for FCDC member counties to learn from the successes and failures of previous interventions as they strive to harmonize their LITS initiative. Countries that have successfully implemented a national LITS programme have demonstrated that the livestock industry can confirm if there are demonstrable and direct benefits to them. In the FCDC context, the LITS programme should leverage on incentives such as facilitating access to lucrative regional and international markets, deterring cattle rustling and accessing subsidised animal health inputs such as vaccines and antiparasitic products.

An extensive IGAD study carried out in Kenya and neighbouring IGAD countries proposed the adoption of hot iron branding with brand marks registered by the country's veterinary authority. The brand marks should act as the foundational/primary identification system for the IGAD region as iron branding is a traditional practice acceptable by many pastoralist communities in the region. Branding also allows livestock owners to incorporate their traditional identification system or marks. The country can then build on this system and introduce secondary electronic devices that can then be linked to a central database.<sup>34</sup> IGAD has over the last decade facilitated feasibility studies; the studies indicate that LITS programmes have a high failure rate because of poor database management. The LITS regional meeting proposed that member countries consider opening up the database component to local and international service providers through a tendering process. In this way, the countries will be able to acquire a well-designed database that is accepted internationally and has been proven to work. The proposed IGAD implementation strategy is feasible as demonstrated by Botswana. The country began by first making it mandatory for all cattle in the country to have a unique registered brand mark that could be traced to a particular farm, individual, family or community. The government then provided on subsidy basis a secondary electronic identification system in the form of rumen RFID boluses which not only gave identity but also conferred traceability attributes to the animal.<sup>35</sup> FCDC region members should consider a similar implementation strategy.

This section provides a common framework that will work towards the development of functional livestock identification and traceability system that enhances disease control, trade and food safety in FCDC region. The framework has three components:

- 1. Integrating international LITS guidelines into government policies and legislative acts;
- 2. Increasing awareness of LITS benefits within FCDC region;
- 3. Phased implementation of a LITS programme within FCDC region
- 34

Daudi E. Ekuam (2008/2009). Livestock Identification, Traceability and Tracking: Its Role in Enhancing Human Security, Disease Control and Livestock Marketing in IGAD region

<sup>35</sup> Regional Guidelines on Livestock Identification and Traceability System (LITS) in the IGAD Region (2016). A legal framework validated in a workshop held between 2nd and 3rd May 2016 in Fairway Hotel, Kampala, Uganda.

## COMPONENT 1: INTEGRATING INTERNATIONAL LITS GUIDELINES INTO GOVERNMENT POLICIES AND LEGISLATIVE ACTS

This component will support the national and FCDC county governments align their policies, strategies and legislative acts to international (OIE) and regional (IGAD) LITS guidelines. The component will deliver the following results:

- 1. National LITS policy in place. The policy is currently before the national assembly.
- 2. Replaced Branding of stock act Chapter 357 with the Animal Identification and Traceability Act as recommended by IGAD. The act will provide clear guidelines on;
  - Types of primary and secondary identification devices to be used in the country.
  - Adoption of hot iron branding as the primary identification system for Cattle, Camel and donkeys and ear notching for sheep and goats. The brand marks and ear notches will be registered in a database located at the national Director of Veterinary Services (DVS) department; the database will have different levels of access for county government and livestock value chain actors. The act will also adopt IGAD proposal to use Visual tamperproof ear tags with ISO coding and numbering, RFID ear tags or Bolus (for ruminants) and microchip implants (for ranch animals) as secondary livestock identification system that will confer the traceability component to the primary identification system.
  - The public-private partnership to ensure effective coordination and quality of traceability devices will also be fostered and sustained.
  - Creation of a national LITS oversight committee that will have representations from all sectors in the livestock industry. SFAL will lobby and ensure that FCDC region is well represented in the committee. The committee will meet regularly and will have different working groups to tackle each result area in Pillar 6. The oversight committee will provide policy direction, outline modalities to implement a phased LITS programme in the country with a focus on ASAL areas and develop a resource mobilisation plan.

## COMPONENT 2: AWARENESS CREATION OF LITS BENEFITS WITHIN FCDC REGION

An IGAD commissioned study in 2009 found that most stakeholders, including government officials, are unable to distinguish between identification, traceability and tracking. Similarly, the study found that across the livestock value chain there was a general lack of awareness on the technological advancement in livestock identification, traceability, registration and tracking. There is, therefore, need to build the necessary critical mass for the support of the national LITS programme. The following are the expected results;

- 1. Increased awareness of livestock value chain actors on LITS benefits.
- 2. Enhanced knowledge of value chain actors on different types of identification devices while ensuring advantages and disadvantages of each device are clearly outlined and understood at all levels.

## COMPONENT 3: PHASED IMPLEMENTATION OF LITS PROGRAMME WITHIN FCDC REGION

International and regional best practices recommend that each country adopts a phased approach when implementing LITS.<sup>36</sup> IGAD guidelines that are based on evidence from around the world indicate that adoption and sustainability of a LITS programme are intricately tied to identifying various incentives tailored to each level of the value chain. Some incentives used successfully include access to export markets and subsidised animal health and production inputs. The LITS should also promote the simultaneous implementation of a livestock health and movement certification system. The following are the expected results;

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Daudi E. Ekuam (2008/2009). Livestock Identification, Traceability and Tracking: Its Role in Enhancing Human Security, Disease Control and Livestock Marketing in IGAD region.

- 1. Increased adoption of the primary identification system by FCDC communities.
- 2. Increased private sector investments in FCDC region as they will be supported to implement and manage the secondary identification system that confers traceability.
- 3. Creation of a database at both national and FCDC region that has the functionality to also capture animal health status and livestock movement along the value chain.
- 4. Enhanced food safety due to improved livestock health and increased consumer confidence for FCDC region live livestock and livestock products.
- 5. Law enforcement deters cattle rustling.

## LEADERSHIP AND IMPLEMENTATION APPROACH FOR PILLAR 6 ACTIVITIES

The LITS implementation strategy in FCDC region will be done over a period of five years in incremental and phased manner. The FCDC region CDVS will spearhead the awareness campaign of the hot iron branding primary identification system and liaise with the county government to roll out LITS. The CDVS together with SFAL secretariat will also facilitate the formation of the County SFAL task force in each of the eight counties. The County SFAL task force will have a maximum of 4 personnel comprising of three staff with veterinary or animal health training and 1 with ICT data management and statistical analysis training. The task force will be responsible for coordinating the implementation of the primary and secondary identification systems, database management and generating reports for monitoring and evaluation for the county and SFAL. The county veterinary services department will be the only one mandated by law to brand animals and record ownership details of the livestock. To ensure that branding is sustainable a subsidised branding fee will be charged to the livestock keeper. To ensure livestock keepers adopt and comply with the mandatory hot iron branding primary identification system. The county veterinary services department will spearhead the development of county laws that will stipulate that livestock will not access county livestock sales yards, markets and abattoirs unless they are branded. Table 10 provides a summary of the activities to be implemented under Pillar 6 that are expected to establish a livestock information and traceability system for the FCDC region.

SFAL secretariat and County SFAL task force will develop modalities for mobilisation and allocation of resources from national and county governments, private partners and donor agencies. The total budget for the first year of implementation is estimated to be **Kshs. 404 million.** The budget will be refined during stakeholders meetings since more information is needed to determine the precise funding situation in each county.

#### TABLE 10: SUMMARY OF THE LIVESTOCK IDENTIFICATION AND TRACEABILITY FRAMEWORK

OVERALL OUTCOME:					
A functional livestock identification and traceability system that enhances disease control, trade and food safety in FCDC member counties					
COMPONENT 1:	COMPONENT 2:	COMPONENT 3:			
Integrating international LITS guidelines into government policies and legislative acts	Awareness creation of LITS benefits within FCDC region	Phased implementation of LITS programme within FCDC region			
RESULTS	RESULTS	RESULTS			
<ol> <li>National LITS policy in place</li> <li>Deplaced Dranding</li> </ol>	1. Increased awareness of livestock value chain actors on LITS benefits	<ol> <li>Increased adoption of the primary identification system by FCDC communities.</li> </ol>			
2. Replaced Branding of stock act Chapter 357 with the Animal Identification and Traceability Act	2. Enhanced knowledge of value chain actors on different types of identification devices	<ol> <li>Increased private sector investments in FCDC region as they will be supported to implement and manage the secondary identification systems that confer traceability.</li> </ol>			
		<ol> <li>Creation of a database at both national and FCDC region that has the functionality to also capture animal health status and livestock movement along the value chain.</li> </ol>			
		4. Enhanced food safety and consumer confidence			
		<ol> <li>Law enforcement deters cattle rustling</li> </ol>			

## **IMPLEMENTATION ARRANGEMENTS:**

Implementation will be done over a period of five years in incremental and phased manner. CDVS will spearhead the awareness campaign of the hot iron branding primary identification system and liaise with the county government to roll out LITS. The CDVS together with SFAL secretariat will also facilitate the formation of the County SFAL Livestock Disease Coordinating Unit in each of the 8 counties. Task force will coordinate LITS programme, report progress and maintain the database.

## FINANCING MECHANISMS:

SFAL secretariat and County SFAL Livestock Disease Coordinating Unit will develop modalities for mobilisation and allocation of resources from national and county governments, private partners and donor agencies

TOTAL BUDGET:				
	Kshs. 404 Million (M)			
Kshs. 20 M	Kshs. 80 M	Kshs. 304 M		

#### PILLAR 7: ANIMAL WELFARE

Livestock plays a critical role in the economic and socio-cultural development of rural households. Livestock ensures households food and nutritional security, the source of income and asset saving. Livestock contributes to crop agriculture through offering traction power, risk reduction, and diversification. Furthermore, livestock production indicators are now acceptable tools to measure poverty and human development levels. This is why poor production of livestock in Sub-Saharan Africa is directly linked to high poverty levels.<sup>37</sup> The interrelationship of animal and human welfare is not new and in most African pastoralist societies animal care is deeply rooted in their societies and husbandry practices.

This conceptual thinking informed AU-IBAR's collaborative initiative that developed a continental animal welfare strategy that is in line with the Universal Declaration on Animal Welfare (UDAW) and the standards of the World Organization for Animal Health (OIE). The Animal Welfare Strategy for Africa (AWSA) mission is to ensure a continent that recognises that animals are sentient beings and production systems adopt good animal welfare practices. The strategy demonstrates that concern for animal welfare is fundamentally a concern for human welfare and animal productivity and thus calls for an inclusive approach. The OIE Terrestrial Animal Health Code (TAHC) defines animal welfare as how an animal is coping with the conditions in which it lives. An animal is said to be in a good state of welfare (as indicated by scientific evidence) if it is healthy, comfortable, well nourished, safe, able to express innate behaviour and it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare, therefore, requires disease prevention and veterinary treatment, appropriate shelter, provision of adequate and nutritious food, humane handling and humane slaughter.<sup>38</sup>

Kenya since independence has a law that regulates how animals should be handled and raised, the prevention of cruelty to animals Act CAP 360 (Amended in 2012) has been lauded as one of the most comprehensive animal welfare law in Africa.<sup>39</sup> However, the law is outdated and does not comply with OIE animal welfare standards of 2016. Furthermore, the law is not anchored in any institutional framework and therefore has challenges in enforcement and implementation. This has further been compounded by devolution of veterinary, animal husbandry and animal welfare services to the county governments. The county governments, especially in ASAL areas, have many competing needs to address. This means that animal welfare issues will have to be sidelined in favour of more urgent socioeconomic issues such as providing basic needs such as healthcare, education and infrastructure.<sup>40</sup> Recognising this gap, the Director of Veterinary Services (DVS) in collaboration with key animal welfare partners has drafted the Animal Welfare Bill and in 2017 supported the development of the Kenya national animal welfare strategy and action plan (2017-2022).

The Kenya Animal Welfare strategy will focus on four areas:

- 1. Development and review of policy, legislation and institutional framework for animal welfare;
- 2. Strengthening communication, awareness and advocacy on animal welfare;
- Promotion of education, training, research and capacity building on animal welfare amongst all stakeholders;
- 4. Development of a sustainable implementation framework for animal welfare programmes.

The strategy outlines the current threats to animal welfare in Kenya and they include;

- 1. Frequent effects of climate change that manifest as natural disasters and calamities such as drought and floods;
- 2. High incidence of Transboundary Animal Diseases (TADs);
- 3. Lack of public awareness across the livestock value chain that animals are sentient beings

Thornton P.K. (2010). Livestock production: recent trends, future prospects. Transactions of The Royal Society. 365: 2853-2867.
 OIE (2017). Terrestrial Animal Health Code (TAHC) 26th Edition.

<sup>39</sup> Masiga and Munyua (2005). Global perspectives on animal welfare: Africa. Rev Sci Tech.24 (2): 579-87.

<sup>40</sup> Kenya National Animal Welfare Strategy and Action Plan (2017-2022).

and should be handled as such. Most livestock when being transported to market or when working are whipped and beaten. The strategy advocates that handling of animals should foster a positive relationship between humans and animals that should foster trust and wellbeing for both man and animals.

- 4. The increased demand for livestock products due to rapid globalisation and urbanisation means that smallholders are intensifying more and compromising on animal welfare. There is an increased move towards battery cage systems for commercial poultry rearing. In addition, the high rate of infrastructural developments has seen competition for quality land, water and feed resources. This means that livestock production has been pushed to marginal lands or is concentrated in smaller land holdings.
- 5. The lack of enforcement of penalties to lawbreakers especially small stock and poultry traders or transporters. The law enforcement agencies have not been adequately sensitised on animal welfare.
- 6. Rampant and unregulated use of counterfeit veterinary drugs and pharmaceuticals that in most cases have resulted in the death of livestock and significant pain due to drug reactions.
- 7. The global trade in donkey skin is an emerging threat since the licensing of two export slaughterhouses, there are increased reports of theft and inhumane slaughter of donkeys.

The county governments are expected to mainstream animal welfare practices in their livestock policies and service delivery. However, only Mandera of all the 8 FCDC counties has an animal welfare bill (2013). The county of Lamu has best practices in animal welfare. The donkey hospital and animal welfare clinic for cats and dogs conducts regular public awareness and sensitization campaigns on responsible animal ownership. The county government also purchased a prodder to assist traders in markets to load animals in trucks. To create incentives to adopt best practices in donkey husbandry, Lamu county has an annual event that rewards donkey owners who have maintained healthy animals throughout the year.

Lamu county has also mainstreamed animal welfare guidelines in the livestock policy by adopting OIE guidelines on transportation of poultry. The current animal welfare threats in FCDC region include;

- 1. The resource-based conflict between livestock keepers and crop farmers, livestock that trespass farms are slashed inflicting fatal or debilitating wounds;
- 2. Low animal welfare knowledge on the link between humane slaughter and good meat quality. A North American (U.S.) study found that most livestock producers, livestock marketers and transporters in the U.S. practiced good husbandry and had a caring attitude about animals and their welfare with most handling animals appropriately. However, this proper handling link was broken when animals arrived at abattoirs. The study was able to demonstrate that improper handling of animals resulted in poor quality of meat.<sup>41</sup> The FCDC region generally has poor slaughter practices in county slaughter slabs and slaughterhouses with most animals watching others being slaughtered. In some instances, the lack of proper restraining infrastructure results in a violent struggle before death. Only Turkana and Isiolo counties indicated that they used stunning in their slaughterhouses and abattoirs as a way to immobilise livestock before slaughter. There is also a religious aspect to lack of adoption of stunning with most Muslim counties indicating that stunning is against their religious faith. All counties indicated there were no designated sites for disposal of carcasses and this had resulted in infringement of surrounding communities human welfare right to a clean environment.
- 3. Transportation of small stock and poultry is still a big challenge as most are transported in vehicles not designed for animal transport and in most instances are placed on top of carriers or

Keith E. Belk, John A. Scanga, Gary C. Smith and Temple Grandin (2002). The Relationship Between Good Handling / Stunning and Meat Quality in Beef, Pork, and Lamb. Presented at the American Meat Institute Foundation, Animal Handling and Stunning Conference.

in boots of public service vehicles mainly buses. No county has specialised vehicles to transport animals to the main terminal markets in Nairobi.

- 4. Stray dogs and hyenas biting or killing livestock is a growing menace in all counties. The CDVS department and communities use baits to kill these animals. The CDVS's indicated that communities are now using Ivermectin to bait the dogs or hyenas. The communities use pieces of meat or parts of a carcass that has been laced/injected with the drug. The drug causes the hyenas to go blind and they are then able to track and kill them. Information indicates that once stray dogs eat the laced meat, they die on the spot or after a few hours depending on the concentration of drug injected into the meat bait.
- 5. Mistreatment of livestock often occurs in the hands of traders through beating or trekking long distances without food and water. Traders have been observed to suffocate cattle who have become too weak to stand by cupping their hand over the muzzle. This elicits an adrenaline rush that will get the animal up.
- 6. The compensation scheme when wildlife attack livestock is too low to buy replacement animals. There is need to lobby for revision of the compensation schemes guidelines and fee.

The section provides a framework that will work towards Integrating animal welfare guidelines and standards in FCDC region institutions and veterinary service delivery. The framework has two components, they include;

- 1. Mainstreaming OIE animal welfare standards in county legislation, policies and veterinary services delivery programmes;
- 2. Strengthening advocacy, awareness and communication on animal welfare across livestock value chains in FCDC region.

## COMPONENT 1: MAINSTREAMING OIE ANIMAL WELFARE STANDARDS IN COUNTY LEGISLATION, POLICIES AND VETERINARY SERVICES DELIVERY PROGRAMMES

The challenges of human resource capacity, lack of general awareness of animal welfare practices and minimal allocation of budgets to support veterinary services are some of the main constraints hindering the effective delivery of animal welfare services at the county level.<sup>42</sup> Although Kenya, has an OIE appointed and trained animal welfare focal point person there is no formally appointed national animal welfare working group. Instead, there is an informal structure network referred to as Animal Welfare Action Kenya (AWAKE) which is chaired by the DVS and comprising of government and non-government organisations working on animal welfare. The DVS has appointed a dedicated Animal Welfare Officer but has not allocated a specific budget or resources for this office. There are no other government officers appointed to discharge animal welfare services at national or county government levels. The lack of a comprehensive animal welfare governance structure is the main reason for the weak institutional framework for effective implementation of animal welfare in the country. It is under this background that the CPF-LDC is proposing to mainstream animal welfare OIE standards into county institutions. The component will achieve the following results:

- 1. Animal welfare strategy for FCDC region developed;
- 2. Prototype animal welfare bill for the FCDC region developed. The counties can benchmark with the Mandera county Animal Welfare bill.
- 3. Creation of an animal welfare section within County Veterinary Services departments in the FCDC region. The animal welfare section will be allocated sufficient staff and budgets to conduct their mandate. The staff will also be trained on animal welfare best practices across the livestock value chains.

<sup>42</sup> 

County Capacity Needs Assessment: Water, Livestock and Rangeland Management Sectors Millennium Water Alliance - Kenya RAPID Program.

## COMPONENT 2: STRENGTHENING ADVOCACY, AWARENESS AND COMMUNICATION ON ANIMAL WELFARE ACROSS LIVESTOCK VALUE CHAINS IN FCDC REGION

The component will focus on publicising the importance of adopting animal welfare practices across the livestock value chain and creating awareness of the existence of the Kenya Animal Welfare Strategy that has been aligned to the OIE standards outlined in the TAHC (2017), the standards relevant to the livestock pastoral set up include;

- Transportation of animals by sea;
- Transportation of animals by land;
- Slaughter of animals for human consumption;
- Slaughter of animals for disease control purposes;
- Stray dog population control;
- Animal welfare and beef cattle production systems;
- The welfare of working animals strategy.

The county veterinary services departments will spearhead the advocacy and sensitisation campaigns using appropriately targeted messages and mass media. The messages will be translated into the local languages for clarity and will Involve religious leaders and authorities as well as other leading local public personalities to disseminate the messages. The use of local vernacular community radio stations has been proven to be an effective way of passing important behavioural change messages in rural areas of Kenya<sup>43</sup>. The county department of veterinary services will also facilitate a public communication network that will be a platform to communicate animal welfare issues in consultation with all stakeholders. The department will use existing community structures that promote disease surveillance and reporting such as the Community Disease Reporters (CDRs) to promote animal welfare best practices in their respective villages. The component will deliver the following results;

- 1. Increased animal welfare knowledge and adoption of best practices amongst livestock value chain actors;
- 2. Promotion of responsible animal ownership through sustained sensitisation of animal welfare issues by department staff and CDRs;
- 3. Monitoring structure put in place to ensure compliance with animal welfare best practices across the livestock value chains. This will be achieved through;
  - Incentives to reward value chain actors who champion and practice good animal welfare practices
  - Partnering with local administration and law enforcement officers to enforce animal welfare by laws, especially arresting and on the spot fines for livestock transporters and traders flouting the law.

## LEADERSHIP AND IMPLEMENTATION APPROACH FOR PILLAR 7 ACTIVITIES

The county directors of veterinary services will reorganise its organisational structure to create an animal welfare division. The division will have a budget and staff trained on animal welfare OIE guidelines. The division will be in charge of giving policy guidance as counties mainstream OIE guidelines in county policies, strategies and programmes. The division will also spearhead animal welfare awareness and sensitisation campaigns across all levels of the livestock value chains. Table 11 provides a summary of the activities to be implemented under Pillar 7 that are expected to lead to the institutionalization of animal welfare within the livestock disease control activities in the FCDC region. County veterinary services director in collaboration with SFAL secretariat will lobby and mobilise resources from government, the private sector and development partners to support animal welfare initiatives.

<sup>43</sup> 

Dan Vidija Anduvate (2014). The Place of Community Radio in Rural Development in Kenya. A student project paper from the Department of Sociology and Social Work at the University of Nairobi.

The total budget for the first year of implementation is estimated to be **Kshs. 213.1 million**. The budget will be refined during stakeholders meetings since more information is needed to determine the precise funding situation in each county.

#### TABLE 11: SUMMARY FRAMEWORK ANIMAL WELFARE

	OVERALL OUTCOME:						
	Institutionalization of animal welfare standard	ds w	ithin livestock disease control activities in FCDC region				
СС	MPONENT 1:	СС	OMPONENT 2:				
Mainstreaming animal welfare standards into county institutions and legislation			Strengthening advocacy, awareness and communication on animal welfare across livestock value chains in FCDC region				
	RESULTS						
1.	Animal welfare strategy for FCDC region developed;	1.	Increased animal welfare knowledge and adoption of best practices amongst livestock value chain actors;				
2.	Prototype animal welfare bill for FCDC region developed;	2.	Responsible livestock ownership promoted;				
3.	Creation of an animal welfare section within County Veterinary Services depart- ments in the FCDC region.	3.	Monitoring structure put in place to ensure compliance with animal welfare best practices across the livestock value chains.				
	IMPLEMENT	ATI	ON ARRANGEMENTS:				

The county director of veterinary services will assign an officer to spearhead the animal welfare activities in the department. The officer will be in charge of mainstreaming OIE animal welfare guidelines in policies, strategies and programmes. The officer will also ensure adherence to the laid down animal welfare standards.

#### FINANCING MECHANISMS:

County veterinary services director in collaboration with SFAL secretariat will lobby and mobilise resources from government, the private sector and development partners to support animal welfare activities.

## TOTAL BUDGET:

Kelle 212 1 Million (M)					
KSHS. 213.1 MIIION (M)					
Kshs. 101.1 M	Kshs. 112 M				

#### PILLAR 8: LIVESTOCK RESOURCES, STATISTICAL INFORMATION AND COMMUNICATION SYSTEM

The current world population of 7.6 billion people is projected to reach 9.8 billion by 2050. Africa has the highest population growth rate in the world and is expected to contribute to more than half of the global human population increase.<sup>44</sup> The increasing human population, coupled with urbanization and improved incomes in developing countries is fuelling a global increase in the demand for food of animal origin (Figure). The increased demand termed as the 'Livestock Revolution' is being fuelled by changes in the diets of billions of people and could provide income growth opportunities for livestock keepers in Sub-Saharan Africa.<sup>45</sup>





## FIGURE 3: GLOBAL AND PROJECTED ANNUAL MEAT CONSUMPTION TRENDS

In order to take advantage of this demand, decisions about aid and investments that are intended to foster livestock production growth in Africa should be based on sound information about land use, factors of production, prevailing economic and social situations that producers face and the interaction of these issues with climate change. The impact of these complex interrelationships can only be effectively measured and evaluated with appropriate statistics. However, at present, Africa lacks the capacity to generate statistical data on which to base its investment or policy decisions. In 2011, a World Bank study found that many developing countries lacked the capacity to produce and report the minimum set of agricultural data necessary to monitor national trends.<sup>46</sup> Improving the quantity and quality of livestock data available to decision-makers at public and private sector levels is a crucial pre-condition before formulating and rolling out investment projects. There is, therefore, an urgent need to generate household panel data with a strong focus on agriculture and rural development. This is evidenced by a study conducted in Tanzania in 2011 that integrated the use of livestock market information and household panel data survey to link smallholders to livestock Markets.<sup>47</sup> The global strategy to Improve agricultural and rural statistics notes that most of the available livestock data is inadequate as it lacks consistency through time and between sources. Furthermore, the African culture of passing information through oral communication has resulted in a paucity of documented data.

<sup>44</sup> United Nations Department of Economics and Social Affairs (UNDESA) 2017. World Population Prospects: The 2017 Revision. 45 Food and Agriculture Organization of the United Nations (FAO) 2017: The Future of Food and agriculture- Trends and

Challenges. Rome.

<sup>46</sup> World Bank (2011) Global Strategy to Improve Agricultural and Rural Statistics. Report No. 56719-GBL. World Bank, Washington D.C.

<sup>47</sup> Ugo Pica-Ciamarra, Derek Baker John Chassama Mohamadou Fadiga and Longin Nsiima (2011). Linking Smallholders to Livestock Markets: Combining Market and Household Survey Data in Tanzania. A paper presented during the Wye City Group 4th Meeting on Statistics on Rural Development and Agriculture Household income. Held on 9th -11th November 2011 in Rio de Janeiro Brazil.

There is a gap in data verification and analysis. Hence cannot be disaggregated it to appropriate levels for different decision makers.<sup>48</sup>

The last livestock census conducted in Kenya was in 1988. This information gap was addressed in 2009 when the Kenya National Bureau of Statistics (KNBS) conducted a population and household census that captured livestock holdings at the household level. However, key stakeholders in the livestock industry noted that the questions used to capture livestock information were not exhaustive and left out crucial information. This was especially so for pastoralists production systems where the household respondent was asked how many livestock were currently in the 'Boma' /homestead. Given that pastoralists practice split herding as a way to cope with the spatial and temporal distribution of pasture. This question may have failed to capture the actual number of animals at the individual household level. Noting this gap, the national government in October 2017 announced that it would conduct its first agricultural census that will be integrated into the 2019 population and household census. The 2019 agricultural census will go towards contributing data for the 2020 World Census of Agriculture (WCA). The national government decision has been lauded as a timely move that will ensure evidence-based investment and policy decision as the country gears to achieve middle-income status by 2030.<sup>49</sup> The 2020 agricultural global census will focus on collecting the following key data for the livestock sector in each participating country;

- In each livestock holding the type of livestock production system, and type of veterinary services used;
- For each livestock species type
  - Number of animals
  - Number of animals by age, sex
  - Number of female breeding animals
  - Number of animals according to the purpose
  - Number of milking animals according to milk status
  - Number of animals born in the year
  - Number of animals acquired
  - Number of animals slaughtered
  - Number of animals disposed of/culled
  - Number of animals that have died from natural causes and disease
  - Types of feeds used

The FCDC member counties indicated that due to budgetary and human capacity constraints the county livestock production sections were no longer collecting data on livestock population dynamics and production. The counties were currently relying on secondary data from abattoirs and livestock markets as well as the 2009 census data to make projections and estimates. The 2009 census estimated that Kenya's livestock resource base was composed of approximately 60 million animals, comprising of 29 million indigenous and exotic chicken, 10 million beef cattle, 3 million dairy and dairy cattle crosses, 9 million goats, 7 million sheep, 0.8 million camels, 0.52 million donkeys and 0.3 million pigs. Mandera is the only FCDC region county that has conducted a livestock census in 2014/15. Mandera estimates that it has 1,016,790 camels, cattle 863,625 cattle, 3,415,484 goats, 1,164,238 sheep, 208,126 donkeys, 56,874 indigenous chicken and 23,388 beehives. The data collection method used could not be immediately verified and more information to understand the method used and type of data collected to make inferences will be gathered during stakeholders meeting. The IGAD Livestock Policy Initiative (LPI) in 2011 and in collaboration with KNBS found that livestock's contribution to Kenya's agricultural GDP was two and a half times more than the official estimates of 2009.

<sup>48</sup> World Bank (2011) Global Strategy to Improve Agricultural and Rural Statistics. Report No. 56719-GBL. World Bank, Washington D.C.

<sup>49</sup> Regional Roundtable on the World Programme for the Census of Agriculture 2020. Meeting Held On 18th to 22nd September 2017 in Nairobi, Kenya. FAO Statistics Division.

The study used the commodity flow approach and found that ruminant livestock's contribution to agricultural GDP was close to 345.448 billion Kenya shillings this was two and a half times more than the 2009 official estimate of 127.723 billion Kenya shillings. The disparity was due to several factors, but the main ones were that Kenya's livestock population size especially in the ASALs is largely unknown and estimates used in 2009 under-represented its size. Secondly, previous calculations were based on official sales records. Which missed production that was traded informally or directly consumed by livestock-owning households. According to the revised estimates, milk is Kenya's most economically important livestock product, providing three-quarters of the total gross value of livestock's contribution to the agricultural sector. Cattle are Kenya's most important source of red meat, supplying by value about 80% of the nation's ruminant off take for slaughter. More than 80% of the beef consumed in Kenya is produced by pastoralists, either domestically or in neighbouring countries and then imported on the hoof through unofficial and undocumented channels. The increase of 150% over official estimates means that livestock's contribution to agricultural GDP is only slightly less than that contributed by arable agriculture- 320 billion Kenyan shillings for livestock (about \$4.21 billion US dollars in 2009).<sup>50</sup>

The chronic lack of animal resources information, particularly surveillance data from African countries prompted AU-IBAR under its Knowledge management programme to support the development of an animal resource data management database, the Animal Resources Information System (ARIS II) which has the functionality shown in Figure 4 below.



FIGURE 4: ARIS II MULTI-LEVEL INTRA OPERABILITY FUNCTIONALITY

ARIS I was launched in 2002 and was able to demonstrate the importance of having a common platform to report diseases and generate reports. However, the initiative faced major challenges; the Oracle programme had a long and cumbersome installation procedure and required computers with high specifications, the user was also required to a have some programming knowledge. Oracle also required license fees and regular upgrade that could not be maintained by individual countries once the

pilot phase of the project ended in 2007. In 2012, ARIS II was launched as a cost-effective Livestock Information Management System (LIMS) due to its open source software. The new ARIS allowed member states to generate, validate, store, analyse and submit different types of data on animal resources using an online web-based system, thus providing real-time information. It also has an offline functionality if the internet is not readily available. ARIS II was a promising initiative as indicated by most county veterinary staff who had been trained, but data collection at herd level was paper-based so labor intensive and logging into the ARIS II platform was also a challenge. AU-IBAR has not been able to roll out a mobile-based data collection module for ARIS II. In addition, ARIS II has not been linked to OIE WAHIS.<sup>51</sup> After devolution, most counties felt they wanted to be in charge of managing the data generated from their jurisdiction and did not support the upscaling of ARIS II due to its challenges aforementioned. It is under this background that several initiatives have been launched in FCDC region. All initiatives are based on the use of smartphones to collect disease outbreak and conduct syndromic surveillance, electronic surveillance (E-surveillance). FAO-UN and Kenya's Directorate of Veterinary Services (KDVS) in 2013 adopted EpiCollect which is an open source platform developed by London's Imperial College which enables real-time data collection using mobile applications such as tablets and smartphones. The mobile and web interfaced platform allows a user to launch and define project attributes as well as collect data. The application enables two-way communication between field surveillance teams and their databases. The data collected is then submitted to a common web database for display. The disease surveillance or outbreak data collected is Geo-referenced in both tabular and spatial form. Also, to disease surveillance and reporting, FAO-UN and KDVS staff trained veterinary professionals and para-professionals on;

- Outbreak investigation using a one health approach,
- Outbreak reporting,
- Sample collection and submission.

The success of EpiCollect is evidenced by the increase in the number of counties reporting disease outbreaks to KDVS. In the FCDC region, the counties of Lamu and Garissa are among the top 3 of the 47 counties consistently reporting diseases using the EpiCollect platform. The main challenge is that EpiCollect is hosted on a cloud server, this means the data is subject to data breaches. In addition, the system has a frequent service outage due to challenges in internet connectivity. A recent E-surveillance initiative of an ILRI's AVCD project, dubbed E-wallet has trained county animal health staff who then trained Community Disease Reporters (CDRs). The CDRs have been provided with smartphones to report disease syndromes. The reports are displayed on a digital dashboard that is used to monitor syndrome trends and trigger response interventions when a critical cluster of symptoms is reached. The county government and sub-county animal health personnel are tasked with early response responsibility. The main challenge with the E-wallet initiative is that it is not linked to the KDVS, who is the only OIE authority in a country tasked with generating official reports concerning livestock disease status in the country and its regions. In addition, the E-wallet is only in 2 counties (Turkana and Marsabit), unlike the EpiCollect system which is in all FCDC counties. The FCDC region will need to select a LIMS system that can integrate livestock disease information, production and market information as this will allow more robust data analysis hence better decision making. Creation of such a system requires significant human and financial resources. FCDC member counties are therefore urged to utilise already existing and proven LIMS. ARIS II, despite not having a herd level electronic data collection device, has still a multitude of functionality that makes it popular and used in 45 countries in Africa. These include;

 Ability to share data across many different sectors, organizations and livestock value chain actors as well as regulatory institutions such as KDVS and OIE;

<sup>51</sup> 

Personal Communication from Dr. Harry Oyas, head of the Veterinary Epidemiology and Economics Unit (VEEU) Department of Veterinary Services, Ministry of Agriculture, livestock and Fisheries, Nairobi, Kenya on 30th April 2018.

- Decentralised information management approach that enables relevant user groups and/or Institutions in AU-IBAR member states and Regional Economic blocs (RECs) to have a flow of information in a standardised and swift manner;
- The robust data, statistical analysis that integrates livestock production, marketing and health data. The database will in the future be linked to OIE- World Animal Health Information System (WAHIS) and FAO-UN Transboundary Animal Diseases Information (TAD-Info) platform. ARIS II can be linked to other national-level databases such as Livestock Identification and Traceability System (LITS), Laboratory Information System (LIS) and Kenya Director of Veterinary Services (DVS) disease outbreak and surveillance tools (EpiCollect).

However, according to the KDVS, ARIS II rollout is bound to fail because AU-IBAR has failed to develop a phone-based data collection method at the primary data collection level (Figure 4), this makes the system labour intensive especially in an area where resources and literacy levels are limited. Noting this gap, the Kenya Director of Veterinary Services (KDVS) together with Washington State University (WSU) is launching a new comprehensive LIMS which is an electronic syndromic surveillance system dubbed the 'Kenya Livestock and Wildlife Syndromic Surveillance System' (KLWSSS). The new system will build on the EpiCollect platform and improve on it as it will have the server based at the KDVS instead of the cloud. The KLWSSS will not only allow syndromic reporting, but will also allow input of tentative diagnosis, data verification and editing starting from sub-county, county and KDVS level. The KLWSSS will also have modules that will allow laboratory results input and in the future livestock market producer and consumer information as well as abattoir production information.<sup>52</sup>

The purpose of pillar 8 is to provide a harmonized data collection, analysis and reporting system for FCDC region. Pillar 8 has three components;

- 1. Common Livestock Information Management System (LIMS) for the FCDC region;
- 2. Identification of a minimum set of livestock item core data that will be used to guide FCDC region priority areas of interventions;
- 3. Common Communication strategy for the FCDC region.

## COMPONENT 1: LIVESTOCK INFORMATION MANAGEMENT SYSTEM (LIMS) FOR THE FCDC REGION

The FCDC region needs to adopt a LIMS that can capture data, analyse and transmit timely reports to relevant regional, national and international stakeholders. The region has been urged to adopt ARIS II or KLWS3 as it will offer them the advantage of having a system that is tried and tested and already locally available at the DVS office. This component will deliver the common LIMS adopted across the FCDC region. This will allow;

- Reporting of disease outbreaks, surveillance and control activities.
- Creation of a knowledge repository and sharing platform for livestock value chain actors within and beyond the FCDC region.
- Compliance with OIE and WTO international standards that demand accurate data and disease status transparency.

## COMPONENT 2: IDENTIFICATION OF A MINIMUM SET OF LIVESTOCK ITEM CORE DATA THAT WILL BE USED TO GUIDE FCDC REGION PRIORITY AREAS OF INTERVENTIONS.

Core data items are selected on the basis of their importance in agricultural production globally. FAO-UN estimates that only ten crops and four livestock species account for over 95% of the world's production of cereals and meat. A core item data is used as a key indicator to monitor and evaluate development policies, food security, and progress toward meeting the Sustainable Development Goals (SDGs).

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Personal Communication from Dr. Harry Oyas, head of the Veterinary Epidemiology and Economics Unit (VEEU) Department of Veterinary Services, Ministry of Agriculture, livestock and Fisheries, Nairobi, Kenya on 30th April 2018.

A core item is usually the first to be included in the statistical system and the last to be removed as a result of budget shortfalls. Core livestock items include cattle, sheep, goats and poultry. The data required for core livestock item analysis include;

- Inventory of annual birth;
- The quantity of production of meat, milk and eggs;
- Producer and consumer prices.

The livestock analysis is integrated with core socioeconomic data such as household income by source, the percentage employed, age, gender and education levels. The two data sets when combined guide policy decisions about developmental efforts to reduce poverty. The main results expected for this component are;

- 1. Robust statistical data that meets current and emerging analysis demands. The data will aid the FCDC region make sound and informed policy and investment decisions;
- 2. Creation of a livestock resource statistical office/desk at each FCDC county veterinary department. The officer seconded to this role will ensure the Frontline extension animal health and livestock production staff gather core data items for livestock production and dynamic population changes at the village and household levels. The trained officer will then enter the data, analyse and develop reports for the county and national governments.

## **COMPONENT 3: COMMON COMMUNICATION STRATEGY FOR THE FCDC REGION**

The traditional communication channel for animal health practitioners involved communicating to a small circle of animal health stakeholders who often had a similar technical understanding of the message to be transferred. However, globalisation, heightened awareness of biological threats and rapid nature of information access has resulted in rumours, opinions and perceptions circulating faster than authentic information. Animal health practitioners have inadvertently been put at the forefront to address public concerns, especially regarding food safety. Communication skills, also known as soft skills have generally been lacking in most animal health training curriculum. To address this challenge OIE developed a communication handbook that can be used to guide veterinarians on how to quickly identify and address perceptions, beliefs, rumours and misinformation through preparing and disseminating timely, credible and easy to understand information.<sup>53</sup> The FCDC region will develop a communication strategy to aid the rollout of the CPF-LCD and to inform stakeholders about FCDC region livestock development agenda at national, regional and international levels. The component will deliver the following results;

- 1. Lobby for the formalisation of the County Livestock Production, Health and Marketing Board;
- 2. Adopt a common branding system for FCDC livestock products and identify brand ambassadors to promote products particularly camel products;
- 3. Develop innovative communication channels to create awareness of the existence of the CPF-LDC in FCDC region and leverage on the region's comparative advantage to attract investments and mobilize resources.

## LEADERSHIP AND IMPLEMENTATION APPROACH FOR PILLAR 8 ACTIVITIES

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FCDC- SFAL secretariat will engage Kenya National Bureau of Statistics (KNBS) to ensure tools to collect the core livestock data are adequate to support decision making. KNBS will also be involved in training staff on data collection, analysis and reporting. SFAL secretariat will lobby for a meeting with KNBS and FCDC region veterinary and livestock departments. The meeting will allow KNBS to sensitize staff on data collection tools to be used during the 2019 livestock census as well as allow staff to give KNBS feedback on the tool's ability to comprehensively capture pastoralist unique setting.

SFAL Secretariat together with counties will create the County SFAL task force in each county to oversee the actualization of the CPF-LCD pillar activities. The county SFAL taskforce supported by a communication consultant will develop a common FCDC brand, identify brand ambassadors and develop targeted messages and high impact dissemination communication channels. Table 12 provides a summary of the activities to be implemented under Pillar 7 that are expected to lead to the establishment of livestock resources statistical information and communication system in the FCDC region.

The County SFAL task force in collaboration with SFAL secretariat will lobby and mobilise resources from government, the private sector and development partners to support pillar 8 result-based activities. The total budget for the first year of implementation is estimated to be **Kshs. 280 million** (Table 12). The budget will be refined during stakeholders meetings since more information is needed to determine the precise funding situation in each county.

	TABLE 12: SUMMARY FRAMEWORK FOR ANIMAL RESOURCES STATISTICAL INFORMATION AND COMMUNICATION
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OVERALL OUTCOME:					
COMPONENT 1:	COMPONENT 2:	COMPONENT 3:			
Common Livestock Information Management System (LIMS) for the FCDC region	Identification of minimum livestock statistical core data item in the FCDC region	Common Communication strategy for the FCDC region			
RESULTS	RESULTS	RESULTS			
Common LIMS (ARIS II or KLWS <sup>3</sup> ) adopted across the FCDC region	1. Robust statistical data that meets current and emerging analysis demands	<ol> <li>Lobby for the formalisation of Kenya Livestock Promotion Board (KLPB)</li> </ol>			
	2. Creation of a livestock resource statistical office/ desk at each FCDC county	2. Adopt a common branding system for FCDC			
	veterinary department.	<ol> <li>Developed innovative communication channels to create awareness of the existence of CPF-LDC in FCDC region</li> </ol>			

## **IMPLEMENTATION ARRANGEMENTS:**

SFAL secretariat to engage KNBS to train FCDC county data officers on data identification, collection, analysis and reporting. SFAL secretariat to organise a roundtable discussion between KNBS and FCDC veterinary and livestock departments ensure tools to collect 2019 livestock data can comprehensively capture pastoral production systems unique setting. County SFAL Livestock Disease Coordinating Unit will spearhead the communication component that will be in charge of promoting FCDC region CPF-LDC activities at local, national and international levels.

## FINANCING MECHANISMS:

County SFAL Livestock Disease Coordinating Unit in collaboration with SFAL secretariat will lobby and mobilise resources from government, the private sector and development partners to support pillar 8 result-based activities.

TOTAL BUDGET:					
Kshs. 280 Million					
Kshs. 120 Million	Kshs. 60 Million	Kshs. 100 Million			

#### PILLAR 9: INSTITUTIONAL DEVELOPMENT AND KNOWLEDGE MANAGEMENT

The Ninth pillar will aim at sustaining a long-term and coordinated approach that will ensure the successful implementation of the common programme framework for livestock disease control in the FCDC region. Pillar 9 activities will facilitate a supportive enabling environment as well as provide the evidence base for decision-making. This pillar framework has two components, institutional development and knowledge management.

#### **COMPONENT 1: INSTITUTIONAL DEVELOPMENT**

The CPF-LDC should be coordinated at SFAL level because of the cross county and cross-border impacts of livestock diseases. Nationally, there have been attempts to coordinate cross-border livestock policies, including livestock disease control; however, these initiatives remain weak and will need further development. At SFAL level, the Framework recommends the development of an FCDC wide coordination mechanism involving all the County Directors of Veterinary Services from the region, with inputs and leadership guidance being provided by the Kenya Director of Veterinary Services. As the Framework aims to create and maintain active collaboration between stakeholders, it, therefore, proposes the establishment of County SFAL Livestock Disease Coordinating Units which will provide the continued coordination of CPF-LDC activities at the county level. This component will deliver the following results;

- 1. Identify and establish national and county institutions that will enhance livestock disease control in FCDC region
- 2. Evidence-based policy and legal reforms that allow disease control programme coordination and implementation
- 3. Development of mutually beneficial Public-Private Partnerships that support long-term disease control in FCDC region
- 4. The Common Programme Framework for Livestock Disease Control in FCDC region mainstreamed within the County CIDP and Kenya Vision 2030.

#### COMPONENT 2: KNOWLEDGE DEVELOPMENT

The scale and scope of the FCDC region Common Programme Framework for Livestock Disease control is a multi-agency, multi-sectoral, multi-year and multi-county initiative that requires strong evidence gathering systems so as to ensure that the vast information generated is used effectively to guide decision-making and practice and that the wealth of experience and knowledge gained is appropriately managed and applied. It is for this reason that the 9th pillar has an explicit focus on knowledge management, which will be spearheaded by SFAL secretariat who will draw on expertise from within Kenya, the Horn of Africa region and internationally. The Framework will include an ongoing monitoring and evaluation process of assessing the effectiveness of the interventions that are being applied, identify gaps in knowledge and adapt the objectives and methods as required. This will need to start with the establishment of baseline data of livestock diseases in the FCDC counties. The Framework, therefore, recommends a detailed and FCDC wide participatory epidemiology study of the priority livestock diseases. In addition, as the Framework activities are implemented, there will be need to collect data on the process and impact indicators. This will facilitate measurement of the effectiveness of interventions on changing disease epidemiological indicators that will focus on progress being made towards the 10-year goal of ending disease emergencies and progress made by each pillar against the outcome indicators in the results framework.

Responsibility for monitoring and evaluating individual programmes and projects that contribute to the outcomes of each pillar rests with the respective county directors of veterinary services who will be supported by the SFAL Livestock disease control coordination unit. Operational guidance on monitoring and evaluation will be provided by the SFAL Secretariat in FCDC. A summary of pillar 9 framework is given in table 13 below.

#### TABLE 13: OVERALL OUTCOMES, RESULTS AND ACTIVITIES FOR INSTITUTIONAL AND KNOWLEDGE MANAGEMENT

coordination, facilitation and oversight; and Knowledge management				
<b>COMPONENT 1:</b> Institutional development		COMPONENT 2: Knowledge Management		
		RE	SULTS	
1.	Identify and establish national and county institutions that will enhance livestock	1.	Evidence-based investment choices made by public and private livestock sector stakeholders in the FCDC region	
2.	Evidence-based policy and legal reforms developed that allow disease control programme coordination and implementation	2.	Robust monitoring and evaluation frameworks that generate knowledge and assess impacts of CPF-LDC progress towards attaining its goal of reduced incidence of priory livestock diseases	
3.	Development of mutually beneficial Public- Private Partnerships that support long-term disease control in FCDC region	3.	Targeted communication and advocacy messages that allow increased public and private stakeholder awareness and involvement in the CPF-LDC activities.	
4.	The Common Programme Framework for Livestock Disease Control in FCDC region mainstreamed within the County CIDP and Kenya Vision 2030.			

**OVERALL OLITCOME:** Put in place core institutions to undertake the functions of implementation

#### IMPLEMENTATION ARRANGEMENTS

The development of institutional and coordination mechanism for the Framework activities under an FCDCwide umbrella is essential for providing leadership, efficient response to diseases and better management of resources. Through a proposed coordination mechanism, it is envisaged that collaboration will be enhanced, resources mobilized and information shared and availed on time. The Framework recommends that the coordination of the Framework activities be done through the SFAL. FCDC- SFAL will play the overall role of providing a platform to coordinate, mobilise stakeholders and resources. At the county level, the County SFALs through the county SFAL Livestock Disease Control Unit will coordinate CPF-LDC activities and ensure regular communication of progress as well as monitor and evaluate impacts. The CDVS from each county will offer technical direction for the CPF-LDC activities. All staff in the county veterinary departments together with state and non-state actors will be involved in the successful implementation of the Framework.

#### **FINANCING MECHANISMS**

The mobilization of resources will be coordinated through the FCDC-SFAL Secretariat, who will work together with the existing County financial management systems to disburse the funds to support CPF-LDC implementation in the FCDC region.

TOTAL BUDGET:				
KSHS. 600 MILLION				
Kshs. 500 m		Kshs. 100 m		

# INSTITUTIONAL AND LEGAL FRAMEWORK FOR LIVESTOCK DISEASE CONTROL

The Kenya National Livestock Policy outlines the institutional and legal arrangement for the livestock sector in Kenya. The Ministry of Agriculture, Livestock and Fisheries (Ministry of Pastoral Economy and Fisheries in Turkana County) has the responsibility of creating an enabling environment for livestock disease control in the FCDC region. This is achieved through the Department of Veterinary Services and supporting national and county institutions that are involved in policy and governance of the sector, such as the Kenya Veterinary Board and Directorate of Veterinary Medicines. The Department of Veterinary Services, animal health inspectorate services, quality assurance, vector control, zoonotic disease control and veterinary epidemiology, food safety (of animal origin), hides and skins improvement and leather development, breeding and genetics, certification to meet the international sanitary and zoosanitary requirements in line with the WTO guidelines, policy, monitoring and evaluation of animal health programmes, and animal welfare.

Due to various challenges in the delivery of animal health services, livestock disease control across the FCDC region has not been effective, thus resulting in endemicity of livestock diseases in the region. To address these challenges, the Framework recognizes the need to restructure the services delivery harmonizing and coordinating activities across the FCDC region while introducing additional human resources, competencies and skills to support control efforts, and recognizing the role of other institutions and stakeholders, especially private sector in disease control.

On the legal framework, a weakness exists in the enforcement of the existing regulations (in disease control, service provision, and extension, and regulation of veterinary pharmaceuticals and vaccines among others). There is, therefore, the need to address these weaknesses by reviewing the existing legislation, and where necessary put in place FCDC – wide harmonized county Bills and Acts to streamline the operations of the sector.

Mobilizing financing for the Framework will be critical for its success. Unfortunately, the livestock sector in the FCDC region though considered a driver of the local economy has not been receiving adequate funding from the county governments. The counties have allocated minimal resources to this sector, between 2 - 4% of their total funds to the livestock sector on average. The highest share allocation to the livestock can be found in Tana River with 15% and the lowest in Isiolo (2015/16). Towards this end, the respective FCDC county governments must make necessary efforts to mobilize adequate financial resources for the implementation of the Framework, including development partners, the private sector and livestock producers.

#### PROGRAMME MANAGEMENT AND IMPLEMENTATION

The implementation plan will encompass the entire FCDC region composed of livestock producers, veterinary professionals, actors within the livestock and livestock products marketing system, NGOs, private animal health providers, researchers and other stakeholders. Naturally, the institutional mechanism for disease control will be under the respective County Directors of Veterinary Services who will coordinate the involvement of these stakeholders. Within the current framework, the nominated leader of each Pillar and Component will be responsible for planning, coordination with the relevant stakeholders and implementation as well as reporting on each of the Pillars and its Components. The Framework aims to create and maintain active collaboration between stakeholders and for this purpose the SFAL Livestock Disease Coordinating Unit will be formed in each county. The Framework recognizes the opportunities for private-public partnership in delivering on the key outputs of the Framework.<sup>54</sup>

## **RESOURCE MOBILIZATION PLAN**

The FCDC region earns 80% of its revenue from the livestock sector. However, most member counties only allocate ess than 4% of their total annual budget to the livestock sector. This allocation is insufficient to run and sustain veterinary services. Also, a recent capacity needs assessment conducted five FCDC counties found that disbursement of allocated funds often faced chronic delays with all CDVS noting that funds allocated to their departments were found only on paper<sup>55</sup>. The SFAL County Executive Committee (CEC) members of agriculture and livestock will spearhead resource mobilisation and will strive to engage and lobby the Governors and Members of County Assembly (MCA) to allocate at least 10% of the county's annual budget to the livestock sector. This is in line with the Comprehensive Africa Agriculture Development Programme (CAADP) Maputo (2003) and Malabo (2014) declarations. To ensure financial self-reliance of the livestock sector that will help realise the FCDC region CPF-LDC, the following revenue sources will be explored;

- The county veterinary departments will develop project proposals and submit them for funding and/or implementation by the private sector and donor partners.
- The CECs will advocate for setting up of an administrative body that will manage the livestock sector taxes/cess revenues collected. This body will develop financial instruments and agreements that will work out the revenue percentage to be reinvested into the livestock sector.
- Remittances from the diaspora remittance is money sent by a person in a foreign land to his
  or her home country. The central bank of Kenya now recognises remittances as an important
  contributor to the country's growth and development. The bank estimated that by the end of 2016
  remittances by Kenyans in the diaspora stood at Shilling 177 billion. The diaspora remittances
  had surpassed other sources of foreign exchange earners such as tea, horticulture and tourism.
  However, to encourage private investment in the livestock sector, the county government needs
  to advocate for some of the remittances to be invested in the livestock sector. A major incentive
  is ensuring that free livestock inputs are not offered to livestock keepers during vaccination
  campaigns this will avoid undermining private sector investments.
- Revise the current fee charged by the county veterinary department as they conduct their regulatory and supervisory mandate such as meat inspection, branding (LITS), livestock market and sales yard health certification and movement permit provision.
- The adoption of the FCDC regional Common Programme Framework for Livestock Diseases Control will open up avenues for financial and technical support from Regional Economic Communities (RECs) such as IGAD and development/ international institutions such as AU-IBAR, FAO-UN, African Development Bank and World Bank. Support to set up quarantine stations to enhance disease control and surveillance can also come from private companies located in the Middle East and North Africa (MENA) countries dealing in live livestock and meat importation. This can be done by having a working agreement between FCDC member counties through SFAL and the Red Sea Livestock Trade Commission (RSLTC).

## **COORDINATION MECHANISMS**

Ideally, the proposed framework should be coordinated at the FCDC level because of the cross county and cross-border impacts of livestock diseases. Nationally, there has been attempts to coordinate cross-border livestock policies, including livestock disease control; however, these initiatives remain weak and will need further development. At FCDC level, the Framework recommends the development of FCDC – wide coordination mechanisms involving all the County Directors of Veterinary Services from the region, with inputs and leadership of the Director of Veterinary Services. As the Framework aims to create and maintain active collaboration between stakeholders, it, therefore, proposes the establishment of an "FCDC Livestock Disease Control Coordinating Unit" which will continue to evolve, enhance, and refocus livestock disease control programs to meet existing and impending challenges.

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County Capacity Needs Assessment: Water, Livestock and Rangeland Management Sectors Millennium Water Alliance - Kenya RAPID Program.

#### MONITORING AND EVALUATION

The Monitoring, Evaluation and Learning (MEAL) plan is the tool for the successful implementation of the FCDC regional Common Programme Framework for Livestock Diseases Control. The framework MEAL plan will be undertaken by a monitoring, evaluation and learning team that will be composed of two staff one from the SFAL secretariat and the other from the county SFAL Livestock Disease Control Coordinating Unit. The team will be regularly capacity built to ensure their skills are updated on various techniques of collecting data to measure CPF-LCD impacts at all levels of the livestock value chain as consultants will only be engaged where there is a capacity shortfall in the team, this will ensure sustainability. The MEAL team will provide technical leadership in all monitoring, evaluation, research, documentation and knowledge management and will conduct evaluations on a quarterly basis.

The Framework will include an ongoing review to assess the effectiveness of the interventions that are being applied, identify gaps in knowledge and adapt the objectives and methods as required. This will need to start with the establishment of baseline data of livestock diseases in the FCDC counties. The Framework, therefore, recommends a detailed and FCDC – wide participatory epidemiology study of the priority livestock diseases. In addition, as the Framework activities are implemented, there will be need to collect data on the process and impact indicators. This enables measurement of the effectiveness of interventions on epidemiological indicators such as incidence and prevalence and identifies areas needing strengthening.

This will focus on two key issues:

- Progress being made towards the 10-year goal of ending Disease emergencies, measured by the indicators for the overall Disease Control outcome
- Progress being made by each pillar of the Disease Control against the outcome indicators in its results framework.

Responsibility for monitoring and evaluating individual programmes and projects that contribute to the outcomes of each pillar rests with the implementing agencies concerned. Operational guidance on monitoring and evaluation will be provided by the SFAL Secretariat in the FCDC. Finally, in monitoring the Framework, the Ministry will work closely with the sector stakeholders to ensure stronger coordination and harmonization of activities undertaken by the development partners and NGOs involved in livestock development. An appropriate participatory M&E system will be established in order to ensure that the necessary corrective measures are taken at the right time during the implementation of projects and programmes in the sub-sector. To this end, a pro-active information management and information sharing system will be institutionalized.

#### COMMUNICATION AND ADVOCACY PLAN

Effective communication with all stakeholders at both county and national levels will enhance awareness creation and will be crucial to the success of the FCDC region CPF-LDC. The communication and advocacy initiatives will be collaboratively spearheaded by SFAL secretariat and county SFAL Livestock Disease Control Coordinating Unit and will aim at:

- Utilizing the most appropriate media, formats and languages to ensure effective communication to all livestock value chain actors. The communication will support awareness creation and adoption of the FCDC regional CPF-LDC as well as ensure all actors understand their respective roles.
- 2. Creating adequate incentives and public-private partnerships to invest in the FCDC region CPF-LDC activities.
- Developing an ICT system that links FCDC region with national, regional and global laboratory and surveillance systems. This will improve disease status reporting and increase transparency. These two areas are critical to facilitate access to regional and international markets for live livestock and livestock products.

#### KNOWLEDGE MANAGEMENT

The scale and scope of the Disease Control – which is a multi-agency, multi-sectoral, multi-year and multi-county – makes it a highly knowledge-rich initiative. Strong systems will be needed to ensure that the large amounts of information likely to be generated are used effectively to guide decision-making and practice and that the wealth of experience and knowledge is appropriately managed and applied. For this reason, the 9<sup>th</sup> pillar has an explicit focus on knowledge management, which is spearheaded by a Coordinator in FCDC who draws on expertise from within Kenya, the Horn of Africa region and internationally.

#### **RISK MANAGEMENT PLAN**

One critical assumption that will fast-track implementation of the FCDC region Common Programme Framework for Livestock Diseases Control action is that funds will be readily available at the inception and that all procurement processes will be expedited. The successful implementation of the Framework will depend on cooperation and proper coordination between FCDC county governments through the county SFAL Livestock Disease Control Coordinating Units, national government, international and regional development partners. This will ensure that the required funds are sufficient in amount and disbursed promptly to enable implementation of the planned activities. Another critical assumption is that there will be the political will to allocate national and county budgets to support the proposed activities as well as favourable macroeconomic policies directed towards the development of transport and communication infrastructure, especially in FCDC region. A Systematic Operations Risk-rating Tool (SORT) will be used to help FCDC region consistently assess and monitor risks across all operational instruments. The overall aim of SORT will be to identify risks that need to be focussed on and mitigated against. The risk level rating in the table below will regularly be revised in a participatory manner with inputs from counties and national livestock industry stakeholders.

#### TABLE 14: RISK ANALYSIS AND MITIGATION STRATEGIES

Risk Category	Risk Level Rating	Risk Mitigation Strategy
Political and governance interference at county and national levels due to change of regimes	High	Strong monitoring and evaluation system that will generate evidence of progress and justification for continued investment
Macroeconomic sector strategies and policies have many competing interests	High	CPF-LCD initiative will have the full support of the Pastoralist Parliamentary Group that will keep national priorities focused on the development of the ASALs as envisioned in Kenya's Vision 2030.
Capacity to implement the framework interventions and absorb the level of financing scale involved.	High	Each pillar includes investment in the human workforce and setting up systems that integrate the framework within the counties resource allocation and disbursement systems.
The government, the private sector and donor agencies continue to act independently.	Moderate	SFAL national Secretariat and County SFAL Livestock Disease Coordinating Unit will strategically target agencies whose policies and priorities are in line with the CPF-LCD programme. Signatories to the framework will ensure continued commitment to its principles and goals.


## Sector Forum for Agriculture and Livestock (SFAL)

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