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LIST OF ACRONYMS

ADC	Agricultural Development Corporation
AFC	Agricultural Finance Corporation
AHIS	Animal Health Inspectorate Service
AHTs	Animal Health Technicians
AI	Artificial Insemination
APSK	Animal Protection Society of Kenya
ASALs	Arid and Semi Arid Lands
CAIS	Central Artificial Insemination Services
CBOs	Community Based Organizations
CBPP	Contagious Bovine Pleuroneumonia
CCPP	Contagious Caprine Pleuroneumonia
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 Immunodeficiency 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
KARI	Kenya Agricultural Research Institute
KCC	Kenya Co-operative Creameries
KDB	Kenya Dairy Board
KEBS	Kenya Bureau of Standards
KELRI	Kenya Livestock Research Institute
KELRI	Kenya Livestock Research Institute
KENFAP	Kenya National Federation of Agricultural Producers
KEPAWAE	Kenya Professional Association of Women in Agriculture and Environment
KEPHIS	Kenya Plant Health Inspectorate Services
KETRI	Kenya Trypanosomosis Research Institute
KEVEVAPI	Kenya Veterinary Vaccines Production Institute
KLBB	Kenya Livestock Breeding Board
KLIB	Kenya Livestock Inspectorate Board
KMC	Kenya Meat Commission
KSPCA	Kenya Society for Prevention of Cruelty to Animals
KVA	Kenya Veterinary Association
KVAPS	Kenya Veterinary Association Privatization Scheme
KVB	Kenya Veterinary Board
KWS	Kenya Wildlife Service
LMD	Livestock Marketing Division
M&E	Monitoring and Evaluation

MDGs	Millennium Development Goals
NGOs	Non Governmental Organizations
OIE	International Office for Animal Diseases
SAPs	Structural Adjustment Programmes
WTO	World Trade Organization

FOREWORD

This policy document is a result of various consultations among stakeholders convened to review the livestock policy. It addresses the challenges and shortcomings arising from the liberalization policies implemented by the government in the 1990s. This document is consistent with current government strategies stipulated in the sector wide Strategy for Revitalizing Agriculture (SRA) and vision 2030 developed by the Government. It also covers a wide range of issues within the livestock sub-sectors including dairy, disease free zones, leather improvement. This policy was also informed by the Economic Recovery Strategy (ERS) for Wealth and Employment Creation.

The Livestock policy covers key issues relating to: farm animal genetic resources, livestock nutrition, feeds, inputs, animal diseases and pests, livestock marketing, food safety, veterinary pharmaceuticals, quality assurance, research, extension and food security. In developing this sub-sector policy it was appreciated that over 80% of Kenya's land mass is in the ASALs, and that livestock is the main activity in these areas. It 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, due to its various products, livestock contributes significantly to the foreign exchange earnings for our nation. As such, livestock farming will be pursued at both the subsistence and commercial levels.

This policy framework 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 the impact of the availability of other natural resources such as land, water, and wildlife/livestock interaction, on livestock production. The impact of HIV/AIDS and gender related challenges, have also been given attention due to the impact of the issues in the livestock sub sector. The accomplishment of the policy objectives spelt out here will depend largely on the formulation, review and implementation of related policies on breeding, supply of animal feed, livestock disease control and management, effectiveness of the financial sector, public health, extension and research services, among others.

This policy recognizes the potential of the ASALs in livestock production and proposes options for the economic exploitation of these areas. The policy take cognizance of the potential contribution of other livestock species to the overall sector contribution of the country's agricultural GDP. It is our expectation that the policy changes envisaged here will revitalize the livestock sub sector and guarantee the sustainability of livestock farming as a major economic activity in the country and enhance Kenya's leadership position in livestock production within the region and beyond.

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MINISTER FOR LIVESTOCK DEVELOPMENT

1. CHAPTER ONE -INTRODUCTION AND BACKGROUND

1.1. Introduction

The overall goal of the Government of Kenya is to eradicate poverty, illiteracy and diseases while creating wealth. Kenya is also a signatory to the Millennium Development Goals (MDGs) Programme of the United Nations, whose goal number one is halving the hunger incidence by the year 2015. Livestock farming, being the mainstay of most rural households, contributes significantly to the livelihoods of the citizenry of this country. It is, therefore, key in the achievement of this important MDG. It is against this background that the Ministry of Livestock Development seeks to put in place a conducive policy environment to facilitate enhanced and sustainable growth of the livestock sub-sector.

1.2. Historical Background

1.1.1 Most Kenyan communities have traditionally kept livestock for subsistence, prestige, and as a form of insurance against drought. The animals also served other social needs like paying the 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.

Exotic livestock breeds were introduced in Kenya by the European settlers in the year 1902. However, the Africans were confined to herding indigenous livestock, until the Swynnerton Plan of 1954. Thereafter, the Dairy Industry Ordinance of 1958 and other ordinances were enacted to buttress the European agriculture and impose strict conditions for the African farmers.

With the arrival of the western culture and gradual interaction with the global economy, livestock trade in Kenya picked more economic importance. The organization of the livestock subsector started in 1898 with the creation of the veterinary department headed by the veterinarians in the British Army. In 1987 the department of livestock production was created. Prior to 1980 the livestock sub-sector was under the mandate of the Ministry of Agriculture, but thereafter A Ministry of Livestock Development was created. However, there have been splits and mergers between the two Ministries a number of times since then. This has had a negative impact in terms of performance of the livestock sub-sector, thus occasioning changes in the priorities. As part of the Swynnerton Plan, the Livestock Marketing Division (LMD) was established as the African livestock organization, with the objective to encourage the African, in close collaboration with local authorities, to sell their animals in order to avoid over-stocking. The Kenya Meat Commission (KMC) was established in 1950 by an Act of Parliament (Cap 363), to purchase livestock and to acquire, establish and operate abattoirs in the country. However, KMC stopped operations in 1986 due to poor management and stiff competition arising from market liberalization.

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 and expansion of feed lots in order to increase meat off-take; and expansion of the Agricultural Development Corporation (ADC) farms to provide credit to livestock producers. However, these initiatives did not perform as expected due to institutional mismanagement and inappropriateness of the interventions.

The Ministry directly enforces the following Acts of parliament on behalf of the government:

The Dairy Industry Act Cap 336 (1958), The Fertilizer and Animal Food stuff Act Cap 345 (1967), The Meat Control Act Cap 356 (1972), The Branding of Stock Act Cap 357 (1907), The Cattle Cleaning Act Cap 358 (1937), The Hides and Skins and Leather Trade Act Cap 359 (1948), The Prevention of Cruelty to Animals Cap 360 (1962), The Pig Industry Act Cap 361 (1945), The Kenya Meat Commission Act Cap 363 (1950), The Animal Diseases Act Cap 364 (1905), The Rabies Act Cap 365 (1932), The Veterinary Surgeons Act Cap 366 (1953).

The existing National Livestock Development Policy was developed in 1980 with the following objectives: to address the high poverty incidence, enhance foreign exchange earnings and food security, to emphasize sustainable use of environment, and provide raw materials for both processing and manufacturing industry.

Although production of livestock and livestock products at national level increased on average, many households continued to be poor and food situation remained insecure. The country also underwent major economic shocks that were not envisaged when the 1980 policy was formulated. To address and accommodate the effect of such shocks in the economy, the Government introduced the Structural Adjustment Programmes (SAPs) that emphasized on market liberalization and globalization of the economy. As a result of the SAPs initiatives, the era of government subsidies to farmers, and other forms of government interventions, came to a stop and was replaced by the on-set of free trade. The 1980 Livestock Development Policy has, therefore, become obsolete and hence the need for a new policy.

1.3. The Status of Kenya's Livestock Industry

1.3.1 In the context of effective demand, the country is currently self-sufficient in most of the animal products except in beef and mutton. However, recent studies on animal products demand and supply projection indicate that, unless appropriate interventional measures are introduced, the country may soon register deficit in some livestock products.

1.3.2 Contribution of Livestock Sub-Sector to the Economy

Over 60% of all livestock in Kenya is found in the Arid and Semi Arid Lands (ASAL), where it employs about 90 percent of the local population.

The livestock sub-sector accounts for about 10% of the entire GDP and about 42% of the agricultural GDP. It also supplies the domestic requirements of meat, milk and dairy products, and other livestock products while accounting for about 30% of the total marketed agricultural products. The sub-sector earns the country substantial foreign exchange through export of live animals, hides and skins, dairy products, and some processed pork products. It also employs about 50 percent of the country's agricultural sector labour-force. The sub-sector also contributes substantial earnings to households through sale of livestock and livestock products; and provides raw material for agro-industries. The true proportion of the contribution by the sub-sector to the economy is likely to be even higher if unrecorded slaughter and home consumption is taken into account.

1.3.3 The Dairy Industry

The dairy cattle farming in Kenya is a dynamic enterprise with a mean animal milk production growth rate of 4.1% and accounting for about 3.5% of the GDP. Smallholder dairy production accounts for over 70% of the total milk production and supports more than 600,000 smallholder dairy farmers. The total milk production in 2005 was about 3.2 billion litres, but there is potential for even higher production in subsequent years. The country is broadly self-sufficient in milk and milk products, with an annual consumption of about 1.92 billion litres. Milk consumption is partly dependent upon the level of household incomes and, therefore, Kenya's growing economy will affect the overall effective demand for milk. Of the total dairy cattle milk production, about 55% is marketed through traders, cooperatives, hotels and shops. An estimated 84% of the total milk production is sold in the raw form, while 16% is processed.

1.3.4 Beef Production

About 80% of Kenya comprises of arid and semi-arid lands, supporting about 6 million beef cattle, and accounting for about 70% of total beef consumed in the country. Kenya's average annual beef production is about 320,000 metric tones. There is great export potential for Kenya's beef cattle. For along time, the three main traditional markets for Kenya and the countries in the Horn of Africa are the Middle East and other neighboring African countries for live cattle, sheep and goats, while the European Union market is for beef. The local demand for beef is higher compared to all other meats, mainly because all Kenyan communities keep cattle and beef prices are relatively low. Future demand for red meat will depend upon the overall trend of economic development in the country. This status will largely depend on the overall macro-economic growth in the key sectors of the economy, especially the recovery in the tourism sector, as consumption of beef is income elastic and, therefore, heavily sensitive to improvements in the disposable incomes. This, in turn, is expected to improve the investment climate for beef cattle. Other factors that would stimulate beef production are more effective disease control to restore production for export, greater transparency in markets and improved infrastructure.

1.3.5 Sheep and Goats

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 70,000 metric

tonnes per annum. In addition, sheep and goats produce other products such as wool, skins and milk. The bulk of the sheep and goats are reared in the Arid and Semi-Arid Lands (ASALs) under nomadic pastoralism, and to a limited extent, ranching systems. The population of sheep and goats is estimated at about 7.3 million hair sheep; 850,000 wool sheep, 11.08 million meat goats and some 80,000 dairy goats. Given the high nutritional value of dairy goat milk, and also their production efficiency with respect to their land space utilization, there is high potential for the development of the dairy goats enterprise.

Also the high potential for wool production, to make yarn for the local textile industry and for export, is not fully exploited. The estimated wool production is about 1,500 metric tonnes per annum.

1.3.6 Camel Production

The Camel population is estimated to be about 900,000 animals. There is high potential for camel rearing in most of the Arid and Semi Arid Land districts. The importance of the camel for food security is due to its ability to survive, and continue being productive, under drought conditions. Camel meat production is estimated at about 6,600 metric tonnes per year. Camels are the main source of milk in the ASALs, producing about 220 million litres per annum. Most of this milk is consumed locally at production points, because of limited market outlets. Hence there is need to popularize camel milk and meat consumption to other regions outside the ASAL areas. During the rainy season, significant amounts of the milk go to waste despite the fact that camel milk is very nutritious.

1.3.7 The Pig Industry

Pig production in Kenya started in 1904 when the first pigs were imported from the Seychelles. Currently, Kenya's pig population is estimated at about 415,000 pigs. Small scale farmers constitute about 70% of the total pig farmers. Pig production in Kenya has grown steadily in the last 10 years despite some earlier obstacles in the industry, the main ones being the decline of the tourist industry in 1998 and the high cost of feeds. After the collapse of Uplands Bacon Factory in 1986, pig processing has mainly been limited to one company.

1.3.8 The Poultry Industry

Kenya has an estimated poultry population of 29 million birds. Of these 68% consist of free-ranging chicken. The mean annual poultry meat production is about 20,000 metric tonnes, while egg production is 1,255 million eggs. Poultry is one of the most important enterprises in rural poor households' food and nutrition security. Apart from chicken, other poultry species like ducks, turkeys, pigeons, ostriches, guinea fowls and quails are also increasingly becoming important.

1.3.9 Apiculture

Beekeeping is well established in Kenya and can be successfully carried out in about 80% of the country. It is especially suitable in the semi-arid areas where rain-fed agriculture is difficult. Beekeeping contributes to incomes as well as food security through provision of honey, beeswax, propolis and pollination. The country's potential for apiculture

development is estimated at over 100,000 tonnes of honey and 10,000 tonnes of beeswax. At the moment, only about 20% of this potential is being exploited.

1.3.10 Rabbit production

Rabbit keeping in Kenya started in the 19th Century, when the missionaries came to Kenya. The current rabbit population is estimated at about 520,000. Compared to other livestock species, there are few adult farmers involved in rabbit keeping due to socio-cultural reasons. Rabbit production is also limited by inadequate parent breeding stock, high cost of commercial feeds and limited technical know-how.

1.3.11 Other animal resources

The scope of animal resources is wider than conventional livestock species, the Ministry shall undertake to develop, promote ostrich, guinea fowls, crocodiles, snakes, chameleons, butterflies, dogs, cats, donkeys, horses, mules and others whose needs shall be specifically addressed. In this regard, the Ministry will collaborate with other sectors in supporting research, trade and development of species whose mandates overlap such as fish and wildlife.

1.4. Stakeholders in the Livestock Industry

The stakeholders in the sub-sector are the livestock keepers, animal breeders, livestock traders, the Ministry of Livestock Development, Veterinary Pharmaceutical industry, Non Governmental Organisations, regional and international organizations such as OIE, training and educational institutions such as Universities. The subsector will be supported by professional associations such as Kenya Association of Livestock Technicians (KALT) and the Kenya Veterinary Association (KVA).

To facilitate the development of the livestock sub-sector, various stakeholders are involved at various stages of livestock production, value addition and marketing chain which includes two statutory Boards i.e. Kenya Dairy Board and Kenya Veterinary Board.

These institutions, however, have not adequately addressed the challenges faced by the producers in the light of dynamic global environmental and market demands. There is, therefore, need to restructure, re-organize and re-focus the institutions involved in the sub-sector to respond to such challenges. In particular, the Ministry departments, the Boards and research institutions need their functions redefined. There is therefore need to establish a Kenya Livestock Research Institute (KELRI) and animal health inspectorate service to accommodate such shortcomings.

2. CHAPTER TWO - RATIONALE AND OBJECTIVES OF THE POLICY

2.1. Rationale for a National Livestock Policy

2.1.1. The Development of the Livestock industry has in the past aimed at increasing production of livestock products. As a result of this, the country is currently self-sufficient in production of most of the livestock products. However, the recommended animal protein requirements by the Food and Agriculture Organization (FAO) have not been met for most citizens. Majority of the livestock farmers have continued being poor and food insecure mainly due to low productivity, high cost of farm inputs, local market inefficiencies and stringent quality requirements in international markets. The potential of the livestock sub-sector has, therefore, not been fully exploited.

Various reforms in the livestock sub-sector have been initiated to spur economic growth over the last two decades. Some of the reforms involved the privatization of Artificial Insemination Services (AI) and cattle dip management, they were not supported by any suitable policy framework. At the time of liberalization, livestock farmers and private sector were not adequately prepared to take over these services. As a result, the costs of AI services and drugs have been prohibitively high to the majority of the poor farmers. This has impacted negatively on productivity and competitiveness of livestock and livestock products, especially for small-scale producers. The abrupt withdrawal of the AI service also led to the use local bulls of low genetic quality, with the consequent effect of reduced production and productivity. Use of unproven bulls has also led to erosion of traits of economic importance in exotic breeds. Currently, only about 20 % of dairy farmers have access to AI services.

2.1.2 The market liberalization initiatives of the mid-1980s affected marketing of most livestock products, including beef, pork and milk. This, partly, led to the collapse of Kenya Meat Commission (KMC) and the Uplands Bacon Factory; and the decline in performance of the Kenya Cooperative Creameries (KCC). With liberalization and collapse of such livestock marketing institutions, marketing was left in the hands of private livestock dealers who were not adequately prepared to undertake the challenges. The poor state of roads and inadequate market infrastructure, especially stock holding grounds, became a major constrain to the development of efficient livestock markets, making the returns to the farmers' uncondusively low.

Weak research-extension linkages have adversely affected livestock production and productivity. There has been a declining trend in efficiency and effectiveness of extension services as a result of low budget allocations to the livestock sub-sector, inadequate field staffing levels and weak collaboration among extension service providers.

It is recognized that the livestock sub-sector has potential for earning substantial foreign exchange and transforming the living standards of communities dependent on the sub-sector. Full access to external markets, is essential to the exploitation of such potential, but this is curtailed by animal health standards and quality parameters that are currently not being achieved by some of the local producers. This is further compounded by the

trans-boundary nature of some livestock diseases, which require regional approach to animal health surveillance and monitoring.

Currently, Kenya's livestock sub-sector is based on primary production. There is very little on-farm and off-farm processing of livestock produce, and this translates to low income for farmers and loss of employment opportunities. Value addition initiatives in the livestock sub-sector are mainly constrained by lack of supportive infrastructure such as roads, electricity, and water, in addition to investment disincentives arising from high taxes and un-conducive regulatory frameworks.

Enforcement of animal health and product quality standards has also been complicated by conflicting legal mandates, particularly between the Public Health Act (Cap 242) and the Meat Control Act (Cap 356). The Department of Veterinary Services which is the competent authority has been unable to inspect meat countrywide, currently they are in charge of ---- out of ----- districts (76%) due to lack of personnel. Meat inspection is under two acts of parliament as stated above which causes conflicts in implementation. The bodies responsible for control of veterinary drugs and pesticides are variously placed in the Ministries of Health and Agriculture (Cap 244-Pharmacy and Poisons Act and Cap 346-Pest Control Products Act). However, the Ministry responsible for animal health and food safety has no control over these conflicting statutes on drugs or pesticides. There is, therefore, need for harmonizing these conflicting jurisdiction in order to adequately address animal health and product quality standards. According to the international standards, veterinary medicinal products are regulated by the ministry responsible for veterinary services in order to safeguard animal and human health.

To address the above challenges, it is necessary that a thorough review of both policy and institutional framework of the livestock sector be undertaken to allow for the development of a competitive livestock industry. This policy paper provides various policy options necessary for achieving sustainable development and management of the livestock sub-sector. The policy will guide the development of the sub-sector to increase household incomes, assure food security and create employment through improved livestock farming, value addition of products and support of livestock-based industries, among others.

2.2. Objectives of the Livestock Policy

This policy addresses the challenges in the livestock sub-sector in the context of livestock breeding, nutrition and feeding, disease control, value addition and marketing, and research and extension. The policy will broadly be guided by the following specific objectives and is designed to:

achieve appropriate livestock management systems for sustainable development of the livestock industry;
improve and conserve available animal genetic resources effectively;

achieve effective control of animal diseases and pests in line with the relevant international codes and standards;

ensure safety of foods of animal origin through professional meat inspection, milk hygiene, and other animal resource products quality control

focus research efforts in the livestock sub-sector on resolving current and emerging problems;

ensure quality standards and quality assurance at all levels of production and marketing chain for increased competitiveness of the livestock industry; and

address various cross-cutting issues that impact on the livestock sub-sector; among such issues are land, water, environment, infrastructure, insecurity, livestock-wildlife interactions, HIV/AIDS and other human diseases, gender and capacity building.

3. CHAPTER THREE - CHALLENGES AND POLICIES

3.1. Animal Genetic Resources In Kenya

3.1.1. Characterization and Documentation

The characteristics of an animal are controlled by hereditary factors known as genes. The process of characterization and documentation involves classification and assessment of productivity and other attributes, such as disease resistance. The sum total of both domestic and wild animal species and their breeds may be referred to as animal genetic resources and are a natural resource just like water or land. The country has a large and diverse reservoir of animal genetic resources, the majority of which are indigenous and are classified according to the communities and regions where they are found. The locally adapted and recently introduced species are: cattle, sheep, goats, bees, camels, pigs, chickens, donkeys, rabbits, and horses. Progressive farmers are continuously adopting and adapting species hitherto not conventionally used as livestock. Among these are ostriches, crocodiles, guinea fowl, butterflies, chameleons and snakes, and are referred to as emerging livestock.

3.1.2. Animal Genetic Resource Conservation

Animal genetic resources may be conserved *in-situ*, that is, conservation of live animals in the natural state where inbreeding or mixing with other populations of similar species is prevented. It may also be *ex-situ*, that is, conservation of frozen tissues, ova, embryos, semen or even actual genes in gene banks. Over the years, the country has initiated a few *in-situ* conservation programmes, for future use and development for some of its Animal Genetic Resources, mostly used for commercial production. *In-situ* conservation in Kenya is done through efforts of private farms, research institutions, government (public institutions) and indigenous communities. There are no organized *ex-situ* conservation programmes for live animals; but there is a facility for freezing at extremely low temperatures (cryo-preservation) at the Central Artificial Insemination Station, Kabete, which can handle semen, embryos and ova storage, but only preserves cattle semen. There is need for specialized manpower development and equipment to handle the diverse expertise required for other species. The country has also developed fairly clear policies and strategies for conservation and development of wildlife for future use through the Kenya Wildlife Service (KWS).

3.1.3. Challenges and policies

3.1.3.1 Information about species and breed diversity, population sizes, trends, and distribution is scanty and only available for a few species, as no comprehensive baseline survey has been undertaken to generate adequate data. In the case of poultry, for instance, commercial poultry production in peri-urban areas depends on imported hybrid chickens

while Kenya has a large resource of indigenous poultry that has not been properly characterized.

In order to address this shortcoming, a survey on demographic distribution of species, breeds and types of the animal genetic resource will be undertaken and thoroughly evaluated so as to identify potential candidates for further conservation or improvement. In addition, research work will be done to line-breed Kenyan indigenous chicken to raise local commercial hybrid stock.

3.1.3.2 Animal genetic resources are inadequately and ineffectively managed and utilized because of incomplete inventory, characterization, documentation and conservation. Although it is believed that valuable genes are contained in our animals, these have neither been identified nor their characteristics documented and, therefore, cannot be protected through patenting and conservation.

To redress this situation, the government will regulate and facilitate documentation and conservation of genetic resources as well as review indigenous livestock genetic resource and patenting of the genotype: Further establishment of nucleus herds of indigenous breeds and species for breeding, characterization, conservation and utilization will be done. A national gene-bank for storage of Animal Genetic Resources germplasm will be set up and *livestock registration and recording schemes will be strengthened.*

3.1.3.3 Many animal improvement programmes in the past have concentrated on upgrading of indigenous animals towards the exotic western breeds. This has resulted in loss of our original genetic material and hence many animals that are a result of upgrading programmes do not have natural adaptations that existed in their ancestors. For instance, in commercial chicken production, all genetic resources are imported. The net effect is a drain of our natural genetic resources. Breed selection programmes and, especially, indiscriminate crossbreeding programmes should be reviewed.

In this regard, effort will be made to improve existing breeding programmes through collaboration with relevant stakeholders.

The government will promote the use of recognized experts in formulation of superior breeding programmes. The direction to take in improvement of indigenous animals will be determined, but not at the expense of losing our genetic resources or the gains made so far. Appropriate regulations will be made to manage exploitation and use of animal genetic resources better. These regulations shall extend equitably to all animal species. Institute breeding programmes with long term selection of indigenous breeds for high productivity and local adaptive traits especially in the ASAL areas.

3.1.3.4 Farmers, Community Based Organizations (CBOs), NGOs, Breed associations, and government are all involved in one way or another in management of Animal Genetic Resources. Decisions on what animals are to parent future animals are made without reference to any authority or consultation and without any generally agreed format. This scenario arises because of the existing weak legal framework and outdated breeding policies. Currently, animal breeding services in Kenya are facilitated by the Kenya Stud Book, the Livestock Recording Centre, the Central Artificial Insemination Station, the Kenya National Artificial Insemination Service and the Breed Associations. There is need

for a central authority for recording animals and regulating breeding programmes and to undertake other relevant tasks related to self-sustained breeding schemes in the country. *In this regard, a central organization charged with the responsibility of developing and coordinating self-sustaining breeding programmes will be established. This body shall encourage other relevant stakeholders to invest in breeding services, formulate appropriate policy and legal framework to support animal breeding programmes, (including importation and exportation of genetic material), strengthen and modernize the Kenya livestock breeders associations, encourage farmers to take part in progeny testing programmes, and serve as the National Focal Point to co-ordinate Animal Genetic Resources activities within the country, and as a link to similar regional or global focal points.*

3.1.3.5 Livestock types and breeds are widely distributed in Kenya, depending on the ecological zones, cultural practices and beliefs of various communities. The indigenous breeds have over time adapted to the local ecological systems, including tolerance to environmental vagaries and diseases. However, the exotic animals are poorly matched with the environment. This has resulted in the loss of production, either due to environmental harshness or disease. *To address this constraint, appropriate guidelines shall be developed on breeds and production systems for various ecological zones of the country.*

3.1.3.6 The responsibility of producing and supplying breeding stock lies with the farmers. In the past, the government has been supplementing this effort through its multiplication farms. This initiative, however, has been unable to cope with the high demand for quality breeding animals. The major challenges facing production and supply of breeding stock include; high mortality rate of young stocks, and inadequate breeding and recording services. Consequently, this has resulted in indiscriminate cross-breeding and poor breeding records which have impeded the development of quality breeding stock. Currently, the cost of breeding animals is beyond the reach of most smallholder farmers. There is need, therefore, to urgently address these challenges and subsequently facilitate the development of a thriving livestock sub-sector.

In this regard, the government will setup mechanisms to strengthen the management of breeding services and regulate all breeding service providers, intensify extension services and review and harmonize training curricular for inseminators to increase efficiency in the provision of breeding services. To facilitate selection and use of superior sires, farmers will be encouraged to register their animals with the Kenya Stud Book and to keep proper breeding records to facilitate selection and use of superior sires, while availing reliable information in marketing of breeding cows and heifers. Support for livestock multiplication centers for all animals will also be enhanced while the private sector, farmer groups, associations and societies will be encouraged to undertake livestock breeding and multiplication. A regular review of export and import controls of semen, embryos and live animals will be instituted, while modernization of quality control laboratories in C.A.I.S will be undertaken in order to meet the required international standards.

3.1.3.7 When AI service was introduced in Kenya, its adoption grew until it covered about 80% of the national dairy herd and a significant portion of the beef herd. It was initially largely a government supported initiative through introduction of heavy subsidy to the service. Following the economic reforms that were introduced in the 1980s, the government, partially, withdrew its support for the distribution of semen and inseminators, leading to instances where farmers reverted to use of inferior bulls because they could not afford the AI services. The use of such untested bulls has caused a resurgence of sexually transmitted diseases and other reproductive health disorders in cattle. In addition, there is a high degree of inbreeding within the livestock, especially those owned by the ASAL communities, because of low level of inter-community exchange of breeding stock.

To address these concerns, the government will promote efficient delivery of comprehensive breeding services by encouraging more stakeholders to be involved in semen production and distribution. In this connection, CAIS will expand its mandate to be able to serve as a gene bank for all species of livestock. The government will also encourage the establishment of farmer groups, co-operatives and other community-based structures to undertake A.I services or deliberate AI intervention to support the sub sector to minimize transmission of diseases in the regions where private A.I services are not feasible. In ASAL areas, the government will lay more emphasis on promoting good quality indigenous breeds of livestock that are suitable in the prevailing ecosystem and, in collaboration with other service providers, will develop an extension approach suitable for ASAL areas that can meet the changing demands of livestock farmers.

3.1.3.8 Substantial amounts of resources are needed to effectively manage the various activities necessary for attaining acceptable and sustainable standards of breeding. However, inadequate budgetary provision for that kind of animal breeding management has meant that various institutions are unable to organize and coordinate their activities efficiently, thus resulting in poor service.

To complement the available public expenditure on management of animal breeding activities, the government will encourage lending institutions to provide credit at favorable terms to farmers, farmers' organizations, or private entrepreneurs to participate in commercialized animal breeding programmes.

3.2. Livestock Nutrition, Feeds and Feeding

The main livestock feeds consist of roughages, concentrates, minerals and vitamins. The greatest proportion of diet for ruminants is roughages that include grass and browse. However, in low rainfall areas, where extensive livestock keeping is practiced, there is minimal supplementation with concentrates and minerals. In high rainfall areas, concentrates make a significant proportion of livestock diet. In these latter areas, the cost of producing roughage sources is high compared to low rainfall areas where no inputs are used in production of roughages. Grazing animals (cattle, sheep, goats, camels, donkeys etc) are basically fed on natural pastures or fodder with supplemental concentrates for

high yielding animals. The animals in the High and Medium Potential Lands (HMPL) are fed on improved pastures and fodder, while elsewhere they are fed on natural pastures.

The non-grazing animals (pigs, chicken, etc) are fed on concentrates mixed to meet nutrient requirements. The concentrates used originate from cereals (maize, wheat, barley, oats, millet, etc), legumes and oilseeds cakes (soybeans, cotton seed cake, etc.) and animal by-products (fish meal, blood meal, meat and bone meal etc.) Inconsistent supply of some of the ingredients, especially the imported ones such as oil-seed cakes and meals, finer mineral elements, fish meal, amino-acids, has affected both the feed quality and quantity of production.

Livestock feeds in Kenya account for between 60-80 percent of the production costs in livestock farming, depending on the intensity of production. Even elsewhere, where production systems are advanced, the cost of feeds still account for more than 50% of the total production costs. This proportion means that other necessary additional inputs into the production system (labour, breeding, power, water, medication and services) contribute relatively low to the total cost. The cost of commercial feeds is of great concern to all the stakeholders in livestock sub-sector. High feed costs affect competitiveness of Kenya's livestock industry at the international arena. With the projected rapid economic growth and population increase, accompanied with an increase in per capita income, it is anticipated that more people will tend to consume more animal proteins. Consequently, this future growth is expected to lead to an even faster growth in the demand for more livestock products. This will, inevitably, lead to a rise in the demand for feed grains and, subsequently, the need for increasing production capacity for animal feed grains.

In this regard, and in order to cope with both short-term and long-term needs for animal feeds, the government will promote diversification of the feed base through the use of alternative sources of both energy and protein. The utilization of crop residues in animal feeds will also be promoted. To take advantage of economies of scale in animal feeds production, the cooperative societies and other farmer-based groups will be encouraged to establish feed mills.

Domestic supply of animal feed has been volatile due to its dependence on the seasonality of supply of inputs. The basic factors affecting the supply of quality feed are its price, availability, the quality of raw material used, processing methods, handling and storage of mixed feeds, among other factor. Most of the fine ingredients including vitamins, minerals, amino acids and other feed additives, are imported. The Kenya Bureau of Standards (KEBS) has set standards on feeds for most livestock species. However, the standardization of feeds for some other categories of animals is not complete. In addition, feed ingredients themselves are not fully standardized. As a result, feed manufacturers face great difficulties in meeting acceptable standards of feeds using such feed ingredients.

In order to address these shortcomings, the Ministry in charge of livestock development, in liaison with other relevant government agencies, will take the necessary measures to

ensure completion of standardization for the affected feed ingredients and feeds for all classes of livestock.

The poor quality of commercial feeds has been a major complaint among livestock farmers. Feed quality is assessed in terms of nutrient composition as well as the presence or absence of substances that may be harmful to human and animal health e.g. aflatoxins, multi-drug resistant bacteria (Salmonella) Sources of premixes used in manufacturing originate from diverse sources which include genetically modified organisms, hormones, and other additives which may be hazardous as these may introduce diseases such as BSE (Mad Cow Disease) necessitating appropriate quality assurance procedures. Poor quality feeds is a result of many factors, including lack of standardization and high cost of 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.

In order to address these challenges, the government will put in place the necessary institutional framework to ensure production and marketing of quality feeds through appropriate enforcement and review of the existing Fertilizer and Animal Foodstuffs Act (Cap 345). Feed manufacturers will also be encouraged to organize themselves to exert peer pressure towards the improvement of feed quality. Further, the Ministry responsible for Livestock Development, in collaboration with KEBS, will establish the necessary mechanism for ensuring that manufacturers maintain the required standards to safeguard consumers from hazardous or poor quality feeds. In this regard, an Animal Health Inspectorate Service will be established to regulate the operations of the animal feeds industry, inspection of ports of entry/exit, quality assurance and other relevant duties that guarantee wholesomeness of animal resource products.

Napier grass is the fodder crop of choice in the High and Medium Potential Lands (HMPL). It is widely grown in the country and often in areas that are unsuitable to its production. Acceptable alternatives to napier grass fodder have not been identified. Already, napier grass production is threatened by two diseases, i.e. napier smut and napier stunting.

To overcome these limitations, the necessary measures will be taken to identify wider range of forage types that facilitate optimum productivity per unit area of land in various agro-ecological zones. Other measures include collation and, where lacking, analyze nutritive values of the naturally occurring fodder species. Additionally, research on disease resistant and high yielding pasture varieties will be encouraged.

Grazing animals often go through periods of feed scarcity and feed glut. During the rains, for instance, pasture and fodder production exceeds requirement by animals. On the other hand, quality and quantity of pastures decline as a result of drought and pests during the dry season. There is need, therefore, to minimize this feed wastage during the rainy season and to find alternatives to fodder during periods of scarcity to minimize loss in production and animal stocks.

In this regard, the necessary initiatives will be undertaken to increase the feed base by encouraging technically approved grazing management strategies, including fodder and pasture conservation; and enhancing use of crop residues through efforts to commercialize fodder production by farmers. Measures will also be taken to enhance closer collaboration with the relevant government institutions to mitigate the effects of both pests and drought on fodder and pasture.

The range environment is fragile and, due to its inappropriate use, degradation of the range has been observed in some areas. This situation reduces the capacity of the land to support enough livestock in the rangelands. There is need, therefore, to develop strategies that will protect the environment and support livestock in a sustainable manner.

In order to adequately enhance the requisite measures for sustainable development in the ASAL, and elsewhere where communal grazing takes place, efforts will be made to institutionalize involvement of the community in the planning, and development of range and pasture rehabilitation packages. Initiatives will also be made to facilitate monitoring and control the size of range and grazing areas that is persistently being affected by shrinkage through range degradation, urban expansion, settlements, cultivation and other kinds of encroachment on the livestock zones.

Overtime, it has been established that droughts and famine in the country occur over the lapse of a regular span of a certain period lapse. However, their effects are felt more by the pastoral community through human suffering and loss of their livestock. During the drought, human suffering is ameliorated somewhat by famine food relief. However, after the drought has taken its toll, many households are often left without sufficient livestock to sustain their livelihoods. There is, therefore, need to minimize animal losses during drought in order to facilitate faster socio-economic recovery of their owners after the lapse of drought.

To counter such effects, initiatives for drought preparedness to take care of vulnerability for human and animals as well as recovery programmes for mitigation and poverty alleviation in all regions, will be developed by the government in liaison with all the relevant stakeholders. More importantly, the government will put in place cost-effective measures that ensure that livestock mortality rates during prolonged droughts are avoided or kept to minimum. To achieve this, the government will promote sound range management practices, effective disease control and establish appropriate livestock marketing infrastructure within the ASALs.

3.3. Livestock Inputs and Services

3.3.1 Livestock Inputs: Types, Availability and Cost

The main types of inputs in livestock production include feeds, water, pasture, fodder seed, fertilizers, semen, energy, vaccines, drugs and breeding stock. On the other hand, the main services rendered to livestock producers are veterinary, animal breeding, research and extension, and animal identification services.

In the medium to high rainfall areas, most farm inputs are readily available in the markets, except a few vaccines which are sometimes sourced out of the country.

However, in the arid and semi-arid areas, livestock input suppliers are rare and poorly distributed. The prevailing relatively poor infrastructure in such areas increases transportation and storage costs for livestock inputs, placing the prices of livestock inputs beyond the reach of most farmers. Currently, the farmers are meeting all the costs of inputs with the exception of compulsory vaccinations that are administered during major disease outbreaks, where the government meets much of the cost.

In order to address the various challenges arising from these shortcomings, the government will work closely with other stakeholders to build the capacity of the private sector, including farmer organizations, to undertake production and distribution of livestock inputs more cost effectively. The government will also develop the necessary infrastructure to facilitate efficient production, distribution and storage of livestock inputs. To minimize shortages of vaccines supply, KEVEVAPI will be supported to enhance its efficiency in management and vaccine production for public good.

3.3.2 Quality of inputs

Availability of high quality inputs are a pre-requisite for improved livestock production and productivity. To ensure high quality and safety of animal production inputs and animal products, the country has established two national laboratories at Embakasi and Kabete in Nairobi, and six regional laboratories at Kericho, Karatina, Nakuru, Mariakani, Eldoret and Garissa. The overall responsibility for quality standardization lies in the domain of the Kenya Bureau of Standards (KEBS), while the Kenya Plant Health Inspectorate Services (KEPHIS), on the other hand, is specifically charged with assuring quality of plant material. With regard to livestock, the Department of Veterinary Services, the public universities, as well as some private institutions, have contributed to livestock input and livestock product quality assurance. However, quality assurance for animal production inputs, vaccines and other biologics, drugs, pesticides, feeds, premixes and animal products has, for sometime, been found to be weak.

In order to address this shortcoming, the government, in conjunction with the relevant stakeholders, will institute the necessary measures to establish an inspection and compliance system specific for animal health and production inputs, in compliance with the internationally set standards. The establishment of an Animal Health Inspectorate Service (AHIS) will address this challenge.

3.4. Animal Diseases and Pests

3.4.1. Animal diseases and pests control is important for the viability and sustainability of the livestock sub-sector. Animal diseases and pests contribute significantly to low productivity of farm animals and impact negatively on both local and international livestock trade. The most important notifiable diseases in Kenya are Foot and Mouth Disease (FMD), Anthrax, Contagious Bovine Pleuropneumonia (CBPP), Rabies, Lumpy Skin disease, Contagious Caprine Pleuropneumonia (CCPP), New Castle Disease, East Coast Fever, Rift Valley Fever Trypanosomosis, and re-emerging diseases. Indeed much of Kenya has been declared rinderpest free, except a small corridor along the Kenya/Somalia border. There are, however, emerging notifiable diseases, like Avian Influenza, which are of great economic and public health importance. Of more significance also are the non-notifiable diseases like worms, reproductive disorders,

mastitis, scours, zoonotic and tick borne diseases that affect large number of livestock in the country and which need sustained vigilance and surveillance in order to control. *In order to address these challenges, the government will take the necessary steps to allocate adequate funds to the relevant departments for the control of notifiable diseases and for compensation of farmers where stamping out programmes are done. Towards this end, the Animal Diseases Act (Cap 364) will be reviewed to accommodate interventions such as establishment of Disease Free zones which is the Ministry flagship for Vision 2030 where financial allocation will be on the basis of the sub sector challenges such as disease burden and compensation for farmer losses . The Ministry shall establish a livestock emergency fund to handle livestock related disasters.*

3.4.2 The following are the main challenges facing the control of animal diseases and pests in the country; absence of adequate capacity for disease control and clinical services, little public awareness on disease and pest confirmation, inadequate epidemio-surveillance, poor tick control, weak inspectorate and quality assurance, lack of enforcement on existing rules and regulations on movement of livestock and livestock products both within the country and across the national borders, and inadequate human, financial and physical capacity to enhance performance of the Department of Veterinary Services.

3.4.3 Currently, the Director of Veterinary Services is empowered to control animal diseases and pests by various legal statutes; namely, the Animal Diseases Act (Cap 364), Cattle Cleansing Act (Cap 358); Rabies Control Act (Cap 365), Branding Act (Cap 357) and the Crop and Livestock Production Act (Cap 321), Veterinary Surgeons Act, (Cap 366), Meat Control Act (Cap 356), and Pig Industry Act (Cap 361). The existing legal and regulatory framework is inadequate to address the current and future challenges in disease, pest and quality control. Indeed some of the Acts do not respond to new emerging challenges and, therefore, are not effective enough. The Veterinary Surgeons Act, for instance, does not fully accommodate the operations of Para-veterinarians. The Branding Act, on the other hand, ignores identification of other animal species except cattle as well as use of new technologies of animal identification. There is need, therefore, to review and merge some of the Acts to accommodate such limitations. *In order to address these shortcomings, the government will undertake a comprehensive review of all the relevant legal statutes to enhance harmonization and comprehensiveness of the various legislative statutes affecting animal health. Currently, there is inadequate capacity to handle animal related disasters cases of emerging animal diseases and outbreaks. In order to contain this challenge the government will establish the necessary mechanisms to deal with emerging diseases and outbreaks such as Avian Flu threat and foot and mouth diseases respectively.*

3.4.4 There is inadequate public awareness on the need for reporting, confirmations and observance of animal diseases during a disease outbreak. In such situations, there is also low level of participation by the livestock stakeholders in disease control and prevention. *In order to create strong partnership in disease control between the public sector and the livestock stakeholders, the government will establish appropriate mechanisms to address the challenge.*

3.4.5 Vector control services in the country are weak mainly because there was no comprehensive exit plan when the government stopped the provision of this service. Currently, vector control services are partially under the twin management of the local communities and the government i.e., local communities provide cattle dips and supply of acaricides, while the government is involved in quality control and extension services. This arrangement creates disharmony and inconsistencies in service provision, leading to incidences of inappropriate use of drugs and pesticides of questionable quality. *To address such problems, the government will establish mechanisms that will promote and facilitate participation of the public sector, communities and the private sector in environmentally safe vector and vector-borne disease control programmes.*

3.4.6 Large tracts of land in Kenya are underutilized because they are infested with tsetse flies which transmit trypanosomosis bugs. It is desirable that these lands be brought under useful agricultural production by addressing the tsetse infestation in the affected regions of the country. *To eliminate the menace of tsetse flies, and their accompanying socio-economic effects, the government will put in place the necessary strategies and initiate appropriate programmes to eradicate the tsetse flies.*

3.4.7 The government is constrained by both low numbers of skilled personnel in its employment and limited support facilities, a situation that impedes capability to monitor the prevalence of diseases and pests in the country. The on-going broad reforms in the public sector are expected, to some extent, to address these challenges. However, a stronger private sector partnership is necessary to supplement the limited public sector resources and thereby facilitate more participation by other stakeholders in disease and pests control. *In order to ensure that the capacity for animal disease and pests control is enhanced, and in liaison with other stakeholders, the government will employ, facilitate and encourage self-employment and deployment of adequate numbers of professionals and technically qualified personnel to sustainably serve the sub- sector.*

3.4.8 Due to the limited public sector capacity in the provision of veterinary services, the main focus of animal disease control has been on cattle. *To address this limitation, public and stakeholder resources will be harnessed to facilitate expansion of focus to include control of animal diseases and pests affecting other species of livestock. In addition the government will address the sub sector needs to enable it address essential services by availing material and fiscal resources.*

3.4.9 Enforcement of veterinary drugs inspection by veterinary personnel is currently limited by the legal provision that puts veterinary drugs inspectorate under the Ministry of Health through the Pharmacy and Poisons Act (Cap 244). The consequences of this arrangement include the sale of ethical veterinary drugs in wrongly designated places and without proper prescription. This results into abuse and misuse of veterinary drugs, and subsequently, exposing risk to consumers of animal products. *In the light of this shortcoming, the government will take the necessary measures to separate the management of veterinary drugs from that of human drugs and move control and regulation of veterinary drugs to the Ministry in charge of Veterinary Services. The*

government will also initiate drug use monitoring and surveillance mechanism to minimize adverse risks and development of anti microbial resistance..

3.4.10 Control of livestock movement serves the twin purposes of minimizing stock theft and controlling livestock diseases. Currently there is inadequate enforcement on the existing rules and regulations relating to the movement of livestock and livestock products both within the country and across the national borders. This weakness manifests itself in many forms of challenges, including the inability to effectively control disease, amongst other constraints.

In order to address this problem, the government will increase its capacity to enforce the existing regulations and work closely with the key livestock stakeholders and communities, in order to effectively control the movement of livestock and livestock products. In this regard, the government will take the necessary measures, including re-establishment of stock routes, to ensure success towards this endeavor.

3.4.11 Kenya has expansive and porous borders with its neighbors; In addition, there is little coordination and collaboration with the neighbors on disease control across the borders, making control of trans-boundary diseases a major challenge. *To mitigate against this challenge, the Government will seek collaboration with neighboring states to strengthen both national and regional disease surveillance, monitoring and control, as well as providing rapid response to check the effects of disease outbreaks.*

3.4.12 It is estimated that livestock reproductive diseases account for substantial economic losses to livestock farmers. Such losses arise from infertility, embryonic deaths and abortions.

To address this weakness, the government will enhance the capacity of the DVS and encourage more players in the private sector to participate in the management of animal reproductive health.

3.4.13 The country ensures quality and safety of animal production inputs and products, through the National Laboratories at Embakasi and Kabete, and six regional laboratories. However, the efficient operations of these institutions are currently limited by the prevailing status of poor laboratory infrastructure and weak staffing levels. It is also observed that there is limited participation and collaboration between public and private laboratories in this matter.

To boost the capability of public laboratories in diagnosis and quality assurance of animal products and by-products, the government will upgrade the infrastructure of the existing laboratories while establishing strategic ones, and enhance their capacity building to internationally required standards. The necessary instruments will also be established to enhance closer liaison between public and private laboratories in order to boost the overall national capacity for diagnostic and quality assurance.

3.5. Animal Welfare Services

Animal welfare can be defined as the welfare of an individual animal in its state as regards its attempts to cope with its environment. It is usually expressed in the *five freedoms* of animal welfare; that is, freedom from thirst, hunger and malnutrition;

freedom from discomfort; freedom from pain, injury and disease; freedom to express normal behavior, and finally freedom from fear and distress. The overall objective of the policy and strategies for animal welfare services is to facilitate the provision and promotion of responsible and humane care, use and management of sport, companion, research and farm animals, pets and wildlife. There is an international convention on animal welfare to which Kenya is signatory and one that needs domestication. It has been scientifically proven that animals whose welfare is taken care of have higher productivity. Animal welfare has become an issue recognized by OIE and WTO in matters of international trade in animal and animal products. The existing legal and policy provisions do not adequately specify the roles for relevant institutions, such as the Department of Veterinary Services (DVS), the Kenya Wildlife Service (KWS), the Kenya Veterinary Board (KVB), the Kenya Society for the Prevention of Cruelty to Animals (KSPCA) and the Attorney General (AG) Chambers. In addition, there is inadequate training in animal welfare and supervision, and capacity to monitor and minimize cruelty to animals, and limited extension on animal welfare issues. During natural and man-made disasters like floods, droughts and fires, less attention is given to animals with respect to their survival assurance. *In order to address these shortcomings,, the Prevention of Cruelty to Animals Act (Cap360) will be reviewed to develop supporting framework to address animal welfare issues, monitor and mitigate animal abuse, increase awareness on the importance of animal welfare, and promote training in animal welfare issues. To address the safety of animals during disasters e.g. fires, floods and drought the government will encourage stakeholders' collaboration in setting animal welfare centers and disaster fund.*

3.6. Livestock Marketing and Value Addition

LIVESTOCK MARKETING

3.6.1 The marketing of livestock and livestock products is a major economic enterprise that engages many businessmen in the country. In Kenya, livestock marketing is largely in the hands of the private sector, with the government only offering regulatory and facilitation services. The key marketing agents include the private live animal traders, butchers, and middlemen. In the past, the international markets for livestock and livestock products for Kenya have mainly been in the Middle East and European countries, a situation that has changed during the last few years. This is mainly because Kenya has not been able to meet the necessary Sanitary and Phytosanitary Standards set under the relevant WTO statute. However, the government is taking the necessary measures to repossess these markets and even expand beyond their horizon.

The distribution system of livestock products and by-products is poorly developed in the country. The apparent distribution vacuum has enticed the establishment of many middlemen and middlemen organizations that skew the market against the interests of producers. *In order to streamline this situation, the government will strengthen the supervision and regulation of producer marketing groups.*

3.6.2 Droughts occur in Kenya regularly, particularly in the arid and semi arid areas. In the latter areas, most droughts result to loss of livestock, collapse of local livestock markets and famine. There is, therefore, need to put in place measures that will minimize

losses occasioned by such droughts. *In this regard, the government will set up measures to institutionalize early warning system in the country that will be strengthened through adoption of the necessary mitigation interventions such as post drought restocking. Further, the government will also establish and institutionalize mechanisms for emergency livestock off- take.*

3.6.3 Good infrastructure directly facilitates efficient market and trade performance, and, by extension, affects producer prices. At the moment Kenya's infrastructure (roads, holding grounds, stock routes for livestock, etc) is in poor state, and hence un conducive to efficient livestock marketing. *To improve the infrastructure, the Government will develop and rehabilitate livestock marketing infrastructure in collaboration with the relevant stakeholders. In particular, the local county councils will plough back some of the cess revenue towards the development of livestock marketing infrastructure in order to improve local livestock market. It will also protect the existing holding grounds from acquisition by private developers or any other entity.*

3.6.4 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. Low producer prices affect earnings for the livestock farmers, their livelihood and food security situation. Poor market pricing are mainly a result of poor market information systems that act as a key limiting factor to good market access. *In order to overcome such distortions and their effects, the Government will strengthen livestock marketing information system by facilitating disseminations to both the producers and consumers. Given the importance of prices in determining livestock production and the farmers' earnings, the government will establish mechanisms for strengthening the market information systems and institutionalize linkages with other international markets.*

3.6.5 Insecurity limits livestock transportation to various market and, therefore, reduces performance of livestock trade. For example, trekking animals to the markets has been shown to be cheaper than truck transport, but trekking is currently unsafe. *In the light of this, the Government in collaboration with the ASAL communities, will promote peace building initiatives and establish conflict early warning systems in an effort to thwart the on-set of any community conflicts.*

3.6.6 The high standards set by importing countries on livestock and livestock products hinder the country's ability to exploit the high potential in the international markets. *To exploit such opportunities, the Government will strengthen training, supervision and regulation of service providers to assure quality service delivery. It will also facilitate enforcement of the Sanitary and Phytosanitary Standards (SPS) as per the WTO Agreements of which Kenya is a signatory. Towards this, the government will develop and enforce a code of practice that will be acceptable to national and international standards at all stages of production and marketing.*

3.6.7 Currently, the market for camel milk and meat is limited to the specific areas of production and a few areas where there is significant population of the people that originate from those areas. As a result of this market size limitation, a lot of camel milk is wasted, particularly during the wet seasons for lack of market outlets. Consequently, pastoralists are denied an opportunity to maximize returns from sale of camel milk. *To address this limitation, the government will promote processing and consumption of camel products, in both local and external markets, through various investment incentives to camel dairy milk processing facilities.*

3.6.8 Livestock products such as meat and meat products, milk and milk products, and eggs play critical roles in ensuring food security, enriched livelihood and economic development in Kenya. However, the local market is occasionally affected negatively by flooding of the market with cheaper and low quality imported livestock products which out-compete local products. *The government will endeavor to ensure competitiveness of local products by installing the necessary mechanisms that are acceptable to both regional and international markets. Also these products will appropriately be designated as special products under WTO agreements.*

To access the international markets, for instance, the quality of honey is of major concern. Kenya's honey has got high potential to access the international markets. But quality demands by the foreign markets are way above what is locally obtained. *To improve the quality of Kenya's honey the government in collaboration with stakeholders will develop rules and regulations on hive products, and promote modern bee-keeping technologies. The capacity of producers and processors to harvest and process honey will be enhanced.*

3.6.9 The country is endowed with abundant wildlife game. In the context of livestock development, some of these have already been classified as emerging livestock. However, the prevailing Wildlife Conservation Act (Cap 376) classifies these species as wildlife and hence cannot be domesticated for purposes of use and trade as emerging livestock. *In collaboration with other relevant stakeholders, the Ministry responsible for livestock development will collaborate with stakeholders to incorporate other animal species into mainstream livestock.*

3.6.10 The role of marketing organization in livestock trade cannot be gainsaid. The institutions play an important role in making use of economies of scale and in improving their bargaining power. The major marketing organizations include the cooperative societies and other non-cooperative marketing groups. In order to enhance their marketing capacity even further, *the government will develop the necessary mechanisms to encourage and support cooperative societies, producer/trader groups and livestock marketing groups.*

3.6.11 Value Addition: The main livestock products include milk, meat, hides, skins, wool, honey and other hive products, and the main by-products are bones, blood, feathers, hooves and horns. Most of the livestock by-products may be used in animal feed manufacturing industry, while others like horns, hooves, feathers and bones may be converted to ornamentals and other gift products. Feathers may also be 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. The government recognizes the important role played by value addition chain involving various industrial enterprises operating within the livestock sub-sector. Value addition is currently largely constrained by high cost of investment necessary for the acquisition of equipments and other technologies that discourage the players in the industry from venturing into value addition industries. *In an effort to encourage investment in livestock-based value addition enterprises, the Ministry in charge of livestock affairs will develop incentive mechanisms for the prosperity of cottage industries and large scale value adding industry.*

3.6.12 Lack of skilled manpower continues to affect new technology development and uptake, especially in value addition investment ventures. *Recognizing that limitation in technological advancement is a major impediment to innovation within the industries in the livestock sub-sector, the government will make deliberate efforts to facilitate the development of skills and adoption of appropriate value addition technologies in the sub-sector.*

3.6.13 Value addition chain is highly dependent on the status of infrastructural development. Poor infrastructure such as roads, railway network and electricity supply inhibit growth of manufacturing and processing plants. *In order to improve infrastructure and enhance the prosperity of value addition livestock enterprises, the Ministry in charge of livestock affairs will collaborate with other relevant stakeholders to identify and attract the necessary support for infrastructural development. In this regard, an appropriate office to co-ordinate all agri-business and value addition initiative will be established in the Ministry.*

3.6.14 Most livestock by-products go to waste mainly because of limited processing capacity. However, the available stock of by-products presents immense potential and opportunity for improved earnings and welfare of the livestock farmers, traders and processors. *To facilitate full exploitation of this potential and opportunity package, the Government will support local manufacturing and processing industries and put in place mechanisms that promote the use of livestock by-products such as the support to hides and skins management for growth of the leather industry.*

3.7. Research and Extension

Strong research and extension institutions are key for enhancing competitiveness in the livestock industry and increasing livestock productivity. Currently, most of the livestock-related research and technological development in the country is funded by the Government. This is done in partnership with various development partners, mainly through various KARI research centers and public universities located in different parts of the country. Other institutions which undertake livestock research include the

International Livestock Research Institute (ILRI), the International Center for Insect Physiology and Ecology (ICIPE) and International Center for Research in Agro-Forestry (ICRAF). The Ministry of Livestock Development is the main provider of livestock extension services. Other providers include agro-veterinary pharmaceutical companies, animal feed manufacturers, milk processors, Non-Government Organizations and Community Based Organizations.

3.7.1 The main livestock research is currently carried out by KARI, which is not under the purview of the Ministry incharge of livestock development. Within this institutional framework, crop research seems to have overshadowed livestock research. There is poor linkage between the research institutions and the ministry charged with the responsibility of providing livestock extension services. This has consequently weakened linkages between research extension services and the clientele. According to the World Bank, livestock industry is the world's fastest growing agricultural sub-sector with the exception of fisheries. It further predicts that by 2020 livestock products will surpass crop sub-sector in value terms. However, Kenya's livestock industry is growing at a slower pace compared to the world average. This scenario is attributed to inadequate research and technology transfer among other factors. Compared to crops research, livestock research, particularly breed development takes longer time to yield results due to longer generation interval. With most donor countries demanding quick returns for their investment, crop research attracts quick funding than livestock. There is, therefore, need to place livestock research institutions under the ministry in charge of livestock development for the purpose of effective coordination.

In order to consolidate livestock research, Kenya Livestock Research Institute (KELRI) will be established to address animal research needs. The government will establish KELRI, principally to coordinate and strengthen all livestock research; and spearhead development of appropriate technologies to enhance competitiveness of the livestock industry. Kenya Veterinary Vaccines Production Institute (KEVEVAPI) will support research in veterinary pharmaceuticals.

3.7.2 The main constraints in research and extension service delivery within the livestock sub-sector include: low investment in livestock research by public and private sectors, inadequate attention to post-production research, particularly value-addition and marketing, and inadequate facilities for dissemination of the research findings.

In order to address such challenges, the government will seek ways and means to diversify the funding base and enhance financial sustainability of livestock research capacity. Budgetary support for research will also be enhanced in proportion to the contribution of livestock sub-sector to the overall agricultural sector and the economy as a whole. Further, public research institutions will be encouraged to commercialize the technologies that they develop. Towards this, a Fund for strategic research and commercialization of excellent technologies encompassing all the livestock species will be set up through a Private/Public Partnership initiative. In addition, a National Livestock Extension Fund will be established and allocated adequate public funds to facilitate livestock extension services. In addition, the government will continue to take lead in livestock extension services, but will, however, create a favorable environment for

private sector stakeholders to eventually take a greater role in extension service delivery, especially in areas where commercial farming continue to be more enterprising.

3.7.3 The content of the messages for extension service delivery are currently inadequate to address the different needs of various stakeholders within the livestock sub-sector. This is partly caused by narrow specialization of extension agents and weak application of the prevailing unified extension approach. 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 values. *To overcome these challenges, the government will collaborate with other extension service providers to develop dynamic and comprehensive extension packages. The government will also encourage investments in capacity building for extension service providers, extension clientele and relevant institutions. Further, the government will promote demand driven and beneficiary led approaches in selection of technologies and extension messages.*

3.7.4 At present, 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. There is need to devise modalities for improving collaboration and networking among the stakeholders to ensure uniformity in delivery of extension service.

In recognition of the increasing role of other stakeholders in extension service provision, the government will promote pluralism in extension service delivery and institute mechanisms to coordinate extension services to ensure delivery of quality extension service. The government will further establish a harmonized institutional framework for coordination of all extension projects/ programmes within the livestock sub-sector in line with the aspirations of the National Agricultural Sector Extension Policy (NASEP).

3.7.5 Research within the livestock sub-sector has mainly focused on different types of cattle, especially the dairy cattle. The other livestock species, which have significant impact on the households' nutrition and income needs have not been addressed adequately. There, is therefore, an urgent need to expand the scope of livestock sub-sector research to encompass other livestock species

In this regard, the government will promote more research and extension work on other livestock species, including sheep, goats, pigs, camels and poultry.

3.7.6 It has been observed that some key socio-economic factors, which also influence livestock production, have not been given sufficient and attention and emphasis in the past. Instead, most research has concentrated in addressing itself to technical production problems (feeding, breeding, health and husbandry) at the cost of such key socio-economic parameters that equally affect livestock producers.

In this regard, in addition to addressing various technical problems facing livestock producers, processors and marketers, the government, in collaboration with stakeholders in the livestock sub-sector, will also take measures to streamline research and extension on socio-economic factors that affect livestock production and marketing.

3.8. Food Security

It is estimated that about 56% of the country's population is food insecure 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. Food-security in the country has historically been equated with availability of the main cereals that are widely used in the country. For that reason, the prevalent food security institutional framework caters for maize, wheat, and rice in the Strategic Grain Reserve fund that is used to ensure food availability both regionally and nationally. Food security has, for that reason, been traditionally defined in terms of three million bags of maize and the money value equivalent to purchase the same amount of maize at any given time. This definition excludes animal based products such as milk, beef and fish which are of high nutritional value. In the context of food security, therefore, the role of the livestock sub-sector, which accounts for over 40% of Kenya's agricultural GDP, has not been fully acknowledged. In this connection, there is need to redefine Strategic Grain reserve into Strategic Food Reserve to include livestock based products, such as processed beef and powder milk. In addition, mechanisms should be established to counter the effects of drought in ASALs and other affected areas through, for instance, emergency livestock off-takes.

In recognition of the important role that the livestock products could play in ensuring food security in the country, the government will establish modalities for expanding the definition of the Strategic Food Reserve to include livestock products, particularly milk and meat. To counter the effects of drought, the government will further establish modalities for emergency livestock off-takes. In order to facilitate this process, a Revolving Fund will be created which will enable the government to put in place mechanisms of recovery after drought.

3.8.1 Early warning and emergency preparedness is necessary for averting impacts of drought, floods and disease related disasters. Currently, the country does not have an integrated information data bank on food and nutrition security. This particular weakness limits efforts of the government and other service providers to identify and profile key characteristics of the vulnerable groups and, hence, mitigates against the ability to facilitate in the design of appropriate interventionary programmes, and the necessary resource mobilization allocation mechanism.

To overcome this challenge, the government will strengthen capacity of the existing early warning systems prevalent in various institutions and ensure that the operations of such systems are well coordinated to cover all disaster vulnerable areas adequately. Further, medium and long-term plans for emergency preparedness will also be established.

3.9. Food Safety

Foods of animal origin are essential in human nutrition hence their safety must be guaranteed. Veterinary Public Health is vital in the prevention and control of Zoonosis, food safety and fair trade in foods of animal origin. This has been guaranteed by the

Ministry incharge of Veterinary Services in conjunction with the ministry incharge of Public Health through the various Acts of Parliament. The Department of Veterinary Services is responsible for inspection and certification of foods of animal origin for local and international trade. Food borne diseases and drug residues are a threat to consumer health. There has been poor coordination between the various enforcers coupled with inadequate capacity.

In order to address this, the government will provide infrastructural and human capacity, improve institutional framework and harmonization of the implementation of this mandate. In addition creation of satellite abattoirs and quarantine facilities, establishment of an accredited food analytical laboratory, Update the governing legal statutes, Increase funding level to meet the current inspection and certification challenges.

3.10. CROSS-CUTTING ISSUES

3.10.1 Land, Water and Environment

Land is a key asset and the basis for the development of different enterprises in the agricultural sector, including the livestock industry. Some of the practices employed in the cultivation of crops and raising of the different types of livestock species, including continuous land sub-division, have resulted in land degradation. The depletion of vegetation cover affects water quality and its availability, while exacerbating soil erosion and land degradation. Sustainable livestock development requires guaranteed water availability at all times. However, the limited access to water, for both human and animal use, is a major cause of conflict, especially during the dry season. Further, increased industrial activities, the growth of agro-chemicals use, and domestic waste disposal continue to have a significant negative impact on the environment, thus adversely affecting production of livestock and livestock products.

In seeking a solution to these problems, the government will set appropriate policies on optimal land sizes and use. In liaison with the relevant experts in range dynamics, mechanisms for promoting efficient management of water resources will be set up to enhance the provision of adequate and good quality water, for both livestock and human use. To ameliorate negative environmental impacts, the government will liaise with relevant authorities to enforce adherence to the stipulated environmental management assessment guidelines, standards and provisions, as well as encouraging appropriate use and disposal of acaricides and other pesticides.

3.10.2 Infrastructure and Security

The necessary infrastructure for efficient delivery of livestock inputs, services and products include roads, power, telecommunication and water supply systems. Specific infrastructures that serve livestock marketing include stock routes, holding grounds, sorting yards, and livestock markets. While it is acknowledged that the availability of the basic infrastructure is a necessary requirement for the development of the livestock industry, most of the infrastructure relating to livestock production and marketing is in relatively poor state. It is also worth noting that some agricultural enterprises have had specialized infrastructural facilities specifically developed to serve such enterprises. As a

result of such initiatives, the provision of high standard infrastructural facilities like roads has contributed significantly to the development of some agricultural enterprises, especially tea production.

Security is another key factor of consideration in any form of investment. Insecurity, particularly affects livestock production because the activity largely occurs in vast ASAL areas that are widely prone to banditry menace. This phenomenon restricts livestock movement, especially in search for better pastures and /or markets. Recovery of animals stolen by rustlers and bandits is made difficult because of similarity in appearance of such animals.

In order to adequately address the infrastructural challenges facing the livestock industry, the government in collaboration with other stakeholders, will explore ways and means of ensuring adequate investment in livestock infrastructure to enhance livestock production and marketing. The necessary measures will also be taken to promote public security and minimize conflict in ASAL areas.

Further, to discourage livestock rustling and ease recovery of stolen animals, the government will institute measures to identify all livestock and register identification marks.

3.10.3 Livestock/ Wildlife Interaction

Kenya is richly endowed with different species of wildlife game, a major tourism product that earns the country substantial foreign exchange. The wildlife resource also forms a major potential for exploitation as emerging livestock resource. The development of emerging livestock from the existing range of wildlife has a high potential to effectively contribute towards meeting domestic protein requirements. Such development ventures would also substantially raise household income through trade in various wildlife products, while enhancing efficient utilization of Kenya's rangelands.

While most of the wildlife is concentrated in game parks and reserves, there is a considerable population of wild animals living in farmlands and ranches. The game in the farmland and ranches is seen as a menace, posing potential conflict between wildlife and the human population. In addition, there are restrictive statutes in the prevailing Kenya Wildlife Act Cap 376 which do not permit rearing of emerging livestock such as guinea fowls. There is, however, significant potential in gainfully exploiting these resources through game ranches and conservatoires in a sustainable environment.

The greatest proportion of Kenya's wildlife resources, particularly the large mammal species, lives in non-protected areas which also have designated uses, mostly for agriculture and livestock production. Due to this interaction of wildlife and livestock, diseases are transmitted from wildlife to livestock. Also, there exists strong wildlife and livestock competition for natural resources such as pasture and water. The wildlife sometimes also predate on both livestock and humans, resulting in both human and livestock losses through death and injury.

To address these challenges, the government will encourage landowners in non-protected areas that contain wildlife to adopt wildlife farming practices as a form of land use in order to generate income and also for consumptive purposes. In this regard, the Ministry in charge of livestock affairs will also collaborate with the relevant wildlife management authority to formulate an appropriate legal framework on farming and

consumption of emerging livestock (e.g. ostriches and crocodiles). Further, the Ministry will regularly monitor survey and devise control measures on wildlife diseases which affects livestock. In addition, the communities living in areas with wildlife will be encouraged to combine livestock keeping with ecotourism practices in order to gain from both ventures and thereby increase their incomes. To address the human-wildlife conflict, the government will devise and institute an ideal benefit-sharing mechanism and also a more appropriate compensation scheme for the loss of both human and livestock.

3.10.4 HIV/AIDS and other human diseases

It is a widely acknowledged notion that good human health is an important factor of production as it affects productivity of labour force in the different economic enterprises, including livestock production. The prevailing HIV/AIDS pandemic, malaria, tuberculosis and water borne diseases have profound social and economic implications as they affect both livestock extension service providers and the farmers. As a result, this has lowered livestock productivity in many households and regions through the loss of manpower and diversion of resources, including the labour force and financial resources, to care for the sick and the orphaned.

In cognizance of the fact that good human health is vital for increasing productivity and hence production in the livestock sub-sector, the Ministry in charge of livestock affairs, in collaboration with other stakeholders, will establish measures aimed at controlling these diseases and their social-economic impact.

3.10.5 Gender

The existing laws on gender parity provide for equal rights and privileges for both men and women. It has been established that, for the various activities within the livestock sub-sector, women contribute between 60-80% of the labour-force, especially in ASAL areas. Traditionally, women work longer hours than men, yet they lack access to land and credit facilities. To address this dichotomy, an effective gender-sensitive approach in designing and implementing various interventions in livestock development initiatives should be developed, focusing on both equality and equity of outcomes.

In this regard the Ministry in charge of livestock affairs, in collaboration with stakeholders in both public and private sectors, will develop special gender sensitive programmes for women and youth empowerment to enable them access efficient production facilities like credit, land, and technology and market information. Further, gender issues will be incorporated, as much as possible, in all livestock extension messages through participatory approaches.

3.10.6: Pastoralism

Pastoral production systems are defined as those in which at least 50% of the household gross revenue comes from livestock or livestock related activities. There are two major categories of pastoralists: some are very mobile (in the driest areas), while others are more sedentary. Pastoralists use dry-land-natural resources sustainably where no other land-use systems can thrive. In doing so, pastoralists make use of water and fodder, the availability of which varies widely with respect to time and space. It is estimated that pastoralism provides direct employment and livelihood to over three million Kenyans. However, a gradual shift of pastoralism to agro-pastoralism and cropping farming systems, occasioned by increase in human population in the arid districts, has

been observed in the recent years. In addition, increasing number of children go to school and, therefore, do not learn how to manage livestock and often abandon the pastoral life. These recent changes that have been observed with some pastoralist societies are progressively reducing acumen and labour to manage pastoral production system. Cultivation, land adjudication and wildlife management have also contributed to a continuous decline in, especially, the dry season grazing areas available to pastoralists, and as a consequence have decreased the possibilities to subsist on the pastoral system. *The Government, in partnership with other stakeholders, will continue to support pastoralism and agro-pastoralism as viable production systems while encouraging diversification of the pastoral economy to hedge pastoral livelihoods against vulnerability to drought, floods and civil conflicts.*

3.10.7: Capacity Building

There are many institutions in the country that offer different types of training related to the livestock industry. However, it has been observed that this training is neither harmonized with the ideal training requirements nor standardized in content or syllabus. Most training modules have concentrated on livestock production aspects of the training, with little emphasis on value addition and marketing of livestock products. As a result, there is a glut of livestock production professionals at degree, diploma and certificate levels who are under-utilized in the sub-sector.

In the public service, because of the employment freeze on recruitment of public servants that was being observed since 1989, there is under-staffing with respect to technical needs in relation to the workload. The situation is made even worse by some disproportionate deployment of the existing trained staff, a scenario which has created shortages in some areas and excess staffing in others.

To address these challenges, the government together with other stakeholders, will ensure and facilitate employment, self-employment, and deployment of adequate numbers of professionally and technically qualified personnel to adequately serve the sub-sector. Further, where economic and business environment does not allow for the establishment of viable private sector services as in the case for the ASALs, the government will establish appropriate mechanisms to provide professionally and technically qualified personnel. The government will collaborate with the universities and other training institutions to encourage more people to be trained in areas relevant to the industry. . In addition, selected low-level training institutions will be upgraded to diploma or other higher level training colleges, where their curricula will be reviewed to give greater emphasis on development of skills in value addition and marketing.

4. CHAPTER FOUR - INSTITUTIONAL AND LEGAL FRAMEWORK

4.1. Institutional Framework

4.1.0 The Ministry in charge of livestock affairs has the major responsibility of creating and promoting an enabling environment for players in the livestock industry, through development and implementation of effective sectoral policies and strategies. It achieves this through the Department of Livestock Production and Department Veterinary Services, and two regulatory boards, i.e. the Kenya Veterinary Board (KVB) and the Kenya Dairy Board (KDB).

4.1.1 The Department of Livestock Production is mandated to create the necessary environment for maximizing the production of livestock and livestock products on a sustainable basis. However, the department currently lacks the necessary legislative mandate to effectively carry out this important mandate. As a result, this limitation makes it vulnerable to any changing institutional arrangements. The operations of the department focus mainly on animal nutrition, animal breeding, animal husbandry, range development and livestock marketing.

The Department of Veterinary Services directly enforces ten Acts of Parliament on behalf of the Government. The mandate include:

Veterinary laboratory investigations and diagnostics; Veterinary extension services;

Animal health inspectorate services;

Quality assurance; Vector control; Animal and zoonotic disease control and veterinary epidemiology; Food safety (of animal origin);

Hides and skins improvement and leather development; Breeding and genetics; Policy, monitoring and evaluation of animal health programmes; and Animal welfare.

For local, regional and international trade the department is in charge of certification of animal products to meet Sanitary and zoo-sanitary requirements in line with the WTO guidelines.

Due to the various limitations emanating from current institutional arrangements and weaknesses of the two departments, the Ministry in charge of livestock affairs has not been able to operate efficiently, thus leading to a constrained service delivery system that is slow in responding to current and emerging challenges in the livestock sub-sector, like drought and disease outbreaks.

To address new challenges and enhance service delivery in the livestock sub-sector, the Ministry will undergo major restructuring and reorganization, within the context of the larger on-going Public Sector Reform Programme. In this regard, the various, Divisions within the Departments of Livestock Production and Veterinary Services will be harmonized and rationalized to be in line with the professional competences and international protocols. The Ministry will establish directorates based on core functions and job evaluation.

The government also recognizes the role of the different institutions that are key players in livestock development. In this regard, the government will establish task-specific

livestock committees, comprising of a balanced membership that is made up of the public and other key livestock stakeholders.

4.1.2 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 is charged with the task of processing meat by-products, freezing, canning and storing of beef, mutton, poultry and other foods for both domestic and export markets. However, Kenya Meat Commission started to experience operational problems as a result of poor management and could not compete with private traders, forcing it to eventually being put under receivership in 1998. After its collapse, a number of private slaughterhouses proliferated in the major urban centers to supply meat to the local market but were unable to fully substitute the functions that were being performed by KMC. Specifically, they could not offer export services and adequately respond to drought situations the way KMC used to do.

To address these shortcomings and cushion the livestock producers against drought effects, the KMC has been revived to serve mainly as an export market processing facility. In this regard, KMC is expected to add value to animal meat products and improve their shelf life in order to make the products accessible in the local market and for export to the international markets. Once fully operational, the government will make the necessary arrangements to divest its financial interests in the Kenya Meat Commission along the on-going public assets privatization programme.

4.1.3 The Kenya Dairy Board (KDB) was established under the Kenya Dairy Industry Act (Cap 34 of 1958), which was revised in 1984(Cap 336 of 1984). It is mandated to regulate, organize and develop an efficient dairy industry in the country. In the past, the Board has been operating with minimal stakeholder participation. However, recent developments have justified the need for its transition from a government-owned regulatory body to a stakeholder-owned self-regulatory board with reduced government participation.

Towards this end, the Board will undergo gradual restructuring and reorganization to increase stakeholder participation and redefine its core functions to focus on dairy development and promotional activities.

4.1.4 The Kenya Veterinary Board (KVB) was established under the Veterinary Surgeons Act (Cap 366) of the Laws of Kenya to regulate training for and the delivery of veterinary services, and to register and license veterinary surgeons and practitioners. However, the mandate of KVB does not allow for registration or licensing of Animal Health Technicians (AHTs). In addition, some private institutions have started veterinary science training, in a scenario where the Board lacks mechanisms for vetting such training facilities. Further, veterinary drugs control and regulatory roles have been under the Ministry of Health, a situation that has resulted to rampant abuse and misuse of the veterinary drugs. It is, therefore, crucial that the control of such drugs be contained under the relevant Ministry vested with the authority of handling veterinary matters. *The KVB will be supported in its core function of registering and licensing institutions involved in veterinary medicine training and veterinary service provision. In addition, the necessary*

legislation shall be put in place to enable KVB take over control and regulatory mechanisms for veterinary medicines and poisons. In this regard, the Board will ensure that the veterinary drugs and other related inputs are used in a manner that does not adversely affect either human or animal health. KVB shall register all cadres of animal health technicians.

Animal Health Inspectorate Service (AHIS) Board will be established to ensure that livestock products for local and international markets meet standards safe for human consumption. The Board will be charged with quality assurance, marketing of animals and animal products locally and internationally. . Further, it will register and license all feed firms or individuals involved in commercial feed production, and other inputs to ensure that feed quality standards meet the physiological and production requirements of the relevant livestock species. The Fertilizer and animal foodstuff Act Cap 345 and other food safety regulations will guide the operations of the Board.

4.1.5 Currently, livestock breeding services are fragmented, thus making coordination of breeding activities difficult. Also, the existing breeding programmes do not take into account the breeding requirements of other species except cattle. In this regard, *A Kenya Livestock Breeding Board (KLBB) will be established to co-ordinate and regulate all breeding services and give direction on breeding strategies of all animal species. This Board will take over the combined functions of the existing agencies such as Kenya Stud Book, Livestock Recording Centre and the CAIS. The CAIS mandate will be expanded to include all animal species and to remain the custodian of all animal genetic resources.*

4.1.6 The current institutional framework in the livestock sub-sector requires more dynamic approach, as without the right institutional setup, livestock sub-sector development and growth are likely to be constrained. Past development projects have fizzled out leaving little sustainable effects on productivity. Continuous impetus is needed to ensure sustainable growth in livestock production. In addition, market organization is seen as a major bottle-neck to growth and development in livestock production. This policy framework seeks to ensure sustained efficiency in development and management of livestock resources in the country.

In this regard, the government will establish the Kenya Livestock Marketing Board (KLMB), which will be mandated with the responsibility of market research and development for livestock and livestock products both within and outside the country. In addition, other development boards will be set-up to create sustained impetus for development of specific livestock enterprises as need arises.

4.1.7 It is observed that a number of institutions undertaking livestock research that were previously under the Ministry in charge of livestock development have since been transferred to KARI, which is under the perview of another Ministry, an example of such institution is the Kenya Trypanosomosis Research Institute (KETRI). The Ministry in charge of livestock development also collaborates with a number of other research institutions, including public universities, local authorities and key international research institutions like the International Livestock Research Institute (ILRI), the International Centre for Insect Physiology and Ecology (ICIPE) and the International Centre for

Research in Agro Forestry (ICRAF). Currently, various institutions under different Ministries offer services relating to animal products quality assurance as well as assurance of inputs used for livestock production. Further, as observed earlier, the institutions performing livestock research have weak linkages with the Ministry currently in charge of livestock matters in the country. It is, therefore, crucial that such institutions be brought under the latter Ministry to facilitate co-ordination of their respective operations. *In this regard, the government will institute the necessary measures to establish a Kenya Livestock Research Institute (KLRI) which will serve as an umbrella body for guiding and directing all research on animals and quality control assurance of livestock production inputs as well as of animal products.*

4.2. Private Sector Institutions

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.

4.2.1 Among the professional associations are the Kenya Veterinary Association (KVA), Kenya Association of Livestock Technicians (KALT), the Animal Production Society of Kenya (APSK), and Kenya Professional Association of Women in Agriculture and Environment (KEPAWAE). These associations bring together professionals to continuously update their knowledge, and skills and uphold the dignity and honour of their respective professions.

To uphold the ideals of professional ethics and continuous education, there is need to ensure that all professionals serving the sub-sector belong to the respective association relevant to their discipline. In this regard, the government will set up the necessary mechanisms to support professional associations in advancing their stipulated professional mandates.

4.2.2 Civil societies and farmer associations, including cooperatives societies, farmers' unions, Kenya National Federation of Agricultural Producers (KENFAP), 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 the greatest attention to ensure their continued existence and vitality. In this regard, the government, together with the key stakeholders in the sub-sector, will take the necessary steps to ensure formation and sustainability of strong farmer organizations.*

4.2.3 Different industrial players serve the sub-sector by producing and distributing inputs as well as collecting and processing a wide range of animal products. In performing these roles, they provide vital linkages between research, extension and farmers. *Whereas the main motivation of these 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. To maximize benefits from this bond, the government will endeavor to provide an enabling environment in order to facilitate efficient operation of the different industrial players in the livestock sub-sector.

4.2.4 Large and micro financial institutions offer crucial services to the rural areas by providing banking services, insurance, credit and financial advice. *In order to further exploit this potential, the government will establish the necessary mechanisms to encourage institutionalized banking in the rural areas in form of both large and micro-financial institutions.*

4.2.5 Development partners in Kenya comprise of bilateral and multilateral donors, regional co-operation organizations and charitable agencies. They are important in provision of financial resources, technical assistance, training and transfer of international experience. Coordinated assistance from all the development partners will continue to play an important role in providing avenues for development of the livestock sub-sector. *In this regard, the government will continue to foster closer cooperation with all such partners to ensure maximum benefits to all Kenyans.*

4.3. Legal Frame-Work

Weaknesses in legal and institutional framework have been demonstrated in this policy document as one of the main contributors to the limitations affecting the performance of enterprises in the livestock sub-sector. The key weaknesses observed include enforcement of existing regulations, regulation and facilitation of services such as animal breeding services, feed production, regulation of veterinary pharmaceuticals, resolution of livestock/wildlife conflicts, quality assurance of livestock inputs and products, conflicting legislations, coordination of research and extension, proliferation of quacks in veterinary practice, information as well as monitoring and evaluation of projects and programmes. *To address these challenges, a review of the legal and institutional framework of the relevant legal statutes and related instruments in the livestock sub-sector will be undertaken to facilitate the development of a more competitive livestock industry in Kenya.*

5. CHAPTER FIVE- FINANCING OF THE LIVESTOCK SUB-SECTOR

5.1. Sub-Sector Funding

It has been observed that since the 1980s, the funding for the livestock sub-sector, and the agricultural sector in general, has been going down. Whereas the total agricultural sector used to get 10 % of total the government budget in the 1960s, the funding level decreased to 7.5 % in the 1980s and to a dismal 3% in 1990s. During the financial year 2005/2006, the entire agricultural sector received about 5.7% of the total budgetary allocation. Indeed, since the financial year 2002/03, the total agricultural sector budgetary allocation has been about 3% of the total government budget, with livestock budget accounting for only 1% of this proportion, which is equivalent to about 0.25 % of the national GDP. This is as opposed to the contribution of the livestock sub-sector to national GDP, currently estimated at about 10 %.

In the past, a number of livestock development projects financed in partnership with development partners have been initiated but, for some reasons, they have not been successful in achieving their set objectives. This was partly because of poor project planning and lack of adequate financial support to sustain the project after the end of project implementation period.

5.1.1 Given its performance and potential, the livestock industry should be considered as a necessary catalyst for increasing farmers' incomes and contribution towards poverty alleviation in the country. In this regard, it is anticipated that increased funding to the livestock sub-sector will contribute significantly to the realization of national developmental goals.

Towards this end, the government will make the necessary efforts to mobilize adequate local financial resources for enhanced livestock development in the country. The government will also continue to collaborate with development partners in harnessing more resources for developing the sub-sector. Further, in order to mobilize complementary resources for revitalizing livestock research and development, the government will establish funding modalities for such work by, for instance, introducing levy payable by the beneficiary livestock enterprises.

5.2. Credit Provision

5.2.1 One of the key factors affecting livestock production has been the non-availability of capital for the operations of livestock producers and traders. The most affected group by this limitation is the small-scale livestock producers and traders. Currently, the small-scale livestock farmers are resource poor with no collateral to offer and, therefore, cannot afford the cost of credit from the conventional financial institutions. Risks associated with livestock farming, coupled with complicated land tenure systems, limit the use of land as collateral and, hence, make financing by such institutions unattractive. Consequently, it is mainly the NGOs and the CBOs that have been extending credit to the small-scale livestock farmers, although to a limited scale. Also, the Agricultural Finance Corporation (AFC) also provides credit, mainly to large-scale farmers. Mechanisms for providing affordable credit to both small and large-scale livestock farmers, therefore, need to be

established in order to foster more development in the livestock sub-sector. The Kenya veterinary Association Privatisation Scheme (KVAPS) which transformed into Kenya Livestock Finance Trust (KLiFT) is strategically placed to handle financial issues in the sub sector.

In this regard, the government will develop mechanisms of extending affordable credit facilities to both small and large-scale livestock farmers through the revitalization of the existing public institutions, including the AFC. The government will also encourage the private sector, the cooperative societies, farmer groups, the NGOs and the CBOs to advance more credit to livestock farmers. In addition, the government will establish other institutional frameworks which may be necessary for facilitating credit provision specifically to livestock farmers and other players within the agricultural sector in general. Micro-finances institutions such as KLiFT will be utilized to support funding of the livestock sub sector.

5.3. Monitoring and Evaluation (M&E)

5.3.1 Prudent resource management is critical for achieving the objectives of this policy. This can only be achieved by instituting an effective mechanism for monitoring the resource use, which will be possible through the development of a well-coordinated information management system that provides for information sharing among stakeholders.

Towards this goal, the Ministry in charge of livestock affairs will ensure efficient management of financial resources through ensuring strict adherence to various budget rationalization schemes as well as following the laid down public finance management procedures and regulations. The Ministry will also work closely with all stakeholders to ensure stronger coordination and harmonization of the activities undertaken by the development partners and the NGOs involved in livestock development. An appropriate participatory M&E system will be established in order to ensure that the necessary corrective measures are taken at the right time during the implementation of projects and programmes in the sub-sector. To this end, a pro-active information management and information sharing system will be institutionalized.

6. ANNEXES

6.1. Annex I Summary Table on the Proposed Policy Interventions

Policy issue	Policy constraint	Proposed policy intervention
3.1 Animal genetic resources		
3.1.1 Characterization and documentation	<ul style="list-style-type: none"> i) Information about species and breed diversity, population sizes, trends, and distribution is scanty and only available for a few species ii) Inadequate characterization, documentation and conservation 	<ul style="list-style-type: none"> i) Government will regulate and facilitate documentation and conservation of genetic resources ii) A survey on demographic distribution of species will be done to identify potential candidates for further conservation
3.1.2 Animal genetic resource conservation	<ul style="list-style-type: none"> i) Absence of a national gene bank ii) Absence of a central authority to record and regulate breeding iii) Low usage of AI services and high degree of inbreeding 	<ul style="list-style-type: none"> i) Expand the mandate of CAIS to serve as the national gene bank for germ plasm for all animal species. ii) A national livestock breeding board will be established iii) The government will decentralize semen distribution and encourage more stakeholders in semen production and distribution
3.2 Livestock Nutrition, feeds and feeding		
3.2.1 Cost of commercial feeds	<ul style="list-style-type: none"> i) High feed costs affecting competitiveness of the livestock industry internationally 	<ul style="list-style-type: none"> i) Promote utilization of crop residues in animal feeds ii) Encourage cooperative societies to establish feed mills

3.2.2 Quality of feeds	<ul style="list-style-type: none"> i) In-complete standardization of feeds for some livestock species ii) Inadequate legal and institutional framework to enforce quality 	<ul style="list-style-type: none"> i) The government will ensure complete standardization of for the affected feed ingredients and feeds for all classes of livestock ii) The government will put in place the necessary institutional framework through capacity building and review of Fertilizer and Animal Foodstuffs Act (Cap 345) to strengthen the operational framework. iii) Mechanisms for maintaining quality standards will be put in place by MoLD in conjunction with KEBS.
3.2.3 Feed scarcity	<ul style="list-style-type: none"> i) Quality and quantity of pasture decline during the dry seasons 	<ul style="list-style-type: none"> i) Fodder and pasture conservation will be encouraged ii)The government in collaboration with relevant stakeholders will develop mechanisms for drought preparedness iii) Research on disease resistant and high yielding pasture varieties will be encouraged iv) Undertake efforts to institutionalize community involvement in planning and development of range and pasture rehabilitation
3.3 Livestock Inputs and Services	<ul style="list-style-type: none"> i) Quality of inputs and products have been a challenge. ii) Due to infrastructural constraints, transportation and storage costs of inputs is elevated. 	<ul style="list-style-type: none"> i) The government will work with stakeholders to streamline production and distribution of quality livestock inputs. ii) The government will lay down necessary measures to establish inspection and compliant systems specific for production, distribution and retailing of quality animal health and production inputs.
3.4 Animal diseases and pests		

<p>3.4.1 Legal and regulatory framework 3.4.2 Capacity to handle emerging animal diseases and outbreaks 3.4.3 Poor vector control 3.4.4 Limited public sector capacity</p>	<p>i) Frequent outbreaks of diseases and poor control of clinical services. ii) Conflicting and Unresponsive legal statutes on disease control iii) Risks facing livestock production (Old and New diseases, floods, droughts and fires) iv) Poor vector control v) Misuse, abuse of veterinary drugs due to weak inspectorate and quality assurance. vi) Internal and transboundary movement of livestock vii) Poor financial, human and physical capacity to give veterinary services</p>	<p>i) Review of all the relevant Acts and Statutes ii) The government will create necessary enabling environment for private sector and community participation in environmentally safe vector and pest control. iii) The government will separate veterinary pharmaceuticals from human drugs and move control and regulation of veterinary drugs to the ministry in charge of livestock affairs iv) The government will move to re-enforce disease control regulations v) The government will work closely with the neighboring countries to strengthen national and regional diseases and pests surveillance. vi) The government will enhance capacity of DVS vii) The government will upgrade and expand the laboratories and enhance capacity building to internationally recognized standards viii) The government will develop disease control strategies ix) Establishment of an emergency fund</p>
<p>3.5 Animal Welfare Services</p>	<p>i) The existing legal and policy provisions do not specify the roles for relevant institutions ii) Inadequate training in animal welfare and supervision</p>	<p>i) Prevention of Cruelty to Animals Act (Cap 360) will be reviewed ii) Promote training in animal welfare issues and support establishment of animal welfare centres in collaboration with the private sector. iii) Establishment of disaster fund by the government.</p>

<p>3.6 Livestock Marketing and Value addition</p>	<p>i) Poor market infrastructure, marketing distribution systems and inadequate market information ii) Security problems in the ASAL making trekking of livestock unsafe iii) High cost of equipment and limited technology and skilled manpower iv) Poverty of consumers' hence low producer prices. v) Inability to satisfy quality demands by importing countries. vi) Import of livestock products into the country. vii) Statutes that limit the utilization of wildlife</p>	<p>i) The government will strengthen producer marketing groups and encourage their advancement to processing. ii) The government create mechanisms and linkages for more local and international market information iii) In collaboration with stakeholders, the government will develop market infrastructure, strengthening training and supervision of service providers to assure quality service delivery iv) The government will endeavor to ensure competitiveness of local products in the global market v) Processing and consumption of camel products will be promoted through investment incentives to camel dairy milk processing facilities vi) The government will develop incentives and other mechanisms for fostering development of cottage industries and large scale value adding</p>
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<p>3.7 Research and Extension</p>	<p>i) Public research done at KARI and public universities (institutions not under the ministry in charge of livestock). ii) Low local investment in livestock research by both public and private sectors. iii) Lack of comprehensive extension messages. iv) Little formal collaboration by extension service providers.</p>	<p>i) The government will establish the Kenya Livestock Research Institute (KELRI) to address animal research and KEVEVAPI to support research in veterinary Pharmaceuticals. ii) The government will seek ways to diversify funding base and financial sustainability of livestock research. iii) In collaboration with private extension service providers, the government will develop dynamic and comprehensive extension packages iv) The government will promote more research, extension and technology transfer for all animal species including sheep, goats, pigs, camel and poultry.</p>
<p>3.8 Food Security</p>	<p>i) Food security traditionally equated with availability of cereals. ii) The definition hence excludes livestock products (milk, beef, and fish). iii) Droughts usually affect livestock production as well as crop production. So scarcity of livestock products is expected in drought iv) Insufficient preparation for the management of drought and its effects.</p>	<p>i) Modalities for expanding the definition of food security to include livestock products (particularly milk and meat) will be established. ii) The government will strengthen and institutionalize early warning systems and mitigate the effects of all disasters that affect the livestock sub-sector. iii) The government will establish modalities for emergency livestock off take</p>

3.9 Food safety	<ul style="list-style-type: none"> i) Inadequate institutional frameworks with conflicting mandates ii) Inadequate capacity to address challenges across the whole country iii) Inadequate Legal Framework 	<ul style="list-style-type: none"> i) The government will strengthen institutional frameworks and legal review to address food safety issues and conflicting mandates. ii) The government will hire, train and deploy personnel to the entire country. iii) The government will establish food analytical laboratories and other related infrastructure. iv) Funding to meet current inspection and certification challenges
3.10 Cross-cutting issues		
3.10.1 Land, Water and Environment	<ul style="list-style-type: none"> i) Inappropriate land holdings, water conservation and environmental control impact negatively on livestock production. ii) Increased industrial activities, agro chemical use and domestic waste disposal have a significant negative impact on the environment 	<ul style="list-style-type: none"> i) The government will promote appropriate mechanisms for optimal land size, a-fforestation (multipurpose trees, shrubs and forbs), efficient water harvesting, water quality assurance and management of water resources. ii) The government will also liaise with relevant environmental management institutions for adherence to the Environmental Coordination Act.

3.10.2 Infrastructure and Security	<p>i) Livestock production and marketing is dependent on efficient infrastructure (roads, power, post, telephone, media reach, holding grounds etc). The infrastructure is in a poor state.</p> <p>ii) Insecurity affects livestock production in ASALs which is prone to banditry, restricting livestock movement in search of better pastures and markets</p>	<p>i) The government will mobilize more resources for investing in livestock infrastructure</p> <p>ii) The government will take the necessary measures that will promote public security and minimize conflicts in the ASALs</p>
3.10.3 Livestock/Wildlife Interaction	i) Restrictive statutes in the Wildlife Act which do not permit domestication of emerging livestock	i) The government, in collaboration with relevant wildlife stakeholders, will develop appropriate legal framework for farming and consumption of emerging livestock and monitor wildlife diseases that affect livestock
3.10.4 Gender	i) Traditionally women work long hours than men but they lack access to credit and land	i) Develop special programmes for women and youth, to empower them access credit ,land and appropriate technology.
3.10.5 HIV/AIDS	i) Negative impact of HIV/Aids affecting livestock production	i) Government and stakeholders to mainstream HIV/Aids awareness.

<p>4.0 Institutional and legal framework</p>	<p>i) Institutional weaknesses ii) Market organization is a major weakness in the livestock sub sector</p>	<p>i) The Ministry will be restructured and reorganized to create more efficiency ii) The Ministry will also review and streamline some of the more conflicting legal statutes within its mandate. iii) KMC has been revived to act as the lead agency for the country’s drive in venturing into livestock products export market. It will also serve as an emergency livestock off-take facility and will be privatized once operational. iv) KDB will be restructured and reorganized to increase stakeholder participation and focus on promotional and developmental roles v) KVB will be restructured and organized to carry out the role of registering and licensing institutions training in veterinary medicine and also enable it take over control mechanisms for veterinary medicines and poisons. vi) Kenya Livestock Inspectorate Board will be established to regulate the production and marketing of all livestock products and ensure that feed quality standards are met by all feed manufacturers vii) A Kenya Livestock Breeding Board will be established to co-ordinate and regulate all breeding activities in the country. It will take over the functions of Kenya Stud Book, Livestock Recording Centre and CAIS viii) Form the Kenya Livestock Marketing Board (KLMB) to promote market research and development in and outside the country. ix) As need arises, set-up specific Development Boards to create sustained impetus for development of specific livestock enterprises x) Institute the necessary measures to create a livestock research institute, as an umbrella body for guiding and directing all research on animals and quality control assurance. xi) The government will seek to strengthen the collaboration between, professional associations, the private sector institutions; community based institutions, finance institutions, the NGOs, and Development partners in</p>
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5.1 Sub-sector financing	i) Low funding to the sub sector ii) Currently there is limited NGOs and CBOs financing to the sector. iii) This has occasioned low operating capital of livestock producers and traders.	i) Mobilize more public financial resources commensurate to livestock's contribution to the GDP. This finance to be proportioned equitably to training research extension and support ii) Develop mechanisms of extending credit to livestock farmers and traders through the existing public institutions, micro finance institutions, NGOs/CBOs and Cooperatives.
5.3 Monitoring and Evaluation	i) Weak Monitoring and Evaluation (M&E) framework	i) An appropriate participatory M&E system will be put in place in order to facilitate corrective measures be taken at the right time and a pro-active information management and sharing system will be institutionalized.

6.2. Annex II -Institutional Framework

6.2.1. Existing Institutions

Organization	Functions
i) Kenya Veterinary Board (KVB)	Register and license training institutions Approve curricular for training in veterinary medicine Register and license veterinary surgeons and paravets Set and enforce professional ethics Arbitrate on professional matters Register and license manufacturers, distributors and retailers of veterinary medicine and poisons Register and approve medicines and poisons Set and enforce code of ethics for operators in this field
ii) Kenya Dairy Board (KDB)	Establish a marketing information system for dairy products Address domestic trade disputes Develop and enforce code of practice for dairy products Market promotion abroad Promotion of value addition

6.2.2. Proposed New Institutions

ORGANIZATION	FUNCTIONS
i) Kenya Livestock Breeding Board (KLBB)	Develop and sustain breeding programmes Formulate policy and regulations to govern breeding Coordinate characterization and patenting of genetic resources Coordinate various bodies responsible for breeding of livestock (Livestock Recording Centre, KNAIS, CAIS, breeding societies, Kenya Stud Book) Animal identification services Register new imported and local genetic material
ii) Kenya Animal Health Inspectorate Board (KAHIB)	Regulatory role in production and marketing of livestock products Set policy and regulations on feeds Register and license feed manufacturers Safeguard animals and owners from hazardous and substandard feeds Ensure quality assurance of all livestock products and inputs Advice on feed situation and strategize on drought management Register and license input suppliers Legislate input quality requirements Ensure compliance on set standards
iii) Kenya Livestock Marketing Board (KLMB)	Establish a marketing information system Promote international trade agreements which have been domesticated by the competent authorities Develop and enforce code of practice for animal products traders Market promotion abroad Promotion of value addition
iv) Kenya Livestock Research Institute (KELRI)	Register research institutions which focus on animals Set up the national animal research agenda Coordinate and strengthen animal based research Mobilize resources for animal research