

CONFIDENTIAL



REVOLUTIONARY GOVERNMENT OF ZANZIBAR

MINISTRY OF LIVESTOCK AND FISHERIES

ZANZIBAR LIVESTOCK POLICY

2011

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FOREWORD

FOREWARD

As customary, The Revolutionary Government of Zanzibar has pledged and worked to bring in meaningful development and better life to its people. The people themselves and Government leaders bring together their effort in building their nation through participatory approach. However, the Government machineries are always attempt to create favourable environment in order to speed up the active involvement of private sector, as it was done by the Ministry of Livestock and Fisheries to formulate the Livestock Policy.

It become widely accepted that an enabling policy environment is essential to create the framework conditions in which development can be steered to address the needs of the livestock sector. Today, it gives me great pleasure in presenting this Policy of Livestock which I believe to be a crucial tool in developing livestock sector as well as economic development of our country. It has been realized that Livestock sector contributes about 4 percent of GDP, and plays a crucial role in provision of employment in Zanzibar, whereby about 34000 people engaged in the sector, hence contributes accordingly in poverty reduction strategies.

In the Zanzibar Growth and Poverty Reduction Plan (MKUZA), it has been recognized that, the livestock sector plays an important role in employment creation and income generation, mainly in private sector, thus minimizing the burden to the public sector. The implementation of this policy undoubtedly will give a push to other sectors and policies in contributing towards Zanzibar development strategies. The livestock policy can be easily practiced in both rural and urban areas, since their requirements in terms of capital, technologies and management would be affordable to the local investors, though the modern livestock production requires additional skills and capital investment to meet the emerging competition of the external market .This policy therefore, will directly contribute in provision of technical aspect of livestock production and marketing, at the same time will enhance the means toward accessing financial requirement of the modern livestock processing and value addition.

The development of livestock sector in Zanzibar is hindered by many constraints. They include low productivity of local breeds, under developed livestock infrastructures, pest and diseases infestation, inadequate pasture and fodders, high price of feeds and drugs, irregular rainfall and drought, thefts and underdeveloped marketing and value addition of livestock products. However the continuous expansion of tourism sector investment has tremendously increased the domestic market and the needs for high value products including livestock products. Based upon these reasons, the Livestock Policy is formulated so as to address the constraints and fill the policy gap and other potential opportunities in order to take maximum potential of the sector.

This Policy will serve as a guideline to all stakeholders, and thus stimulate the establishment of new livestock business enterprises and strengthen the existing ones to grow and become more profitable and competitive. The expected outcome is to have a significantly increased contribution of the Livestock sector to economic development of Zanzibar.

The policy preparation process was basically participatory. Nearly all stakeholders were represented in its formulation and discussion of issues that emanated at various stages. Information is gathered both from Pemba and Unguja through various development and annual report concerning this sector. In addition, seminar and workshop were also conducted to collect stakeholders' information and feedback.

Consequently I would like to take this opportunity to extend my sincere gratitude to ZALWEDA for its support and contribution towards the formulation of this policy. I also take this opportunity to

thank The Revolutionary Government of Zanzibar for its financial and technical support that contributed towards the achievement of the Policy. Many thanks should be extended to all stakeholders from private sectors and civil societies for their active participation and technical supports toward accomplishment of this document.

The success of this policy framework to a great extent relies on the cooperation and full participation of all stakeholders. Thus, let me therefore take this opportunity once again to invite all stakeholders to play their part in revamping this sector.

Lastly, I do remind the stakeholders and the community at large that any Nation's economic development is mainly spearheaded by the people themselves. So, the success of this policy depends primarily on peoples' effort in translating and practical implementation of this policy. So let's play our part.

Thank you all.

.....

Said Ali Mbarouk

Minister for Livestock and Fisheries, Zanzibar

LIST OF ACRONYMS

AHPC	-	Animal Health and Production Centre
AI	-	Artificial Insemination
AIDS	-	Acquired Immuno-deficiency Syndrome
ASDP-L	-	Agricultural Sector Development Programme – Livestock
ASSP	-	Agricultural Services Support Programme
AU	-	African Union
BQ	-	Black Quarter
CBPP	-	Contagious Bovine Pleuro-Pneumonia
CCPP	-	Contagious Caprine Pleuro-Pneumonia
CMO-DMD	-	Chief Minister’s Office – Disasters Management Department
CSOs	-	Civil Societies Organizations
DAP	-	Department of Animal Production
DoE	-	Department of Environment
DPs	-	Development Partners
DVS	-	Department of Veterinary Services
EAC	-	East African Community
ECF	-	East Coast Fever
EPZ	-	Export Processing Zones
FAO	-	Food and Agriculture Organisation
FFS	-	Farmer Field Schools
FMD	-	Foot and Mouth Disease
FVPO	-	First Vice President’s Office
FYM	-	Farmyard Manure
GDP	-	Gross Domestic Product
HIV	-	Human Immuno-deficiency Virus
IAEA	-	International Atomic Energy Agency
IFAD	-	International Fund for Agricultural Development
LESs	-	Livestock Extension Services
LPCC	-	Livestock Policy Coordinating Committee
LSD	-	Lumpy Skin Disease
LSPs	-	Livestock Service Providers
M&E	-	Monitoring and Evaluation
MACEMP	-	Marine and Coastal Environment Management Project
MANR	-	Ministry of Agriculture and Natural Resources

MCI	-	Ministry of Communication and Infrastructure
MDGs	-	Millennium Development Goals
MICTS	-	Ministry of Information, Culture, Tourism and Sports
MKUZA	-	Mkakati wa Kukuza Uchumi na Kupunguza Umasikini Zanzibar
MLDF	-	Ministry of Livestock Development and Fisheries-Tanzania Mainland
MLEEC-DC	-	Ministry of Labour, Economic Empowerment and Cooperatives – Department of Co-operatives
MLF	-	Ministry of Livestock and Fisheries –Zanzibar
MLHWE	-	Ministry of Land, Housing, Water and Energy
MoH	-	Ministry of Health
MSC	-	Multi-sectoral Steering Committee
MSPOFEDP	-	Ministry of State President's Office, Finance, Economy, Planning and Development
MSWYWCD	-	Ministry of Social Welfare, Youth, Women and Children Development
MTIM	-	Ministry of Trade, Industry and Marketing
NCL	-	Non Conventional Livestock
ND	-	Newcastle Disease
NGOs	-	Non Governmental Organizations
NPHC	-	National Population and Housing Censor
OIE	-	World Organization for Animal Health
PLHA's	-	People living with HIV and AIDS
POCRC	-	President's Office, Chairman of Revolutionary Council,
PRIDE	-	Promotion of Rural Initiatives and Development Enterprises
RVF	-	Rift Valley Fever
SACAS	-	Saving and Credit Associations
SACCOS	-	Saving and Credit Cooperative Society
SADC	-	Southern African Development Community
SMEs	-	Small and Medium Enterprises
SUA	-	Sokoine University of Agriculture
SVPO-DDM	-	Second Vice President's Office (Department of Disaster Management)
SWAp	-	Sector Wide Approach
SWOC	-	Strength Weaknesses Opportunities and Challenges
T&V	-	Training and Visits
TADinfo	-	Trans-boundary Animal Diseases information System
TADs	-	Trans-boundary Animal Diseases

TB	-	Tuberculosis
TBDs	-	Tick-borne Diseases
TNA	-	Training Needs Assessment
UAES	-	Unified Agricultural Extension System
URT	-	United Republic of Tanzania
VIC	-	Veterinary Investigation Centre
WHO	-	World Health Organization
ZAC	-	Zanzibar AIDS Commission
ZALWEDA	-	Zanzibar Livestock Welfare and Development Association
ZFDCB	-	Zanzibar Food Drugs and Cosmetics Board
ZFSNP	-	Zanzibar Food Security and Nutrition Policy
ZLP	-	Zanzibar Livestock Policy
ZLRB	-	Zanzibar Livestock Regulatory Board
ZNCCIA	-	Zanzibar National Chamber of Commerce, Industry and Agriculture
ZPC	-	ZALWEDA Policy Committee
ZPTT	-	ZALWEDA Policy Technical Team
ZSGRP	-	Zanzibar Strategy for Growth and Reduction of Poverty

DEFINITIONS

These terms are defined for the purpose of this document

Term	Definition
Agriculture	An area of human activity involving all aspects of crops, livestock, fisheries and forestry.
Animal	Is any vertebrate or invertebrate other than a human being
Animal breed	Is a term used to describe a tribe of domesticated or reared animal species.
Animal feed	These are the natural or compounded food stuffs fed to domesticated or reared animals.
Artificial Insemination	Is a technique of collecting semen from male animals, processing it and depositing into the female reproductive tract through a special device.
Bio-fuel	Is defined as solid, liquid or gaseous fuel derived from relatively recently dead biological material and is distinguished from fossil fuels, which are derived from long dead biological material.
Biogas	This refers to a gas produced by the biological breakdown of organic matter in the absence of oxygen. Biogas originates from biogenic material and is a type of bio-fuel.
Bio-safety	In agriculture, bio-safety means reducing the risk of microbial and transgenic contamination.
Biotechnology	This is referred to as the use of biological system as a product or for the purpose of producing a product.
Bivalves	Are <i>molluscs</i> belonging to the class <i>bivalvia</i> . They have two-part shells, and typically both valves are symmetrical along the hinge line.
Blackquarter (BQ)	Is a bacterial disease affecting bovines occurring worldwide. The disease is mostly soil-borne due to consumption of bacterial spores caused by <i>Clostridium chauvoei</i> and characterized by Lameness, swelling of tongue and throat and sudden death of the infected animal. The disease is preventable through annual vaccinations.
Broiler	Is a type of chicken or turkey raised specifically for meat production
Coccidiosis	Is a sub-acute sometimes acute disease affecting animals mostly affecting the intestines and manifested by bloody diarrhoea
Contagious Bovine Pleuro-pneumonia (CBPP)	Is a chronic fatal disease of cattle caused by bacteria called <i>Mycoplasma mycoides</i> and is clinically manifested by difficult breathing and pneumonia
Contagious Caprine Pleuro-neumonia	A disease in goats similar to CBPP in cattle

CCPP)	
Crossbreeding	This is defined as natural or artificial mating of animals of two or more different breeds, strains or lines.
Crustaceans (Crustacea)	Are a large group of arthropods, comprising almost 52,000 described species. They include various familiar animals, such as crabs, lobsters, crayfish, shrimp, krill and barnacles
Dairy cattle	Breed of cattle selected for milk production
Diseases of economic importance	These are diseases that cause significant economic losses including ECF, ND, mastitis, BQ, CCPP, Gumboro and others as declared by OIE
Diseases of public health importance	These are diseases that causes public health hazard like rabies, TB, mastitis, brucellosis, avian influenza, anthrax, cysticercosis and other diseases declared by OIE and WHO
Draught animals	These are domesticated animals trained to perform physical activities.
East Coast Fever (ECF)	Is a fatal protozoan tick borne disease affecting cattle that is prevalent in East and Central African countries caused by <i>Theileria parva</i> .
Embryo transfer	This is a technique of transferring an embryo from one female animal (donor) to another (recipient) aimed at producing an offspring
Estuaries	Are places where freshwater rivers and streams flow into the ocean mixing with the seawater. A wide variety of birds, fish, and other wildlife make estuaries their home
Extension Service	This is defined as the transfer of technology from livestock experts to farmers. Livestock expert can also include farmers who are capable of providing such services to others.
Farm-yard Manure	Is a decomposed mixture of animal dung with urine, bedding materials and residues that is used as traditional manure.
Feathers	Is one of the epidermal growths that form the distinctive outer covering or plumage on birds.
Foot and Mouth Disease (FMD)	Is highly contagious viral disease affecting ruminants and other animals characterised by vesicular lesions in the mouth, feet and other regions of the body with tender skin.
Genetic resources	Are the biological characters which are inheritable from parents to the off-springs of different generations.
Government	Means the Revolutionary Government of Zanzibar.
Gumboro	Is a viral disease affecting chicken, spread by contact and could sometimes cause high mortalities in chicken less than 8 weeks of age.
Hides	Are skins obtained from large animals such as cattle and buffaloes for human use.

Hoof (Hooves in plural)	Is the tip of a toe of an ungulate mammal (cattle, sheep, goat etc), strengthened by a thick horny (keratin) covering.
Horn	An outgrowth of bone encased in hardened skin, found in pairs on the head of ungulates.
Lactation	Describes the secretion of milk from the mammary glands for the purpose of feeding the offspring.
Lagoon	Is a body of comparatively shallow salt or brackish water separated from the deeper sea by a shallow or exposed sandbank, coral reef, or similar feature
Layer	Is a breed of chicken raised for egg production
Livestock	In the context of this policy, livestock means any domesticated or reared animal
Livestock farmer	Means any person who are engaged in livestock production activities
Livestock Industry	This is referred to the whole range of activities involved in the development of livestock sector
Local breed	Is an indigenous breed of animal in a particular habitat
Lumpy Skin Disease (LSD)	Is a viral disease affecting cattle manifested by fever and skin nodules throughout the body
Mastitis	Is an inflammation of the mammary gland in the udder
Milk products	Are the products of milk origin derived from approved processes including heating, separation, fermentation, evaporation and drying
Newcastle Disease (ND)	Is a highly contagious and fatal viral disease affecting poultry associated with nervous, respiratory and digestive symptoms
Pasture land	Is the land with herbaceous vegetation cover used for grazing of ungulate livestock as part of a farm or ranch
Pet animal	Means any animal kept for companionship
Policy	Is a set of statements and their strategies aimed at reaching specified objectives
Poultry	Is the category of domesticated birds (eg. Chicken, ducks etc.) which are kept for the purpose of producing eggs, meat or feathers
Rift Valley Fever (RVF)	Is a mosquito borne viral disease of ruminants that can also affect human beings through contact with infected material
Ruminants	Is any type of cud-chewing hooved mammals having a stomach divided into four (occasionally three) compartments
Semen	Is a mixture of sperms and fluids produced in the testicles and other glands of the male reproductive system
Shehia	Is a lowest administrative level in Zanzibar which can

	include one or more villages
Shoats	Is a term collectively used to abbreviate sheep and goats
Slurry	Is a semi-fluid residual substance obtained after the digestion of cattle dung in the biogas plant
Stakeholder	Means individual, organization or institution, private or public, that in one way or another has interest in and is concerned with the carrying out of activities relating directly or indirectly to the livestock industry in the country
Stray animal	Is an animal that is living independently from human ownership or control
Strategy	This is defined as a plan which is designed to achieve particular objectives
Tick-borne Diseases (TBDs)	Are the diseases transmitted by ticks
Trans-boundary Animal Diseases (TADs)	Are diseases that can easily spread through boundaries of one country to another eg. Avian and Human Influenza, Rabies, NCD and FMD
Zebu	Are the 'humped' or 'indicus' cattle which are better-adapted to the tropical environment
Zoonosis	This is referred to the disease that can be transmitted from animal to human and vice-versa.

1.1. Background Information

1.1.1. The National Profile

Zanzibar comprises two main islands; Unguja and Pemba, surrounded by a number of small islets with an estimated human population of 1.2 million (National Population and Housing Census (NPHC), 2002), increasing at 3.1 percent annually. The islands are located at approximately 40km off the coastal line of Mainland Tanzania, with a total area of 2654km² and regarded as the most densely populated part of East Africa (370 people per km²). There are 36,445 livestock-keeping households in Zanzibar (National Sample Census of Agriculture, 2003) of whom; over 99 percent integrate crop and livestock in their farms. Livestock industry is dominated by small-scale holdings of cattle, poultry and goats with minimum concentration on sheep, non conventional livestock (NCL) and poultry species other than chickens.

Agriculture, including livestock production, has remained a dominant sector in the economy of Zanzibar, as it is relied upon by 40 percent of the population for their livelihood (ZSGRP, 2007). However, there are persisting challenges for the growth of this sector that include lack of capital investments, poor livestock infrastructure development and human resource development. As we ought to see a broader objective of producing 50 percent of food is achieved (VISION-2020, 2002), these and other challenges need to be copiously addressed in our policies.

1.2. Rationale for Developing the Policy

There is a need to develop a new Zanzibar Livestock Policy (ZLP) to address the gaps existing in the agriculture sector policy (2002). The agriculture sector policy does not adequately address issues of productivity of non-conventional livestock species, animal welfare and development, production and utilization of animal bio-fuel, market access, value addition and financial services. In addition to addressing these issues adequately, the new policy is meant to take care of the emerging and/or omitted issues of significant importance for the development of livestock sector such as zoonotic diseases, and TADs, concession to livestock farmers and entrepreneurs and livestock trading to stimulate production and marketing. In order to address the gaps, this policy takes the following issues into consideration:-

1.2.1. Linkage with Development Policies, Plans and Harmonisation with Other Sectors

In any development policy, the issue of linkage is unavoidable for sustainability of comprehensive development actions. Thus, in order to achieve effective implementation of this Policy, it should be in line with the economic policies of our country and review basic objectives of national and international commitments as stipulated in ZSGRP or MKUZA II, VISION 2020 and MDGs. The ZLP matches its objectives with national overarching policies in order to realize smooth operationalization of the proposed strategies. It also takes into account the challenges of promoting livestock sector with a view to speed up economic growth and poverty alleviation. The policy highlights the gaps existing between livestock and other policies and addresses them. Further, the policy strives to harmonize the conflicting areas observed in different policies.

Stimulate Livestock Development while Conserving the Environment

The policy stimulates the development of the sector through application of sustainable production practices. This is highlighted in the strategies proposed to minimize grazing pressure through promotion of livestock intensification as well as effective utilization of renewable nutrients such as farm-yard manure (FYM).

Modernization of Livestock Industry

The ZLP emphasizes adoption of recent innovations in livestock sector development through provision of better extension services, as reflected in MKUZA II. The issues of marketing, standards and linkages with tourism and export sectors receive a due consideration along with the promotion of small-scale processing plants.

Emphasize Trade in the Livestock Commodities and Services

The objective of trade liberalization policy of increasing private sector participation in the national economy is reflected in ZLP for promoting private investment in this sector. Provision of incentives to livestock entrepreneurs (including investors) has been considered as a means of increasing national income and food security. Furthermore, the issue of market and marketing network of livestock products to increase farmers' and national income has been explored.

Regulate the Provision of Livestock Services

This policy realizes the importance of livestock services in the development of this sector. However, well defined procedures and regulations in the provision of services are required in order to attain sound professional conducts, sustain national and international standards and maintain animal welfare. The policy emphasizes on review of current legislation and proposes new regulatory procedures including establishment of Zanzibar Livestock Regulatory Board (ZLRB), which aims at improving the services while conserving the professional ethics.

Conservation of Local Genes

With the current increase in the introduction of new germplasm that aimed at improving livestock productivity, there is a potential danger of losing some important traits that include adaptability of livestock to their local environment. This policy safeguards the existence of local genes despite the need for improving our local stock.

Stimulate Livestock Industry Productivity through Provision of Subsidies

Although livestock productivity can be increased by a number of factors such as provision of modern technologies, better extension services and inputs supply, but livestock keepers cannot afford them at current market prices. The current agricultural policy has emphasized the removal of subsidy scheme in order to provide room for private sector to engage in the sector as well reduce government financial burden. However, the intended objective has not been achieved because farmers are too poor to afford the inputs and services hence the need for concession is essential.

2.1. Situation Analysis

2.1.1. Livestock inventory

According to National Sample Census of Agriculture (2003), the livestock population in 2010 was projected (3% increase per annum) at 200,030 heads of cattle, 107,077 goats, 369sheep, 1,308,329 chickens and a number of other small stocks and animals. Out of the total cattle population, about 95 percent are local zebus which are kept under extensive systems and the remaining comprises of crossbreds and purebreds kept under semi-intensive or intensive system. Chicken are the most important poultry in Zanzibar with 89 percent of them being indigenous breeds raised under free range or semi-free range systems. An estimated 91 percent of livestock keepers raise cattle, 26 percent goats, 70 percent poultry, 0.2 percent sheep and only 0.1 percent pigs. 3% of households which keep livestock depend solely on livestock for their livelihood¹. The average herd size kept per households is 5 cattle, 6 goats and 16 chickens (National Sample Census of Agriculture, 2003).

2.1.2. Production Performance

Daily milk yield of local cattle (Zebu) averages at 2.13 litres per cow per day during wet season which is reduced to 1.5 litres (29%) in dry season (National Sample Census of Agriculture, 2003). The lactation lengths reported in Zebu is only about 100 – 150 days, while the lactation length for crossbred cows is 280-300 days with an average of 8.8 litres of milk per cow per day (pers. comm 2008).

Milk production from local goats is extremely low to the extent that they are not milked at all, while a dairy goat can produce up to 3 litres of milk a day. Moreover, twinning rates among local goats are low, about 30 percent, compared to dairy goats, which is about 80 – 90 percent under good management.

Local poultry are very low eggs producers, producing between 50 and 60 eggs per bird per year. Apparently they are not efficient feed converters to be used as layers or broilers. On the other hand, layer chickens can start producing eggs at an early age of 20 weeks and can produce up to 320-340 eggs in their lifetime. Broiler chickens can attain a marketing weight of about 2kgs at an early age of 6 weeks.

2.1.3. Production Trends

Table 1 below shows the estimated production of different food and non-food livestock products in nine years period. It is clearly shown that performance in milk production increased consistently over time although the 2007 and 2008 data is unavailable. However, there is a remarkable fluctuation in the yields of other products.

¹ Source: MALE, Study on Existing Livestock Production Systems in Zanzibar, 2010

Table 1: Estimated production of food and non-food livestock products in Zanzibar (2000 – 2008)

Class	Product	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cattle	Meat (Tons)	1,604	1,590	1,572	1,594	1,256	1,772	1,584	1,766	1,624
	Milk (Tons)	27,157	28,266	28,955	29,848	28,236	33,206	36,544	-	-
	Hides (Pcs)	11,878	10,830	10,799	9,593	10,468	12,899	13,201	12,563	13,530
Shoat	Meat (Tons)	37.7	37	52.4	47.2	52.6	59.7	56.7	39.9	46.0
	Skins (Pcs)	2,509	2,463	3,496	3,148	3,509	3,980	3,776	2,661	3,063
Broiler	Meat (Tons)	103	189	183.2	160	119	123	139	35	-
Layers	Eggs (Tons)	575	625	660	721	735	804	786	329	-
	Meat (Tons)	57.2	63.9	67.2	57.5	64.8	37.9	56.0	23.8	-

Source: Ministry of Agriculture, Livestock and Environment, 2008

2.1.4. Potential Products for Value-Addition

Milk is one of the important livestock products in Zanzibar. The milk yield varies between production systems, seasons, age and the breed of cattle. In general, the improved breeds of cattle reared in Tree and Plantation zones are highly producing particularly during the wet seasons that coincide with plentiful supply of good quality forages. This leads to increase in raw milk production which should be processed to ensure the quality, increased value and prolong shelf life. Other important livestock products include meat and eggs. There are ample opportunities in the trading of non-food livestock products such as hides, skins, bones, horns, hooves, feathers etc. About 14,800 cattle, 3,000 goats and a million chickens are slaughtered in Zanzibar every year. Hides, skins, feathers, bones and horns can be processed and sold as semi-processed products or used to manufacture final products for sale.

2.1.5. Productivity of non conventional livestock

Rabbits, guinea pigs, duikers, guinea fowls, doves and a variety of wild birds provide a marginal support in supply of meat and eggs for local consumption. These non conventional livestock (NCL) can reproduce within a short period of time relative to other conventional livestock and generate significant income. Currently, there is a low awareness, and inadequate husbandry knowledge, inadequate facilities and expertise which contribute to the poor production and productivity of NCL.

2.1.6. Animal welfare and development

Zanzibar has enacted Animal Resource Management Act No. 11 of 1999 to look after the welfare of animals. In addition, there are NGOs and private individuals devoted to improve welfare and development of animals. Even though, the Government, local communities, NGOs and International Organizations have been establishing various measures and programmes emphasized towards the control of cruelty on animals, but still animals receive improper handling including overcrowding, whipping, over working, overloading and underfeeding. In addition, low community awareness on animals' rights, poor law enforcements and socio-cultural limitations are explained as the hindrance factors. As a result, there is an increasing violation and abuse of animal rights in Zanzibar.

2.1.7. Production and utilization of bio-gas

Farm animals especially cattle can effectively be used to produce bio-gas as renewable source of energy. This energy is environment friendly and if correctly used it can indirectly reduce the cost of production in the livestock enterprises. In Zanzibar, the development of this technology is still at infant stage. So far, there are 17 bio-gas plants installed in Zanzibar. Inadequate knowledge and high cost of biogas installation are among the factors limiting utilization of bio-gas technology to livestock farmers. If these causes are addressed accordingly, livestock producers can benefit by installing bio-gas plants which could increase the income level and standard of living.

2.1.8. Market access

The market segments in Zanzibar for livestock products include local market, tourism and exporters. However, the market access by livestock producers is generally hindered by low quantity and quality, poor storage, poor handling, inadequate processing, low quality packaging, lack of certification and poor general hygiene and sanitation. In addition, the transportation of livestock produce from the farm to local market is done by the means of a bicycle, oxcart, motor-bike or pick-up vehicles. This is done by either producers or middlemen who do not assure quality maintenance and long shelf life. Various measures have been taken to improve production, quality and value addition of all livestock products.

2.1.9. Zoonotic diseases

According to WHO at least 61 percent of all human pathogens are zoonotic and have presented 75 percent of all emerging pathogens during the past decades. Currently, in developing countries, most of the rural population live with their animals, consuming livestock products without proper inspection and processing, which increases the probability of being infected by zoonotic diseases.

In Zanzibar, like other developing countries, most of the people are living in rural areas and depend on animals for their livelihood. The ratio of animals to human is 2:1. This situation predisposes them to zoonotic diseases. Zoonotic diseases are under diagnosed, because of limited diagnostic capacity and coverage of animal health services. However, diseases surveillance is conducted in smallholders' livestock farms to understand the magnitude of the diseases. The most common reported zoonotic diseases are Brucellosis, tuberculosis (TB), rabies, anthrax and salmonella infections.

2.1.10. Trans-boundary Animal Diseases (TADs)

The TADs are endemic diseases which occur in African continent and are of high economic importance. In order to control the diseases effectively, national, regional and international actions are essential. Amongst the important TADs reported in Zanzibar includes Rabies, Foot and Mouth Disease (FMD), Black-quarter (BQ) and Lumpy Skin Disease (LSD) in bovines and Gumboro and Newcastle Disease (ND) in poultry. Many cases of TADs occur annually and are controlled by mass vaccination of each disease. In 2010, among the TADs cases reported include 5 cases rabies, 659 FMD, 79 cases BQ, 198cases LSD, 1820 cases Gumboro, 10,254 cases NCA and 43,241 cases Helminthus. However, the main obstacle hindering the effective vaccination is low coverage due to resentment of the livestock keepers to pay for the service.

2.1.11. Provision of laboratory services

Laboratory services are provided by Veterinary Investigation Centre (VIC) which is located at Maruhubi Zanzibar and Chakechake veterinary laboratory in Pemba. All laboratory services, such as feed analysis, parasitological and microbiological

diagnosis are conducted. However, these services are constrained by inadequate equipment, reagents (kits) and qualified staff. In past years, the laboratory services were provided in all Animal Health and Production Centres (AHPC) around Zanzibar. These centres have ceased to provide these services due to the shortage of equipment and reagents.

2.1.12. Provision of veterinary and extension services

Veterinary and extension services are essential for development of livestock sector. These services are delivered to the livestock keepers through AHPCs which are located in each district. The delivering of the services is generally low due to increasing number of livestock keepers while the number of staff is low. It is reported that only 26 percent of the livestock households access the extension services (National Sample Census of Agriculture and Livestock, 2003)

2.1.13. Livestock trade

Zanzibar is not producing sufficient livestock products to meet its local demand. Most livestock and livestock products used for domestic consumption including tourism sector are imported. The main trading partner is Mainland Tanzania. In 2011, Zanzibar imported from Mainland 7,706 cattle, 2,247 goats, 255 sheep, 10,710 tonnes of beef, 435,316 tonnes of chicken meat and 1,585,360 eggs. So far, only hides are exported to Mainland Tanzania. In 2010, Zanzibar exported 2793 pieces of hides to Mainland Tanzania. However, attempts are undertaken to narrow down the production gaps by improving the production and marketing infrastructures.

2.1.14. Provision of Financial services

The financial services for development of livestock entrepreneurs are very limited. There are some public and private institutions which provide financial services in small amount. These include Ministry of Labour, Economic Empowerment and Cooperative, Women Development Trust Fund, Changamoto and PRIDE Tanzania. Further, there are few private institutions and projects which provide grant such as ZNCCIA and MACEMP. However, there are many commercial banks including Barclay, Corporative Rural Development Bank, People's Bank of Zanzibar, National Microfinance Banks and National Bank of Commerce, but there are no agricultural banks which purposely provide loans to livestock entrepreneurs. Moreover, interest rates in these banks are exorbitant. Producers including livestock keepers depend solely on informal financial institutions such as SACCOS and rotating fund (UPATU) especially for women groups.

2.1.15. Public Private Partnership

Trade liberalization policy was aimed at involving private sector to participate fully in economic development. Currently the participation of private sector is more focused on trading of veterinary drugs, poultry feeds, day old chicks and imported livestock products. There are few small scale livestock investors who are engaged in the livestock sector such as poultry and dairy production. Despite promotion made by Zanzibar Investment Promotion Authority (ZIPA) to attract foreign investors in livestock sector, there are no foreign investors engaged in this sector. The present livestock profile needs to be reviewed to reflect investment on parent stock, processing of livestock products and animals feed industry. Proper coordination and stimulation of private sector to participate in the livestock development is essential in increasing employment opportunities.

2.1.16. Human resource development

The Ministry has employed 446 staff assigned for the development of livestock sector (Nominal roll 2010-2011). However, about 25 % of the staff are livestock

specialists (104 (23%) staff are diploma holders and 16 staff (3%) have above diploma level. More trained manpower is needed to strengthen the MLF capacity to improve livestock production and productivity.

2.1.17. Inputs assistance

Livestock inputs are essential for proper development of livestock industry. Currently, there is no subsidy for livestock inputs and prices of livestock inputs are very high for small scale livestock keepers to afford at market price. As a result, livestock keepers are producing with limited recommended inputs use. Those that use the required amount of inputs, their production costs are very high. Hence, the domestic livestock producers fail to compete against imported products. Therefore, attempts to establish subsidization mechanism for livestock development become important measures to stimulate domestic livestock production and productivity.

2.1.18. Contribution of livestock to the national income

The livestock sector, as in other developing countries, is among the major sources of Zanzibar's economy. There is a significant contribution of livestock in the households and general economy in Zanzibar. The sector has engaged more than 36,000 households in livestock production and contributes 4.7 percent of the Gross Domestic Product in 2010. Marketing of hides, skins, hooves, feathers etc. can also increase contribution of livestock sub-sector to the national economy. The improvement of production facilities and inputs as well as marketing promotion of livestock and its products has direct contributions towards to the achievement of MKUZA II goals and targets.

Livestock production in Zanzibar is an important driver of rural economic growth and instrumental for the enhancement of food security, reduction of poverty and overall improvement of human well-being. Provision and creation of decent employment in the livestock sector, particularly for women and youth, are seen as a major mechanism for the achievement of sustainable socio-economic growth and rural development.

2.1.19. Contribution of livestock to household economy

Livestock is taken as potential source of self employment, increased income generation and food security, especially for young people. About 37.8 percent of 96,522 agricultural households in Zanzibar are engaged in livestock farming (excluding poultry). Livestock are not kept primarily as a source of food but are kept mostly as saving boxes, especially during financial hardships. Most of farm activities (especially back-yard poultry keeping) in Zanzibar are taken care of by females.

There is a significant contribution of livestock in the household and community economy in Zanzibar. Specialized smallholder dairy farming is increasing in rural and peri-urban areas. The annual income from rearing of one indigenous cow is about TShs 120,000 per farmer while that of improved cow is about TShs 1,200,000. In 2007, a total of TShs 7,935,000,000 and 1,810,000,000 were earned from selling 1,587 and 362 tons of meat from cattle and shoats (sheep and goats) respectively.

2.1.20. Livestock Research

Currently, there is no proper mechanism or specialized institutions responsible for conducting researches. However there are laboratories and farms with a small number of researchers that are used in conducting researches. In addition to that, there is very minimum budget allocation for research works. Due to lack of coordination between Ministry and research institutions in Zanzibar, there is also

very minimal involvement of researchers from these institutions involved in livestock researches. In the past years, some research programmes in the livestock sector were implemented through donor-funded programmes. There is need to streamline research by creating a livestock research institution equipped with necessary facilities and manpower.

2.1.21. Food security and nutrition

Milk, fish and sea foods, meat and eggs, though important providers of calories, register very low levels in terms of caloric intake (respectively 4.6%, 2.3% , 0.5% and 0.1% calories per day). This is because of their low-consumption level probable due to low ability of many low income people to afford these vital food although readily available. The high price of these commodities relative to income earned by many low class people could be the major factor for the low consumption. Comparing the percentage share of vegetable and animal products in the overall food supply, it is evident that vegetable products are highly consumed than animal products. In 2007, vegetable products contributed over 92 percent of all calories and over 72 percent of proteins in the country's food supply (Zanzibar Food Balance Sheet, 2007).

2.2. Constraints to Livestock Development

Despite the increased opportunities and potential for livestock and livestock products nationally, regionally and internationally markets, there are various factors limiting the proper development of this sector. During the formulation process of this policy, opportunities were given for the key stakeholders to provide essential information as regards to the main challenges that require particular attention in order to develop this sector. The key constraints as described by farmers, livestock traders, livestock products processors, pet animal keepers, consumers and other stakeholders are summarized below:

- *Animal diseases and mortality:* Although the eradication of tsetse flies and Trypanosomosis was a major achievement, other diseases are still limiting livestock production in Zanzibar. The most important diseases which affect cattle are tick-borne, mostly East Coast Fever which constituted 89 percent of all tick borne diseases (reported in 2007) and *Babesia bovis* infection. Other diseases are Black quarter (BQ), Lumpy Skin Disease (LSD), Foot and Mouth Disease (FMD), bovine mastitis, worm infestation (63 percent in cattle and 83.6 percent in goats, 17 percent poultry), Newcastle Disease (42 percent) and Gumboro (48 percent) in commercial flocks of poultry,
- *Inadequacy and low adoption of technologies:* Low educational status of livestock keepers is a major contributing factor to slow adoption of new production technologies,
- *Inadequate processing of products:* Little has been done with regards to processing of livestock products in Zanzibar; as a result most of the products are sold in raw form at low prices,
- *Unorganized market outlets:* there is no formal marketing system and most of livestock enterprises are at their infant stages, small and unorganised,
- *Stock theft:* Stock theft is one among major obstacles to livestock development, indicated by 46 percent of the stakeholders. Moreover there is an increasing trend of theft of agricultural products. This discourages livestock keeping activities,
- *High input costs:* Prices of animal stock, drugs and feeds have increased by 92 and 110 percent between 2005 and 2008 respectively compared to only 43 percent increase in prices of products. This situation is caused among other reasons, by high transportation costs taking in consideration that

most of the inputs are imported from mainland and abroad. In addition, high inflation rate is also explained to this situation which is caused with high exchange rate due to high demand of foreign currencies ,

- *Weak research facility and services:* Research and Extension have always received very little funding. Most of research and extension have only been carried out with donor-funded projects,
- *Resource scarcity:* There are four major areas where resource scarcity contributes to livestock underdevelopment in Zanzibar. These are:
Financial Resource: Having limited access to credit facilities, livestock farmers are left with inadequate capital for investments,
- *Land Resource:* Being small islands, livestock production is severely constrained by the land scarcity,
- *Water resources:* Seasonal shortage of feeds as there is a full dependency on seasonal rainfalls for crop and pasture growth and regeneration,
Human resources: There is a small number of qualified technical staff (about 25 % of the available staff). Furthermore majority of field workforce are elders and therefore unable to effectively carry out farm workloads.
- *Organic livestock farming:* Organic production of animal products is gaining importance in the global market. This is partly attributed to increasing concerns over food safety in the developed world. The products which are certified as organic usually attain high demand and market price in these countries. Beef, milk, egg and chicken meats are the only products with at least some potential for organic production in Zanzibar. Unfortunately, very little attention has been put on research and production of organic livestock produce in Zanzibar.
- *Livestock theft:* increased cases of livestock theft in recent years obstructing the effort of livestock keepers to develop their livestock enterprises.
- *Poor livestock infrastructure:* currently, most of livestock infrastructures like dips, slaughter-house and animal clinics are dilapidated and out of function, there are only two out of nine dips which are functioning.

2.3. Opportunities for livestock development

Opportunities are the external factors that offer privileges to MLF's performance to revamp the development of livestock in Zanzibar. These include:

- Sufficient natural resources including underground water.
- Regular transportation and telecommunication networks that help livestock stakeholders in attaining and providing services.
- Proper electricity supply provides better storage facilities for livestock products and cottage industry.
- Increasing local demand for livestock products due to the increased tourist market and other middle class income earners.
- There is a bright scope in investment in processing of livestock products.
- Increasing opportunity for investment in dairy and beef industry after successful eradication of tsetse flies.
- Conducive policies and institutional frameworks to attract private sector involvement in the services provision.
- Availability of coral rag areas with sufficient quantity of shrubs that can be used in goat production.
- Local available academic institutions (Zanzibar and Mainland) that can be used to produce livestock expertise.

- Availability of local and international CSOs` capable of contributing to livestock development.
- National unity, peace and stability.
- Availability of Development Partners willing to support livestock development.
- Willingness and commitment of stakeholders to participate in the development programmes.
- Existence of youth, women and other marginalized groups that can take part in livestock entreprizes.
- Being an island, Zanzibar has potential of eradicating and controlling trans-boundary and other zoonotic diseases.

3.1. Overview

This chapter shows how various sector policies, strategies and plans are linked to livestock sector development. It is based on critical identification and analysis of the policy gaps that formed the basis in the formulation of this policy. Only those sectors that seemed directly related to livestock development were considered. In general, it is evident from the review that livestock issues were not adequately integrated in most of the existing policies.

3.1.1. Agriculture Sector Policy

The agricultural sector includes crops, fisheries and livestock production. The overall goal of the agricultural policy (2002) is to promote sustainable development of the agricultural sector for economic, social and environmental benefits of the people. The importance of livestock in this policy is not well elaborated. A number of issues were taken into consideration, including importance of livestock in the economy, consumption of livestock products, yield improvement in the traditional livestock production system, commercial meat products and dairy development. However, this policy could not adequately address the salient issues such as productivity of non-conventional livestock species, animal welfare and development, production and utilization of animal bio-fuel, market access, value addition, financial services and concessions as a mechanism to empower entrepreneurs to face the challenges of market competition.

3.1.2. Food Security and Nutrition Policy

The Zanzibar Food Security and Nutrition Policy (ZFSNP, 2008) acknowledges the role of agriculture including livestock as an important income generating activity for rural and peri-urban communities. On the other hand, the increased food and nutrition security is largely dependent on sustainable development of this sector. Similarly, the main focus of ZLP is to increase livestock production and productivity for the same purpose as outlined in the ZFSNP.

3.1.3. Forest Policy

The Forest Policy (1996) dwells much on the area of biodiversity conservation and development of forest resources for future generations, tree planting and public education. Although the policy showed a very strong attempt in mainstreaming environmental norms into the forest management activities, the policy remained silent on issues of integration of livestock in the management and utilization of forest resources. The ZLP supports the production of multipurpose tree plants (e.g. *Leucaena* and *Moringa* species) as potential sources of forage.

3.1.4. Water Policy

Water is an important element in livestock development through increased milk, meat, eggs and other products. The main objective of the current National Water Policy (2004) is to protect and conserve water resources for sustainable utilization. The importance of agricultural sector was considerably recognized under this policy. However, the specific issues related to the utilization of this resource for livestock development has not been fully addressed. The new livestock policy creates opportunity for harmonization of livestock and water issues.

3.1.5. Land Policy

Currently, there is no official land policy in Zanzibar. However, the National Land Use Plan (1995) recognizes the role of agriculture as a major land user, absorbing about 60 percent of total land area. The four major agro-ecological zones namely; Tree and Plantations, Coral, State Farms or Ranching and Rice Cultivation zones have been clearly described under this plan. However, the plan did not recognize the possibility for diversification of livestock production under the vast coral rag areas. This policy promotes the extensive utilization of coral land for production of small ruminants, poultry and non-conventional species.

3.1.6. Environmental Policy

The current Environmental Policy (1992) is outdated. Nevertheless, this policy provides guiding framework for environmental management in water sources, deeper soils, coastal zone and coral rag with respect to protection and conservation. The human practices including inappropriate crop production methods, over-grazing and deforestation featured prominently as major causes of environmental degradation. However, the policy did not address the control of livestock densities to minimize grazing pressure and the potential risks of air pollutants to human life e.g. ammonia, methane and other gases. The new livestock policy emphasizes on maintenance of optimum livestock densities and encourages the use of natural feed concentrates as opposed to highly nitrogenous industrial feed resources such as urea.

3.1.7. Small and Medium Enterprises (SMEs) Policy

The overall objective of the SME policy (2006) is to create conducive environment for promotion of the small and medium enterprises with the aim to increase employment and income earning opportunities. The policy has an indirect linkage to the livestock sector development bearing in mind that livestock itself can stand as an independent enterprise which can provide opportunity for self employment and ultimately increasing household and national income.

3.1.8. Trade Policy

Facilitation of smooth running of trade related-activities in Zanzibar was described as a primary objective of the National Trade policy (2006). The concept of strengthening private sector participation in the trade of goods and services under this policy concurs with the objective of the new livestock policy which promotes commercialization of livestock services and products under the umbrella of private-public partnership. However, the tariff and taxation relief on imported goods and food stuffs (including livestock products) discourage the production and consumption of local livestock products. With the establishment of Zanzibar Bureau of Standards, it will give opportunity to ensure quality control of livestock inputs such as animal feeds and drugs as well as livestock products.

3.1.9. Industrial Policy

The Zanzibar Industrial Policy (1998) addresses among other things, critical issues facing the industrial sector and provides for the optimal exploitation of natural resources particularly agriculture, marine products and forestry. However, this policy does not address promotion of small scale processing of livestock products. The policy addresses issues of low investment opportunities which discourage improvement of agricultural and related sectors including livestock. The new livestock policy encourages introduction of cottage industries for processing and packaging of livestock products and by-products.

3.1.10. Investment Policy

Zanzibar Investment Policy (2005) directed major structural and institutional changes aimed at promoting private sector investment. The policy put into account the trade development plans for having an efficient Export Processing Zones (EPZ). Furthermore, the policy considers the need for improving service sector and provides linkage to tourism industry. The ZLP realizes the potential opportunity for growth of this sector along with private entrepreneurship, rapid growth of tourism industry and development of service sector. The policy also provides opportunity for the rural and urban dwellers to benefit from investment sector:

3.1.11. Health Policy

The Zanzibar's Health Policy (2002) has spelled out strategies for improving and sustaining human nutritional status, especially those with prolonged ill health, women and children. In order to achieve this goal the policy aims at ensuring adequate supply of nutritious foodstuffs and their safe handling. The ZLP emphasizes increased production of highly nutritive livestock products which are free from communicable diseases and zoonosis such as tuberculosis, brucellosis, salmonellosis etc.

3.1.12. Education Policy

Zanzibar Education Policy (2006) recognizes the necessity of teaching agriculture subjects including soil conservation, animal husbandry and human nutrition etc. Furthermore, ZLP policy emphasizes the mainstreaming of livestock subjects in the primary, secondary and vocational trainings.

3.1.13. Zanzibar National HIV and AIDS Control

Apart from underlining strategic actions towards control and prevention of further spread of the disease, the HIV and AIDS Strategic Plan (2004/5 - 2008/9) identified five thematic areas for interventions including health care and support to people living with HIV and AIDS. In addition to integrating HIV and AIDS education into livestock extension system, the ZLP also emphasizes on empowerment of this particular group of people with knowledge and capital investment for intensive production of small stocks including poultry farming.

3.1.14. Employment Policy

The Zanzibar Employment Policy (2008) acknowledges the role of agriculture (including livestock) as an important source of employment to the rural community, especially women and youths. As with the case of Employment Policy, the ZLP also emphasises private sector investment in production and marketing of traditional and non traditional products to increase national income and employment opportunities in this sector.

3.1.15. Other Sector Policies and Plans Related to Livestock Sector Development

In addition to the policies and plans stated in section 3.1.1 to 3.1.14, there are other policies and/or plans that directly or indirectly support implementation of livestock sector. These include finance, statistics, social welfare, women protection, tourism, marketing and development, telecommunication, community development and NGO policies. However, there are no integrated frameworks for monitoring their impacts. Furthermore, the absence of agricultural marketing policy reflects an important limitation to the development of livestock sector.

4.1. OVERVIEW

Zanzibar aims at modernizing agriculture and livestock development. The Zanzibar Development Vision 2020 emphasizes on modernization of agriculture to achieve self-sufficiency in food and food security, through increased food and livestock production as well as increased agricultural production for export to ensure that the sector is capable of satisfying 50 percent or more of local food production, and promotion of alternative cash crop production for export.

The national development policies, strategies and plans in Zanzibar are guided by the overarching policy framework - Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP or MKUZA II). The economic management reforms under MKUZA II framework are focusing on two major areas: economic diversification and infrastructure development.

MKUZA II is in line with Millennium Development Goals (MDGs) and spells out deliverables through three interrelated clusters namely, growth and the reduction of poverty; social services and well-being; and good governance and national unity. Under cluster 1 of MKUZA II, the broad outcome is to achieve high and sustainable pro-poor growth with three specific goals namely: create an enabling environment for high and sustainable growth; promote sustainable pro-poor growth and broad based growth; and to reduce income poverty and attain overall food security. MKUZA II provides the framework for achieving the Development Vision (Vision 2020).

4.1.1. Vision

The Vision of the Zanzibar Livestock Policy (ZLP) is to attain a flourishing livestock sector development that will contribute to the households' income, food security, boosts national economy and significantly reduces poverty by 2020.

4.1.2. Mission

The ZLP's mission is to develop a technically efficient and business oriented livestock sector that protects the environment and natural resources for present and future generations.

4.1.3. Objectives**4.1.3.1. General Objective**

The general objective of ZLP is to guide on a sound course of actions for livestock development that will subsequently improve community livelihoods, enhancing the social wellbeing and bringing sustainable national economic growth and reduction of poverty in line with MKUZA II and Vision 2020.

4.1.3.2. Specific Objectives:

- (i) To safeguard livestock health, welfare and management for improving production and productivity in a wider range of agro-ecological situations,
- (ii) To improve household and national food and nutrition security
- (iii) To enhance integrated management and sustainable utilization of natural resources for livestock production,

- (iv) To expand the scope of animal products web by introduction of valuable non conventional species of animals,
- (v) To improve zoo-sanitary standards and promote value addition of livestock products for local industry and export market,
- (vi) To enhance human resources development for development of livestock industry,
- (vii) To promote the use of animal power for transportation and alternative source of energy,
- (viii) To mainstream cross-sectoral and cross-cutting issues in livestock sector development,
- (ix) To promote public-private sectors partnership in livestock development,
- (x) To strengthen livestock research and extension services for the purpose of increasing production and productivity,
- (xi) To strengthen coordination and collaboration with other institutions having similar objectives.

5.1. OVERVIEW

Livestock provide a source of valuable food products namely; meat, milk and eggs that supply essential nutrients for human health, and non food products such as hides/skins, feathers, wool, horns etc for clothing and decorations. It can also be utilized as source of animal power, manure and biogas. This chapter highlights the policy objectives, issues, statements and strategies in respect of each of the following:-

5.1.1. Animal Production

5.1.1.1. Poultry

The industry is an important source of food, income and employment. In addition, it is an integral source of livelihood to over 60% of the rural households. Moreover, poultry has many social and cultural uses. Poultry industry also has linkages with other sectors of the economy. These include feeds manufactures, hotel industry, and input suppliers. Due to limited data on the linkages the true value of poultry industry contribution to the entire economy is not known, but is likely to be higher than the estimated figures.

The poultry industry in Zanzibar is divided into traditional and commercial production systems. The traditional system is the largest, contributing about 89% of the flock. The main indigenous breed sub-types include Kuchi, Kishingo, Kuchere and Kibete. Commercial poultry production is mostly practiced in urban and peri-urban areas. The common commercial breeds and their crosses include White Leghorns and Rhode Island Red.

Issue:

Both commercial and traditional systems are constrained by diseases, poor quality feeds, inadequate technical support services, low genetic potential of the local breed, poor knowledge of marketing skills and weak farmer organizations. In addition, there is no existing regulatory framework in hatcheries and breeding farms.

Objective:

To develop poultry industry by boosting the production and marketing of commercial and traditional system of poultry keeping.

Policy statement:

The Government will take special measures to improve quality of poultry and its products to satisfy domestic demand, increase export and promote sustainable poultry production.

Policy Strategies:

- Support and strengthen technical support services and use of appropriate technologies in poultry production.
- Promote inventorisation, characterisation, evaluation and selection of the indigenous poultry breeds.
- Promote improvement of genetic potential in the traditional flock in order to increase livestock productivity in collaboration with other stakeholders.
- Promote investment in poultry production, processing and marketing.

- Encourage establishment of quality breeding farms, feed mills and hatchery facilities.
- Develop and promote an effective poultry marketing information system and poultry farmer associations to improve marketing efficiency.
- Facilitate timely detection, diagnosis, treatment and control of poultry diseases.
- Promote value addition and marketing of poultry and poultry products.
- Facilitate regular review and use of certified feed ingredients and additives such as myco-toxin binders, growth promoters, enzymes and acidifiers to enhance the quality of feeds available locally.
- Promote the performance of all hatcheries, producers and traders for improving production.

5.1.1.2. Sheep and Goats

Sheep and goats farming is an important economic activity for people living in coral rag area and are practiced by about 10% of the agricultural households in Zanzibar making 26 percent of livestock keeping households which jointly owned 52,324 goats and 300 sheep. Their ability to multiply and grow faster than cattle, at a relatively low cost makes shoats more attractive to small-scale farmers.

Issue:

Despite their economic importance to society, shoats' production is constrained by poor nutrition, diseases, low genetic potential and poor marketing infrastructure.

Objective:

To improve the shoats' production by reducing the existence impediment factors

Policy Statement:

The Government will promote commercial and sustainable production of sheep and goats to meet domestic demand and export market; enhance food security and nutrition levels.

Policy Strategies:

- The Government will support and strengthen technical support services in sheep and goats production.
- The Government will promote inventory scheme, animal characterization, evaluation and selection of the indigenous meat breeds of shoats.
- The Government in collaboration with other stakeholders will promote improvement of genetic potential in the traditional flock in order to increase livestock productivity.
- Efforts will be undertaken to promote Public-Private Partnership to improve shoats' management and marketing systems.
- The Government will sensitize, encourage and promote establishment of sheep and goats farmers' organizations

5.1.1.3. Dairy Cattle

Dairy cattle and their crosses have increased to 3.5 % from 7,908 in 2003 up to 8,185 in 2011. West district has 46 percent of the improved cattle population, Central district 20 percent, North A, Chake-Chake and Wete districts jointly accounted for 28 percent of the improved cattle population while the remaining four districts have only 6 percent of such animals. Common dairy cattle breeds in Tanzania include Friesian, Jersey, Ayrshire, and their crosses. Sources of heifers

for dairying include Livestock Multiplication Units (LMUs), donor funded programmes through importation and artificial insemination of existing local herd. Average milk production is estimated at 8.8 lts per cow per day.

Issues:

The development of the dairy cattle industry is constrained by poor nutrition, support services and insufficient supply of dairy stocks. Other constraints include inadequate financial and credit facilities, poorly organized milk collection and distribution, processing facilities, low consumption of milk and livestock diseases.

Objective:

To have optimal growth and development of the dairy cattle industry by improving the all essential factors and support services

Policy statements:

The Government will promote the utilization of available resources for commercial and market oriented dairying in order to raise household income and dietary intake of milk and milk products by having national herd of highly productive dairy cattle.

Policy strategies:

- Establish an inventory scheme, characterization, evaluation and selection of dairy breeds for initiation of national dairy elite herd.
- Promote genetic improvement of local breeds through cross breeding programme in order to increase productivity.
- Encourage the use of Artificial Insemination (A.I) by both public and private firms wherever possible to improve the genetic potential of livestock. The Government will continue with production of semen until when private sector is ready to take over this important activity.
- Promote production and consumption of milk and milk products.
- Facilitate farmers' access to dairy animals of approved breeds.
- Promote establishment of mini dairies in rural and peri-urban areas.
- Support and strengthen dairy research, extension services and information system.
- Promote use of appropriate technologies for milk production that will increase the productivity of cattle labour and land.
- The Government will encourage and promote the establishment of dairy organizations and strengthen the existing ones.

5.1.1.4. Beef Cattle

In 2003, the population of cattle was 162,643 of which 95% are East African Short horn Zebu (EASHZ) the bulls of which are used for beef production. Within the EASHZ there exist a number of sub types such as Mpwapwa and Boran. Only 25% of beef consumed is produced in Zanzibar, the remaining is imported from Mainland Tanzania. There is great opportunity for beef fattening using the local breed as well as dairy culled cattle.

Issue:

Currently, in Zanzibar beef farming is less practiced as it is constrained by low genetic potential of existing stock, inadequate infrastructure, prevalence of animal diseases, inadequate feed resources, scarcity of land, weak livestock farmers' organizations and inadequate technical support services.

Objective:

To increase production of quality beef to meet standards of local and tourist market, increase income of smallholder livestock keepers, improve their livelihood and be food secured.

Policy Statement:

The Government will promote commercial production of quality beef to meet standards for the domestic and international markets to raise income of livestock farmers and improve their living standards.

Policy Strategies:

- Promote feedlot programmes
- Promote expansion of beef production by improving farmer's access to breeding stock.
- The Government will embark on accelerated crossbreeding of East African Shorthorn Zebu (EASZ) with selected exotic beef breeds under improved husbandry so as to upgrade the genetic potential and to increase beef production and carter for the local market needs.
- Encourage smallholder farmers to demarcate communal grazing areas for sustainable utilization of existing feed resource base.
- Register all major beef producers, butchers, meat processors and outlets.
- Support and strengthen technical support services in beef cattle development.
- Encourage and promote the formation of beef producers and traders associations.
- In collaboration with other stakeholder establish livestock identification, recording and traceability system for safe and quality meat production.
- Support joint venture/companies with the importing countries to facilitate provision of expertise, capital and markets.

5.1.1.5. Animal Breeding

A quality animal breed is an important factor for increased production performance of livestock. Most of the local herds are of low genetic potential, leading into low production and productivity. Nevertheless, the indigenous stocks are endowed with some desirable traits including adaptability to the local environment. These traits can favourably be complemented by upgrading them with good genetic materials to obtain high producing stocks.

Issue:

Animal breeding service in Zanzibar is limited by existence of poorly producing local stocks, insufficient supply of improved genetic resources, poor recording, identification and classification of livestock breeds, inadequate expertise and breeding services and poor breeding infrastructure.

Objective:

To boost the genetic makeup of local breeds of livestock for the purpose of increasing production and productivity without undermine local germplasm.

Policy Statement:

The Government in collaboration with private sectors will take appropriate effort to attain sustainable farmers' accessibility to the quality animal genetic material, breeding services and enhance capacity of the breeding systems.

Policy Strategies:

- Promote the use organized recording schemes and introduction of national livestock breeding database,
- Establish a unit responsible for livestock identification, registration and traceability,
- Formulate and implement livestock breeding plan and guideline,
- Introduce selection and culling regimes for the existing stocks based on production merits,
- Set up limits of breeding lines to optimize genetic traits,
- Reinforce animal breeding services including training of practitioners,
- promote private entrepreneurs to invest in animal breeding,
- Advocate and introduce modern breeding technologies like AI and Embryo transfer in animal breeding by private sectors
- Promote livestock farmers to establish their own animal breeders' club /associations

5.1.1.6. Animal Feeds and Feeding

Nutrition is an important component of animal life. Balanced feeds provide essential components for body maintenance and production of milk, meat, eggs, manure and other products. However, inadequate supply, poor quality and high cost of feeds are major challenges facing the livestock industry in Zanzibar.

Issues:

Animal feeds in Zanzibar are in short supply, low quality and very expensive. This problem is largely associated with lack of local feed ingredients, inadequate knowledge on feed formulation and forage conservation. Other reasons are seasonal supply of pastures, shortage of grazing land and lack of quality control and assurance system on imported feedstuffs.

Objective:

To enhance regular availability and accessibility of quality animal feeds to livestock keepers

Policy Statement:

The Government will take appropriate measures to ensure effective and efficient production; conservation and utilisation of quality feed resources from a wide range of agro-ecological spectrum and also strengthen nutrition laboratory services.

Policy Strategies:

- Expand the scope of extension services and farmer trainings on conservation and trading of natural pastures, improved forage as well as proper recycling of crop waste products,
- Strengthen on-farm training on grass-legume integration, cultivation of multipurpose fodder plants through FFS and feeds supplementation packages,
- Facilitate proper utilization of coral rag areas through rearing of small ruminants,
- Increase awareness and technical knowhow on intensification of large ruminants,
- Facilitate credit availability for establishment of medium and large scale feed mill plants,

- Revamp animal nutrition laboratory services including recruitment and training of technicians,
- Encourage private investors to engage in commercial animal feeds production and marketing.
- Mainstream animal feeds quality control system within the proposed ZLRB.
- Conduct research on different local feeding materials and feeding regime.
- Promote rational use of feed additives for increased livestock production and productivity.

5.1.1.7. Food security

Zanzibar is highly dependent on importations of basic foodstuffs. Imported food accounts for about 49% of Zanzibar annual food requirements (Zanzibar Food Balance Sheet, 2007). Livestock products including beef, poultry meat and eggs, cheese, yoghurt and milk are among major food items imported from mainland Tanzania and abroad. There is inadequate supply of food of animal origin due to low domestic production. Livestock are not kept primarily as a source of food but are kept mostly as saving boxes, especially during financial hardships. In addition, low income level for most of Zanzibaris has led to inadequate intake of animal protein.

Issue:

There is inadequate availability and accessibility of animal sources of food to most individuals according to their nutritional needs. Contribution of livestock products to ordinary Zanzibaris calorie intake is very low; beef 1.8%, eggs 0.1%, poultry meat 4.4% and milk 4.6% (Zanzibar Food Balance Sheet, 2007).

Milk, fish and sea foods, meat and eggs, though important providers of calories, register very low levels in terms of caloric intake (respectively 4.6%, 2.3% , 0.5% and 0.1% calories per day). This is because of their low-consumption level probable due to low ability of many low income people to afford these vital food although readily available. The high price of these commodities relative to income earned by many low class people could be the major factor for the low consumption. Comparing the percentage share of vegetable and animal products in the overall food supply, it is evident that vegetable products are highly consumed than animal products. In 2007, vegetable products contributed over 92 percent of all calories and over 72 percent of proteins in the country's food supply (Zanzibar Food Balance Sheet, 2007).

Objective:

To promote availability and accessibility of animal sources of food to attain optimal protein intake

Policy Statement:

The Government will take appropriate measures to ensure increased domestic supply of livestock products, improved consumption and utilisation of livestock products and promote off-farm income generating activities.

Policy Strategies:

- Improve availability and accessibility of animal sources of food to all individuals according to their nutritional needs.

- Sensitise communities on consumption of traditional and non-traditional livestock products
- Promote milk consumption among general community through introduction of milk drinking day and school milk feeding programme and other promotional programmes.
- In collaboration with relevant institutions, provide food preparation education to public
- Encourage rural households to engage in livestock production and other income generating activities.

5.1.1.8. Organic Livestock Farming

Organic farming is a practice that discourages the use of industrial chemicals such as drugs, fertilizers and pesticides in the farm that can produce harmful residual effects to the livestock and other farm products. The products which are certified as free from such residual effects usually have high demand and market value. So far, no intervention has been made to develop organic production of livestock products in Zanzibar.

Issue:

The organic livestock farming in Zanzibar is constrained by lack of awareness among farmers and general public as well as inadequate expertise for development of technology.

Objective:

To promote organically produced livestock products in order to exploit special market demands.

Policy Statement:

The Government in collaboration with private sector and other stakeholders will create awareness and provide marketing information and technical support in production of organic livestock products.

Policy Strategies:

- Develop and facilitate awareness campaigns on livestock organic farming and utilization of the products,
- Promote the use of FYM
- Provide training for livestock extension officers and farmers on livestock organic farming,
- Provide facilities and expertise required for livestock organic farming, in collaboration with DPs and other stakeholders.

5.1.1.9. Livestock and Livestock Products Value Addition and Marketing

In Zanzibar, the number of tourist hotels as a potential market for locally produced livestock products has been increasing in recent years. However, these hotels import most of the livestock products except marine products and, occasionally, eggs. The major livestock products, like milk produced in Zanzibar, have failed to enter this market due to various factors including low quality and quantity, inconsistency in supplies as well as un-competitiveness in price. Apart from tourist hotels, smallholder livestock producers depend on urban markets for their

products. Overtime, these consumers will increasingly demand for quality livestock products especially with the threat of zoonotic diseases.

Issue:

There is little value addition in the livestock value chains in Zanzibar. There is a lack of fattening of animals, lack of grading of livestock and livestock products and inadequate processing infrastructures. In addition, the costs of processing are high, there is inadequate quality control, inadequate entrepreneurship skills, weak livestock producers' organizations and poor market infrastructures.

Objective:

To promote value addition in livestock value chains in order to increase profit

Policy statement:

The Government will promote value addition of locally produced livestock products.

Policy Strategies:

- Encourage the private sector to invest in processing and marketing of livestock products.
- Promote marketing for livestock and livestock products and establish livestock marketing inventory,
- Promoter the establishment of livestock producers, traders and processors associations and networks to improve market access,
- Initiate immediate development of Livestock Marketing Policy
- Strengthen livestock products quality control mechanism
- Advocate for the review of import duty for the livestock products and by-products from Non-east African Community partner states to promote consumption of local products.
- Encourage rehabilitation and construction of feeder roads,
- Encourage private sector in provision of specialized transport facilities for livestock products, in the establishment of milk collection, cooling centres, selling points of livestock products, slaughter and storage facilities,
- Encourage establishment of feedlots for fattening livestock, (beef fattening)
- Educate on processing of animal products including integuments to improve marketing value.
- Introduce branding system for Zanzibar livestock products.

5.1.2. Animal Health

5.1.2.1. Animal Health Services

Animal diseases are among the major obstacles in the development of livestock industry in Zanzibar. The Government, through MLF and the private sectors have an important role of preventing, eradicating and controlling the spread of animal diseases. Weak enforcement of quarantine regulation exposes Zanzibar to different type of animal diseases and other zoonotic.

Issues:

Delivery of animal health services in Zanzibar is generally weak due to shortage of qualified human resources, inadequate facilities, high costs of drugs and equipments, poor technical support services and weak private sector participation.

Objective:

To improve animal health services delivery in order to control and whenever possible, to eradicate animal diseases for increased production and productivity.

Policy Statement:

The Government in collaboration with private sector and other stakeholders will improve animal health system to minimize economic losses caused by animal diseases through improved facilities, service delivery and human resource capacity development.

Policy Strategies:

- Increase the number of trained and qualified livestock personnel (in both veterinary and production),
- Promote provision of good veterinary health services,
- Spearhead surveillance and control of diseases of economic and public health importance,
- Facilitate tax relief mechanisms and subsidy to reduce inputs cost,
- Establish dialogues with stakeholders and DPs on technical support issues.
- Establish sustainable preparedness plans for protecting livestock against the introduction of new/emerging animal diseases.
- Control introduction of newly and emerging animals' diseases in order to safeguard livestock resources.

5.1.2.2. Tick-Borne Diseases (TBDs)

Ticks and tick-borne diseases (TBDs) are important constraints for livestock production in the Eastern Africa. The most famous TBD in Zanzibar is East Coast Fever (ECF) which is estimated to kill about 60 percent of calves every year. Other important TBDs are Cowdriosis (Heart water), Anaplasmosis, Babesiosis (Red water) and Ormilo. Apart from transmitting the diseases, ticks can also cause economic losses by mortalities due to toxicosis, damaging the hides/skins and lowering their market value.

Issues:

Existence of TBDs in Zanzibar is exacerbated by high costs of drugs, inadequate capacity to deploy prophylactic measures, lack of technical know-how, persistent acaricides resistance and introduction of new variants of ticks through importation of live animals.

Objective:

To control and eradicate tick borne diseases in order to increase production and productivity and safeguard animal resources

Policy Statement:

The Government in collaboration with private entrepreneurs, farmers and general public will control the existing TBDs and prevent introduction of new threats in the islands.

Policy Strategies:

- Advocate for revisit of tax mechanisms and introduce subsidy measures to reduce the costs of acaricides and other livestock inputs,
- Revamp dipping and spraying services at district levels,
- Promote the use of grazing management, mechanical and biological control of ticks,
- Promote the use of adaptive research on tick control and control of ECF and TBDs,
- Institute regulatory mechanisms and surveillance for introduction and disposal of acaricides,
- Curb illegal importation of live animals through strong collaboration between the community and law enforcement institutions,
- The Government will strengthen technical support services on tick and tick-borne disease control.

5.1.2.3. Trans-boundary Animal Diseases (TADs)

The TADs are highly infectious diseases which are endemic in particular regions and are of high economic importance. In order to effectively control the diseases, urgent national, regional and international actions are required and these can be achieved through an enhanced system of early warning, early detection, coordination and harmonization of control strategies. Amongst the important TADs reported in Zanzibar includes Rabies, Anthrax, Foot and Mouth Disease (FMD), Blackquarter (BQ) and Lumpy Skin Disease (LSD) in bovines and Newcastle Disease (ND) and Gumboro in poultry. Some of the important TADs in the region include Contagious Bovine Pleuropneumonia (CBPP), Contagious Caprine Pleuropneumonia (CCPP), Rift Valley Fever (RVF), Avian Influenza and Rinderpest.

Issues:

The development of livestock sector in Zanzibar is hindered by ineffective control of TADs. The inadequate knowledge and information of the diseases, illegal importation of animals, high costs of vaccines, inadequate health support services and poor veterinary infrastructure development are described as among the reasons of this problem.

Objective:

To eradicate the available trans-boundary animal diseases and control the introduction of new TADs in order to improve livestock sector and promote internal and external markets.

Policy Statement:

The Government will collaborate with local, regional and international communities on imposing proper and sustainable measures to control and eradicate TADs including up-scaling the efforts to curb illegal importation of live animals and products.

Policy Strategies:

- Introduce mass awareness and preparedness campaigns against TADs,
- Strengthen animal quarantine systems and infrastructure development at the entry points,
- Establish Zanzibar as an animal disease-free zone,
- Adopt the regional TADinfo networking system and harmonize the Zanzibar TADs control strategies with those of SADC and EAC,

- Strengthen dialogues with private sector and DPs to acquire technical and financial support for control and prevention programmes,
- Control importation of live animals, animal products and by-products in collaboration with other relevant government institutions, local communities and law enforcement organs,

5.1.2.4. Zoonotic Diseases and Food Safety

Zoonotic diseases are those that can be transmitted between animal and human. These diseases are therefore a threat to the public health. Living in close proximity with animals and consumption of raw animal products are the main predisposing factors for man to contract the diseases. Swine flu, Brucellosis, tuberculosis (TB), rabies, anthrax and salmonella infections are the examples of zoonotic diseases.

Issues:

The availability and possibility of introduction of new zoonotic diseases in Zanzibar is high. It is reported that; inadequate knowledge and information of the diseases by the public, illegal importation of animals, high costs of vaccines, inadequate health support services, poor infrastructure development and weak linkage between public and veterinary health service are reasons behind this problem.

Objective:

To improve the delivery of veterinary public health and food safety services in order to safeguard human and animal population.

Policy Statement:

The Government in collaboration with other stakeholders and DPs will control zoonotic diseases to safeguard the co existence of human and animals.

Policy Strategies:

- Promote good practices on occupational health and safety measures for livestock producers and informal labourers
- Promote the use of mass awareness campaign on control of zoonosis,
- Strengthen collaboration with the Zanzibar Food, Drug and Cosmetic Board (ZFDCCB) on food safety issues.
- Strengthen collaboration with national, regional and international units responsible for zoonotic diseases.
- Strengthen research activities on zoonosis, including a risk assessment of the zoonotic diseases through work-related processes,
- Strengthen the regulation of Animal Resource Management Act No 11 of 1999 on animal disease control.
- Institute zoo-sanitary inspectorate services to prevent introduction and spread of animal diseases.
- The Government will strengthen technical support services for veterinary public health and food safety that will ensure safe and quality foods of animal origin.

5.1.2.5. Veterinary Investigation Facilities

Veterinary laboratories are important units in the diagnosis of TBDs, TADs, Zoonotic and other diseases. Currently, veterinary laboratory service is entirely controlled by the Government. So far, there is one Veterinary Investigation Centre (VIC) and two diagnostic laboratories in Zanzibar. These facilities provide limited

services due to lack of financial and human resource capacity. For a long period of time the laboratories have been operating through donor support.

Issues:

The operationalization of the veterinary diagnostic laboratories is minimal due to shortage of technical staff, poor infrastructure, inadequate facilities, limited technical support, and lack of interest of private sector to invest in veterinary laboratories.

Objective:

To operationalise the function of veterinary diagnostic and laboratory services in order to improve animal disease surveillance and promote proper animal health services delivery.

Policy Statement:

The Government in collaboration with private LSPs, DPs and other stakeholders will improve the capacity of diagnostic laboratories to achieve effective diagnosis of existing and emerging TBDS, TADs, zoonotic and other animal diseases.

Policy Strategies:

- Revamp and upgrade the function of veterinary laboratory service provision in both islands of Unguja and Pemba,
- Revamp and upgrade the function of veterinary laboratory service provision at district level and quarantine stations,
- Strengthen dialogues with private sector and DPs to acquire technical and financial support on veterinary investigation.
- Strengthen collaboration with national, regional and international laboratories.

5.1.2.6. Animal Welfare

There is an increasing violation and abuse of animal rights in Zanzibar. Animals receive improper handling including, overcrowding, whipping, over working, overloading and underfeeding. Government efforts have been directed towards the control of cruelty through the local communities, NGOs and International Organizations.

Issues:

Animal welfare is constrained by the lack of community awareness on animal rights, dis-ownership of animals, outdated governing regulations, poor law enforcements and socio-cultural limitations.

Objective:

To ensure that animals are well treated and managed by all stakeholders to the fulfilment of animal welfare standards

Policy Statement:

The Government in collaboration with other stakeholders will develop measures to promote animal protection against cruelty.

Policy Strategies:

- Review of Animal Resource Management Act No. 11 of 1999 and strengthen welfare issues,

- Promote the implementation of legislative provisions in respect to animal welfare,
- Mainstream animal welfare issues in all livestock service provisions using livestock extension officers, through the Farmer Field Schools, Kindness clubs, Junior Farmer Field and Life Schools' network and to law enforcers,
- Establish animal pounds at local councils to curb menace of stray animals,
- promote establishment of kindness clubs at schools and local communities, as well as faith-based organizations, liaise with national and international animal rights activists on introduction of animal welfare and management training programmes.
- Encourage continuous mass sensitization campaign on general public on animals' welfare issues and its benefits.
- Collaborate with private sectors, national and international organizations on enforcement of animal welfare.

5.1.3. Pets and non-conventional animal

5.1.3.1. Pets and ornamental animal species

Keeping of pets and ornamental animal species is becoming increasingly popular practice not only because of their natural relationship with human, but also as part of social satisfaction and economic activity. While the domestic pets such as dogs and cats are commonly used for social satisfaction, hunting, guiding and security purposes, the captive wild species including reptiles, wild birds, amphibians, primates and other mammals create a particular attention to the local and international tourists.

Issue:

The development of pets and ornamental animals in Zanzibar is constrained by limited quality stocks, poor handling and management skills, beliefs or attitudes, poor expertise, little initiatives for the promotion and inadequate capital for investment.

Objective:

To promote proper measures for development of pets and ornamental animals for the benefit of the communities

Policy Statement:

The Government and the public will mutually promote and support development of pets and ornamental animal species to realize maximum social satisfaction and generate more income through local and international tourism

Policy Strategies:

- Provide husbandry knowhow to stakeholders involved with pets and ornamental animals for home use and commercial purposes,
- Facilitate importation and breeding of quality pets and ornamental animal species,
- Strengthen mass awareness campaigns on responsible pet ownership, disease control and animal rights in collaboration with animal right activists, tourism and natural resources institutions,
- Establish dialogues with stakeholders and DPs to provide technical and financial support for investments in animal zoos.

5.1.3.2. Non Conventional Animals

The non conventional livestock (NCL) and birds provide a marginal support in supply of meat and eggs for local consumption. Apart from being a precious source of food, some of NCL are also recognized for their social-cultural values.

Issue:

There is inadequate recognition of NCL potentiality on contribution to household income and food security. Insufficient knowledge of NCL husbandry and inadequate facilities adversely contribute to the low production.

Objective:

To promote production and consumption of non-conventional meat for increased household food security, income and improved nutritional status of the people.

Policy Statement:

The Government in collaboration with farmers and other stakeholders will integrate non-conventional livestock to contribute in the national meat basket and increase annual supplies and income,

Policy Strategies:

- Promote the farmer engagement on NCL production in collaboration with appropriate institutions and organizations,
- Through farmer Field schools and youth farmers' associations, promote good practices on NCL production,
- Establish dialogues with stakeholders and DPs to acquire technical and financial support on NCL development,
- Encourage awareness campaigns on integrated aquaculture and NCL and utilization of their products.

5.1.4. Livestock Research

Research is a tool used for testing a hypothesis and getting new results which can be used to solve problems or increase welfare in a society. In Zanzibar, livestock research has been conducted for a long time for the purpose of imparting better genes of dairy and beef animals into our local breeds to increase milk production. Some other research have focused on livestock nutrition, breeding, physiology and disease prevention and control, all of which were meant to acquire better performance and profits by livestock keepers and the country at large. But, of late livestock research in the country has almost been stopped due to meagre budget allocations by the government, poor state of research institutions and facilities, inadequate number of qualified personnel to conduct research and lack of incentives to researchers and non existence of an umbrella body to oversees livestock research.

Issue:

Dilapidated state of infrastructures for conducting livestock research, accompanied with poor facilities, inadequate number of qualified staff, weak budget allocation does not create good environment for research. Besides there is no institution for regulating and overseeing all livestock research work in the country.

Objective:

To revamp livestock research work and create a favourable environment for research work in the country

Policy Statement:

The Government in collaboration with private LSPs, DPs and other stakeholders will promote livestock research to maximize livestock production while safeguarding the environment.

Policy Strategy:

- Encourage the formation of independent body to regulate and oversees all livestock researches in the country
- Promote the establishment of livestock research centre in Unguja and in Pemba equipped with modern laboratories and facilities
- Increase capacity and professional capability of livestock researchers,
- Strengthen dialogues with private sector and DPs to acquire technical and financial support on livestock research
- Strengthen collaboration with national, regional and international laboratories.
- Improve working environment to all staff involved in livestock research.

5.1.5. Human Resource development

Currently the livestock sector suffers from shortage of technical staff. To increase livestock production and productivity requires, among other things, availability of adequate and skilled personnel in aspects of livestock research, breeding, veterinary, dairy technology, poultry, value addition, animal husbandry, extension, laboratory technology, planning, rural development, administration and other related issues.

Issue:

There is insufficient number of qualified technical staff for livestock development.

Objective:

To increase the level of qualified technical staff necessary for proper livestock development.

Policy statement:

The Government will recruit new technical and support staff and improve the capacity of the existing staff for the development of the sector.

Policy Strategies:

- Establish Human Resource Needs for livestock sector development.
- Conduct Training Needs Assessment (TNA) for the sector,
- Increase the number of skilled and technical staff for the development of livestock sector
- Increase number of qualified veterinary assistant, animal husbandry specialist and poultry specialist trained at diploma level in each ward.
- Increase the number of qualified veterinarian, animal husbandry specialist, poultry specialist, extension officer trained at degree level in each district.
- Strengthen collaboration with national, regional and international livestock development institutions and avail exchange of technical staffs
- Create conducive environment to retain the available staff,

5.1.6. Livestock Extension and Training

Livestock extension services are intended to convey scientific knowledge and information from research to farmers and vice versa. In the early 90s, Zanzibar livestock extension was mainstreamed in the Unified Agricultural Extension Service (UAES) of the ministry responsible for agriculture. The system adopted participatory approach to deliver technical information and messages to farmers, including training and visit (T&V), demonstration units/farms and farmer to farmer approach. In recent years the Farmer' Field Schools (FFS) approach was adopted to provide useful lessons for improving adoption of extension messages. Currently, the approach is being up-scaled and mainstreamed in the extension service delivery system.

Issue:

The current livestock extension delivery system is weak due to poor financial capacity, inadequate qualified technical staff and inadequate facilities.

Objective:

To improve the livestock extension delivery system

Policy Statement:

The Government in collaboration with the private sector and other stakeholders will promote an effective client-oriented LES delivery system to support farmers' efforts towards increasing livestock production and productivity.

Policy Strategies:

- Up-scale livestock FFS and mainstream them into the directorates responsible for livestock sector development,
- Build a strong partnership with stakeholders, particularly private sectors, NGOs and farmers' associations to participate in LESs delivery,
- Strengthen capacity for field extension agents and progressive farmers,
- Review extension methodologies to be suitable for existing situation
- Provide incentive packages for extension agents based on their performances,
- Devise mechanism for improving the technical knowhow of Community Animal Health Workers (CAHWs)
- Establish dialogues with stakeholders and DPs to provide technical and financial support for LESs delivery.

5.1.7. Livestock Information Services

Livestock Information Service is an important instrument that link farmers, experts and service providers. It deals with collection, storage, processing and dissemination of new technologies and relevant events towards the adoption of these innovations.

Issue:

There is insufficient information delivery system in livestock sector. Most of available data are not up to date and helpful to the end users. This is mainly contributed by inadequate financial support and facilities, poor infrastructure and insufficient expertise.

Objective:

To establish effective information system delivery in livestock sector

Policy Statement:

The Government will put in place a vibrant and accessible livestock information unit to accelerate the development of livestock sector.

Policy Strategies:

- Establish Information, Communication and Technology (ICT) unit.
- Establish computerised livestock data base,
- Improve livestock routine data collection and recording system,
- Provide equipments for efficient data collection, processing, dissemination and coordination
- Establish dialogues with DPs, private sector and other relevant stakeholders to provide technical and financial support for livestock information services,
- Facilitate inter-sectoral data coordination meetings,
- Introduce outreach programmes in collaboration with CSOs and farmers groups,
- Develop and disseminate livestock information and other related livestock issues,
- Establish periodical Ministry's Newsletter,
- Collaborate with national, regional and international institutions in the delivery of livestock related information.

5.1.8. Cross-cutting and Cross-sectional issues**5.1.8.1. Assistance to Livestock Entrepreneurs**

Zanzibar lacks both comparative and competitive advantages for effective livestock production as compared to other farmers elsewhere in the world. There is insufficient land for production of fodder and food grain (e.g. maize, wheat and soya beans) and oil seeds, which are major sources of animal feeds. Besides, local farmers lack competitive advantage because of low use of modern production technologies and diseconomies of scale.

Currently, the prices of livestock inputs are higher for most farmers to afford. As a result, they cannot apply appropriate production technologies, thus leading to low productivity. Further, even if they have to apply modern production technologies, their scale of production and the price of unsubsidised inputs still render their production uncompetitive. Local producers by themselves cannot compete with imported livestock products in terms of both price and quality. Zanzibar is being taken as a dumping place of livestock products, particularly poultry products such as meat and eggs. Therefore, assistance to our livestock entrepreneurs in production inputs is advocated to reduce financial burden to producers in terms of cost of production inputs.

Issue:

The high prices of production inputs including machineries, feeds and veterinary drugs relative to price of these inputs in other nearby countries, adds to the uncompetitiveness of the local livestock sector. This situation has made local producers incapable of sustaining market competition. As a result, many livestock enterprises have been shut down. Thus, in the absence of any assistance in procurement of production inputs, smallholder livestock producers are unlikely to continue with their enterprises.

Objective:

To stimulate livestock production of local poor livestock entrepreneurs to meet market competitiveness at both local and regional level by making livestock inputs affordable to them.

Policy statement:

The Government will take deliberate efforts to assist local livestock entrepreneurs to have access to adequate and affordable production inputs.

Policy Strategies:

- Introduce a mechanism which could assist livestock entrepreneurs to procure livestock inputs at affordable prices and annually review production and yields to assess the profit margin of entrepreneurs as the basis for regulating assistance levels.
- In collaboration with institute responsible for Trade and Marketing, the anti-dumping measures for livestock products will be instituted.
- Establish Livestock Development Fund to finance the cost of inputs assistance to livestock farmers and entrepreneurs.
- Impose special levy to livestock commodities imported from outside SADC and East African Community partner states to contribute to Livestock Development Fund.
- Establish special incentive packages for investment in livestock sector e.g. feed mills, veterinary drugs, breeding farms, processing plants, machineries and cold storage facilities.
- Promote the use of improved traditional resources or technologies that require limited financial inputs.
- Encourage the formation of farmers' associations in the production and marketing of livestock commodities in order to minimise cost of inputs and maximize profit.

5.1.8.2. Land Resources

In Zanzibar, land resource is sub-divided into two major categories namely; plantation and coral rag lands (reference). The former is characterized by deep and fertile soils in which most of agricultural activities are practiced. The coral rags constitutes of mainly marginal soils, water stressed and porous. Being small islands, Zanzibar has a limited land resource particularly for livestock activities. The land tenure systems are not clearly defined such that land is communally utilized without a guaranteed security of tenure.

Issue:

Shortage of grazing land is one among the constraints hindering livestock development in Zanzibar. Further to that shortage of grazing land, there is no land policy, the available Land Use Plan is outdated and the land tenure system is unclassified. This leads to having improper land utilization.

Objective:

To improve grazing land area for proper promotion of livestock development

Policy Statement:

The Government will promote the formulation of land policy in order to encourage sustainable land utilization for livestock development including rapid adoption of intensive production systems to reduce land pressure.

Policy Strategies:

- Advocate for the formulation and implementation of land policy.
- Ensure that national land policy set aside areas for livestock sector.
- Review of the agro-ecological zones to address emerging issues (e.g. urbanization, change of weather and soil fertility),
- Hold discussions with communities and other stakeholders on sustainable land resource allocation and utilization for livestock development in order to minimize conflicts,
- Advocate for the update of the existing Land Use Plan to accommodate livestock needs,
- Promote mixed farming (e.g. integrated crops/livestock/fish farming/forest) for sustainable nutrients renewing,
- Facilitate awareness campaigns on sustainable land utilization for sustained livestock production.
- Advocate for review and enforcement of land-related legislation, including secondary and tertiary legislation.

5.1.8.3. Development of Livestock infrastructures

Livestock infrastructures such as clinics, dips, quarantines stations, laboratories, abattoirs, pounds are essential in livestock development. So far all these are provided by the Government. However, private sector has a big role.

Issue:

Shortage of infrastructures necessary for provision of livestock services has hampered development of this industry in the country.

Objective:

To provide necessary livestock support services to all parts of the country where livestock industry provides a significant share of income to the community.

Policy Statement:

The Government in collaboration with DPs, will provide necessary infrastructures for the provisions of livestock services to all areas of the country where private sector and LGAs find unprofitable but livestock industry provides a significant share of income to that community.

Policy Strategies:

- Encourage private sector and LGAs to provide livestock services such as slaughtering, dipping, pounds, laboratories, clinics etc. in areas where livestock industry provides a significant share of income to the community.
- The Government, in collaboration with DPs, shall provide livestock services such as slaughtering, pounds, laboratories, clinics in other areas where livestock industry provides a significant share of income to the community but private sector and LGAs find unprofitable.
- Facilitate investment in livestock infrastructures.
- Encourage the livestock communities to manage Government infrastructures erected to provide services.

5.1.8.4. Water Resources

There are two main sources of water in Zanzibar namely; underground and surface water. The underground water includes shallow wells, bore-holes and springs, while surface water is represented by streams, rivers, ponds etc.

Issue:

The supply of water resources for livestock development is limited due to under exploitation and inadequate conservation of water resource areas and an inequitable distribution.

Objective:

To increase the supply of water resources for livestock production

Policy Statement:

The Government will join efforts with DPs and community at large and establish water resources for livestock use and improve their accessibility by the livestock farming communities.

Policy Strategies:

- Improve capacity to livestock farmers and entrepreneurs on appropriate water harvesting technologies
- Initiate awareness campaigns on rain water harvesting,
- Improve capacity to livestock farmers and entrepreneurs to reduce water wastage and encourage water storage in collaboration with other stakeholders,
- Lobby with relevant authorities on reduction of water tariffs for livestock use
- Protect water sources and catchments within livestock production area,
- Establish livestock water trough and boreholes.

5.1.8.5. Draught animals

The most widely-used draught animals in Zanzibar are donkeys and oxen. The use of animals as a source of power is an appropriate, affordable and sustainable technology for undertaking a wide range of rural and peri-urban farming activities. Utilization of animal power can significantly reduce workload on ploughing, planting, transportation of goods and weeding and therefore provide substantial labour saving opportunity.

Issue:

There is inappropriate use of draught animals by the owners which is caused by poor animal husbandry practices.

Objective:

To improve the performance of draught animals' use by capacitating the draught animal owners on proper animal husbandry practices.

Policy Statement:

The Government in collaboration with DPs and the private sector will increase efforts to improve the health and wellbeing of draught animals and therefore improving livelihood of the communities.

Policy Strategies:

- Improve capacities on animal husbandry for efficient use of animal power to farmers and other stakeholders in the rural and peri-urban areas,
- Establish dialogues with stakeholders and DPs to provide technical and financial support for breeding of suitable draught animal species and other related issues,
- Utilization of appropriate bull semen for oxenization

- Conduct research on appropriate use of oxen for traction through breeding and selection,
- Empower the communities on animal oxenization operations.

5.1.8.6. Stock Theft

Stock theft has been among major obstacles to livestock development. Moreover there is an increasing trend of theft of agricultural products. This discourages livestock keeping activities. All relevant law enforcement institutions need to be strengthened to curb stock theft. This calls for reviewing the current legislation to take stock theft fully on board.

Issue:

There is an increasing trend of theft of livestock that discourage livestock keeping. As a result many livestock keepers have closed their enterprises which consequently effect employment opportunities in Zanzibar.

Objective:

To curb livestock theft to encourage livestock keeping, investment and increasing production

Policy Statement:

The central Government in collaboration with local governments, law enforcing organs and the general public will cooperate together in controlling cases of stock theft.

Policy Strategies:

- Review existing legislations on stock theft.
- Encourage public awareness on prevention of stock theft,
- Build capacity among law enforcement organs, government staff and local government authorities on existing laws and regulation,
- Strengthen zoo-sanitary measures at all police check points.
- Establish animal Identification and traceability systems.

5.1.8.7. Bio-gas production and utilization

Poverty among rural areas and unprecedented increase in energy tariffs (electricity and fuel) have caused an increase in costs of living, which has resulted into using more firewood which causes land degradation and consequently environmental degradation. Farm animals can effectively be used to produce bio-gas as an alternative source of energy from livestock dung and urine. However, this renewable source of energy which can be utilized as fuel for cooking, lighting, ironing etc, and substantially minimizes consumption of fuel wood and electricity, has not been adequately utilized.

Issue:

Inadequate knowledge on the use of biogas and high cost of installation of biogas plants has limited utilization of biogas and solar power technologies in rural areas.

Objective:

To promote the utilization of farm yards manure for production of bio-gas technologies in order to improve rural livelihood while conserving the environment.

Policy Statement:

The Government will increase efforts to encourage livestock farmers to produce and utilize bio-fuel as an alternative source of energy.

Policy Strategies:

- Facilitate awareness and trainings on production and utilization of bio-gas
- Develop and implement programs for promoting the use of biogas as an alternative source of energy in collaboration with the private sector and other stakeholders.
- Collaborate with national, regional and international organizations on issues related to biogas

5.1.8.8. Financial Services for Livestock Development

Development of livestock enterprises depend on availability of financial resources. Currently, there are no commercial banks specifically giving loans for development of this sector. A few micro-finance institutions provide loans to strengthen the sector but not very effectively to meet the expanded demands.

Issue:

There is no access of financial capital for livestock investment given by commercial banks and credits schemes.

Objective:

To improve access of livestock entrepreneurs to financial resources and credits from commercial banks and financial institutions.

Policy Statement:

The Government will support the establishment of appropriate financial institutions and insurance schemes for livestock investment and encourage formation of saving and credit schemes to support livestock development.

Policy Strategies:

- Encourage formation of SACCOs and SACAs for livestock keepers to cater for their credit and saving needs.
- Support the establishment of agricultural banks to provide loans for investments in livestock enterprises at affordable terms,
- Promote linkage between grass-root livestock stakeholders associations and micro-finance institutions in the country,
- Secure funds from domestic and external sources for livestock development programmes,
- Support establishment of livestock insurance schemes and use of insured livestock as collateral for securing bank loans,
- Introduce financial information and dissemination programmes.
- Advocate for establishment of credit guarantee scheme.
- Conduct entrepreneurship training for livestock farmers, particularly women and youth in collaboration with other institutions.

5.1.8.9. Women and Livestock

Women play integral part in development of various farm activities including crop cultivation, fire wood collection, shells collection, seaweed farming and livestock

production. However, due to a number of socio-cultural factors, women possess limited share accumulated from farming activities.

Issue:

Generally, participation of women in livestock production is minimal due to low livestock entrepreneurial skills, inadequate start-up capital, poor access to financial resources, inequitable income distribution, denied opportunity for decision making and over-tasked with social and family matters.

Objective:

To improve the degree of women involvement in livestock production

Policy Statement:

The Government will empower women to engage themselves in profitable livestock production activities, while protecting their rights and encouraging equitable sharing of farm profits and resources, and to remove legal, economic and socio-cultural barriers to their participation.

Policy Strategies:

- Mobilize women on livestock production and entrepreneurship skills.
- Promote active participation of women livestock producers in Farmer Field Schools.
- Advocate awareness campaign on women rights and equality,
- Advocate activities to sensitize communities, particularly men and local authorities on gender issues.
- Improve women access to credit schemes, livestock product processing technology, market infrastructure, land ownership and other productive resources in collaboration with respective institutions.

5.1.8.10. Youth Employment and Livestock

Youth unemployment and underemployment in livestock sector is a persistent challenge. This is linked to low skills endowments and scarcity of affordable vocational education and training for the youth, their limited access to financial resources, land and other productive assets as well as traditional roles ascribed by society, particularly for young women.

Issue:

Inadequate participation of youth in livestock production is a persistent challenge caused by among others low awareness of existing self-employment opportunities in livestock sector.

Objective:

To promote gender equitable decent employment in the livestock sector, especially for young population

Policy Statement:

The Government will increase its efforts to promote youth engagement in profitable livestock production enterprises.

Policy Strategies:

- encourage awareness-raising campaign on the benefits of productive employment in livestock production for the youth

- promote the use of vocational education programmes on livestock production, life and entrepreneurship skills, groups' formation and mobilization and income generation for young women and men equally,
- Improve/develop mechanisms for access of young women and men to land and natural resources, infrastructure, labour saving technology, access to markets, and youth friendly financial services/credit taking into account the possibility of disadvantaged youth in lacking collaterals to access normal commercial financial services,
- Promote and strengthen livestock investments to attract and retain young people in livestock production and prevent out-migration of young people,
- Promote and develop capacities of youth in the whole process of the value chain, including the benefits of organic products enhancing knowledge on appropriate quality certifications,
- Enhance collection and access to age and sex disaggregated information on employment and labour productivity issues in the livestock sector for policy development and strategic/programmatic planning,
- Promote and institutionalise Junior Farmer Field and Life Schools (JFFLS) and Young Farmers' Associations (YFAs) as a means to entice skills for productive and sustainable employment of young women and men in the livestock sector,
- Nominate an employment and decent work focal point within the ministry and participate actively in inter-institutional networks for an integrated and coherent approach of youth employment promotion in the livestock sector.

5.1.8.11. Child labour and Livestock

In Zanzibar, agriculture (including crop production, fisheries and livestock) is one of the main areas in which child labour exists. Child labour interferes with schooling and gainful employment prospects as youth and adults; Children are the future of a country's economy, and their healthy physical and mental development is key factor toward a strong and productive livestock sector. Some of children's involvement in work can help teach them skills for the future, however other forms of work which are exploitative to the children (child labour) can be hazardous to their health or impede their education. Children's education is essential to be able to meet the demands for increased skilled human resources in the livestock sector.

Issue:

Child labour and the resultant low levels of education contribute to the huge gap in Zanzibar between the available qualified technical staff and the required number for livestock sector development.

Objective:

To reduce child labour in livestock production, especially it's most harmful forms

Policy statement:

The Government will build capacity to address the problem of child labour in livestock not only to protect children's rights, but also to improve human resources and decent employment prospects for youth.

Policy Strategies:

- Build qualitative and quantitative knowledge on child labour in livestock and viable alternatives for producers,
- Design micro-projects to test viability of alternatives,

- Strengthen capacity to address the problem of child labour in livestock production by building the knowledge base and raising awareness including strategic use of extension services and other means such as Farmer Field Schools and Junior Farmer Field and Life Schools,
- Conduct trainings for Ministry staff and other relevant institutions on child labour issues,
- Collect and share good practices on the prevention of child labour in livestock production, and in particular on its linkage with youth employment,
- Nominate a child labour focal point within the ministry and participate actively in the national steering committee on child labour.

5.1.8.12. Livestock Disaster Management

Disasters or calamities are the unforeseeable hazardous events that occur suddenly and cause the displacement or loss of human, plants and animal lives and other properties. In livestock, the most common calamities are: draught, fire, flood and occurrence of disease epidemics and pests. Contingence and preparedness plans are required to address the disasters. Such plans includes early warning systems, victims support and compensation programmes.

Issue:

Development of livestock sector in Zanzibar could be at the risk of draught, fire and disease epidemics including infectious and zoonotic diseases.

Objective:

To sustain the production and productivity levels of livestock keepers by minimize degree of risk caused by natural shocks (disasters and calamities)

Policy Statement:

The Government will put in place sustainable measures to improve institutional capability and community awareness and preparedness schemes against the risks of diseases and other calamities.

Policy Strategies:

- Establish dialogues with stakeholders and DPs to provide technical and financial support for establishment of early warning systems,
- Prepare and implement sustainable preparedness plans for protecting livestock and human against the impact of livestock diseases and other calamities.
- Develop mass awareness campaigns including use of media units to establish public preparedness against disasters,
- Establish livestock insuring systems,
- Collaborate with other stakeholders in provision of training, equipment, technical and financial support to mitigate the impact of disaster for animals and affected households,
- Mainstream gender-sensitivity throughout programmes and procedures, so women and men enjoy equal treatment in the compensation processes,
- Provide gender-sensitivity training for officials working on compensation issues,
- Design programmes to assist women and youth to make compensation claims.

5.1.8.13. HIV&AIDS and Livestock

Vulnerable group is a segment of people within the community which is lacking the coping mechanisms in times of emergency (shocks) and self capacity to generate income. An increased number of vulnerable people have been reported worldwide due to the existence of predisposing factors including HIV and AIDS pandemic, global economic changes, natural disasters, food shock etc. Zanzibar categorized vulnerable people into; elderly, children, orphans, people living with HIV and AIDS and people with disabilities.

Issue:

The livestock sector offers a viable livelihood options for HIV&AIDS affected households through participation in livestock production activities that are generally considered to be not labour intensive as compared to agricultural and other rural livelihood options. Besides, livestock extension officers, who are essentially trained to work with rural community to improve food security, and strengthen rural livelihoods, have not been fully engaged in addressing HIV&AIDS epidemic in rural areas.

Objective:

To improve the capacity of livestock extension officers to engage food in mainstream HIV/AIDS epidemic in routine plans and programmes.

Policy Statement:

The Government will use livestock extension officers who are working with rural community to mainstream the HIV&AIDS issues at workplaces while performing their duties.

Policy Strategies:

- Strengthen the capacity of livestock extension officers in HIV&AIDS knowledge
- Promote the use of public awareness campaigns through mass media approach to minimize stigmatization of people living with HIV and AIDS,
- Provide HIV&AIDS education to rural community engaged in livestock production,
- Design and implement micro-projects in livestock production activities for People living with HIV and AIDS (PLHA's) households to increase their resilience to AIDS impacts,
- Mainstream HIV&AIDS issues in the ministry responsible for livestock matters.

5.1.8.14. Livestock and Environment

In the absence of proper utilization and management of natural resources, livestock development in Zanzibar can have a direct association with natural or man-made environmental degradation. The major environmental features include land, water, air, vegetation, animals and humans that are required to ensure sustainability of livestock farming.

Issue:

Inappropriate animal husbandry practices cause environmental disaster such as soil erosion, deforestation, destruction of water catchments, pollution and introduction of disease-causing pathogens.

Objective

To have appropriate animal husbandry practices for sustainable environment

Policy Statement:

The Government in collaboration with DPs and private sector will encourage the use of animal husbandry practices that are environmental friendly for sustainable livestock production.

Policy Strategies:

- Mainstreaming the livestock production issues into the proposed Environmental Standards,
- Establish training and awareness programmes on management and utilization of natural resources,
- Introduce awareness programmes and trainings on animal waste management,
- Advocate for technical and financial support in facilitating the environmental management committees at various levels,
- Promote proper husbandry practices, support and appropriate technologies to livestock farmers to minimize environmental pollution.

5.1.8.15. Livestock and climate change

Worldwide agricultural activities, including livestock production, accounts for about a fifth of total greenhouse-gas emissions and thus contributing to climate change. The effects of climate change can be observed in temperature raise, reduced rainfall, humidity, and reduced quantity and quality of food supplies for both livestock and human population. On the other hand, these change effects air quality and altered patterns of infectious disease transmission among animals and human.

Issue:

Extensive livestock production leads to alteration of air quality within livestock production locality and contributes to climate change and increased transmission of diseases among animals and between animals and human.

Objective:

To encourage intensified livestock production that curtails the effects of pollution and climate change in the country.

Policy Statement:

The Government in collaboration with private sector, DPs and other stakeholders will promote intensive livestock production and environmental friendly technologies to prevent global warming and climate change.

Policy Strategy:

- Promote the use of animal waste in production of biogas,
- Promote proper handling of animal and industrial waste products,
- Encourage use of high-yielding animals which are adapted to our local environment.
- Promote proper livestock keeping procedures that reduce air pollution, odours from manure, and potential contamination of surface water
- Promote the implementation of livestock and crop integration farming that will reduce the amount of carbon released to the air.
- Promote the use of environmental friendly technologies

5.1.8.16. Public and Private sectors involvement

Livestock sector development is driven by public private partnership. Public sector contribution towards livestock development includes the provision of veterinary services, proper technologies, extension services, coordination and provision of enabling environment for livestock investments. Private sector is involved in production, processing, marketing and service provision. There are very few serious livestock entrepreneurs who are fully engaged in livestock enterprise for their livelihood. Collaboration between public and private sector in the livestock development is essential in increasing productivity and employment opportunities.

Issue:

There is limited large scale private sector participation in livestock sector development

Objective:

To improve the level large scale private sector involvement in livestock sector development.

Policy statement:

The Government will encourage private sector to be involved in livestock services delivery and large scale production of livestock commodities by investing in livestock enterprise to create employment and raise the GDP.

Strategies:

- Promote dialogue between livestock keepers, public and private sector investors,
- Prepare Livestock Sector Investment Profile to promote supportive investments for the development of the livestock sector such as feed mills, hatcheries, processing facilities, cold storages etc.
- Provide special incentive package for investment in livestock sector,
- Promote contract farming in livestock sector,
- Promote formation of strong livestock producers and marketing associations.
- Promote trade and investment in livestock sector through mass media, local and international exhibitions and lobbying.

CHAPTER 6 INSTITUTIONAL AND REGULATORY FRAMEWORKS

6.1. INSTITUTIONAL ARRANGEMENTS

The Ministry of Livestock and Fisheries (MLF) has been given a mandate to lead and regulate the development of livestock sector in Zanzibar. In this regard, a major role of MLF is to create enabling environment for various stakeholders (public and private) to participate in the development of the sector. Although MLF is an overall responsible organ for the implementation of livestock policy, the role of other stakeholders in achieving policy objectives is also recognized.

Implementation of the policy at all levels will need coordinated efforts. At district, ward and Shehia levels, a defined policy implementation mechanism will be put in place to facilitate linkages and coordination between various stakeholders. While the district officers responsible for livestock and fisheries development play key role as coordinating agents to subject matter specialists in the area of jurisdiction at district level. At national level, MLF will take a lead in policy implementation as well as linking the efforts to other stakeholders, international organizations and regional partners.

During the policy formulation process, the institutional analysis was conducted using Strength, Weakness, Opportunities and Challenges (SWOC) approach for the purpose of investigating the national capacity to support the implementation of livestock policy. There was a general agreement that presence of good political spirit, proper institutional setups, technical competence, and sound financial as well as human capacities of stakeholders are the prerequisites for successful policy implementation.

6.2. INSTITUTIONAL FUNCTIONS AND RESPONSIBILITIES

Implementation of ZLP will involve a wide range of partner institutions (public and private) operating at different levels. The key institutions identified to support implementation of this policy are:-

- Ministry of Livestock and Fisheries,
- Ministry of Agriculture and Natural Resources,
- Ministry of Land, Housing, Water and Energy,
- Ministry of Trade, Industry and Marketing,
- Ministry of Social Welfare, Youth, Women and Children Development,
- Ministry of Labour, Economic Empowerment and Cooperatives
- President's Office, chairman of revolutionary council,
- President's Office, Finance, Economy, Planning and Development,
- Ministry of Education and Vocational Training,
- First Vice President's Office (Department of Environment and Zanzibar AIDS Commission)
- Second Vice President's Office (Disaster Management Department),
- Ministry of Information, Culture, Tourism and Sports,
- Ministry of Health,
- Ministry of Communication and Infrastructure,
- Private Sector (including ZNCCIA and CSOs),
- Regional and International Communities.

6.2.1. Ministry of Livestock and Fisheries (MLF)

The MLF has a legal mandate for the implementation of ZLP as it is the main custodian of the livestock development sector. The MLF also has responsibility to promote enabling environment for stakeholder participation in the sector. Furthermore, the Ministry is designated to oversee an overall policy monitoring and evaluation at national, district and shehia levels as well as maintenance of professional ethics. In order to achieve set objectives, the ZLP proposes establishment of the following advisory and regulatory bodies that will work in close collaboration with the Department of Animal Production (DAP) and Department of Veterinary Services (DVS):

6.2.1.1. Livestock Policy Coordination Committee (LPCC)

The major role of LPCC will be to provide joint coordination of stakeholders in the process of implementing the ZLP. The LPCC will act as an advisory committee to the successful implementation of Zanzibar livestock policy. The committee will be comprised of Directors dealing with issues in relation to livestock in following line ministries and private sector.

- Ministry of Livestock and Fisheries,
- Ministry of Agriculture and Natural Resources,
- Ministry of Trade, Industry and Marketing,
- Ministry of Labour, Economic Empowerment and Cooperatives
- President's Office, Chairman of Revolutionary Council,
- President's Office, Finance, Economy, Planning and Development,
- Second Vice President's Office (Disaster Management Department),
- Ministry of Health (Food, Drugs and Cosmetic Board),
- Private Sector.

The Director responsible for Policy under the Ministry responsible for Livestock will be the chairperson of the LPCC while Director responsible for Animal Production under the same Ministry will be head of secretariat. The committee will meet on quarterly bases.

6.2.1.2. Zanzibar Livestock Regulatory Board (ZLRB)

This is proposed to be a central Board responsible for regulation and registration of livestock service providers, conservation of professional conducts and ethics in livestock related activities. The role of the institution responsible for veterinary services and livestock production will remain as a responsible institution to facilitate implementation of the policy issues related to animal nutrition, animal breeding, animal health and livestock extension including farmers training. Other important tasks of DVS and DAP will be overseeing the improvement of animal welfare, livestock research, livestock information, livestock markets and marketing.

6.2.2. The Ministry of Agriculture and Natural Resources (MANR)

The Ministry of Agriculture and Natural Resources is inseparable partner in the livestock development process. The two ministries are integral components of rural livelihoods. In Zanzibar rural setting, the livestock production activities normally coexisting with crop production activities. Thus livestock development should be promoted together with agriculture development in the form of mixed farming to enable each sector to benefit each other. Further the Ministry should continue to mainstream the livestock related subjects in the Kizimbani Agricultural Training Institute (KATI).

6.2.3. Ministry of Land, Housing, Water and Energy (MLHWE)

Land and water are important resources for livestock development. The ZLP recognizes that effective land distribution and administration including implementation of the Land Use Plan is an important factor for livestock production and productivity. The Ministry responsible for Land has an outstanding role in the implementation of ZLP as it guarantees the protection of potential land for pastures and fodder production through effective implementation of land legislation and allocation. The Ministry is also responsible for facilitating availability of water for livestock consumption. The Ministry is the main custodian of energy sector and can therefore provide technical assistance in promotion of bio-fuels including biogas.

6.2.4. Ministry of Trade, Industry and Marketing (MTIM)

The policy acknowledges the role of MTIM in promoting internal and external market of livestock products. Through its Trade Policy, SME Policy and the Zanzibar Export Development Strategy, MTIM will enhance implementation process and continue encouraging macro/micro-economic investments for private sector participation in economic development and growth.

6.2.5. Ministry of Social Welfare, Youth, Women and Children Development (MSWYCD)

The Ministry is mandated to safeguard social welfare and the right of youth, women and children. The Ministry is responsible for community mobilization related to income generating activities and gender mainstreaming, all of which are identified as core stakeholders of livestock policy implementation.

6.2.6. Ministry of Labour, Economic Empowerment and Cooperatives (MLEEC)

The Ministry is responsible for registration, training and development of SACCOs and production cooperatives. As regard to the implementation of livestock policy the Ministry is expected to help in strengthening livestock associations and through provision registration, training and auditing services necessary for the development of proposed producers' association and SACCOs and SACAs. The Ministry will also empower livestock entrepreneur's skills and financial support.

6.2.7. President's Office, Chairman of Revolutionary Council (POCRC),

The ZLP has identified this Ministry to coordinate the implementation process from Shehia to district levels. The POCRC will strengthen the enforcement of legislation in curbing the theft, animal right violations as well as assisting in the control of illegal importation of animals in Zanzibar. The Ministry will also help in facilitating and maintaining law and order that allows proper handling of livestock and livestock products through district administration, local councils and Shehia advisory councils.

6.2.8. First Vice President's Office - FVPO (Department of Environment-DE, Zanzibar AIDS Commission -ZAC)

Sustainable development of livestock requires among other things a sound environmental protection to allow proper growth and development of animals. As far as the implementation of Livestock Policy is concerned, the Office is expected to play an important role in ensuring that the animal production activities and animal welfare are not affected or be affected by environmental effects. The Zanzibar AIDS Commission (ZAC) is expected to work closely with the Ministry responsible for livestock development to address HIV&AIDS issues.

6.2.9. President's Office, Finance, Economy, Planning and Development (POFEDP)

The Office has an overall role of economic and financial management in the Government. It directly deals with national developmental planning, budgetary issues and investment. In addition, POFEDP is a custodian of the national policies and programmes including Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP or MKUZA II) and Vision 2020. The Office will play a vital role on implementation of ZLP through adequate support of financial resources and promote livestock investment.

6.2.10. Ministry of Education and Vocational Training (MoEVT)

The MoEVT is responsible in providing primary, secondary, technical and vocational trainings countrywide. It is anticipated that animal husbandry and related subjects can successfully be mainstreamed in primary, secondary and vocational training curricula. Furthermore, the ZLP promotes an increase in national per capita consumption of livestock products starting with milk drinking campaigns in nursery, primary and secondary schools.

6.2.11. Second Vice President's Office (Department of Disaster Management) (SVPO-DDM)

The DDM is mandated to coordinate national efforts in response to emergence situations. The Department plays vital role in ensuring community protection against disasters including human and animal disease epidemics. The ZLP outlined strategies that could prepare farmers against possible losses caused by calamities in collaboration with DDM and other partners.

6.2.12. Ministry of Information, Culture, Tourism and Sports (MICTS)

The Ministry is responsible for overseeing proper utilization of mass media units and is entitled to provide support needed for effective communication process in the community. It is important therefore, MICTS collaborates with MLF in raising awareness to address issues related to animal husbandry practices, animal disease control and animal welfare. The Ministry also has an important role in supporting implementation of ZLP through comprehensive communication strategy that will lay down approaches to be used in reaching and interacting with stakeholders in a coordinated manner. In addition tourism sector is a potential consumer of livestock products.

6.2.13. Ministry of Health (MoH)

The MoH and MLF play joint role in control and surveillance of zoonotic diseases through "one medicine approach". In addition, the ZFDCB is mandated to supervise and regulate the food safety standards, importation, storage and consumption of livestock products.

6.2.14. Ministry of Communication and Infrastructure (MCI)

Timely provision of livestock services as well as delivering of livestock products to the major market places requires reliable and efficient means of communication and transportation. It is the responsibility of MCI to provide reliable infrastructures necessary for the development of rural communication and transport networks. These include good telecommunication services and road networks.

6.2.15. Non State Actors

Currently, there are a number of Civil Society Organizations (CSOs), professional associations, producers associations, religious organizations, input suppliers etc. These institutions play a significant role in various fields of operation such as

extension services and micro-finance support. The ZLP encourages these stakeholders participation at all levels of its implementation.

6.2.16. Regional and International Community

Zanzibar can benefit from a number of existing regional and international commitments/efforts in livestock sector development programmes like EAC, SADC, AU, UN and other global organizations. Such areas include Food Safety, TADs, Zoonosis and CODEX Alimentarius.

6.2.17. Development Partners

Currently, there are a number of development partners that contribute to the development of livestock sector in Zanzibar. The ZLP encourages these development partners to continue their support in livestock sector.

6.2.18. Private sector

There are a number of individuals and private companies engaged in livestock activities such as production, value addition of livestock products, supply of veterinary pharmaceutical, supply of animal feeds and feeding material.

6.3. LEGAL AND REGULATORY FRAMEWORKS

A legal framework is a key instrument for the implementation of ZLP. It provides the operating frameworks; establish standards and guidelines based on the defined laws and regulations. There are laws, by-laws and regulations which govern the wellbeing of animals and human including protecting them against communicable diseases and zoonosis.

Despite the existence of the above frameworks, a number of gaps can be observed including obsolesces. So far, the ARMA No 11 of 1999 is a major legal framework that control the human conducts against animal welfare and development. The act has mainly focused on treatment and control of diseases. However, pertinent issues related to inputs quality control, animal breeding services and professional ethics of service providers, animal traceability and registration as well as linking the rights of livestock to access the lifeline resources (e.g. water and land) were not addressed. These and other shortcomings beg for the increased collaborations between MLF, Attorney General's Chamber and Ministry of State (PO) Constitution and Good Governance.

Zanzibar is governed by rule of law, having an autonomous court system responsible for execution of criminal misconducts. Capacity of this organ can only be enhanced through integrated efforts from different parties. Considering a significant increase in violation of animal rights, ZLP propose establishment of Livestock Tribunal and affiliate its functions under the existing legal frameworks.

6.4. INSTITUTIONAL CAPACITY FOR THE IMPLEMENTATION OF ZLP

During the course of ZLP formulation process, the national capacity for the policy implementation was investigated through SWOC Analysis workshops. Enormous contribution made by the participants indicates that political will; institutional setups, technical data, financial and human resources are the most important contributing factors that can determine performance of this policy.

The results revealed a presence of political will for implementing livestock sector policy. A sense of political tolerance, good governance and existence of related policies, frameworks and the readiness of DPs to support the national economy creates a room for development of the sector. However, emerging weaknesses and

challenges require sustainable management solutions to enable smooth execution of the policy.

The stakeholders identified a number of weaknesses associated with institutional support to the development of livestock sector. However, it was also evident that reasonable internal capacities do exist to sustain development of the sector. One important challenge is to promote linkages with investors (local and foreign) and sensitize establishment of livestock enterprises.

The livestock sector development is characterized by inadequacy of modern technologies and professionalism. The sector will explore technical support from DPs. Availability of local training and research institutes were explained as important sources of local expertise that are required for current and future development of the sector.

The financial capacity is another factor that emerged with a number of weaknesses including poor budget allocations and weak sources of revenue. Certainly, there are limited funds to meet the ever-growing challenges associated with livestock production.

Finally, the human resource was described as another factor that currently facing a challenge of losing active manpower caused by brain drain, HIV and AIDS threats. However, an opportunity for the sector to utilize vocational training centres, change agents and DPs could uplift knowledge and skills of the local workforces.

CHAPTER 7 MONITORING AND EVALUATION

7.1. OVERVIEW

The ZLP Monitoring and Evaluation (M&E) process will be under the overall MKUZA II monitoring framework that provides a coherent national framework for growth and poverty reduction efforts. It provides an opportunity to adopt a more systematic approach to the M&E of the impact of the long-term objective of attaining food security, poverty reduction and increased national income through the livestock sector.

This policy encourages participatory monitoring and evaluation approach which needs the coordinated efforts and close cooperation between public and private institutions as outlined in Chapter 6, as well as the development partners (DPs). The requisite is that this M&E should promote a continuous process of systematic generation and use of existing information. This will be complimented by adoption and use of well defined qualitative and quantitative targets and indicators at the national, sectoral and district levels.

7.2. M&E OBJECTIVES

The M&E of ZLP aims at providing comprehensive framework for monitoring progress on the achievement of the policy objectives. It is expected to provide feedback mechanism and enhance the implementation of the policy initiatives. It is also intended to provide a mechanism to monitor physical implementation of the policy strategies and keep track of the resources allocation and utilization.

The M&E will therefore ensure better planning, targeting feedback to relevant stakeholders and timely decision making in order to improve service delivery. It will help to:

- Improve service delivery in order to promote active community participation, quality of strategies, transparency and accountability with a view to ensure that resources are made available and used to meet the intended purposes,
- Draw lessons from experience so as to improve the relevance, methods and outcomes of programmes,
- Improve information sharing systems and enhance advocacy for policies, programmes and resources that improve contribution towards poverty reduction.

7.3. ZLP M&E APPROACH

ZLP M&E approach will help to ensure that objectives set in the policy are met and that progress is made towards achieving the goals set forth in MKUZA II.

A result-based M&E system will be instituted to provide the following:

- A well defined result framework that is derived from clearly defined goals, objectives, outcomes, outputs and activities with corresponding indicators, means of verification and key assumptions,

- A well defined M&E strategy for ZLP processes, information requirement, tools and methodologies for data collection, analysis compilation and reporting,
- A comprehensive M&E plan with clear roles and responsibilities as related to indicators tracking with respect to data gathering and reporting,
- A policy tracking system based upon agreed indicators as derived from the indicator framework matrix of ZSGRP/MKUZA II Monitoring Master Plan,
- Internal and external periodic assessment and evaluation which would include baseline studies, beneficiary assessment, midterm evaluations, ex-post evaluations and impact evaluations, and
- Participatory community monitoring and accountability approaches and systems (e.g. community score cards and social impact assessment).

The above methods and tools will also include data processing, analyzing, compiling and presenting in reports and in the graphical presentation of the results.

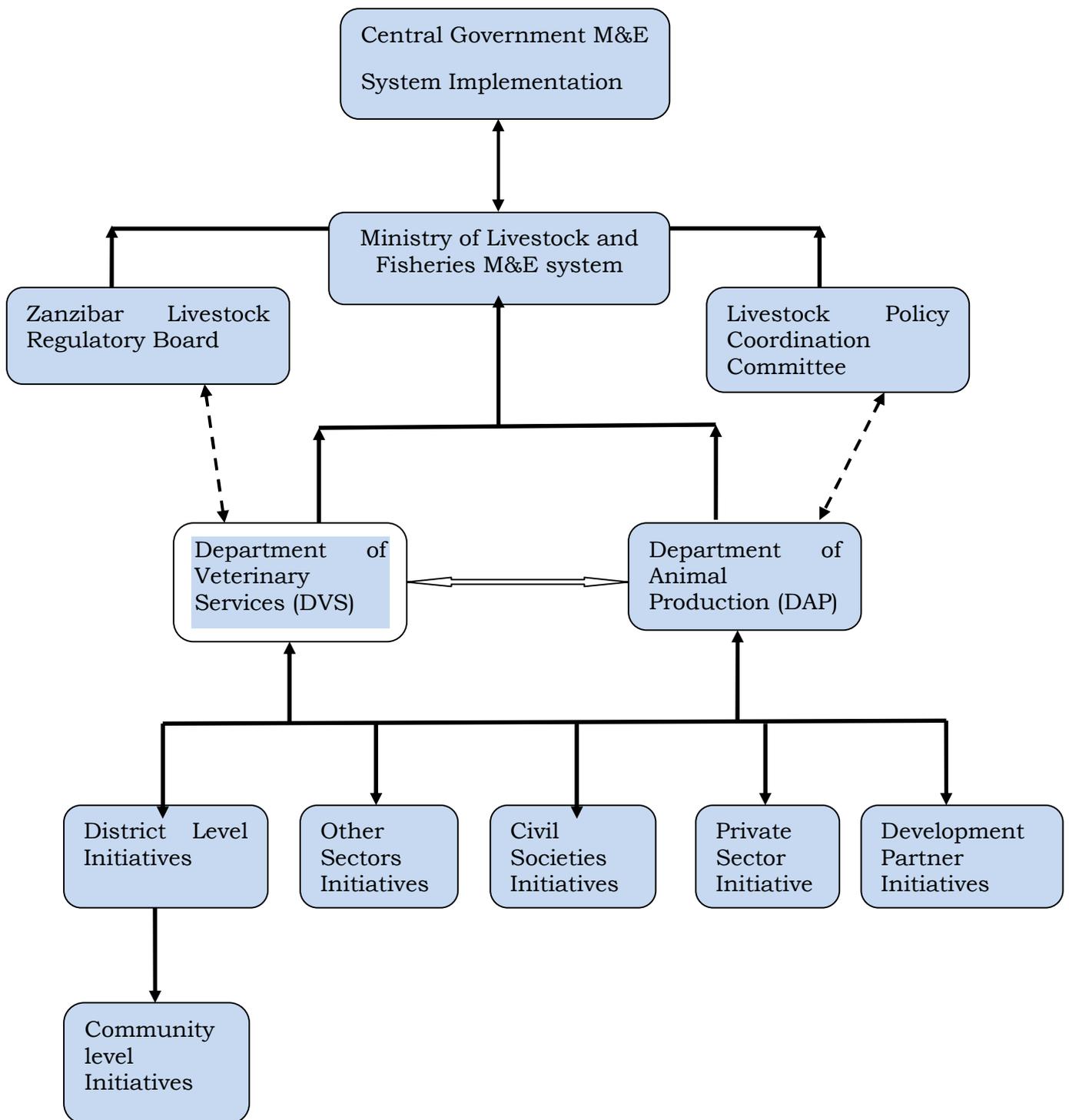
7.4. M&E INSTITUTIONAL ARRANGEMENT

In the process of M&E, participation of all stakeholders including the Government, Civil Society, Private Sectors, Communities and Development Partners will be essential to broaden the base of stakeholders involved.

MLF shall assume the overall responsibilities underlying resources identification and establishment of information and recording systems at national level. At district level, Livestock and Fisheries Development Officers in collaboration with other district functional officers will play vital role in ZLP monitoring and evaluation. At grass root level, the livestock auxiliary will be responsible for the policy M&E.

In addition, the alignment of the Monitoring and Evaluation with national planning, budgeting and reporting process is necessary to ensure that outputs from the Monitoring and Evaluation system serve to enhance national processes including policy dialogue, resource allocation and the involvement of non state actors. The ZLP monitoring and evaluation implementation structure is as shown in Figure 1.

Figure 1: Livestock Policy Monitoring and Evaluation Implementation Structure



The M&E process can be achieved through deployment of the guiding principles and the key performance indicators provided by MKUZA II Poverty Monitoring System to monitor progress. Furthermore, the proposed main specific indicators are as outlined in Table 2. Monitoring of performance indicators will be conducted on annual basis while evaluation process to assess performance of this policy will be carried out at the intervals of 5 years period.

Table 2: Main specific Livestock Performance Indicators

No.	CATEGORY	INDICATOR	HOUSEHOLD LEVEL	COMMUNITY LEVEL	NATIONAL LEVEL
1	Productivity: Animal Breeding	<ul style="list-style-type: none"> • Number of inseminators • Number or % of farmers using AI • Number or % of farmers using improved bulls 	Sensitized on the use of new breeding technology	Increased number of farms using new breeding technologies	Increased number of crossbreds population
	Animal Feeding	<ul style="list-style-type: none"> • Live weight gains /carcass • weight and quality • Calving/kidding etc rate • Yields (e.g. milk, eggs) 	Increased number of animals and household income	Increased income generating activities	<ul style="list-style-type: none"> • Increased productive livestock population, • Increased annual off take and per capita • consumption of livestock products, • Increase national income (GDP)
	Animal Health	<ul style="list-style-type: none"> • Reduced morbidity and mortality • Healthy stocks 	<ul style="list-style-type: none"> • Increased herd /flock size • Reduced cost of drugs /production 	Increased income generating activities	<ul style="list-style-type: none"> • Increased livestock population • Increased productivity

2	Market access	<ul style="list-style-type: none"> • Increased sales of livestock products • Increased consumption of locally produced products at urban and tourist market 	Increased household income	Increased income generating activities	Reduce import of livestock products
3	Value Addition	<ul style="list-style-type: none"> • Weight gain (fattening feedlots), meat cuts and hygiene • Proportion of locally processed milk products and diversification • Proportion of other local products (eggs, hides, skins, feathers, horns etc) 	<ul style="list-style-type: none"> • Increased meat yield and quality • Reduced post-harvest loses • Increased household income 	<ul style="list-style-type: none"> • Increased utilization of local products • Creation of employment 	<ul style="list-style-type: none"> • Reduced import of livestock products and • Increased tourists and export market

Note: more indicators will be established during priority programmes and projects formulation