



REPUBLIC OF KENYA

MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES AND IRRIGATION

STATE DEPARTMENT FOR LIVESTOCK

DRAFT NATIONAL LIVESTOCK POLICY

KENYA

February 2019

FOREWORD

This Policy is a result of various consultations among stakeholders convened to review the Livestock Policy. The Policy is consistent with current government strategies including the Vision 2030 and its Medium Term Plans (MTP's), the Big Four Agenda and the sector wide agricultural sector development strategies that have been developed to enable the achievement of national development objectives. This edition has been revised to align it to the Constitution of Kenya, 2010.

The Livestock Policy covers key issues relating to: farm animal genetic resources, livestock feeds and nutrition, inputs, animal diseases and pests, livestock marketing, research and extension and food security. In developing this sub-sector policy, it is appreciated that over 80% of Kenya's land mass is arid and semi-arid and livestock is the main source of livelihood in these areas. It is further noted that even in the non-ASAL areas, the livestock sub-sector constitutes an important source of family income and food security. In addition, livestock directly contributes to the foreign exchange earnings for our nation through export of livestock products, live animals and germplasm. As such, livestock development agenda in the country will be pursued towards commercialization.

The Policy recognizes the major stakeholders in the Livestock sub Sector and proceeds to define their respective roles. It also takes cognizance of the impact of livestock activities on the environment and other natural resources such as land, water and wildlife/livestock interaction. Social inclusivity and related challenges have also been given attention due to their impact on the livestock sub sector. The accomplishment of the policy objectives spelt out here will depend largely on the formulation, review and implementation of strategies on breeding, feed and nutrition, livestock disease control and management, financial services, public health, extension and research services, among others, at the national and county levels of government.

This Policy recognizes the potential of the ASALs in livestock production and proposes options for the economic exploitation of these areas. The Policy takes cognizance of the contribution of the livestock value chain including non-conventional livestock species to the country's Gross Domestic Product. It is our expectation that the policy changes envisioned in this document will revitalize the livestock sub sector and guarantee the

sustainability of livestock farming as a major economic thrust in the country. It is also expected to enhance Kenya's leadership position in livestock growth and development within the region and beyond.

The Policy provides guidance to national and county governments in the development of the Livestock Industry in line with Vision 2030 and the Constitution of Kenya, 2010. The Policy interventions clearly spell out the role of each level of government while providing the necessary linkages.

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PREFACE

This Policy was reviewed through a consultative process involving stakeholders in Livestock Industry. It is aligned to the Constitution, Kenya Vision 2030 and other Agriculture Sector policies and strategies. The focal areas in the Policy include; animal genetic resources; production and production systems; animal health; inputs and support services; livestock and livestock product marketing, agribusiness and value addition; social inclusion; institutional arrangements and legal frameworks for delivery of policy objectives and its monitoring and evaluation framework.

In implementing the Constitution of Kenya, 2010 that demanded alignment of policies, institutions and functions to the devolved system of government and other concomitant requirements the review has addressed what was not contained in the Sessional paper No. 2 of 2008 to ensure a harmonized and synergized policy environment for delivery of services in the livestock sector.

The reviewed Policy addresses the key current and emerging issues that are impacting or will impact on livestock at the two levels of government. It also sets policy directions for livestock growth and development, contribution to equitable food and nutrition security, and enhanced sustainable use of animal resources. This will be achieved through leveraging on the strengths and opportunities while addressing weaknesses to build resilience and sustainability of the sector.

The Policy aims at transforming livestock from subsistence to commercialized undertaking by applying modern technologies acquired through continuous research and innovations. This will address key challenges emanating from global, regional and cross-county issues including treaties, conventions and agreements that Kenya is signatory to. It advocates for close inter-sectoral linkages between national and county governments and stakeholders growth and development.

Harry K. Kimutai

Principal Secretary –State Department of Livestock

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LIST OF ACRONYMS

AFC	Agricultural Finance Corporation
AHITI	Animal Health and Industry Training Institute
AI	Artificial Insemination
AnGR	Animal Genetic Resources
APSK	Animal Production Society of Kenya
ASALs	Arid and Semi-Arid Lands
ASDS	Agricultural Sector Development Strategy
CAIS	Central Artificial Insemination Services
CBOs	Community Based Organizations
CBPP	Contagious Bovine Pleuropneumonia
CCPP	Contagious Caprine Pleuropneumonia
DLP	Director of Livestock Production
DTI	Dairy Training Institute
DVS	Director of Veterinary Services
FAO	Food and Agriculture Organization
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immuno-deficiency Syndrome
HMPL	High and Medium Potential Lands
ICIPE	International Centre for Insect Physiology and Ecology
ICRAF	International Centre for Research on Agro-Forestry
ILRI	International Livestock Research Institute
KAGRC	Kenya Animal Genetics Resources Centre
KALRO	Kenya Agricultural and Livestock Research Organization
KCC	Kenya Co-operative Creameries
KDB	Kenya Dairy Board
KEBS	Kenya Bureau of Standards
KENTTEC	Kenya Tsetse and Trypanosomiasis Eradication Council
KEVEVAPI	Kenya Veterinary Vaccines Production Institute
KETRI	Kenya Trypanosomiasis Research Institute
KMC	Kenya Meat Commission
KSPCA	Kenya Society for Prevention of Cruelty to Animals
KVA	Kenya Veterinary Association
KVB	Kenya Veterinary Board
KWS	Kenya Wildlife Service
LMD	Livestock Marketing Division
MTP	Medium Term Plan
NGOs	Non-Governmental Organizations
OIE	International Office for Animal Diseases
PWD	Persons with Disability
SAPs	Structural Adjustment Programmes
SDG's	Sustainable Development Goals
WTO	World Trade Organization

CHAPTER ONE: INTRODUCTION AND BACKGROUND INFORMATION

1.1 INTRODUCTION

Livestock sub Sector plays an important role in the national economy of Kenya with a direct contribution of around 42 percent to the agricultural GDP and 12 percent to the national GDP (FAOSTAT, 2005). It supplies the domestic requirements of meat, milk, dairy products, eggs, and other livestock products while accounting for about 30 per cent of the total marketed agricultural products. The sector earns the country substantial foreign exchange through export of livestock and livestock products. It employs about 50 percent of the country's agricultural sector labour-force. The sector also contributes substantial earnings to households through sale of livestock and livestock products and provides raw materials for agro-based industries.

The National census of 2009 showed that Kenya's animal resource base comprised of 17.5 million cattle, 27.7 million goats, 17 million sheep, 3 million camels, 31.8 million domestic birds, 1.8 million donkeys and an undetermined number of companion, game and aquatic animals (KNBS, 2010). About 60% of the livestock population is found in the Arid and Semi-Arid Lands (ASAL) where the industry employs nearly 90% of the population. In the high rainfall areas, the sector provides employment and income mainly through dairy, poultry and pig production.

The rural-based nature of livestock activities makes livestock keeping a suitable enterprise to improve household food and nutrition security, incomes, job creation and contribute to sustainable livelihoods for many people in the rural areas. Livestock are among the few assets owned by women, youth and marginalized segments of the population. However there is scarcity of disaggregated data by age and gender that limit the analysis on the patterns of inclusion, contribution and benefit.

1.2 BACKGROUND INFORMATION

Most Kenyan communities have traditionally kept livestock for food, transport, draught, prestige, and as capital assets. The animals also served other cultural needs such as

paying bridal price and traditional ceremonies. Among the main breeds kept were East Africa Zebu, the Boran cattle, East Africa goats, the Galla goats, Red Maasai sheep, Black Head Somali sheep, the one hump camel (the Rendille, Gabbra, Turkana, and Somali breeds) and indigenous poultry. Bee keeping was also practiced among many communities. Exotic cattle breeds were introduced in Kenya by the European settlers in the year 1902. However, the indigenous communities were confined to herding their traditional livestock, until the Swynnerton Plan of 1954, which allowed Africans to keep exotic breeds. Thereafter, the Dairy Industry Ordinance of 1958 and other ordinances were enacted to support the European agriculture and impose strict conditions for the indigenous communities.

As part of the Swynnerton Plan, the Livestock Marketing Division (LMD) was established with the objective to encourage the livestock keepers to work in close collaboration with local authorities in selling their animals as well as avoiding overstocking. The Kenya Meat Commission (KMC) was established in 1950 through an Act of Parliament (Cap 363), to purchase livestock and to acquire, establish and operate abattoirs in the country. KMC therefore carried out the role of meat processing for local and export market.

The government later developed the National Livestock Development Policy of 1980 with the objectives of addressing the high poverty incidence; enhancing foreign exchange earnings and food security; promoting sustainable use of environment; and providing raw materials for both processing and manufacturing industry. It also subsidized the livestock sector until the late 1980s' when the Structural Adjustment Programmes (SAPs) that emphasized on market liberalization and globalization of the economy were introduced. This led to a decline in the performance of the livestock sector since the private sector was not prepared to offer services previously provided by the government. In addition most farmers could not afford the cost of inputs and services provided by the private sector.

Other relevant policy initiatives were contained in Sessional Paper Number 4 of 1981 on Food Policy that recommended the establishment of large scale ranches in the rangelands

expansion of feed-lots, and multiplication of improved animals under the Agricultural Development Corporation (ADC) in order to increase meat off-take. The Agricultural Finance Corporation (AFC) was supported to provide credit to livestock producers

The Kenya Vision 2030 is the current economic blue print to guide the country's development agenda in the coming years. The aim of Kenya Vision 2030 is to create “a globally competitive and prosperous country with a high quality of life by 2030.” It aims at transforming Kenya into “a newly-industrialized, middle income country providing a high quality of life to all its citizens in a clean and secure environment”. The vision is anchored on three key pillars: a) Economic; b) Social; and c) Political pillar. The economic pillar aims to achieve an economic growth rate of 10 per cent per annum and sustaining the same till 2030 in order to generate more resources to achieve the SDGs. Vision 2030 identifies the vision for the agriculture and livestock sectors to be innovative, commercially-oriented and modern farming.

Rising population, income growth and urbanization are increasing the demand for food of animal origin at an unprecedented level. It has been documented that world aggregate meat consumption will increase from 209 million tons in 1997 to 327 million tons by 2020 and milk consumption from 422 to 648 million tons. The challenge is therefore to meet this demand for livestock products.

CHAPTER TWO

2.0 SITUATION ANALYSIS, RATIONALE AND OBJECTIVES

2.1 ANIMAL GENETIC RESOURCES IN KENYA

The country has a large and diverse reservoir of animal genetic resources (AnGR), majority of which are indigenous and thus classified per the communities and regions they exist. Locally adapted domestic species found in the country are: cattle, sheep, goats, bees, camels, pigs, chickens, donkeys, rabbits, and horses. Others, such as ostriches, crocodiles, quails, guinea fowls, butterflies, Llama, water buffalo, chameleons and snakes are also reared for food, their treasured products and aesthetic values. These species were previously not used as livestock and are referred to as non-conventional livestock. Of economic importance, the main animal genetic resource base is comprised of 17.5 million cattle, 27.7 million goats, 17 million sheep, 3 million camels, 31.8 million poultry, 1.8 million donkeys and an undetermined number of companion, game and aquatic animals (KNBS, 2010). These AnGR provide products such as, meat, milk, eggs, hide, skin, wool, blood, mohair, and feathers that are used raw or processed. The animals also provide energy in terms of draft power and manure.

The management of AnGR in the country has been undertaken by livestock keepers, farmers, and communities such as producer and marketing associations. These have mainly concentrated on traditional subsistence, exchange and trade among individuals and communities who have used traditional breeding methods to propagate their genetic material. Additionally, various farmer associations mainly breed associations have actively participated in the development and conservation of existing AnGR. Government institutions in collaboration with farmer-led associations have also been involved in breed development, conservation, extension services and regulation. These institutions include; the Ministry responsible for livestock matters, Kenya Stud Book (KSB), the Dairy Recording Service of Kenya (DRSK), the Livestock Recording Centre (LRC), the Kenya Animal Genetics Resources Centre (KAGRC) and various Livestock Breeders Associations. Over the years, there have been minimal efforts towards characterization, monitoring and developing an inventory of our AnGR. Consequently, this has led to

limited breed improvement resulting to sub-optimal performance of the AnGRs. Most of our indigenous breeds are either at risk of extinction or undergoing a continuous genetic dilution despite their resilience. The sustainable development of our AnGR is also constrained by a weak and uncoordinated policy, legal and institutional framework.

2.2 LIVESTOCK PRODUCTION SYSTEMS

Kenya has a wide diversity of agro-climatic conditions reflecting variations in altitude, temperature, soil conditions and level and reliability of rainfall. The high and medium rainfall areas exhibit ample rainfall and are rich in volcanic soils. The rangelands, commonly referred to as the ASALs, are characterized by high ambient temperatures and humidity; low and erratic rainfall; and poor soils. Humid, sub humid and semi humid areas are associated with arable farming characterized by intensive and semi intensive production of livestock. The systems in semi-arid, arid and very arid regions are predominantly characterized by extensive production of livestock under free range, pastoralism and ranching.

2.2.1 Intensive Production System

The intensive livestock production system is practiced in dairy cattle, poultry, pigs, rabbits and non-conventional livestock such as crocodiles. It is commercially oriented with high density of animals per unit area, use of appropriate housing and high application of inputs. Some key concerns over the intensive system of production include inadequate adoption of appropriate technologies, risks associated with diseases where bio-security measures are not addressed, animal welfare issues and environmental challenges arising from manure and effluent disposal.

2.2.2 Semi-intensive Production System

Semi-intensive production systems are commonly used by small scale producers in dairy and feedlot beef production, poultry, pigs and rabbit. The system is characterized by the use of locally available forage resources with some supplementation lowering the cost of production. Semi-intensive systems result in high cost of service delivery, high cost of aggregation of produce, and unfavorable economies of scale.

2.2.3 Extensive Production Systems

2.2.3.1 Range Resources

Rangelands resources consist of natural grasslands, bush land, woodlands, wetlands and deserts. They make up 89% of the country's total land surface and support about 25% of the population and 70% of the livestock population. Rangelands are managed principally with extensive practices including organized livestock grazing and nomadic pastoralism.

They are non-equilibrium environments that are characterized by unreliable, unpredictable and erratic rainfall making them fragile ecosystems. Managing these ecosystems pose peculiar challenges as they are not amenable to the natural management systems that use prediction and forward planning. These areas are therefore best utilized through innovative strategies that track the scarce resources where and when they are available. This makes pastoralism and ranching key features of managing and utilizing the range areas.

2.3.3.2 Pastoralism

Pastoralism is an economic activity and a cultural identity that takes advantage of the characteristic instability of rangeland environments through strategic mobility, where key resources such as pastures, nutrients and water for livestock becomes available in short-lived and largely unpredictable concentrations. Crucial aspects of pastoralism are interaction of people, animals and the environment, the development of flexible resource management systems and non-exclusive entitlements to pasture and water resources as stipulated in the Community Land Act, 2016.

The existing land and resource tenure systems amongst the pastoralists are not responsive to individual conservation of natural resources. However, management of community land is guided by the Community Land Act, 2016, that provides for the recognition, protection and registration of community land rights, management and administration of the same in relation to unregistered community land and for connected purposes.

2.2.3.2 Ranching

Ranching is a commercial oriented, enclosed and extensive livestock production system modeled on the Western World livestock production systems. In Kenya established ranches range from those that are purely commercial whose main objective is profit making to community based ranches (group ranches) which in addition to business, they safeguard community owned land, promote sustainable use of pastures and water resources in ASALs and also allow for multiple resource use including species mix to include wildlife.

At independence there were about 180 ranches, most of which were established by the white settlers. Immediately after independence additional ranches were established. Currently, there are about 250 ranches categorized as groups, companies, private, public and cooperative ranches. Group ranches are decreasing in number due to land subdivision and competition from other agricultural enterprises. Company, private and cooperative ranches are increasing in number due to better management and productivity. However, the current trend in the ranches encourages integration of livestock rearing and wildlife conservation. Public ranches are also declining in number due to privatization.

2.3 LIVESTOCK INPUTS AND SUPPORT SERVICES

Livestock inputs are key factors of production in the livestock sector. The main types of inputs in livestock production include water, pasture, fodder, feed supplements, fertilizers, germplasm, vaccines, and drugs. On the other hand, the main services rendered to livestock producers are animal health, animal breeding, research and extension, and animal identification services. Livestock input services are provided by agro-vets dealers, feed manufacturers and suppliers, farmers' organizations, and government institutions.

In the medium to high rainfall areas, most farm inputs are readily available in the markets, except for a few vaccines which are sometimes sourced out of the country. However, in the arid and semi-arid areas, livestock input suppliers are few and poorly distributed as they are concentrated in towns hence limiting availability and access to

inputs and services. The relatively poor infrastructure in such areas such as roads increases transportation and storage costs for livestock inputs, placing the prices of livestock inputs beyond the reach of most farmers and increasing the cost of production. Currently, the farmers are meeting all the costs of inputs with the exception of compulsory vaccinations that are administered during major disease outbreaks. The quality of livestock inputs may also be affected by poor manufacturing practices and inadequate cold chain facilities among others.

2.4 ANIMAL FEED RESOURCES

The feed industry in Kenya has been steadily growing in the recent past, mainly due to the growth of the livestock sector. The main livestock feed resources consist of roughages, concentrates, minerals and vitamins. These raw materials originate from cereals (corn, wheat, barley, oats, and millet), legumes and oilseed cakes (soybeans, and cotton seed cake) and animal by-products (fish meal, blood meal, meat and bone meal). The annual demand for fodder is estimated at 30 million MT against an actual production of 10 million MT in 2016; whereas, demand for manufactured feed and supplements estimated at about 700,000 MT in 2016 up from 300,000 MT in 2008. The total installed feed production capacity is about 1,000,000 tons, of which approximately 60 percent is utilized. The underutilization is due to the inadequate and unreliable quantity of raw materials/feed ingredients, level of use of commercial feeds and in some cases, farmers' preferring to produce their own feed on their farms. Some challenges facing the animal feeds industry in Kenya include erratic supply of raw materials and low quality ingredients.

Actors in the fodder value chain have formed informal organizations to promote growth and development of forages. Licensed feed manufacturers account for approximately 60 percent of the demand while unregistered small scale manufacturers, home based feed formulators and importers account for the balance.

Most of the locally produced cereals are destined for human consumption and only the milling by-products such as maize, wheat and rice bran are available for animal feeds production. The livestock feed industry thus highly depends on by-products from other industries such as brewers, oil seed cakes, food processors and imports. Production of oil crops is also low leading to dependence on importations. Currently the industry imports cereal bran, soya bean meal and oil seed cake mainly from Uganda, Tanzania and India. Ukraine is also a major supplier of wheat bran and pollard. Most of the feed premixes (amino acids, minerals and vitamins) are imported from Turkey, Israel and Western Europe.

The Kenya bureau of standards is mandated to develop feed and feedstuffs standards for the animal feed industry. Standards for some categories of livestock feeds have so far been developed. However, standards for some feed ingredients are yet to be developed.

2.5 ANIMAL HEALTH

Livestock diseases and pests are among the most serious constraints limiting development of the livestock industry. They contribute significantly to low productivity of farm animals and impact negatively on both local and international livestock trade. The prevalence of livestock diseases in the country such as, vector borne, zoonoses, trans-boundary and emerging diseases present a big challenge to the development of the livestock industry. The World Organization for Animal Health (OIE) and World Trade Organization (WTO) have stipulated stringent sanitary requirements to facilitate safe international trade in livestock and livestock products.. The priority diseases are not only those which are notifiable and trade sensitive, but also production and emerging diseases which are of great economic and public health importance. They include, but are not limited to, Foot and Mouth Disease (FMD), Contagious Bovine Pleuro-Pneumonia (CBPP), Peste des Petits Ruminants (PPR), Rift Valley Fever (RVF), Mastitis, and Avian Influenza. .

The role of the national government is policy development, regulation of both local and international trade, provision of technical support for disease control and capacity development. The mandate of county governments includes disease control and animal

husbandry among others. However, there is weak coordination of disease control across the counties and trans-boundary. In addition the current legal frameworks are weak in enforcing livestock disease control measures.

The government, in collaboration with stakeholders, is implementing the establishment of livestock Disease-Free Zones. The programme is targeting zonal eradication for Foot and Mouth Disease and Contagious Bovine Pleuropneumonia as well as the gathering of scientific evidence for confirming the historical freedom from Bovine Spongiform Encephalopathy. Kenya was declared free from Rinderpest in May 2009.

Kenya has expansive and porous borders with her neighbours. There is a lot of cross-border animal movement to traditional seasonal grazing grounds and for trade. Poor coordination and collaboration with the neighbouring countries on disease control across the borders makes control of trans-boundary diseases a major challenge.

There is poor coordination and collaboration between the county and national governments on disease reporting. There is low public awareness on their obligation for disease reporting compromising the effectiveness of disease control and prevention programs.

2.5.1 Human-Livestock-Wildlife Interaction

Human, Livestock, wildlife interaction has increased in recent years. The drivers are habitat fragmentation, decline in pastoral grazing range, loss of wildlife dispersal areas and an increase in livestock population densities. The effects have been degradation of natural resources, outbreaks of diseases including notifiable and zoonotic diseases, and resource conflicts. There is need for these issues to be addressed.

2.5.2 Animal Welfare

Animal Welfare is an integral part of animal health and production. It manifests in physical and psychological wellbeing; better performance; and safe and mutually beneficial companionship that result to improved market access. Though most

communities in Kenya uphold the freedom from pain, injury and diseases, there is a general low awareness, recognition and compliance with the other four freedoms namely: freedom from hunger, thirst and malnutrition; freedom from fear and distress; freedom from physical discomfort; and freedom to express normal patterns of behavior. Animal welfare issues are especially downplayed in the area of feeding, housing, transportation and certain cultural sports.

2.6 LIVESTOCK RESEARCH

Research and technology development are key for enhancing productivity and competitiveness in the livestock industry. Most of the livestock-related research and technological development is funded by the National Government through the National Research Fund (NRF) and undertaken by Kenya Agricultural Livestock Research Organization (KALRO), universities and international research institutions such as the Consultative Group on International Agricultural Research (CGIAR) and the International Center for Insect Physiology and Ecology (ICIPE).

Livestock research is an expensive undertaking and has not received adequate investment by government, private sector and development partners. In addition, research agenda setting is dominated by funding agencies therefore creating a need for increased investment by government in order to prioritize the national research needs. Most research has concentrated in addressing technical production problems (feeding, breeding, health and husbandry) while paying less attention to key socio-economic parameters such as gender, culture and indigenous technical knowledge that equally affect the livestock sector. Research on genetically modified organisms (GMO) and how the livestock sector can leverage on this technology has also not received adequate attention.

2.6.1 Biotechnology in Livestock Development

Although opportunities to use modern biotechnology to improve livestock productivity or reduce losses from disease exist, they have not been exploited in Kenya. Examples of the opportunities in livestock development include the development of recombinant vaccines

and diagnostic reagents that are pure, safe and cheaper; the use in epidemiology to characterize pathogens (viruses, bacteria, parasites) so as to pinpoint the source of epidemic diseases; and, in the development of therapeutic substances.

Other opportunities include: improvement of animal breeds and production through identification, characterization and insertion of genes that control advantageous genetic productivity traits; production of transgenic animals with defined traits; utilization of cloning procedures as a tool for identical multiplication of valuable animals; and, maintenance of breeds through conservation of genomic DNA to ensure conservation of the about 30% of all livestock breeds that are at risk of extinction.

Enormous potential benefits for the livestock industry also exist through the use of plant biotechnologies to improve the nutritional quality of plant feedstuffs (bio-fortification) and by-products.

2.7 EXTENSION

Livestock extension is the mandate of the County Governments while the national government formulates policy, standards and builds capacities of service providers. Other extension service providers include agro-veterinary pharmaceutical companies, animal feed manufacturers, milk processors, Non-Government Organizations and Community Based Organizations.

There is limited collaboration among various extension service providers which, in some cases, has led to lack of synergy, duplication of efforts and conflict of interests. Collaboration between research system, training and extension is inadequate resulting to limited access and poor quality of services to the extension clientele. There are no guidelines for delivery of extension services by extension service providers. In addition, there is inadequate staffing and funding of delivery of extension services at the county level. While the UN's Food and Agricultural Organization recommends there should be one extension worker for every 400 farmers, Kenya's current technical-staff to farmer ratio is 1:700 for intensive mixed farming systems, 1:640 for agro-pastoral system, and

1:1000 for pastoral systems (Guidelines and Standards for Agricultural Extension and Advisory Services, Ministry of Agriculture, Livestock and Fisheries, September 2017).

The use of ICT has increasingly become important in extension service delivery. However, there is need to develop these delivery systems, regulate and monitor the content to ensure quality of the information shared.

The content of the extension messages are inadequate to address the needs of different stakeholders within the livestock sector. This is partly caused by inadequate capacity of extension agents; lack of comprehensive and dynamic extension packages which respond to market demand, social-economic conditions, environment and other relevant cross-cutting issues.

2.8 HUMAN, LIVESTOCK /WILDLIFE INTERACTION

The game in the farmland and ranches poses potential conflict between wildlife, livestock and human. Due to this interaction of wildlife and livestock, diseases are transmitted from wildlife to livestock. There is also competition for natural resources such as pasture and water between wildlife and livestock. The wildlife may sometime cause injury or death to livestock and human. There is, however, significant potential in gainfully exploiting wildlife resources through game ranches and conservancies.

In addition, wildlife resource has a potential for exploitation as non-conventional livestock. The development of non- conventional livestock has a high potential to enhance income and livelihoods of the farming community. However, the Kenya Wildlife Act Cap 376 does not permit rearing of non- conventional livestock without licensing.

2.9 FINANCE AND LIVESTOCK INSURANCE

2.9.1 Finance

The funding of the livestock sector is by National and County governments, development partners, private sector and other stakeholders. Over the years the funding by government has declined from 10 per cent in the 1980s to about 4 percent currently. This is not

commensurate to the sector's contribution to the GDP and the Maputo declaration, 2000 (reaffirmed by Malabo Declaration, 2015) that recommended a budgetary allocation of not less than 10 per cent of the national budget to the agriculture sector. Increased funding to the livestock sector would contribute significantly to the realization of sustainable development goals (SDGs), wealth creation and poverty alleviation in the country.

Another key factor affecting financing of livestock sector is the high cost of credit to the livestock players along the value chain. The most affected groups are small-scale livestock producers, pastoralists, women and youth who lack collateral required by conventional financial institutions. Consequently, majority of these groups access credit through formal and informal CBOs which is expensive and insufficient.

The Agricultural Finance Corporation (AFC) was established to provide affordable credit to farmers but its capacity has been inadequate to meet the financial needs of the sector. In addition, its coverage in the ASALs is limited. Other alternative institutions such as the cooperative societies have faced management challenges.

2.9.2 Livestock Insurance

Currently, only a few insurance companies offer livestock insurance on commercial basis and mostly cover high value dairy animals. A similar situation obtains for index-based livestock insurance that has been introduced in the ASALs of the country. The reasons for this situation is due to risks associated with livestock farming such as drought and diseases; limited awareness of insurance products; inadequate data for designing insurance products; limited capacity of pastoralists and small scale livestock actors to pay premiums; and high cost of delivery of insurance services especially in the ASALs. Insurance is important to cushion livestock keepers against major weather risks, diseases, and other risks.

2.10 LIVESTOCK AND LIVESTOCK PRODUCTS

With the increasing human population growth estimated at 2.6%, effective demand for livestock and livestock products has been increasing. The country is currently self-

sufficient in most of the livestock products except in beef and mutton. However, recent studies on livestock products demand and supply projection indicate that, unless appropriate interventional measures are introduced, the country may soon register deficit in some livestock products.

2.10.1 Dairy Industry

Milk is predominantly produced from cattle, camel and goats which support approximately 1.8 million rural households and additional 700,000 jobs along the dairy value chain. Dairying is predominantly practiced by smallholders who produce over 80% of the milk. Annual milk production is estimated at 5.2 billion litres (MOALF 2015). Cattle produce about 88% of this milk while camels and goats contribute the rest. It is projected that milk production will continually grow by between 4.5 and 5 % annually in the next ten years and by the year 2030, it is envisaged that the annual milk production in Kenya will increase to about 12 billion litres.

The dairy cattle breeds include Friesian, Guernsey, Ayrshire, Jersey, and their crosses. The Camel breeds are the Somali and the Pakistan breeds while the major goat breeds include the Toggenburg, the Saanen and the Alpine.

Of the total milk produced in the country, about 55% is marketed through traders, cooperatives, hotels and milk bars. An estimated 56% of marketed milk is sold in the raw form while the rest is processed. Post-harvest losses account for up to 3%, which may reach 10% during the rainy season.

2.10.2 Meat Industry

Meat production in the country is mainly for domestic consumption. The domestic meat market is primarily urban and is stratified according to disposable income. Meats are classified as either red or white where red meats include beef, mutton, chevon, pork and donkey meat while white meats include poultry, rabbit and fish. The meat industry is one of fastest growing within the agricultural sector driven by growth of meat exports and the increases in population, urbanization and household income. Kenya's average beef production is estimated at 408,000MT per annum of which 70% is mainly based on the

Zebu cattle population found in the arid and semi-arid lands (ASALs) while the rest (30%) is from culls from the dairy herd (MOALF, 2014).

Camel meat production is estimated at about 20,000 MT per year. The importance of the camel for food security is due to its ability to survive, and continue being productive, under drought conditions. There is robust export demand for live camels in North Africa and the Middle East. Currently, most of this trade demand is supplied from Sudan, Somalia and Djibouti.

The sheep and goat industry contributes about 30% of the total red meat consumed in the country. On average, the production of meat from sheep and goats is about 262,000 MT per annum. The bulk of the sheep and goats are reared in the ASALs under pastoralism, and to a limited extent, ranching systems.

Pig meat (pork) is produced under intensive systems and its production currently stands at 42,000 MT annually. The pig's shorter life cycle with good return rates and optimum feed efficiency makes it more suitable for farmers especially with increase in land fragmentation. Other meat sources that include rabbit are an important source of white meat. Rabbits are commonly kept by youth and women in both rural and urban settings. They are highly prolific with high returns and have a great potential to contribute to food security, income generation and poverty alleviation. Rabbit meat annual production is estimated at 21,000 MT. The growth of the rabbit industry is constrained by poor husbandry practices, poor marketing of rabbit and rabbit products and cultural acceptability of rabbit meat. There is also a shortage of improved rabbit genetic lines domestically which is fuelling demand for importation of genetic lines from other countries.

Donkey meat is produced from extensive production systems mainly in the rangelands and its current production is estimated at 192MT annually. Previously, the donkey was solely a draught animal. However, use for consumption has impacted negatively on the donkey population and there is need to develop breeding strategy for donkeys.

The country exports meat to the East African regional markets, COMESA (Democratic Republic of Congo, Mauritius, and Madagascar) and United Arab Emirates markets. Penetration into the international market has not been effective due to strict sanitary requirements. The low quality of carcasses is as a result of poor meat production practices. Major constraints to the growth of the meat industry are inadequate institutional framework, inadequate research based on ecological potential for meat development, recurrent droughts especially in ASALs, rampant insecurity, vulnerable traditional pastoral production systems, diminishing meat animal genetics resources and poor marketing channels and animal diseases.

2.10.3 Wool and Mohair Industry

Production of wool from sheep and mohair from goat is predominantly in the high to medium altitude areas of the country. Wool sheep comprises of the Merino, Corriedale, Hampshire Down, Dorset Horn and their crosses. Mohair producing goats on the other hand comprise mainly of the Angora goat. The potential for developing wool sheep and mohair goats is high due to the reproduction efficiency and land space utilization of these livestock species. However, the country has limited capacity to adequately process and do value addition on these raw materials. Competition from imported finished products also heavily impacts the growth of the industry.

2.10.4 Leather Industry

Hides are products from large herbivores (cattle, camel and donkey) while skin is from sheep, goats, crocodile, ostrich, snakes and fish. Pelt from rabbit is also processed into soft leather. The current annual production of hides and skins is 924,000 and 139,000 pieces respectively. The country has limited capacity to adequately do value addition on wet-blue leather and most of this is exported as such. Competition from imported finished and second hand products also heavily impacts the growth of the industry.

2.10.5 The Poultry Industry

Kenya's poultry industry is fast growing and comprises of; chicken that constitutes 98% of the poultry population while the rest is ostrich, quail, ducks, geese, doves, turkey and

guinea fowl. Seventy percent (70%) of chicken are free-ranging indigenous breeds. The annual poultry meat production is about 605,000MT. Poultry is one of the most important enterprises in rural poor households' food and nutrition security (MOALF 2014).

Apart from poultry meat, 1,716 million eggs from poultry are also produced annually valued at KES 10.3billion. The industry has a fairly well developed inputs and services provision along the value chain. However, importation of raw eggs, underdeveloped markets and unstructured marketing systems impacts negatively on the industry leading to its underperformance.

2.10.6 Apiculture Industry

Beekeeping is well established in Kenya. It can be carried out successfully in about 80% of the country. It is especially suitable in the semi-arid areas where rain-fed agriculture is impractical. Beekeeping contributes to incomes as well as food security through provision of apicultural services and hives products including honey, beeswax, propolis and is quite useful as a crop pollinator. Kenya ranks third in honey production in the East African region, producing 12,000 MT and 140MT of beeswax annually (MOALF, 2013). The country's production potential is estimated at over 100,000 and 10,000 MT of honey and beeswax respectively. Unstructured marketing system, inadequate value addition on the products, competition from imported honey, poor quality honey due to inadequate quality control services, use of inappropriate bee equipment and rampant use of pesticides threaten the development of apiculture industry. Demand for honey is far above the supply worldwide and Kenya has the opportunity of benefitting from that gap.

2.10.7 Non-Conventional Livestock

Non-conventional livestock, also called emerging livestock, are animals that have recently been recognized in the country as an alternative farming activity. These animals include quails, guinea fowl, donkeys, ostriches, crocodiles among others. They have not received adequate attention in terms of research and development. By law, except donkeys, these animals are designated as wildlife. However, Kenya Wildlife Service policy and legal framework has allowed farming of these species provided that a licence

is obtained. Except for the donkey which is used for draft power, commercial farming of these animals is progressively increasing due to demand for their products such as eggs, meat, skin and feathers. Increasing human population and urbanization have increased the demand for food of animal origin at unprecedented levels, and therefore the need to fully explore the opportunities that exist in farming food producing animals.

2.11 MARKETING OF LIVESTOCK AND LIVESTOCK PRODUCTS

2.11.1 Livestock and Livestock Products Transportation and Aggregation

Livestock and livestock products play a critical role in ensuring food and nutrition security, support livelihoods, enhance social inclusion and foster economic development. Internal trade in livestock and livestock products is important for supply of animals for fattening, slaughter and breeding, and produce for consumption or further processing. Aggregation and transportation is undertaken by individuals, farmer groups and private sector players. Transportation of livestock to various markets is by trekking, and motorized transport. Trekking of animals to the markets has been shown to be cheaper than truck transport. However this may result to loss of body condition of the livestock and environment pollution. It is also at times unsafe due to conflict among communities along trading routes, livestock rustling and spread of diseases.

Some of the challenges in livestock and livestock products transportation and aggregation are poor infrastructure including cold chains, and collection centers. The seasonality of production results in periods of glut and deficit. The distribution system of livestock products is also poorly developed in the country. The apparent distribution challenge has resulted in middlemen taking advantage of the market situation. Further, this is the reason for produce wastage during periods of glut. In addition the local market is occasionally affected negatively by flooding of the market with cheaper and at times low quality imported livestock products which out-compete local products. External trade of livestock and livestock products is also hindered by stringent sanitary requirement by importing countries and inadequate volumes and timely deliveries..

2.11.2 Value Addition and Agribusiness

The main livestock products include milk, meat, eggs, hides, skins, wool, honey and other hive products, and other products are bones, blood, feathers, hooves and horns. Most of the livestock products may be used in the food industry, animal feed manufacturing industry, and confectionaries while others like horns, hooves, feathers and bones may be converted to ornamentals and other gift products. Feathers are also used to make mattresses, pillows and cushions. The competitiveness of any product, including agricultural products, is directly linked to its value addition chain.

Currently, Kenya's livestock products are marketed both locally and internationally with limited value addition. Consequently, this translates to low earnings for the producers, creates fewer employment opportunities, lower foreign exchange earnings to the country and limits technology innovation. It is recognized that value addition plays an important role in various industrial enterprises operating within the livestock sector. Value addition is largely constrained by high cost of investment necessary for the development and acquisition of appropriate equipment and technologies.

Adoption of value addition technologies is limited by inadequate skilled manpower, limited demand for value added products by consumers and access to financial and business development services. Poor infrastructure such as roads, railway network, ICT and electricity supply also inhibit growth of manufacturing and processing plants.

Some livestock products such as hides and skins end up as waste due to inadequate processing technology and capital for investment. The available stock of by-products presents immense potential and opportunity for improved earnings of the livestock farmers, traders and processors.

2.11.3 Quality and Safety Standards

Standards are important for trade in livestock and livestock products in the domestic and international markets. For purposes of international trade, meeting the requirements of CODEX and Sanitary Standards set under the relevant WTO sanitary and phyto-sanitary statute is mandatory. Further, adhering to the National standards and regulations is also

important to enhance local trade. A major challenge in meeting the standards include inadequate capacity to undertake good animal husbandry practices (GAHP), good hygienic practices (GHP) and good manufacturing practices (GMP).

The meat control regulations stipulates that all carcasses and meat are inspected and passed by an inspecting officer at a slaughterhouse or export slaughterhouse to ensure that it is fit for human consumption. Quality and safe meat enhances internal and external trade in meat products. However, several challenges are experienced in ensuring safety and quality control of meat. These include inadequate capacity/number of inspecting officers and slaughter facilities. There is also inadequate capacity for verification of food quality and safety due to few specialized laboratories.

2.11.4 Marketing Infrastructure

Good infrastructure ensures efficient market and trade performance and positively affects producer prices. Marketing infrastructure include roads, livestock holding grounds, stock routes for livestock, outspans, livestock sale yards, slaughter houses, abattoirs, collection centres, cooling facilities, marketing information systems, tanneries and processing plants. Some of the livestock and livestock products marketing infrastructure is in poor state or under-developed, and hence not favorable for efficient livestock marketing.

2.11.5 Marketing Information

An efficient market information system is an essential element for enhancing market competitiveness. In a system where market information flow is efficient, the ability of producers, traders and consumers to make the right choices is vastly enhanced. On the other hand, inefficient market information system creates market distortions that eventually tend to make business expensive to both the producers and consumers. The government and private sector have developed electronic based marketing information systems such as National Livestock Marketing Information System (NLMIS), KAZNET, and M-soko. However, the percentage usage these forms of technology is still very low due lack of awareness, low literacy levels, poor internet connectivity among others. The poor information flow encourages proliferation of middle-men who at times take

advantage of the situation. Low producer prices affect earnings for the livestock farmers, their livelihood and food security situation.

2.12 SOCIAL INCLUSION IN THE LIVESTOCK INDUSTRY

The Constitution of Kenya 2010 and Vision 2030 commit to addressing all forms of exclusion both in the public and private sectors. Indeed the Agricultural Sector Development Strategy (ASDS 2010-2020) identifies gender and social inclusion as a major outcome. Social inclusion influences the performance and sustainability of agricultural value chains, especially those dominated by smallholder producers. Socio-economic factors such as age, gender, education and poverty levels determine the risks of exclusion as livestock value chains expand and become more profitable.

2.12.1 Gender Inclusion

There is documentation that shows women and men play different roles along the livestock value chain. These roles are dynamic and tend to vary based on communities, production systems, marketing systems, and livestock enterprises. It further shows that, despite playing significant roles in livestock production and marketing, women face specific gender based constraints compared to men. Some of the most generic gender based constraints faced by women in the different nodes of the value chain include, at the production node limited access to and control over land; ownership and control over livestock assets; access to livestock training and extension and finance services; access to livestock inputs, technology and services. Women often suffer of excessive workload and are marginalized in producer groups-in terms of membership and leadership positions.

At the marketing and processing node in the value chains, women are disproportionately constrained by: time poverty- that affects mobility to access markets for livestock and products; low volumes of marketable surplus they produce or control; loss of control over livestock enterprises when they become more commercialized and lucrative; limited entrepreneurial capacity; and stringent regulatory rules that seek to formalize processing and marketing of livestock products.

2.12.2 Inclusion of the Youth

While demographic trends point to a Kenyan population dominated by young people, their involvement and transition into the agricultural based enterprises is noted to be low. Factors influencing the disinterest in agricultural enterprises among the young people include the notion characterizing agricultural enterprises as of low economic returns, labour intensive, as well as limited access to factors of production.

2.12.3 Persons with Disabilities (PWDs)

Persons living with disabilities in the livestock sector refer to people living with disabilities or affected by diseases or pests. Households headed by PWDs are likely to be less productive and frequently experience food insecurity that compounds their limitations. In most cases hunger and human indignity characterize their existence. Owing to poverty and weakness, they are unlikely to adopt most existing technologies and this exacerbates their vulnerabilities.

2.12.4 HIV-AIDS

A bi-directional relationship exists between the effects and impacts of livestock based livelihoods on HIV-AIDS. On one hand, increased and sustained livestock production and profitability contributes to food and nutritional security enabling households to mitigate the effects and impact of HIV-AIDS. Some livestock enterprises are scored highly in cushioning households affected by HIV-AIDS such as dairy goats' contribution to nutrition, and less labor intensive livestock production systems. On the other hand, livestock related activities and income can increase susceptibility to HIV-AIDS. For example, marketing activities may require producers and traders to travel to major market centers, this increases chances of engaging in risky behavior. Labor intensive livestock production systems can worsen the effects of HIV-AIDS to affected households.

2.13 LEGAL AND INSTITUTIONAL FRAMEWORKS

2.13.1 Legal Framework

The livestock sector is governed by over 17 legislations such as the Animal Diseases Act, Cap 364, the Meat Control Act Cap 356 among others. Most of these legislations have

not been updated to conform to the current realities. The weaknesses in legal framework affect the performance of enterprises in the livestock sector. The weaknesses are in areas of regulation, facilitation, promotion and development of the sector. As a result of implementing devolution of livestock based services and restructuring of institutions, there is need for review of existing legislations and formulation of new laws and regulations when necessary.

2.13.2 Institutional Framework

There are various public and private sector institutions that are involved in service delivery to the livestock sector. The public sector institutions are coordinated by the Ministry responsible for livestock. These include; Directorate of Veterinary Services (DVS), Directorate of Livestock Production (DLP), the Kenya Veterinary Board (KVB), Kenya Dairy Board (KDB), Kenya Animal Genetic Resources Center (KAGRC), Kenya Veterinary Vaccines Production Institute (KEVEVAPI), Kenya Meat Commission, (KMC), Kenya Tsetse and Trypanosomiasis Eradication council (KENTTEC), Kenya Agricultural and Livestock Research Organization (KALRO), Veterinary Medicines Directorate (VMD) and middle level training institutes. Other public agencies such as the National Drought Management Authority (NDMA), New Kenya Cooperative Creameries (KCC) and Kenya Leather Development Council (KLDC) have roles that directly affect the livestock sector creating the need for better coordination. Private sector organizations such as cooperatives, banks and farmer organizations play a critical role in complementing the efforts by the public sector. Due to the various limitations emanating from current institutional arrangements and weaknesses, the livestock agenda has not been adequately addressed in the country, thus leading to a constrained service delivery system that is slow in responding to new and emerging challenges in the livestock sector.

2.14 RATIONALE OF THE POLICY

The livestock sector has great potential to contribute to food security, income generation and wealth creation. However, the potential has not been fully exploited mainly due to

inadequate policy, legal and regulatory framework to guide the development of the sector.

The Constitution of Kenya provides for legal and institutional arrangements and assigns different roles to the National and County governments as stipulated in the Fourth Schedule. It was therefore necessary to develop a policy framework that supports collaboration and coordination between the two levels of Government that is aligned to the Constitution, Vision 2030, Sustainable Development Goals (SDGs) and prevailing government policies. Additionally, there are policy gaps such as use of ICT, gender and social inclusion, genetically modified organisms and climate change that required to be addressed.

2.15 OBJECTIVES OF THE LIVESTOCK POLICY

The broad objective of the livestock policy is to contribute to food and nutrition security and improved livelihoods while safeguarding the environment.

Specific Objectives

1. Improve management of livestock, feed and rangeland resources while promoting social inclusion and environmental resilience;
2. Promote animal health and food safety to facilitate access to domestic, regional and international markets
3. Promote investment in agribusiness, value addition and product development in the sector
4. Support livestock research and extension services to facilitate innovation and adoption of appropriate technologies
5. Promote cooperation and collaboration between the national and county governments in livestock development;

CHAPTER THREE

3.0 CHALLENGES AND POLICY STATEMENTS

3.1 ANIMAL GENETIC RESOURCES

3.1.1 Characterization, Inventory and Monitoring

Information on breed diversity, population sizes, trends, and distribution is scanty and only available for a few breeds from limited studies from research institutions.

Policy Statement

The National Government will

- i.* Take measures to undertake genetic and phenotypic characterization of AnGR.
- ii.* Undertake a livestock census and develop a web-based national AnGR database on breed diversity, population sizes, trends, and distribution
- iii.* Undertake periodic surveys to monitor performance of AnGR
- iv.* Strengthen the Livestock Recording Centre (LRC) to manage all livestock data

County Governments will collect report and maintain databases on existing AnGR.

3.1.2 Sustainable Use and Development of AnGR

There is inadequacy in design of breeding programmes for locally adopted breeds and the necessary support systems to facilitate sustainable utilization. There is no uniform national animal identification system, performance recording and corresponding genetic evaluation to facilitate effective breed improvement.

Policy Statement

The National Government will:-

- i.* Initiate and develop national breeding programs for specific locally adopted breeds

- ii. Strengthen existing national breeding programs for specific locally adopted breeds
- iii. Develop and provide for a national animal identification system, performance recording and infrastructure for genetic evaluation

County Governments will;

- i. Promote the sustainable utilization of AnGRs.
- ii. Promote and provide for animal identification and performance recording of AnGRs

3.1.3 Conservation of AnGR

There are limited initiatives for *in-situ* and *ex-situ* conservation of AnGRs in the country. This is mainly limited by lack of appropriate infrastructure, human capacity, policy and legal framework. Past and current attempts to conserve locally adapted breeds by communities have been limited due to lack of continuous support from government and development partners.

The National Government will;

- i. Establish and provide for a gene bank for conservation of germplasm from locally adopted breeds.
- ii. Develop appropriate human capacity for conservation of AnGRs in the country
- iii. Develop a legal framework for conservation of AnGRs.
- iv. Strengthen existing public conservation and multiplication centres of AnGR
- v. Develop recognition or awards programmes for livestock breeders to support conservation efforts.

County Governments will promote and provide for utilization and conservation of AnGRs

3.2 LIVESTOCK NUTRITION, FEEDS AND FEEDING

3.2.1 Roughage Feed Resources

One of the main challenges in provision of adequate forage resources is the narrow range of exploited roughage materials, their productivity and production. There has been overreliance on the Napier grass which is threatened by diseases namely the Napier smut and Napier stunting. In addition, in the ASALs there is diminishing availability of palatable and quality forage species due to overgrazing, invasive plant species, declining soil health, changing climate patterns, competing land use for settlement and crop development, inadequate supply of forage planting materials, as well as low commercialization of fodder production. Further there is inadequacy in utilization of crop residues and industrial by products due to limited knowledge of available technologies.

Policy Statement

National Government will

- i.* Facilitate demand driven research on disease resistant and high yielding forages and appropriate forage types for each agro-ecological zones.
- ii.* Establish and strengthen soil testing laboratory services for sustainable soil health

County Governments will promote adoption of appropriate forage varieties and invest in forage productivity enhancing technologies.

Both levels of government will

- i.* Take measures to identify wider range of forage types that facilitate optimum productivity per unit area of land in various agro-ecological zones
- ii.* Promote fodder commercialization

3.2.2 Concentrate Feed Resources

The challenges facing provision of concentrate feeds for livestock includes quantity, quality, cost and competition of energy sources with humans.

Policy Statement

The National Government will

- i.* Develop mechanisms aimed at increasing production of cereals and oilseed crops.
- ii.* Establish and encourage private institutions to undertake concentrate feed milling

The County Governments will:-

- i.* Promote utilization of crop residues and by products in animal feeds; and
- ii.* Encourage cooperative societies and other farmer-based groups to establish feed mills.

The two levels of government will promote diversification of the livestock feed base and research on alternative sources of feed.

3.2.3 Standardization of Feeds, Raw material and Ingredients

Currently, standards exist for feeds for most livestock species. However, the standardization of feeds for some categories of livestock is not complete. In addition, feed ingredients themselves are not fully standardized. There are also novel innovations of newly researched energy and protein sources for animal feed. As a result, feed manufacturers face great difficulties in decision making for procurement of such ingredients. They also face challenge of meeting standards of feeds using such feed ingredients. Though a code of practice for feed manufacturers is in place there is limited implementation within the feed industry due to poor awareness of the same by the industry.

Policy Statement

The National Government will, in liaison with relevant stakeholders, take the necessary measures to ensure development of standards of feeds, raw materials and feed ingredients.

County Governments will support awareness creation on standardization of feeds and feed ingredients.

3.2.4 Feeds Inspectorate

Poor quality of feeds at commercial and private farms level has been a major concern among livestock stakeholders. Feed quality is assessed in terms of nutrient composition as well as the presence or absence of harmful substances such as aflatoxins among others. Poor quality feeds is a result of many factors including inadequate standardization and high cost of quality ingredients, poor training of the feed manufacturers, failure to use laboratories for nutritional analysis as well as weak legal and institutional framework to enforce quality assurance. Indeed, the latter limitation has led to cases of counterfeiting of popular brands of feeds and adulteration of complete feeds.

Policy Statement

The National Government will:-

- i.* Put in place the necessary institutional framework to ensure production and marketing of quality feeds through review of relevant legislations;
- ii.* Establish mechanism for ensuring that manufacturers maintain the required standards to safeguard consumers from hazardous or poor quality feeds through the enforcement of the code of practice for feed manufacturers;
- iii.* Establish an inspectorate agency to regulate production and quality of animal feeds
- iv.* Develop tools for monitoring compliance of the relevant standards, by the feed manufacturers.

The County Governments will:- In collaboration with the inspectorate agency enforce compliance to feed quality standards.

Both levels of government will:- collaborate in strengthening the laboratory capacity for testing of feed, raw materials and feed ingredients for safety and quality.

3.2.5 Rangeland Feed Resources

Rangeland feed resources are characterized by scarcity and glut, and fluctuating quality that is season dependent.

Policy Statement

National Government will develop, using satellite data and other suitable methods, systems to predict forage biomass availability, forecasts and livestock movements.

The County Governments will undertake initiatives

- i.* Promote appropriate grazing management strategies
- ii.* Promote sustainable commercial pasture and fodder production and conservation

Both the National and County governments will promote irrigated forage production and put measures to mitigate the effects of pests and diseases.

3.2.6 Rangeland Resources

The range environment is extremely fragile. Degradation and encroachment by other enterprises has led to reduced capacity of the rangelands to support livestock and increased loss of biodiversity. Further, the frequency and intensity of droughts has increased due to climate change leading to loss of livelihood resilience of pastoral communities. There is need to minimize animal losses during drought and facilitate faster socio-economic recovery of livestock producers.

Policy Statement:

National Government will put in place measures to protect the environment and support sustainable livestock development in collaboration with other stakeholders.

County Governments will:-

- i.* Institutionalize the involvement of the communities in planning, and development of range and pasture rehabilitation programmes.
- ii.* Develop strategies for monitoring and control of the deterioration of rangelands
- iii.* Put in place mechanisms for sustainable land management

The two levels of government will:-

- i.* Strengthen drought preparedness and mitigation, promote sound range management practices and, appropriate risk management strategies; and
- ii.* Put in place measures to increase resilience and quicker recovery.

3.3 ANIMAL DISEASES AND PESTS**3.3.1 Animal Diseases and Reporting**

The main challenges facing the control of animal diseases in the country include the inadequate capacity for sustained disease surveillance and control programs, and poor enforcement of existing laws governing disease control. There is limited awareness by the public on their obligation on disease reporting thereby compromising the effectiveness of disease control and prevention programs.

Antimicrobial resistance (AMR) threatens the effectiveness, prevention and treatment of an ever increasing range of infections caused by bacteria, fungi, parasites and viruses. Emerging microbial resistance mechanisms are spreading globally threatening the ability to treat common infectious diseases resulting in prolonged illness, disability and death.

Policy Statement

The National Government will:

- i.* Provide the necessary support in the control of diseases supported by appropriate legislations and strategies;
- ii.* Provide and maintain efficacy trial centres and sentinel herds for disease diagnosis, research, quality control of vaccine and veterinary medicines;
- iii.* Maintain strategic stocks of vaccines of critical concern and seed stocks for vaccines of diseases not currently occurring but where there is significant risk of their re-introduction and spread;
- iv.* Strengthen the veterinary laboratory system to provide technical support for disease surveillance, diagnosis and quality control;
- v.* Develop and strengthen intergovernmental coordination and collaborative disease reporting mechanisms
- vi.* Develop and strengthen national disease contingency plans to address trans-boundary animal diseases and coordinate the implementation of surveillance and control programs for cross-county, regional and global disease challenges and ensure adherence to international sanitary requirements on trade in animals and animal products.
- vii.* Develop public education programs to support disease reporting in collaboration with county veterinary services and other stakeholders
- viii.* Develop a national action plans on AMR

The County Governments will implement disease surveillance and control programs, projects and strategies and avail reports to the national government.

Both levels of government will:-

- i.* Establish mechanisms for joint engagement of the Ministry responsible for livestock and that responsible for human health in the control of zoonotic diseases within the “One Health Concept”;
- ii.* Establish mechanisms for public and private partnership for controlling cross-county and trans-boundary infectious diseases and coordinate with the Kenya Wildlife Service for control of diseases at the livestock-wildlife interface.
- iii.* Develop and implement strategies and plans to combat AMR

3.3.2 Pests and Vector Control

Ticks, tsetse flies and worms are major disease transmission agents in animals and adversely affect production and productivity. Emerging pests and vectors also pose potential risks. Un-regulated use of pesticides has led to rapid development of tick resistance to acaricides resulting in increased tick borne diseases. Infestation of tsetse across national and county boundaries makes it a trans-boundary challenge.

Policy Statement

The national government will

- i.* Legislate, regulate, zone and monitor the utilization of various classes of pesticides
- ii.* Promote research on alternative pest control measures
- iii.* Provide technical support for surveillance, diagnosis and control, and counteract the impact of emerging pests and vectors;

County Governments will develop county specific policies to improve governance of dips and other pest and vector control strategies and provide technical oversight to ensure effective vector and pest control.

The two levels of government will put in place the necessary strategies and initiate appropriate programmes to control the tsetse flies and other livestock pests.

3.3.3 Cross-border Disease Management

Kenya has expansive and porous borders with her neighbors; In addition, there is a lot of cross-border movement to traditional seasonal grazing grounds and for trade. Poor coordination and collaboration with the neighbours on disease control across the borders make control of trans-boundary diseases a major challenge.

Policy Statement

The National Government will: collaborate with neighboring countries to strengthen both national and regional disease surveillance, monitoring and control, as well as provide rapid response to check the effects of disease outbreaks.

3.3.4 Animal welfare

There is a general low awareness, recognition and compliance to the animal welfare requirements in their feeding, housing, use for draught power, transportation, slaughter and participation in sports.

Policy statement

The National Government will put in place regulations and standards to ensure that animal welfare is upheld and enforced in the animal resource industry.

County Governments will implement and enforce animal welfare standards and regulations among communities through creating awareness, domesticating legislation and animal control services including licensing of companion animals and facilities for the accommodation, care and proper disposal of animal carcasses.

3.4 MARKETING OF LIVESTOCK AND LIVESTOCK PRODUCTS

3.4.1 Livestock and Livestock Products Aggregation, Transportation and Trade

The key issues facing aggregation and transportation are insecurity, poor infrastructure, seasonality of production, distribution systems of livestock and livestock products. The local market is sometimes flooded with cheaper and low quality imported livestock products while external trade in livestock and livestock products is affected by limited capacity to meet sanitary requirements of importing countries, inadequate volumes and timely deliveries.

Policy Statement

The National Government will:-

- i.* Establish an agency to promote marketing of livestock and livestock products;
- ii.* Establish an agency to control and enforce quality of livestock products;
- iii.* Strengthen security in all livestock producing areas;
- iv.* Take measures to enhance trade in livestock and livestock products; and
- v.* Put in place measures that deter dumping while promoting competitiveness of local products to cushion local producers

County Governments will:-

- i.* Take measures to ensure availability of quality livestock and livestock products at all times; and
- ii.* Strengthen the capacities of producers and marketing groups in production, processing and storage of livestock products.

The two levels of government will:-

- i.* Support infrastructure development for aggregation and transportation;

- ii.* Take measures to improve distribution networks; and
- iii.* Promote trade in livestock and livestock products

3.4.2 Agribusiness and Value Addition

Currently, Kenya's livestock products are marketed both locally and internationally with limited value addition. Value addition is largely constrained by high cost of investment, limited demand for value added products by consumers, inadequate skilled manpower, limited access to financial and business development services, poor infrastructure, and inadequate value addition technology. There is inadequate capacity in entrepreneurial skills among primary producers in the livestock industry resulting in low margins from their enterprises.

Policy Statement

National Government will:-

- i.* Facilitate the development and transfer of skills in agribusiness and value addition technologies;
- ii.* Develop mechanisms for the establishment and growth of large scale value adding enterprises.

County Governments will:-

- i.* Facilitate adoption of skills in agribusiness and value addition technologies.
- ii.* Develop mechanisms for establishment and growth of cottage industries and large scale value adding enterprises.

The two levels of government will:-

- i.* Support infrastructural development in order to enhance the growth of industries within the livestock sub-sector; and

- ii. Develop and implement legal and regulatory measures that encourage value addition and agribusiness

3.4.3 Safety and Quality of Livestock and Livestock Products

Issues which affect safety and quality of livestock and livestock products include inadequate capacity to undertake good animal husbandry practices (GAHP), good hygienic practices (GHP) and good manufacturing practices (GMP). In addition there is inadequate capacity for verification of food quality and safety and enforcement of food safety regulations.

Policy Statement:

National Government will:-

- i. Support the relevant institutions to carry out effective safety and quality control measures;
- ii. Strengthen training, supervision and regulation of service providers to assure quality service delivery;
- iii. Facilitate enforcement of the Sanitary Standards; and
- iv. Facilitate the development of codes of practice that are compliant to national and international standards; and
- v. Develop and implement a livestock produce traceability system
- vi. Develop and implement food safety regulations

County Governments will:-

- i.* Strengthen safety and quality control measures across the livestock food value chain; and
- ii.* Build capacities of producers and livestock value chain actors to enhance quality of products

The two levels of government will develop and implement measures for the enforcement of food safety standards and regulations.

3.4.4 Marketing Infrastructure

Marketing infrastructure is in poor state or under-developed, and hence not favorable for efficient livestock marketing.

Policy Statement:

The National Government will:-

- i. Develop strategies and enact legislations for the protection and economic utilization of holding grounds, outspans, and livestock stock routes;
- ii. Develop, improve and maintain livestock marketing infrastructure at ports of entry; and
- iii. Support investment in marketing infrastructure.

County Governments will:-

- i. Develop, improve and maintain livestock marketing infrastructure; and
- ii. Enact legislations for mechanisms of ploughing back revenue from marketing facilities for purposes of development and maintenance and come up with innovative sustainable management structures

The two levels of government will:-

- i. In collaboration with the relevant stakeholders develop and rehabilitate livestock marketing infrastructure; and
- ii. Ensure protection of holding grounds, outspans, and livestock stock routes and develop strategies for their economic utilization.

3.4.5 Marketing Information

The key challenges in access and utilization of livestock marketing information is the underdeveloped marketing information systems.

Policy Statement:

The National Government will, in collaboration with the relevant private sector agencies, establish mechanisms for strengthening and harmonizing market information systems and develop linkages with international markets.

The County Governments will facilitate livestock marketing data collection, collation and sharing among the stakeholders.

The two levels of government will:-

- i.* Facilitate dissemination of livestock marketing information to all value chain actors; and
- ii.* Establish mechanisms for strengthening and harmonizing market information systems and develop linkages with local and international markets.

3.4.6 Livestock Products Consumption

High livestock products prices limit consumption. In addition, consumer preferences and attitudes, the narrow range of value added livestock products affects consumption volumes at the household, national and international level.

Policy Statement:

The National Government will:-

- i.* Take measures to ensure competitiveness of livestock products; and
- ii.* In collaboration with the private sector support research and development of broad range of livestock products.

County Governments will:

- i.* Provide favorable environment for efficiency in production of livestock products; and
- ii.* Build capacity of producers and processors to produce diverse value added products

The two levels of government will:-

- i.* Put in place mechanisms that promote the consumption of livestock products; and
- ii.* Support consumer rights to information and quality livestock products.

3.4.7 Utilization of Products from Non-conventional Livestock

There is limited exploitation of animals classified under the Wildlife Conservation Act (Cap 376). These animals have potential to contribute to food and nutrition security.

Policy Statement:

The National Government will:-

- i.* Promote production, research and utilization of animals classified as wildlife in collaboration with other relevant stakeholders;
- ii.* Facilitate licensing of production and processing of non-conventional livestock; and
- iii.* Develop capacity for production and processing of non-conventional livestock.

County Governments will, in collaboration with other relevant stakeholders, promote production, and utilization of animals classified as wildlife.

The two levels of government will support diversification of sources of food of animal origin.

3.5 LIVESTOCK RESEARCH

The National Agricultural Research System (NARS) Policy lays the ground for a well co-ordinated research system. However, this has not been achieved. Most livestock-related

research and technological development in the country is supported by the national government and development partners but at low budgetary levels a large proportion of which emanates from development partners. Dissemination and commercialization of research findings among livestock industry stakeholders is also limited. In addition key socio-economic factors, that influence livestock production, have not been given sufficient attention in research.

Policy Statement

The national government will:-

- i.* Strengthen and coordinate livestock research agenda and improve dissemination and uptake of research findings.
- ii.* Commit to allocate 2% of the national budget towards agricultural research of which 50% will be dedicated to livestock research.
- iii.* Support public research institutions to commercialize technologies developed.
- iv.* Establish a fund for livestock research and commercialization of potential technologies.

The two levels of government will

- i.* In collaboration with stakeholders take measures to mainstream socio-economic factors in research.
- ii.* Diversify and enhance the funding base for livestock research

3.6 EXTENSION SERVICE DELIVERY

There is little formal collaboration among various extension service providers which, in some cases, has led to lack of synergy, duplication of efforts and conflict of interests. Consequently, this has resulted in poor access to extension support services by the extension clientele. The content of the messages for extension service delivery are inadequate to address different needs of various stakeholders. This is partly caused by narrow specialization of extension agents and lack of commodity-based and geographical

area-based extension delivery approaches. There is, therefore, need to develop comprehensive and dynamic extension packages which respond to market demand, taking into account the client's social-economic conditions, environment and other relevant cross-cutting issues.

Policy Statement

The national government will

- i.* Develop a legislative framework for extension service delivery
- ii.* Establish a mechanism for collaboration and networking among extension service providers
- iii.* Create, develop and review appropriate extension approaches and methodologies for county capacity building
- iv.* Establish harmonized institutional arrangements for management of extension programmes within the livestock sector.
- v.* Promote and facilitate the adoption of high-end technologies such as biotechnology;

The two levels of government will

- i.* Collaborate with stakeholders to develop dynamic and comprehensive demand driven extension packages and delivery approaches appropriate for different clientele.
- ii.* Encourage investments in capacity building for extension service providers, extension clientele and relevant institutions.
- iii.* Encourage the adoption of technologies that attract the youth to livestock development-related activities;
- iv.* Encourage the development of extension delivery systems such as ICT, and regulate and monitor the content to assure quality of the information shared.

The county governments will

- i. Promote demand driven and beneficiary led approaches in selection of technologies and extension messages.
- ii. Promote pluralism and institute mechanisms to coordinate and ensure delivery of quality extension service.

3.7 FINANCE

Despite its contribution to livelihood support, food security and the economy, funding to the livestock sector by public and private entities has been inadequate over the years. The cost of credit is also high and inaccessible to most livestock actors along the value chain. The most affected groups are small-scale livestock producers, pastoralists, women and youth who lack collateral required by conventional financial institutions. Financial literacy among value chain actors especially primary producers is low making it difficult for them to access financing. Financing models are not responsive to different livestock enterprises and lack technical support.

Public financing is cheaper compared to private institutions but the funding is inadequate to cater for the varied needs in the livestock sector. Public institutions are also sparsely distributed in the country and some livestock players are unaware of products offered. Some development partners and philanthropists have supported the livestock sector through grants which do not complete full financing cycle.

Policy Statement

The National Government will:

- i. Revitalize and expand public finance institutions, including the AFC to extend affordable and accessible credit facilities to livestock value chain actors.
- ii. Provide incentives to encourage private sector financial institutions to extend credit and promote investment in the sector.

- iii.* Put in place a legislative framework to provide guidelines on provision of tied loans and grants

The two levels of government will:-

- i.* Mobilize financial resources for enhanced livestock development in the country;
- ii.* Develop innovative mechanisms for private sector to advance credit to livestock keepers and other players along the value chain.
- iii.* Put in place mechanisms to bond livestock financing with appropriate technical support.

The County government will

- i.* Put in place measures to improve financial literacy of livestock actors in collaboration with financial institutions

3.8 LIVESTOCK INSURANCE

Livestock insurance services in the country are underdeveloped. Due to risks associated with livestock farming, only a few firms offer livestock insurance mainly covering high value animals such as dairy cattle, horses and companion animals. There is limited awareness of insurance products; high cost of premiums and delivery of insurance services especially in the ASALs.

Policy Statement:

The National and County governments will,

- i.* In collaboration with stakeholders, establish sustainable and accessible livestock insurance schemes.
- ii.* Promote and encourage private sector investment in livestock insurance

3.9 HUMAN-LIVESTOCK-WILDLIFE INTERACTION

Wildlife animals in farmlands and ranches pose potential conflict amongst themselves, humans and livestock. Due to this interaction, diseases can be transmitted from wildlife

to livestock and vice versa. There is also competition for natural resources such as pasture and water and in some cases; wild animals may cause injury or death to livestock and humans. There is potential for exploitation of some wild animals to offer livestock related products and services but the Kenya Wildlife Act Cap 376 does not permit rearing of non- conventional livestock without licensing.

Policy Statement

The National Government will develop strategies to foster co-existence of wildlife and domestic animals in non-protected areas for economic gain.

County Governments will implement measures to enable co-existence of wildlife and domestic animals in non-protected areas for economic gain.

The National and County governments will regularly survey and develop control measures of wildlife diseases which affect livestock.

3.10 FOOD, FEED AND NUTRITION SECURITY

It is estimated that about 56% of the country's population suffer from chronic food insecurity and poor nutrition (National Food and Nutrition Security Policy, 2012) and that about 2 million Kenyans are constantly on food relief with the figure rising to almost 4 million whenever rains fail. The latter situation mostly affects the ASAL population of the country.

Droughts occur in Kenya regularly, particularly in the ASALs resulting to loss of livestock, collapse of livestock markets and loss of livelihood support systems. Currently, the country does not have an integrated information data bank on livestock and livestock products situation, feed and water availability. This limits efforts of the government and other service providers to identify and profile key characteristics of the vulnerable groups and, hence, hinders the ability to design appropriate intervention programmes, and the necessary resource mobilization.

Policy statement

The National Government will:-

- i. Establish feed risk data management system for monitoring disaster and emergency response
- ii. Establish a Strategic Livestock Feed Reserve;;
- iii. Institutionalize the Livestock Enterprise Development Fund to support drought recovery, livestock insurance, restocking and procurement of livestock based products for disaster mitigation; and.

The County Governments will:-

- i.* Establish risk management interventions including supporting emergency livestock off- takes; and
- ii.* Develop county specific medium and long-term plans for emergency preparedness including drought resilience strategies.
- iii.* Promote diversification of food and feed resources at household level.

Both the National and Country governments will:-

- i.* Institutionalize and strengthen drought early warning system
- ii.* Establish fodder banks in designated areas to ensure feed availability during times of scarcity.

3.11 BIOTECHNOLOGY IN LIVESTOCK DEVELOPMENT

The protection of human health and the environment from the possible adverse effects of biotechnology is provided for by the Convention on Biological Diversity (CBD). In Kenya promotion of genetically modified organisms (GMO's) is governed by the National Biotechnology Development Policy 2006 while regulation is guided by the Bio-safety Act No. 2 of 2009. Adoption of biotechnology in livestock production could contribute to improved breeding efficiency, enhanced feed value, production of pest and drought tolerant feed crops, therapeutics, disease diagnostic agents, and animal disease management agents (vaccines). In the face of increasing population and the subsequent demand for safer and nutritious food, livestock production can leverage on all available technologies including genetic modification, to increase animal production and productivity while safeguarding human and animal health, and the environment.

The potential for application of GM technology in livestock production is faced with challenges that include; inadequate scientific, regulatory and outreach capacities; inadequate awareness of benefits of GMO's; and limited collaboration among relevant institutions.

The challenge of is how to ensure the promotion of the use of biotechnology and its products, while at the same time assuring the safety of the products of biotechnology for humans, and the environment. The Biosafety Act No. 2 of 2009 mandates the National Biosafety Authority, in consultation with the Directorate of Veterinary Services, to implement the national policy on the introduction and use of genetically modified livestock, arthropods and micro-organisms in Kenya; the aim being to keep vigil for government, business sector, scientists and farmers on all matters relating to animal health, including animal health inputs and products.

Policy Statement:

National Government will:- enhance the capacity for general supervision and control over the transfer, handling and use of livestock-related genetically modified organisms with a view to ensuring the safety of human and animal health; and the provision of an adequate level of protection of the environment.

County Governments will: *facilitate the National Biosafety Authority to provide the general supervision of GMO introductions in Kenya.*

3.12 CLIMATE CHANGE

The livestock sector is vulnerable to the impacts of climate change and variability as well as extreme weather events. Enhanced temperatures and change in precipitation regimes across Kenya have led to reduced livestock productivity due to reduced feed and water availability. The increase in frequency and intensity of extreme weather events such as droughts, floods and strong winds have led to loss of livestock investments, incomes and livelihoods household level. Consequently, livestock has been affected by drought leading to death of animals, emergence and re-emergence of traditional and new diseases, and spread of pests beyond previously colonized ecological zones.

Some of the challenges faced in addressing the climate change and its impacts and ensuring environmental resilience of pastoralists and livestock production systems include inadequate early warning and preparedness; inappropriate technologies for production, transport and processing of livestock and livestock products; inappropriate breeds and forage varieties; and inadequate support mechanisms to ensure pastoralists and other value chain actors recover after an extreme weather event.

Policy Statement:

National Government will:-

- i.* Facilitate the implementation of legislation and action plans relating to climate change;
- ii.* Develop capacities and technologies to enhance adaptation and mitigation to effects of climate change;
- iii.* Strengthen early warning systems and disaster preparedness; and
- iv.* Support programs to improve resilience of livestock keepers to effects of climate change.

County Governments will:-

- i.* Promote public awareness, capacity building and sharing of information on sustainable environmental practices;
- ii.* Promote adoption of climate change technologies and implementation of adaptation and mitigation interventions.
- iii.* Implement policies, legislations and action plans relating to climate change
- iv.* Ensure disaster preparedness and implement response measures.

The two levels of government will:-

- i.* Promote selection and development of appropriate breeds and forage varieties

- ii.* Promote keeping of animals of higher productivity
- i.* Promote green growth strategies;
- ii.* Promote climate financing and broaden mechanisms to attract investments in climate-smart agricultural practices along the commodity product value chains; and
- vi.* Support adoption of insurance to mitigate climate risks.

3.13 GENDER AND SOCIAL INCLUSION

3.13.1 Gender Inclusion

Gender exclusion concerns have been widely identified and noted to threaten the competitiveness and sustainability of livestock value chains.

Policy Statement:

The National Government will develop a gender and social inclusion strategy for the livestock sector.

The National and County governments will ensure that public and private sector supported livestock development programs are gender sensitive in their design and implementation.

3.13.2 Youth Involvement in Livestock Sector

The current technologies in use in the livestock value chains, inadequate access to factors of production and other constraints limit the involvement of youth in livestock production.

Policy Statement:

The National and County governments will:-

- (i)* Take measures to enhance the involvement of youth in the livestock value chains;

- (ii) Enhance the access and uptake of youth friendly technologies in production, processing and marketing of livestock products.

3.13.3 Persons Living with Disabilities (PWDs)

The Constitution of Kenya provides for equal rights, privileges and opportunities for all citizens. The involvement of persons with disabilities in livestock sector has been constrained by inadequate opportunities and appropriate technologies to facilitate their participation in the livestock value chains.

Policy Statement

The National Government will undertake and promote research on appropriate technologies and programmes that respond to the needs of PWDs and encourage their participation in the livestock production activities.

County Governments will:-

- i.* Adopt and domesticate technologies developed and promote their use among PWDs in the livestock sector;
- ii.* Identify and target vulnerable groups at the smallest devolved units to benefit from programmes in the sub-sector.

The two levels of government will:-

- i.* Put in place mechanisms to support PWDs to exploit opportunities in the livestock sub- sector; and
- ii.* Avail livestock related information in diverse languages to end-users in print or electronic forms including braille and sign language.

3.13.4 Effects of HIV/AIDS and Other Diseases on the Livestock Industry

Households affected by HIV/AIDS and other debilitating diseases are not able to fully engage in labor intensive livestock production systems. Available household resources

including live animals are diverted to treatment and care of the affected and infected persons.

Policy statement:

The National Government will promote research on the effects and impacts of HIV-AIDS on livestock based livelihood.

The National and County governments will promote livestock enterprises and technologies that mitigate the effects and impact of HIV-AIDS and other diseases.

CHAPTER FOUR

4.0 CROSS-CUTTING ISSUES

4.1 HUMAN RESOURCE DEVELOPMENT

The development of the livestock sector requires well trained and skilled human resources. To address this need the sector has both public and private institutions offering different types of training and skills development related to the livestock industry. These institutions include universities, middle level specialized livestock institutes and value chains actors' skills development institutions. The universities offering livestock related courses have limited collaboration with the stakeholders resulting in inadequate content that can effectively address the requirements of the sector. Further most of the courses offered in training institutions are unattractive to the youth which has resulted in fewer graduates in livestock related matters negatively impacting on the sector.

Training in livestock is not fully harmonized with the requirements of the sector nor standardized in content. Most training modules have concentrated on livestock production aspects, with little emphasis on agribusiness, value addition and marketing of livestock products. In addition, provision of internship and apprentice programmes have been lacking in the livestock industry.

The Fourth Schedule of the Constitution provides for the national government to build the capacities of the county governments in technical, management and leadership skills. However, this has been constrained by inadequate budgetary support.

The technical personnel at the two levels of government have inadequate skills and knowledge in new technologies with respect to livestock value chains, non-conventional livestock, livestock innovations, agribusiness, climate change and other emerging issues.

Policy Statement:

National Government will:-

- i.* Collaborate with stakeholders to develop courses that respond to emerging livestock industry requirements such as; business and entrepreneurship

- development, value chains and innovation systems approaches, and social inclusion .
- ii.* Support internship and apprentice programmes in the sector; and
 - iii.* Make deliberate efforts to ensure gender and regional parity in the admission of trainees to the public training institutions.

The two levels of government will:-

- i.* In collaboration with stakeholders, endeavor to increase the number of technically qualified personnel to adequately serve the sector. Particular emphasis will be placed on developing the capacity of technicians to enhance service provision in the ASALs;
- ii.* Provide for continuous training for human capital, and establish mechanisms for succession management through mentorship programmes;
- iii.* Build the capacity of trainees on social inclusion issues in livestock and ensure they are an integral part of the curriculum in all training institutions; and
- iv.* Address the skills gap challenge of value chain institutions offering livestock related training.
- v.* Develop and promote programmes and courses that attract participation of the youth in livestock related training.

4.2 ENABLING INFRASTRUCTURE

Sustainable livestock development requires other enabling infrastructure along the value chain such as roads and rail, energy, information and communication technologies (ICT) and water supply systems. The rural areas especially the ASALs are characterized by poor roads, inadequate power and water supply, poor coverage of information and communication technologies among others.

Policy Statement:

In order to address the infrastructural challenges, the two levels of government in collaboration with stakeholders will support investment in enabling livestock infrastructure.

4.3 SECURITY

Some livestock production areas especially the ASALs are prone to insecurity due to cattle rustling and other cultural based conflicts among the communities. The insecurity affects livestock production and trade. The country does not have a foolproof livestock identification and traceability system that can assist in the recovery of stolen animals. The porous nature of the borders has also contributed to insecurity.

Policy Statement:

To address insecurity, the two levels of government will:-

- i.* Put in place mechanisms to enhance security and minimize conflicts especially in the ASALs ;
- ii.* Support and initiate peace forums among the communities; and
- iii.* Establish a livestock identification and traceability system in collaboration with stakeholders.

4.4 INFORMATION AND DATA MANAGEMENT

Quality and timely livestock data and information is essential for planning and development of the sector. Important data include population data, breeding, animal performance, consumption, pricing, market trends among others. Although the 2009 population census incorporated livestock, the data collected was inadequate for effective planning.

The sector does not have a coordinated mechanism for data collection, analysis, storage, retrieval and dissemination. The extent to which available data on livestock players is disaggregated is limited, making it difficult to analyze social inclusion trends. The

contribution of the sector to the GDP is often underestimated due to inadequate availability of accurate data.

Policy Statement

The National Government will

- i.* Support a comprehensive livestock census to provide baseline data for planning and development of the sector.
- ii.* Establish a livestock data center to manage all livestock data and information.

The two levels of government will:-

- i.* Establish information and data management systems and support capacity building for data management; and
- ii.* Promote the adoption, by all actors, of the principle that all people-level related data collected in the livestock sector is disaggregated by age and gender.

4.5 DRUGS AND SUBSTANCE ABUSE

Drug and substance abuse is a major concern in all sectors of the economy. Drugs and substances that are most abused include alcohol and bhang (*Cannabis sativa*). However, hard drugs such as cocaine and heroin are emerging as bigger threats to the wellbeing of the Kenyan labour force, particularly the youth. Substance and drug abuse also affects service providers and other players in livestock value chains. In cases where public service workers are involved, the image of the government is dented and delivery of services affected. There is need to reduce incidences of drug and substance abuse among farmers, pastoralists, traders and service providers.

Policy Statement

The two levels of Government will;

- i.* Facilitate guidance and counseling for affected workers.

- ii.* Facilitate awareness creation and rehabilitation of affected persons in the livestock sector.

CHAPTER FIVE

5.0 IMPLEMENTATION FRAMEWORK

5.1 LEGAL FRAMEWORK

Laws and regulations are integral to effective policy implementation and operationalization. The legal framework for livestock is based on a number of laws most of which require review, new ones developed to conform and implement the Constitution and to further support implementation of this policy. Review will also align the existing laws with emerging issues in the general rules of international laws and provisions of treaties or conventions ratified by Kenya.

Policy statement:

The National and County governments in consultation with stakeholders will review and develop livestock sector legislations to ensure compliance with the Constitution and support for implementation of this policy.

5.2 INSTITUTIONAL FRAMEWORK

Various institutions will be involved in implementing this policy ranging from National and County governments, private sector and other stakeholders with support from regional and global institutions. The 4th schedule of the Constitution provides for County and National governments functions in the livestock sector.

5.2.1 The National Government

The National government will be responsible for developing regulations, standards, strategies and any other relevant policies. The National government will carry out this function through the ministry in charge of livestock and its agencies in consultation with other government agencies and stakeholders.

5.2.2 The County Governments

County governments will be responsible for implementation of this policy. Individual counties will thus develop policies, legislations, strategies and plans to guide

implementation. The Constitution provides for County governments to be responsible for animal husbandry, livestock sale yards, County abattoirs, livestock disease control, animal control and welfare.

5.2.3 Intergovernmental relations

Article 6 (2) of the Constitution provides for two levels of governments that are distinct and inter-dependent and which shall conduct their mutual relations on the basis of consultation. Article 189 1(C) further provides that governments at each level shall liaise with government at the other level for the purpose of exchanging information, coordinating policies, administration and enhancing capacity.

In line with these provisions, a seamless Intergovernmental Relations between the two levels of government is required. Within the agricultural sector, an Intergovernmental Secretariat (IGS) drawing membership from both levels of government has been put in place and reports to the Intergovernmental Forum on Lands and Agriculture and the Summit.

For technical operations between the two levels of governments an agricultural intergovernmental steering committee and livestock (Sectoral) technical working group have been established.

5.2.4 Ministry in-Charge of livestock affairs

The Ministry in-charge of livestock affairs has the responsibility of policy formulation, development of standards, capacity building for counties and regulation of inputs and products for livestock industry. It achieves this through the technical departments and semi-autonomous government agencies such as the Kenya Veterinary Board (KVB), Kenya Dairy Board (KDB), Kenya Animal Genetic resources Center (KAGRC), Kenya Veterinary Vaccines Production Institute (KEVEVAPI), Kenya Meat Commission, (KMC), Kenya Tsetse and Trypanosomiasis Eradication council (KENTTEC), Kenya Agricultural and Livestock Research Organization (KALRO). Other relevant government agencies include the National Drought Management Authority (NDMA), New Kenya Cooperative Creameries (KCC) and Kenya Leather Development Council (KLDC).

Policy Statement

The National Government and County Governments will establish mechanisms for enhanced collaboration among livestock institutions and stakeholders for improved service delivery. Further, appropriate regulatory and training institutions will be created and existing ones strengthened to address the various challenges facing the livestock sector.

5.2.5 Livestock Training Institutions

The Ministry in charge of livestock matters manages a number of middle level institutions including the Animal Health Industry Training Institutes (AHITIs), Dairy Training Institute (DTI), Meat Training Institute, Pastoral Training Institutes-(Narok and Griftu, Wajir), Leather Development Council and National Beekeeping Institute (NBI). Over the years the institutions have not received adequate support to enable them offer quality training in the livestock value chain. In addition there is inadequate coordination mechanism for the various institutes.

Policy Statement

The national government will

- i.* Develop legal frameworks to provide for the coordination and autonomy of middle level public livestock training institutions
- ii.* Establish an institution to oversee overall training of livestock industry skills
- iii.* Support infrastructure and human capital development in the institutes to enable them offer quality training.

5.2.6 Kenya Meat Commission

The Kenya Meat Commission (KMC) was established in 1950 under the Kenya Meat Commission Act, Cap 363 of the Laws of Kenya in order to promote the country's meat industry through purchase and slaughter of livestock, and to act as a strategic drought management agent as a buyer of last resort. Thus, it was charged with the task of processing meat and meat products for both domestic and export markets. It continues to experience challenges in carrying out its mandate.

Policy Statement:

The National Government will strengthen the KMC to play its role and serve as the custodian of strategic meat reserves in the country.

5.2.7 Kenya Dairy Board

The Kenya Dairy Board (KDB) is a statutory body established in 1958 by an Act of Parliament, the Dairy Industry Act Cap 336 of the laws of Kenya. Its mandate is to regulate, develop and promote the dairy industry in Kenya. The functions of Kenya Dairy Board includes overseeing the efficient production, marketing and supply of milk and milk products, quality control and assurance, market research, promoting private sector development and promoting adoption of best practices.

The Board has been performing a regulatory and developmental function which creates conflicts of mandates since the Constitution assigns the developmental mandate to county governments.

Policy Statement

Kenya Dairy Board will be strengthened to play its regulatory role while the developmental role will be handled by county governments and other agencies. The Dairy Industry Act Cap 336 will be reviewed to align with current realities.

5.2.8 Kenya Tsetse and Trypanosomiasis Eradication Council

The Kenya Tsetse and Trypanosomiasis Eradication Council (KENTTEC) was established under the State Corporation Act on 27th July 2012 vide legal Notice No. 77. Its mandate is to coordinate tsetse and Trypanosomiasis eradication in Kenya with a view to reclaim the tsetse infested areas for animal production, human habitation and wildlife-based Tourism. The trans-boundary nature of tsetse fly and trypanosomiasis demand effective coordination nationally and internationally and enormous resources for implementation of eradication activities.

Policy Statement

KENTTEC will be strengthened to play its role in tsetse and trypanosomiasis eradication. A legislative framework shall be developed for tsetse and trypanosomiasis eradication with provisions for a fund to mobilize resources for sustainable tsetse control programs.

5.2.9 Kenya Animal Genetic Resources Centre

The Kenya Animal Genetic Resources Centre (KAGRC) was established under the State Corporation Act through a Legal Notice No. 110 of 5th September 2011 as a successor of Central Artificial Insemination Station to establish a National livestock resources gene bank and take custody of livestock tissues, DNA, semen and embryos of all food animals and non-conventional livestock species in Kenya. The Centre engages in the production, preservation, distribution and conservation of cattle genetic material as well as rearing of breeding bulls of superior genetics for provision of high quality disease free semen to meet national demand and for export.

The Centre faces challenges of inadequate capacity to expand its services to include other food animals, conservation both *in-situ* and *ex-situ*, and embrace emerging breeding technologies.

Policy Statement

The National Government will

- i. Strengthen KAGRC to produce and distribute appropriate and affordable animal genetic resources
- ii. Establish an animal resources gene bank.
- iii. Develop a legislative framework to anchor the functions of KAGRC in an Act of Parliament.

5.2.10 Kenya Veterinary Vaccines Production Institute

The Kenya Veterinary Vaccines Production Institute (KEVEVAPI) was established through Legal Notice No. 223 of 4th June 1990. It is currently classified as a commercial state corporation with a strategic function. The Institute's mandate is to coordinate and undertake production, research, marketing and distribution of veterinary vaccines locally and internationally.

Policy Statement

The National Government will

- i. Revamp and transform the institute into a modern bio-secure institution for producing high quality vaccines for both the domestic and international markets and to act as the custodian of the strategic vaccines reserve.
- ii. Develop a legislative framework to anchor the functions of KEVEVAPI in an Act of Parliament

5.2.11 Kenya Veterinary Board

The Kenya Veterinary Board (KVB) is established under the Veterinary Surgeons and Veterinary Paraprofessionals Act, Cap 336 of 2011. Its mandate is to regulate veterinary surgeons, veterinary paraprofessionals, training institutions, veterinary laboratories,

animal welfare and breeding services. Its objective is to ensure delivery of quality veterinary services to the stakeholders and animal welfare services.

KVB is faced with challenges of inadequate human and financial resources leading to inadequate capacity to carry out its mandate.

Policy Statement:

National Government will strengthen KVB to carry out its mandate effectively.

5.2.12 Kenya Agricultural and Livestock Research Organization (KALRO)

KALRO is the main body mandated to carry out agricultural research in the country but has not received adequate funding. In addition the institution lacks adequate human resource capacity and technological facilities to undertake livestock related research. Livestock research, particularly breed development takes a long time to yield results making it unattractive to development partners and investors. Kenya's livestock industry is growing at a slower pace compared to the world average which is attributed to mainly inadequate research.

Policy Statement

The National Government will provide for the strengthening of KALRO to build its capacity to conduct livestock research.

5.2.13 County Livestock Sector Institutions

The fourth schedule of the constitution provides for devolution of livestock husbandry matters and disease control. There is need to develop systems at the county level to support delivery of these functions.

Policy Statement:

County Governments will

1. Establish appropriate mechanisms to support development of the livestock industry.

2. Ensure that devolved livestock institutions are preserved for livestock development and where there are none they should be established

5.2.14 Private Sector Institutions

The private sector includes producers, farmers, processors, marketers and all other actors in the livestock value chain. They will collaborate with National and County governments in the implementation of this policy. Currently, there are a number of community-based organizations, associations, Non-Governmental Organizations, professional associations, cooperative societies, input suppliers and development partners who play a significant role in the development of the livestock sub-sector.

1.2.15 Professional Bodies

Among the professional associations are the Kenya Veterinary Association (KVA), the Animal Production Society of Kenya (APSK), Kenya Society for Agricultural Professionals (KESAP), Kenya Veterinary Paraprofessionals Association (KVPA), Animal Technician Council (ATC), Kenya Professional Association of Women in Agriculture and Environment (KEPAWAE) and Kenya Institute of Food Technologists (KIFT). These associations bring together professionals to advocate for the livestock industry and update their knowledge in their respective professions. However, they are faced with ethical challenges and inadequate capacities to carry out their mandates.

Policy Statement:

The National Government will provide for mechanisms to support professional associations in advancing their stipulated professional mandates.

1.2.16 Societies and Farmers' Associations

Civil societies and farmer associations (breeding organizations, cooperatives societies, farmers' unions, and commodity associations) and community Based Organizations (CBOs) collectively bring together farmers to pool their resources and efforts in order to maximize their returns. Farmers' organizations also assist in facilitating access to inputs, credit, markets, market information, production, education, information and advocacy for

their members. The benefits accruing from farmer organizations require attention to ensure their sustainability.

Policy Statement:

The two levels of government, together with stakeholders, will take the necessary measures to ensure formation and sustainability of strong farmer organizations.

1.2.17 Industrial Stakeholders

Different industrial players serve the livestock sector by producing and distributing inputs as well as collecting, processing and marketing a wide range of animal products. In performing these roles, they provide vital linkages between research, extension and farmers. Whereas the main motivation of the industrial players is commercial gain, they also greatly benefit the producers and, therefore, their expertise could be harnessed to provide means and knowledge for increased productivity as well as engineer rural industrialization.

Policy Statement:

The two levels of government will provide an enabling environment in order to facilitate efficient operations of the different industrial players in the livestock sector.

5.2.18 Financial and Insurance Institutions

Large and micro financial institutions offer crucial services to the rural areas by providing banking services, insurance, credit and financial advice.

Policy Statement

The two levels of government in collaboration with stakeholders will establish the necessary mechanisms to facilitate use of financial and insurance services in the rural areas.

5.2.19 Development Partners

Development partners comprise of bilateral and multilateral agencies, regional co-operation organizations and charitable agencies. They are important in provision of financial resources, technical assistance, training and transfer of international experience. Support from the development partners play an important role in the development of the livestock sector.

Policy Statement:

National Government will coordinate development partners in the livestock sector to avoid duplication and improve efficiency of implementation of programs.

The National and County governments will continue to foster closer cooperation with development partners for maximum benefits of the livestock industry.

CHAPTER SIX

6.0 MONITORING AND EVALUATION

Monitoring and Evaluation (M&E) is a tool of informing evidence based decision making. The government developed the National Integrated Monitoring and Evaluation System (NIMES) in 2004 to track the implementation of policies, programmes and projects but the roll out of the system has not been very effective. Consequently, stakeholders have continued to develop and use their own monitoring systems which are not harmonized. Livestock programmes and projects supported by development partners have their own monitoring systems.

Monitoring and evaluation will be critical in assessing implementation of this policy. The livestock sector does not have a well-coordinated and integrated monitoring and evaluation system that can collect data, analyse and disseminate information for effective planning and decision making. In addition, the necessary human and infrastructural capacity to conduct monitoring and evaluation is inadequate.

Policy Statement:

The two levels government in collaboration with stakeholders will:-

- i.* Develop and institutionalize an integrated monitoring and evaluation system for the livestock sector;
- ii.* Enhance capacity for carrying out M&E; and
- iii.* Establish infrastructure to support monitoring and evaluation activities.