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MINISTRY OF LIVESTOCK AND FISHERIES DEVELOPMENT



LIVESTOCK SECTOR DEVELOPMENT PROGRAMME

Ministry of Livestock and Fisheries Development
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LIST OF ABBREVIATIONS AND ACRONYMS

ASDP	Agricultural Sector Development Programme
ASDS	Agricultural Sector Development Strategy
ASF	African Swine Fever
ASLMs	Agricultural Sector Lead Ministries
ASSP	Agricultural Sector Support Programme
AT	African Trypanosomosis
AWC	Animal Welfare Council
BSE	Bovine Spongy Form Encephalitis
BSE	Bovine Spongiform Encephalopathy
CAADP	Comprehensive Africa Agriculture Development Programme
CBOs	Community Based Organisations
CBPP	Contagious Bovine Pleuropneumonia
CCPP	Contagious Caprine Pleuropneumonia
COASCO	Cooperative Audit and Supervision Corporation
CVL	Central Veterinary Laboratory
D by D	Decentralisation by Devolution
DALDO	District Agriculture and Livestock Development Officer
DED	District Executive Director
DPCC	District Programme Coordinating Committee
DPLO	District Programme Livestock Officer
DPP	Director of Policy and Planning
DVOs	District Veterinary Officers
ECF	East Coast Fever
FAO	Food and Agriculture Organization of United Nation
FFS	Farmer Field School
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
HPAIH5N1	Highly Pathogenic Avian Influenza
Kg	Kilogram
LDF	Livestock Development Fund
LGAs	Local Government Authorities.
LGAs	Local Government Authorities
LINKS	Livestock Information Network System
LITIs	Livestock Training Institutes
LITS	Livestock Identification and, Traceability System
LITS	Livestock Identification, Traceability System
LRCs	Livestock Research Centers
LSD	Lumpy Skins Disease
LSDP	Livestock Sector Development Programme
LSDS	Livestock Sector Development Strategy
MAFC	Ministry of Agriculture Food Security and Cooperatives
MCDGC	Ministry of Communication Development, Gender and Children
MDGs	Millennium Development Goals
MFIs	Micro-Finance Institutions
MIS	Management Information System
MIT	Ministry of Industries and Trade
MLFD	Ministry of Livestock and Fisheries Development
MNRT	Ministry of Natural Resources and Tourism

MoF	Ministry of Finance
MoW	Ministry of Water
MTR	Mid-Term Review
NACTE	National Council for Technical Education
NARCO	National Ranching Company
ND	Newcastle Disease
NEMC	National Environmental Management Council
NGO	Non-Governmental Organization
NLP	National Livestock Policy
NLPC	National Land Use Planning Commission
NPSC	National Programme Steering Committee
NSGRP	National Strategy for Growth and Reduction of Poverty
OIE	The World Organization for Animal Health
OIE	World Organization for Animal Health
PMO-RALG	Prime Minister's Office – Regional Administration and Local Government
PPR	Pest des Petit Ruminants
PS	Permanent Secretary
QPR	Quarterly Progress Reports
RAS	Regional Administrative Secretary
RDS	Rural Development Strategy
RLSDC	Regional Livestock Sector Development Committee
RMT	Regional Management Team
RVF	Rift Valley Fever
SAAFI	Sumbawanga Agriculture and Animal Food Industry
SACAs	Savings and Credit Associations
SACCOS	Savings and Credit Cooperative Societies
SUA	Sokoine University of Agriculture
TADs	Transboundary Animal Diseases
TBDs	Tick-Borne Diseases
TBS	Tanzania Bureau of Standards
TDB	Tanzania Dairy Board
TDV	Tanzania Development Vision
TFDA	Tanzania Food and Drugs Authority
TLI	Tanzania Leather Industries Ltd
TMB	Tanzania Meat Board
TPRI	Tropical Pesticides Research Institute
TSAP	Tanzania Society of Animal Production
TSZ	Tanzania Short Horn Zebu
TVA	Tanzania Veterinary Association
VCT	Veterinary Council of Tanzania
VLDC	Village Livestock Development Committee
WEO	Ward Executive Officer
WLDC	Ward Livestock Development Committee
WLRC	Ward Livestock Resource Centre
ZARDEF	Agricultural Research and Development Fund
ZARDEF	Zonal Agricultural Research and Development Fund
ZSC	Zonal Steering Committees

EXECUTIVE SUMMARY

1. *Livestock production is one of the major agricultural activities in Tanzania that is contributing towards achieving development goals of the National Growth and Reduction of Poverty (NSGRP). The livestock sector provides livelihood support to a total of 1,745,776 (37%) households out of 4,901,837 agricultural households (URT, Livestock Sample Survey Census, 2005) and is one of the major economic activities in rural areas.*

2. *The livestock industry contribution to the Agricultural Gross Domestic Product is about 13%, and contributed 3.8% of the National Gross Domestic Product in 2010 compared to 4.0% in 2009. The livestock sector grew by 3.4% in 2010, compared to 2.3% in 2009. This is mainly due to low growth rates, high mortality rates, low reproductive rates and poor quality of the final products from the industry. Modest improvement of these production coefficients coupled with adding value through processing could significantly increase output and income from the livestock industry.*

3. *Livestock production originates from a large resource base composed of the different livestock species, breeds and types whose ownership and distribution differ from region to region. The country ranks third, in terms of cattle population in Africa, after Sudan and Ethiopia. The 2010/2011 statistics indicate that, there are about 21.3 million cattle, 15.2 million goats and 6.4 million sheep. Other livestock include 1.9 million pigs, 35 million local chicken and 23 million improved chicken. About 90% of the livestock population is of indigenous types.*

The Livestock Sector Development Programme (LSDP)

4. *In view of the importance of the livestock sector to the Tanzanian economy and to the people's livelihoods, the Ministry of Livestock Development and Fisheries in 2010 formulated a Livestock Sector Development Strategy (LSDS) for operationalising the National Livestock Policy (NLP) of 2006. The LSDS is an operation tool for the NLP that spells out actionable interventions required to meet the livestock sector Vision, Mission and Objectives in short, medium and long term.*

5. *The Livestock Sector Development Programme (LSDP) is designed to implement the National Livestock Policy (NLP) of 2006 and its Livestock Sector Development Strategy (LSDS) of 2009 in the context of KILIMO KWANZA,* Comprehensive Africa Agriculture Development Programme (CAADP), *National Strategy for Growth and Reduction of Poverty (NSGRP), Rural Development Strategy (RDS), Ruling Party Manifesto, Medium Term Plan (5 Year MTP) and Tanzania Development Vision 2025, Long Term Plan (15 Year Plan). Also, the Programme is intended to transform the livestock sector from its current status to a modern one with potential for a progressive livestock sector which is economically, socially and environmentally sustainable. Furthermore, the Programme seeks to enhance coordination of support for livestock development within a coherent and comprehensive national system taking into consideration of Decentralization by Devolution (D by D) approach.*

6. *The LSDP is being formulated while the existing ASDP which operationalises the ASDS of 2003 is coming into an end. The ASDP process document clearly identifies interventions in the livestock sector which include livestock extension, livestock diseases control and eradication; rehabilitation and retooling of both Livestock Training Institutes (LITIs) and Livestock Research Centers (LRCs). Other intervention identified includes land-use planning; surveys for potential investment zones and grazing lands for pastoralists and agro-pastoralists; development of plans for settling pastoralists; establishment of disease free zones; rehabilitation of livestock holding grounds; watering points; stock routes; livestock markets; slaughter slabs/abattoirs; and establishment of milk collection centers. However, all these interventions are not well addressed and covered in the implementation process of the ASDP at all levels (National and local).*

7. *The overall goal of the LSDP is to increase food security, stakeholder's incomes and contribution to the national economy. The purpose of the programme is to improve the livelihoods of the livestock farmers (pastoralists and agro-pastoralists) by enhancing the delivery of livestock inputs and services to livestock farmers; improving marketing infrastructure and marketing systems for livestock and livestock products; strengthening the capacity of livestock farming communities and the private sector; and strengthen national and local government institutions to provide services to the livestock sector.*

8. *The programme has seven (7) specific objectives and thirty two (32) outputs. The specific objectives outputs have been designed to cover broad sector's strategic areas/components and sub-components, respectively. The components are:-*

    (i) Livestock Resources;
    (ii) Livestock Production and Productivity;
    (iii) Livestock Support Services Delivery and Empowerment;
    (iv) Animal Diseases Control and Veterinary Public Health;
    (v) Livestock and Livestock Products Marketing;
    (vi) Legal and Institutional Framework; and
    (vii) Cross Cutting and Cross-sectoral Issues.

Institutional Framework for Implementation of the LSDP

9. *The LSDP will be implemented within the context of several major Government reform programmes, including the Macroeconomic Reform Programmes, the Local Government Reform Programme and the Public Sector Reform Programme as well as ASDP. The main actors in the implementation of the LSDP will include private livestock chain actors directly involved in within-chain exchanges (e.g. producers, processors, traders) and external actors who do not directly handle the livestock and livestock products but provide services, expertise and may exert influence on the performance of the livestock chains (e.g. local government, civil society organizations). The direct chain actors are mainly the private sector while the external actors can fall under the public or private sector.*

10. *The chain actors who are also the private sector include smallholder livestock keepers, and agri-businesses (medium and large-scale producers, traders, transporters, importers, exporters, processors, supermarkets, marketers and hotels). Other livestock farmers' groups and organizations directly involved in livestock chain exchanges include non-governmental organizations (NGOs), community-based organizations (CBOs) and faith based organizations (FBOs) as well as communities.*

11. *The role of the public sector will be as elaborated in the NLP of 2006 (pg 74-76). Government in collaboration with other stakeholders will provide core public services such as extension, information, research, training and livestock infrastructure, formulating policies, regulatory framework and protection of the environment. Public sector roles in the LSDP will be implemented by the Agricultural Sector Lead Ministries (ASLMs) i.e. Ministry of Livestock Development and Fisheries (MLFD), Ministry of Agriculture Food Security and Cooperatives (MAFC), Prime Minister's Office Regional Administration and Local Government (PMO-RALG), President's Office – Planning Commission, Ministry of Water and Irrigation and Ministry of Industries, Trade and Marketing (MITM). Institutions and commodity Boards under MLFD (NARCO, CVL, TVC, TLRI, TDB, TMB etc) as well as those in other related Ministries (e.g. TFDA, TBS, SIDO, TFNC, CAMARTEC, TIRDO) will also have important roles to play.*

Coordination Mechanism

12. *The implementation and coordination of the LSDP interventions will be mainstreamed in existing Government framework for the coordination of the ASDP and NSGRP (MKUKUTA). This includes the coordination of the MLFD with other agricultural sector related ministries, institutions, development partners, agencies and other stakeholders such as livestock farmers, traders, processors and their associations.*

Monitoring and Evaluation

13. *During the lifetime of LSDP (up to 2016), the monitoring and evaluation (M&E) system will be linked to the M&E framework laid out in the ASDP and NSGRP, the National Livestock Policy (NLP) and to M&E systems of each participating sectoral Ministry. The Monitoring and Evaluation (M&E) will be co-ordinated by MLFD and undertaken on a regular and continuous basis and will be based on the current Government system and incorporates the requirements of government which include implementation progress and expenditure on different interventions as main focus given the nature of the programme. At the national level, the Directorate of Planning and Policy of the MLFD will ensure compliance with national poverty monitoring system indicators and therefore contribute to the harmonisation and prioritisation of the poverty monitoring master plan indicators.*

14. *The M&E of the programme will be done quarterly, and will be undertaken jointly by MLFD and all other participating agencies of the programme, while District Co-ordinators will visit the sites at least every month. Programme monitoring and supervision at the district level will be undertaken by the relevant local authorities at programme costs. This M&E will provide, within the existing national M&E system, timely and reliably adequate physical and financial progress information on processes and impacts in suitable form*

Cost and benefits of implementation of LSDP

15. *An indicative budget has been prepared of the likely costs of the interventions that will be required to implement the LSDP. This amounts to around Tshs.* ***1,332,979,000,000*** *over a period of five years.*

16. *The following benefits are expected to be accrued from the implementation of LSDP over a five year period (2011/2011 – 2015/2016):*

    (i) *Overall livestock sector growth will improve from the current 2.3% per annum to 4.5% per annum;*

    (ii) *Overall livestock contribution to the GDP will increase from 4.7% equivalent to 789 million US $ (947 billion T.shs) in 2008 to 7% worth 1.27 billion US $ (1,440.30 billion T.shs);*

    (iii) *Calf mortality in the traditional sector will decrease from the current 30-45% due to TBD to less than 10%;*

    (iv) *Mortality among local chicken will be reduced from current level of more than 60% to less than 30% ;*

    (v) *The traditional cattle herd will increase by 3.5% per annum to 21.5 million, 10% of which will be improved beef breeds or Tanzania Shorthorn Zebu finished in commercialised feedlots;*

    (vi) *Cattle off take from the traditional smallholder sector will improve from 8-10% to 12-15% leading to meat production increasing from 422,230MT to 809,000MT;*

    (vii) *Commercial ranching in NARCO and privatised satellite ranches will increase from the present 83,160 cattle to 127,000 cattle with an off-take rate of 22-23% supplying about 10,000 steers equivalent to 1500 MT of beef per annum;*

    (viii) *Number of improved dairy cattle will increase from 605,000 cattle kept by about 150,000 farm households through annual insemination of about 100,000 doses to about 985,000 cattle kept by about 300,000 farmers;*

    (ix) *Milk production growth will increase from current 5-6% per annum to 7% per annum reaching 2.25 billion litres;*

    (x) *Egg production will increase by 10% per annum from 2.81 billion eggs to 4.7 billion eggs; and*

    (xi) *Production of hides and skins will increase by 12% per annum from 5 million pieces worth 21 billion T.shs in 2008 to 9.8 million pieces worth about 40 billion T.shs.*

1.0 INTRODUCTION

1.1 Background

Tanzania is endowed with abundant natural resources, which include land, water, forage and a large livestock resource base. Out of the total 94 million hectares (ha) of land resource 24 million ha are used for grazing.

The country ranks third, in terms of cattle population in Africa, after Sudan and Ethiopia. The 2010/2011 statistics indicate that, there are about 21.3 million cattle, 15.2 million goats and 6.4 million sheep. Other livestock include 1.9 million pigs, 35 million local chicken and 23 million improved chicken. About 90% of the livestock population is of indigenous types.

The livestock sector provides livelihood support to a total of 1,745,776 (37%) households out of 4,901,837 agricultural households (URT, Livestock Sample Survey Census, 2005) and is one of the major economic activities in rural areas. Generally, the livestock sector is of critical importance to the country's economy and well-being of particularly the rural population. Livestock plays multiple roles in the livelihood strategies of rural communities. In many livestock farming communities, it is intricately linked to social status through accumulation of wealth and savings. It, also, provides a variety of benefits to rural communities such as risk mitigation, food security and improved nutrition.

The livestock industry contribution to the Agricultural Gross Domestic Product is quite low. For example in 2010 the industry contributed 16% and 3.8% to the Agricultural Gross Domestic Product and National Gross Domestic Products respectively, compared to the envisaged target of 9% by 2010. This is mainly due to low livestock growth rates, high mortality rates, low reproductive rates and poor quality of the final products from the industry. Modest improvement of these production coefficients coupled with adding value through processing could significantly increase output and income from the livestock industry.

The Livestock Sector Development Programme (LSDP) is designed to implement the National Livestock Policy (NLP) of 2006 and it's Strategy in the context of KILIMO KWANZA, NSGRP, Rural Development Strategy (RDS), Ruling Party Manifesto and Tanzania Development Vision 2025. Also, the Programme is intended to transform the livestock sector from its current status to a modern one with potential for a progressive livestock sector which is economically, socially and environmentally sustainable. Furthermore, the Programme seeks to enhance coordination of support for livestock development within a coherent and comprehensive national system taking into consideration of Decentralization by Devolution (D by D) approach.

The LSDP will utilize both Obstacle and Opportunities for Development (O&OD) and Sector Wide Approaches in the identification of projects while focusing on small, medium and large scale livestock farmers and other livestock entrepreneurs.

The LSDP has six Key Strategic Areas as outlined in the Livestock Sector Development Strategy (LSDS) of 2009, namely:-

(i) Sustainable use of land, water, pastures and rangelands;

(ii) Public/Private sector investments and financing for improvement of livestock value chain productivity and efficiency (production, marketing and processing);

(iii) Control of livestock diseases and safeguard public health;

(iv) Livestock Development Support Services (Research, training, information, extension services, capacity building, farmer empowerment and related infrastructure);

(v) Governance, regulatory and institutional arrangements; and

(vi) Cross cutting and Cross-Sectoral Issues.

1.2 The Design Process

The LSDP has been designed and prepared as an integral part of the country's participatory processes and fits within the framework of the National Strategy for Growth and Reduction of Poverty (NSGRP II) or MKUKUTA II, Rural Development Strategy (RDS) of 2003 and ASDP, 2003, *Medium Term Plan (5 Year MTP)* so as to realise the objectives of Tanzania Development Vision (TDV) of 2025; Long Term Plan (15 years-LTP) Millennium Development Goals (MDG) and NLP, 2006. Furthermore, LSDP has been formulated to implement the Livestock Sector Development Strategy (LSDS) of 2010.

The MLFD in collaboration with key stakeholders conducted extensive consultations in the country to formulate the programme. These included Agriculture Sector Lead Ministries, Local Government Authorities, Sokoine University of Agriculture, livestock farmers associations, professional associations like Tanzania Veterinary Association, (TVA) and Tanzania Society of Animal Production (TSAP), NGOs and CBOs. Furthermore, the design for the LSDP has incorporated specific activities in relation to the livestock sector. The LSDP will take into consideration multi-sectoral interventions which impact on the livestock development and it will also systematically be implemented within the context and enhancement of ASDP.

2.0 THE PROGRAMME

2.1 Scope of the Programme

The LSDP is designed to take on board interventions along the Livestock sector value chain that will be implemented at national and local levels as well as by the public and the private sector. The interventions will involve investment in grazing land and water for livestock; livestock diseases control and safeguard public health; policy and regulatory framework; livestock support services; empowerment; livestock infrastructures; marketing and private sector development; livestock production and livestock products processing. The LSDP will continue to foster investment in a sustainable manner as well as in equitable and secure access to land for rural poverty reduction. Furthermore, it will amplify best practices and lessons learned from ASDP and related projects in the country on livestock sector development that were not adequately addressed, such as grazing land development; Trans boundary animal diseases control; livestock identification & traceability; animal feeds resource development and animal welfare.

The Programme will mainstream country's interventions/strategies in NSGRP II, KILIMO KWANZA concept; the National Livestock Policy (NLP) of 2006 ASDS; ASDP and Comprehensive Africa Agriculture Development Programme (CAADP), Medium Term Plan and Long Term Plan. These programmes articulate issues on poverty reduction, institutional strengthening, commercialisation, and public-private partnerships in support service delivery. Programme implementation will comply with the requirements of Decentralisation by Devolution (D by D).

2.2 Structure of the Programme

The structure of the programme is divided into a main text and an annex, the main text provides detailed information on LSDP components and sub-components, it also states objectives and appropriate interventions to address challenges in each sub-components. Annex contains a summary of activities and their estimated costs which will be implemented for a period of five years.

2.3 Programme Goal, Purpose and Alignment to NSGRP II

2.3.1 Goal

The overall goal of the LSDP is to, increase food security, stakeholders incomes and contribution to the national economy.

2.3.2 Purpose

The purpose of LSDP is to improve the livelihoods of the livestock farmers (pastoralists and agro-pastoralists) by enhancing the delivery of livestock inputs and services to livestock farmers; improving marketing infrastructure and marketing systems for livestock and livestock products; strengthening the capacity of livestock farming communities and the private sector; and strengthening national and local government institutions to provide services to the livestock sector.

2.3.3 Alignment to the NSGRP II

The LSDP is consistent with the NSGRP II, ASDS and LSDS. The LSDP goal is to contribute to the NSGRP II, which aims to raise agricultural growth from 3.2% in 2009 to 6% per annum by 2015, and to raise livestock sub-sector growth from 2.3% to 4.5% over the same period. According to NSGRP II, the NSGRP II targets and strategic interventions for raising growth of livestock are indicated in the Table below.

Table 1: Programme Contribution to NSGRP II Targets

NSGRP II Targets
• GDP growth accelerated from 6.0 percent in 2009 to 8percent-10 percent per annum by 2015 especially in areas where the poor have strong links.
• Income poverty incidence reduced (national: from 33.6 percent in 2007 to 24 percent (MDG 19.3percent) in 2015; rural areas: from 37.6 percent in 2007 to 26.4 percent (MDG 20.4percent) in 2015 and under employment especially in rural areas effectively addressed.
• Unemployment reduced from 10 percent in 2008 to 5 percent by 2015.
• Agricultural growth increased from 3.2 percent in 2009 to 6.0 percent by 2015.
• Growth of livestock sub-sector increased from 2.3 percent in 2009 to 4.5 percent by 2015.
NSGRP II Cluster Strategies
(i) Strengthening physical infrastructure to support growth of employment generating and profitable agriculture; (ii) Improving knowledge, skills and information especially in business services – insurance and agriculture-oriented learning e.g. at farm and school levels; (iii) Undertaking further land reforms to support access and expansion of land for livestock development; (iv) Introducing and strengthening investments in livestock, including farm level agro-processing, physical market infrastructure (market places), and large scale livestock storage facilities; (v) Strengthening agro-processing and service sector and marketing baseline information to support livestock; (vi) Promoting and adopting the use of science and technology in livestock, including R&D for quality and nutritious food, livestock products as well as ICT to provide information on prices, markets, and advisory services;

(vii)	Developing and equitably deploying and retaining human resources especially livestock extension services;
(viii)	Strengthening financing for agriculture, including links to capital markets and specialized/long term banking,
(ix)	Mitigating and adapting to climate change by supporting research programs to improve and develop new technologies, quality seeds, pest control, and agronomic practices e.g. livestock management practices, information collection and dissemination for early warning;
(x)	Promoting measures to cushion livestock farmers from famine/droughts impacts, including piloting and scaling up livestock insurance;
(xi)	Implementing the National Strategy on Agriculture and HIV & AIDS to support increased agricultural production;
(xii)	Ensuring fair and competitive farm gate prices and linking farmers, to markets – especially domestic, regional and global markets of processed commodities;
(xiii)	Increasing proportion of exported processed agricultural commodities;
(xiv)	Promoting longer shelf life of livestock products;
(xv)	Strengthening livestock keepers associations and cooperatives; and
(xvi)	Establishing livestock diseases free zones to promote export of livestock and livestock products.

3.0 PROGRAMME RATIONALE

Tanzania is endowed with abundant natural resources, which include land, water, forage and a large livestock resource base. Out of the total 94 million hectares of land resource, 60 million hectares are rangelands utilised for grazing 21.3 million cattle; 15.2 million goats and 6.4 million sheep. Other livestock kept in the country include 1.9 million pigs, 35.1 million indigenous and 23 million exotic (MLFD, Statistical Year Book, 2009). The country has the third largest cattle population in Africa after Ethiopia and Sudan. About 90% of the livestock population is of indigenous types, which are known for their low genetic potential in milk and meat production.

The Government has developed a number of enabling policies and environment, as an effort to utilise the opportunities that exist in the livestock sector. Enabling policies are both national and international commitments, like Medium Term Plan (5 Year MTP), TDV 2025, Long Term Plan (15 Year LTP), NSGRP II, MDGs, ASDS, ASDP, RDS, NLP, the Livestock Sector Development Strategy, and the Policy Paper on Local Government Reform, and the Ruling Party Election Manifesto.

The concept of a LSDP to target poor livestock farmers arose from the CCM Manifesto 2010 - 2015, TDV 2025, MKUKUTA, KILIMO KWANZA, RDS, and ASDS as reflected in the Agricultural Sector Development Programme, the MKUKUTA II and Comprehensive Africa Agriculture Development Programme (CAADP) compact process. All these documents emphasise poverty reduction, institutional strengthening, rural

commercialisation, and public-private partnerships in support service delivery within the context of a decentralised system of local government as addressed in LSDS.

The LSDP is being formulated while the existing ASDP which operationalises the ASDS of 2003 is coming into an end. The ASDP process document clearly identifies interventions in the livestock sector which include livestock extension, livestock diseases control and eradication; rehabilitation and retooling of both Livestock Training Institutes (LITIs) and Livestock Research Centers (LRCs). Other intervention identified includes land-use planning; surveys for potential investment zones and grazing lands for pastoralists and agro-pastoralists; development of plans for settling pastoralists; establishment of disease free zones; rehabilitation of livestock holding grounds; watering points; stock routes; livestock markets; slaughter slabs/abattoirs; and establishment of milk collection centers. However, all these interventions are not well addressed and covered in the implementation process of the ASDP at all levels (National and local).

In view of the importance of the livestock sector to the Tanzanian economy and to the people's livelihoods, the MLFD still consider and believe that livestock and development can be a useful instrument of poverty reduction and that service delivery needs to be strengthened after several decades of not receiving proper attention as required. Having an independent programme will enable MLFD to meet MDGs and MKUKUTA targets for livestock sector (Livelihood of Livestock Farmers). Furthermore, the LSDP will complement and deepen further the livestock aspects of LSDP through direct targeting of livestock sector interventions in districts where livestock farming plays a significant role in the livelihoods of the local population and has therefore great potential for poverty reducing impacts.

All these and other factors have led to the formulation of LSDP which will translate LSDS into interventions and priority areas that will bring the required transformation of the livestock sector in order to achieving the policy objectives, mission and vision of the sectors. Generally, LSDP is a critical factor for the rural poor, especially livestock farmers who depend on agriculture and animal-related activities for their livelihood.

4.0 PROGRAMME COMPONENTS AND INTERVENTIONS

The programme has seven (7) specific objectives and thirty two (32) outputs. The specific objectives and outputs have been designed to cover broad sector's strategic areas/components and sub-components, respectively.

COMPONENT	SUB-COMPONENT
To develop livestock Resource Component	Grazingland Development
	Pastures Development
	Animal Feeds and Feed Additives
	Water for Livestock
Livestock Production and Productivity Component	Meat Production
	Milk Production
Livestock Support Services Delivery and Empowerment Component	Livestock research
	Livestock training
	Livestock extension
Animal Diseases Control and Veterinary Public Health Component	Trans-boundary Animal Diseases.
	Parasitic, Vector and Vector Borne Diseases.
	Veterinary public health
Livestock and Livestock Products Marketing Component	Livestock Marketing Infrastructure.
	Livestock marketing information
	Identification, Traceability Eco-labeling and animal welfare
	Processing and Value Addition
Legal and Institutional Framework Component	Regulatory Framework of the Livestock Sector
	Institutional Framework
Cross Cutting and Cross-Sectoral Issues	Gender Mainstreaming in the Livestock Industry
	HIV/AIDS, Malaria and Tuberculosis
	Environmental conservation
	Finance and Credit

The structure of the programme components and its sub components are as follows:

4.1 Livestock Resources Component

The main livestock resources in livestock production in Tanzania are grazing land, water and pasture. To date there are no proper arrangements to allocate land and give ownership of grazing areas to livestock farmers according to traditional or legal procedures. This has been the reason for uncontrolled movements of livestock from one place to another in search of pasture and water thus causing conflict with other land users. The first specific objective of the LSDP is to develop livestock resources. An assessment of the status of various livestock resources is presented below followed by an outline of the expected outputs and interventions aimed at improving the resources.

4.1.1 Grazingland Development

Over the past three decades the rangeland in Tanzania has been decreasing in size. This is due to; increase in human and livestock population, for example, the number of traditional cattle has increased from 3 million in 1961 to 19.2 million in 2010, in the same period, human population has also increased from 9 million to about 40 million hence the demand for more land for settlements and cropping increased, conversion of traditional grazing lands into big state farm, mining (Mwanza, Shinyanga and Mara), infrastructure development (Kilimanjaro international airport and others), expansion of cities and towns and conservation has reduced grazingland. Also, some of the grazing-lands have been annexed into national parks and game/forest reserves.

In recognition of this the Government has made efforts to alleviate the problem of grazingland availability to livestock farmers by enacting laws and regulations such as the Land Act No. 4 and the Village Land Act No. 5 of 1999, the Land Use Plan Act No. 7 of 2007 and the Grazingland and Animal Feed Resources Act No. 13 of 2010.

To date the Government has demarcated about 1.4 million hectares of land for grazing livestock in 266 villages of 15 regions in mainland. However, the demarcated grazing land is still underdeveloped due to, lack concrete grazing land development and management plans required for sustainable resource ownership and use. Grazing land management plans are important as they offer opportunities for investment in infrastructure improvement in production and productivity in the livestock sector.

Challenges facing utilisation of rangelands for sustainable livestock production includes; development of National Land Use Plan which will entail demarcating land for grazing areas, titling and ownership of grazing land by livestock farmers; preparation of grazing land management plans and improvement of pasture and water facilities for livestock; awareness creation to farmers on sustainable use of grazing-lands; promotion of investment in rangeland forage production, pasture seed production conservation, marketing and utilization; promoting rangeland infrastructure and livestock early warning system for disaster preparedness.

The LSDP will implement activities aimed at improving access to grazing lands and infrastructure in the livestock sector. Below is an outline of the interventions and expected outputs from the interventions.

Expected outputs

Grazinglands developed through improved rangeland management and utilization in livestock production.

Interventions

- Develop and implement grazingland management plans

- Strengthen early warning system and provide timely information and mitigation strategies
- Support environmental Conservation in Pastoralist communities

4.1.2 Pastures Development

Pasture is another form of resource for livestock production. Pastures are the main basal feeds for ruminant livestock. The quality of natural pastures varies with season and stage of growth. Their nutritive value declines sharply in dry season hence affecting livestock productivity. On the other hand improved pastures do not lose their nutritive value with season therefore can be used even when they are dry. There are eight public pasture seed farms in the country. Seeds from the farms are expected to be used to improve natural pastures in the rangelands. This can be done by over sowing, reseeding or seeding them with improved pasture species (legumes and grasses). The current seed production is about 45 tons while demand is about 300 tons per annum. There is a need to promote investment in pasture seed production to satisfy the increased demand.

Challenges facing pasture development in the country include; increase supply of quality pasture seeds; knowledge on pasture conservation, promote investment in pasture and pasture seeds production. The LSDP will implement activities aimed at improving access to increase production of pastures.

Expected outputs

Production of pasture, pasture seeds and forage conservation improved for sustainable livestock sector.

Interventions

- Promote production and utilization of improved pastures seeds and fodder trees.
- Enrichment of in-situ pastures.

4.1.3 Animal Feeds and Feed Additives

Compounded feedstuffs composed of protein, energy, mineral and vitamin concentrates are important especially for poultry, dairy and pig production. These feedstuffs account for about 60% of production costs of farm animals. Optimum productivity of animals largely depends upon the adequacy of all essential nutrients in rations. Compounded feedstuffs production is estimated at 800,000 tons per annum while the potential demand stands at 2.5 million tons.

Challenges which face animal feed industry include; improving quality of feedstuffs, reliable supply of raw materials; improving knowledge on feed formulation, regulating animal feed industry; increasing investment in animal feed production; and formulating

and strengthening animal feeds manufacturer associations. The LSDP will implement activities aimed at easing these challenges.

Expected output

Animal feeds and feed additives improved in order to increased production and productivity of livestock.

Interventions

- Promote animal feeds and feed additives production, processing and marketing.
- Promote animal feeds and feed additives quality control and laboratory services.
- Promote utilization of agro and industrial by products as animal feed resources.

4.1.4 Water for Livestock

Availability of water resource is important for livestock development, its shortage compels livestock farmers to migrate in search of water and therefore cause conflicts with other land users. The seasonal and geographical variation in the availability of water for livestock determines to a large extent the level of production that can be achieved. The government has started initiatives to improve water availability so as to reduce migration of livestock is search of water. From the fiscal year 2001/2002 up to 2009/2010 the government has constructed 1,060 charcos and 40 boreholes in various LGAs.

Challenges encompassing water for livestock include building capacity in water harvesting technologies; promoting investment in construction of water infrastructures and formulation of water users' associations**.** During the implementation of LSDP interventions will be made to resolve these challenges. Below is an outline of the interventions and expected outputs from the interventions.

Expected output

Increased water availability by developing and maintaining reliable water sources for livestock

Intervention

- Promote availability of sustainable water sources for livestock.

4.2 Livestock Production and Productivity Component

Tanzania has a large livestock resource comprising different species majority of which are indigenous type kept in the traditional systems that are not commercially oriented. Reported average production coefficients are generally low, for example the indigenous cattle include calving rate 40 – 50%, calving interval 18 – 24 months, pre weaning

mortality 25 – 40%, adult mortality 8 – 10%, mature weight 200 – 350Kg, offtake rate 8 – 10% per annum and carcass weight 100 – 175 Kg. Coefficients for small ruminants (sheep and goats) include offtake rates 25 and 15% per annum, lamb/kid mortality 20 – 40%, adult mortality of 8 – 15% and average carcass weight of 12 – 15 Kg respectively. Constraints to production and productivity include, among others, low genetic potential of the majority of the existing stock, limited supply of the improved stock, production systems which are not commercially oriented, low processing capacities and unorganized marketing system.

The production and productivity of livestock in the country can be improved *inter alia* through improvement of the genetic potential of the existing stock, increasing supply of improved stock, commercialization of the livestock industry, increasing the processing capacities of livestock products and improvement of marketing efficiency for livestock and livestock products. The second specific objective is to promote livestock production and productivity. Strategic interventions for the improvement of livestock follow a commodity value chain approach. An assessment of the status of livestock production and productivity for various products is presented below followed by an outline of the expected outputs and interventions aimed at improving the resources.

4.2.1 Meat Production

Common sources of meat in this country include beef cattle, sheep and goats, poultry, pigs, game and non-conventional animals. Cattle produce most of the meat contributing 53% of total meat production whereas sheep and goats contribute about 22% and reminder is from pigs, poultry and non –conventional animals. Meat produced in the country is mainly for the domestic market although part of the annual off-take of cattle, sheep and goats are exported mainly to neighbouring and the Middle East countries. Beef production in Tanzania mainly comes from the traditional sector that is dominated by the Tanzania Short Horn Zebu (TSZ) in which the agro pastoral system contributes 80% and pastoral system 14%. The remaining 6% comes from the commercial ranches. Sheep and goats on the other hand are widely distributed and adapted to many agro-ecological zones. Their ability to multiply and grow faster than cattle at relatively low cost makes shoats more attractive to small scale farmers.

Indigenous chicken provide almost all the poultry meat in the rural areas. About 20% of poultry meat consumed in urban centres comes from improved poultry raised commercially. Pig production for meat is currently becoming popular in many parts of the country whereby majority of the pigs are kept in the traditional sector under a free-range system and only few which are more productive are kept under improved system of management. In 2009 annual meat production was 449,673 tones and per capita consumption of meat was 12 kg, which is very low, compared to FAO recommendation of 50 kg. From the data, it shows that, the current per capita consumption of meat stands at only 24% when compared to recommended level by FAO.

Challenges facing production and productivity of meat animals include availability of fast growing meat animals for production of quality meat, increasing livestock production infrastructure (breeding infrastructures- Artificial Insemination), bull centres, quality stock multiplication farms, etc), consistent supply of quality feed resources, control of livestock diseases, improving livestock marketing efficiency, provision of technical support services and strengthening of livestock farmer organizations. During the implementation of LSDP interventions will be made to resolve these challenges. Below is an outline of the interventions and expected outputs from the interventions.

Expected output

Meat production increased though commercial production of quality meat and improve productivity of meat animals in order to meet standards for the domestic and external markets, raise income of the livestock farmers and improve their livelihood.

Intervention

- Increase availability of fast growing and consistent supply of quality meat animals for production.

4.2.2 Milk Production

Out of the 19.2 million cattle in Tanzania, about 600,000 are dairy cattle mainly cross of Friesian, Jersey and Ayrshire breeds with the Boran, Tanzania Shorthorn Zebu (TSZ). Currently, annual milk production is estimated at 1.64 billion litres whereby about 60% is produced by indigenous cattle kept in rural areas and 40% by improved cattle mainly kept by smallholder producers. Milk yield from the indigenous and improved dairy cows ranges from 1 – 2 litres and 7- 10 litres per cow per day respectively. At present, about 10% of the milk produced annually enter the market and the remaining is consumed at home or considered to be a waste commercially mainly due to lack of collection systems.

Challenges facing milk production and productivity of dairy animals include increase availability of quality dairy animals, consistent supply of quality feed resources, control of livestock diseases, and provision of technical support services, establishment and strengthening of dairy farmer organizations. Others are improving accessibility to credit facilities, increasing processing capacity and increasing domestic demand through milk consumption promotion. LSDP intends to implement interventions aimed at mitigating these challenges constraining milk production. Below is an outline of the interventions and expected outputs from the interventions.

Expected outputs

Milk production increased in order to meet demand in the domestic and external markets, raise income of the livestock farmers and contribute towards the improvement of their livelihood.

Interventions

- Promote production and availability of quality dairy animals through the use of AI and embryo transfer.
- Strengthen the capacity of traditional livestock milk producers through improved technical support.

4.2.3 Eggs Production

Eggs are predominantly from indigenous and commercial layer chickens. Indigenous chickens contributes almost 100% and 20% of eggs consumed in rural and urban areas respectively. Whereas' commercial layers contribute more than 80% of all eggs consumed in urban and peri-urban areas. About 64% of commercial layers are kept in about 8% smallholder households in the country, keeping less than 50 chickens. The remaining proportion (36%) of layers is kept by medium and large farms keeping an average of above 500 chickens. Commercial layer production is concentrated in Dar-es-salaam (28%), Kilimanjaro (15%), Pwani (11%) and Dodoma (11%). In Iringa, Morogoro and Mbeya commercial layer production is moderate, while the remaining regions have insignificant layer production. The pattern of layer growth rate in mainland Tanzania has been 12% per year. The currently per- capita consumption of eggs is 11 eggs per year, which is very low, compared to FAO recommendation of 200 eggs.

Challenges which face production of eggs in the country include; improving the genetic potential of indigenous chickens; improving husbandry practices of layers; building capacity of poultry farmers; organising egg strain poultry producers in the country; boosting investment in breeder and commercial layer farms and improve quantity and quality of feed for layers. Below is an outline of the interventions to resolve the challenges and expected outputs from the interventions.

Expected output

Egg production increased to meet domestic and export markets demand and raise income of the poultry farmers.

Intervention

- Promote production and improve marketing of quality eggs through facilitating establishment of hatcheries; facilitating use of improved breeds; formation of associations; and improved services.

4.2.4 Hides and Skins Development

Hides and skins are important by-products of livestock which are inputs to the industrial sector and contribute significantly to foreign exchange earnings in Tanzania. Most of the hides and skins are produced from indigenous stock. The potential annual output of raw hides and skins in year 2010 is about 2.8 million and 3.8 million respectively of which about 60-75% are collected. About 80% of the hides and skins collected is exported in raw forms mainly as air-dried and wet salted.

It is estimated that almost half of the hides and skins, entering the commercial processing chain is downgraded, mainly due to poor animal husbandry practices, poor handling of the hides and skins at the slaughter facilities/abattoirs, poor storage and preservation methods and inadequate enforcement of the existing laws related to hides and skins. This problem of quality caused by defects extends to each of the subsequent stages of processing of the leather, thus ultimately determining the price paid to the primary producer and of the semi processed or an end product. This calls for intervention options or 'damage control' as early as possible in the value chain.

There have been improvements in collection and quality in recent years as a result of implementation of a policy that discourages the export of raw hides and skins and the establishment and operationalization of a Livestock Development Fund (LDF) which enabled implementation of the Integrated Hides, Skins and Leather Development Strategy in different Local Government Authorities.

Challenges facing the hides and skins industry include improvement of collection and quality of hides and skins, establishment and rehabilitation of hides and skins curing and storage infrastructures, attracting investments in tanning, footwear and leather goods manufacturing, increasing capacity utilization of existing tanneries, increasing technical capacity to drive the industry and strong stakeholder organizations. LSDP's interventions in this area will focus solving the challenges hampering the development of hides and skin sub-sector.

Expected output

Hides and skins sub-sector developed by improving quality, collection and processing of hides and skins for both domestic and export markets.

Intervention

- Promote production and collection of quality hides and skins though improved value addition and increase in capacity utilization of tanneries; training and facilitation of stakeholders' participation in promotion of the sub-sector.

4.2.5 Animal Draught Power

Animal traction is an appropriate, affordable and sustainable technology that can contribute towards agricultural production. In the country, animals which are used for draught power include oxen, donkeys, camels, horses and water buffalos. There are about 1.0 million draught animals in the country. Utilization of animal power reduces the workload on ploughing, planting and weeding by 75%, likewise it lessens the workload in pastoral areas by fetching water and carrying other luggage.

The challenges facing animal draught power include inadequate farmers' knowledge and skills on animal draught power use and husbandry practices and increase supply of appropriate farm implements. These challenges need to be addressed by LSDP interventions. Below, the expected outputs and planned interventions are presented.

Expected output

Use of animal draught power increased in order to increase agricultural production and productivity.

Intervention

- Promote production and use of draught animals

4.2.6 Other Livestock By-products

Other livestock by-products that include horns, blood, bones, bristles, hair, wool, fur, hooves and dung form important components of slaughter animals. By-products yield, generally vary from 40-45% of the animal depending on the species. By-products have diverse uses such as human food, medicinal, pharmaceuticals, animal feeds and energy. The economic value of the other by-products is high hence its revenue is enormous if efficiently utilized.

Challenges facing the production, storage, processing and utilization of other by-products include identification and utilization of appropriate technologies, awareness among producers and consumers on the use value of the other livestock by-products. Others include promotion of commercialization and regulatory frameworks of these by-products. In view of this, LSDP will implement activities meant to develop this subsector. The following are the expected output and interventions planned in this area:

Expected output

Other Livestock by–products sub-sector developed for provision of industrial inputs and income generation to other livestock by-product producers and traders.

Interventions

- Promote production, storage, processing and utilization of other livestock by-products through investments in processing plants for value addition of livestock by-products.
- Promote production and utilization of manure and bio-gas sensitisation of livestock farmers on the use of manure and biogas; training of local NGOs in manure and biogas masonry.

4.3 Livestock Support Services Delivery and Empowerment Component

Livestock support services in this programme include Research, Training and extension. These services are provided by various institutions including the Government, parastatals, NGOs, CBOs and private sector. The third specific objectives are to improve livestock support services delivery and empowerment. An assessment of the status of livestock support services delivery and empowerment is summarized below followed by an outline of the expected outputs and interventions aimed at improving the resources.

4.3.1 Livestock Research

Livestock research in the country aims at developing technologies that address the problems affecting the livestock industry to increase livestock production and productivity in order to increase livestock sector's contribution to the national economy and livelihood enhancement. There have been some achievements in livestock research such as development of dual purpose, Mpwapwa breed, Malya goats, Ex-Mpwapwa Rhodes grass and establishment of livestock research centres in all agro-ecological seven zones.

Currently livestock research in the country is conducted by different stakeholders include Ministries, public institutions, NGOs and higher learning institutions. Funding for livestock research has been from the government (i.e. 0.024% of GDP in 2005 and 0.089% of GDP in 2009) and other donors. To enable research centres plan and implement research programmes relevant to the respective zones, the Client Oriented Research Management approach is employed with research funding being done by the zonal offices under the Zonal Steering Committees (ZSC) through the Zonal Agricultural Research and Development Fund (ZARDEF). Such committees are made up of Regional and District officials, Researchers, Extension Officers and Farmers.

Given the large number of livestock (more than 21.3 million cattle), large size of grazing land, potential domestic and export markets and trained manpower, which if supported by serious investment in research, can provide great opportunities for the livestock industry to contribute more to the national economy. This requires undertaking appropriate measures including proper management, exploitation and improvement of the current stock through research. Strategic research interventions for the

improvement of livestock follow a commodity value chain approach. For each of the livestock commodities an assessment of the current status presented including the LSDP interventions and expected output are as follows:

(a) Dairy Cattle Research

Dairy cattle research dates back 1920s when exotic dairy cattle breeds were first introduced in Tanzania. Improvement and evaluation of dairy cattle breeds, studies on feeding and nutrition of dairy cattle, pasture and forages development and evaluation, milk data recoding schemes were undertaken. Some of the achievements include development of dual purpose breeds such as Mpwapwa cattle and blended/Malya goats. Upgrading of indigenous cattle (TSZ) by using improved cattle breeds such as *Mpwapwa, Sahiwal, Red sindhi*, *Ayshire,* and *Boran* bulls has been undertaken in most of districts in the country with an effort to increase genetic potential for milk production.

The challenges facing the dairy research in Tanzania include need for improvement and multiplication of appropriate dairy breeds; formulation of cost effective dairy based technological packages; establishment, retooling and rehabilitation of research infrastructures at research institutes; strengthen human capacity for research and improvement of collaboration with relevant international, regional, national institutions. LSDP contains strategic interventions to resolve these challenges and the expected output. These are outlined below.

Expected output

Dairy cattle research improved to generate improved dairy technologies for improving dairy industry productivity so as to contribute to poverty reduction and improved food security in livestock keeping communities and the country at large.

Interventions

- Develop technologies for improving dairy production and productivity through breeding and selection of indigenous livestock.
- Promote conservation of potential indigenous breeds through identification of potential livestock genetic resources/germplasm and establishment of gene bank centres.

(b) Beef Cattle Research

In Tanzania research in beef cattle started in late 1950's with most research activities being concentrated on-station and in commercial ranches owned by the government. Some of the achievements include; Creation of the Mpwapwa Breed; Development of Taur-indicus beef breeds for the coastal region of Tanga; Half breds and ¾ Exotic of

Beef Breeds crossed with Boran or Jiddu; production of beef strains of cattle by crossing TSZ and Boran with twelve exotic beef breeds; development of pastures – Rhodes grass ex-Mpwapwa, *Cenchrus ciliaris* as feed resources for grazing cattle.

In recent years there has been increased interest and efforts in the phenotypic characterization of indigenous cattle such as Ufipa, Iringa Red, Ankole, Singida White, Tarime, Massai Black and Mbulu cattle. Sustainability of beef cattle research has been a major bottle neck in the development of appropriate technologies for improved beef industry in the country.

The challenges of beef cattle research include improving beef research infrastructures, skilled human resource; private sector participation and coordination among research collaborators with other stakeholders. LSDP will focus on strategies meant to resolve these challenges. The following are the planned interventions and expected output.

Expected output

Beef cattle research improved to generate improved beef production technologies for improving beef industry productivity so as to contribute to poverty reduction and improved food security in livestock farming communities and the country at large.

Interventions

- Develop technologies for improving beef production and productivity through breeding and selection of indigenous livestock.
- Promote conservation of potential indigenous breeds through identification of potential livestock genetic resources/germplasm and establishment of gene bank centres.

(c) Sheep and Goat Research

Small ruminant research is concentrated on breed improvement, feeding and nutrition as well as on health management. These efforts have led to the development of a dual purpose goat breed popularly know as *Blended* or *Malya* goats. Research efforts on feeding and nutrition have yielded substantial results on feeding strategies for achieving reasonable growth for mutton and goat meat production.

The challenges of sheep and goat research include improving research infrastructures, skilled human resource; private sector participation and coordination among research collaborators with other stakeholders. LSDP contains strategic interventions to resolve these challenges and the expected output. These are outlined below.

Expected output

Sheep and goat research improved to generate improved sheep and goat production technologies for improving sheep and goat industry productivity so as to contribute to poverty reduction and improved food security in livestock keeping communities and the country at large.

Interventions

- Develop technologies for improving sheep and goat production and productivity through breeding and selection of indigenous livestock.
- Promote conservation of potential indigenous breeds through identification of potential livestock genetic resources/germplasm and establishment of gene bank centres.

(d) Pig and Poultry Research

Most of researches on pig and poultry have been based on on-station evaluation of locally available conventional feedstuffs and crossbreeding with exotic germplasm to improve the genetic potential of indigenous chickens and pig.

The challenges of pig and poultry research include improving research infrastructures, skilled human resource; private sector participation and coordination among research collaborators with other stakeholders. LSDP contains strategic interventions to resolve these challenges and the expected output. These are outlined below.

Expected output

Pig and poultry research improved to generate improved pig and poultry technologies for improving pig and poultry industry productivity so as to contribute to poverty reduction and improved food security in livestock keeping communities and the country at large.

Interventions

- Develop technologies for improving pig and poultry production and productivity through breeding and selection of indigenous livestock.
- Promote conservation of potential indigenous breeds through identification of potential livestock genetic resources/germplasm and establishment of gene bank centres.

(e) Livestock Feed Resources Research

There has been continuous effort by research scientists to improve quality and availability of livestock feeds in the country. Feed development, management and utilization research in the past has focused on evaluation of different pasture species in terms of quality and quantity, introduction of new pasture species and their adaptability

in the different agro-ecological zones, forage conservation techniques and the use of browses and crop residues.

The challenges facing the pasture and forage research include availability of research facilities and skilled human resources and adequate funding. LSDP contains strategic interventions to resolve these challenges and the expected output. These are outlined below.

Expected output

Livestock deed resources research improved so as to improve the quality and quantity of livestock feed resource base for increasing production and productivity

Intervention

- Promote and support research on pastures and forage production and utilization including identification and evaluation of potential pastures and forage genetic materials.

(f) Animal Diseases Research

Animal diseases research aims at establishing an effective disease control strategies. Animal diseases research although necessary for meaningful livestock development is an expensive undertaking especially for a developing country like Tanzania. For this reason, options are carefully chosen and emphasised upon applied research aimed at solving the immediate and prevailing problems of the livestock keepers.

In 1971 with the assistance from the Federal Republic of Germany through GTZ a Vaccine Production Unit was established with the aim of researching on various vaccine productions such as Newcastle disease, Anthrax, Black-quarter and Brucellosis.

Challenges which face livestock diseases research include developing and availing appropriate technologies that will contribute to the control/eradication of diseases/conditions; funding; skilled human resource; facilities; equipments and infrastructures. LSDP contains strategic interventions to resolve these challenges and the expected output. These are outlined below.

Expected outputs

Animal diseases research improved to develop and produce technological packages for control and eradication of animal diseases.

Interventions

- Promote and strengthen research on diseases prevention and control by enhancing surveillance to determine viral/bacteria field activity active foci for early identification and reaction by throughout the programme.
- Strengthen research on quality control of animal diseases vaccines by supporting vaccines testing for efficacy, potency and safety; and supporting assessment of the effects of the developed vaccines and other biological materials to environment and livelihood.
- Strengthen research on quality control of livestock inputs and foods of animal origin focusing on quality of animal feed resources and veterinary drugs, acaricide residues, aflatoxins and other contaminants of animal feeds origin.
- Strengthen the Laboratory capacity building for early detection, identification, response and mapping of known TADs and re-emerging infectious diseases.

4.3.2 Livestock Training

The role of livestock training is to develop, implement, coordinate, monitor and maintain human resource development for the livestock industry. The Livestock Training Institutes (LITIs) and institutions of higher learning particularly the Sokoine University of Agriculture (SUA) have continued to be the main sources of trained human resource for the livestock industry in the country. Currently, there are six Livestock Training Institutes (LITIs) offering training at Diploma and Certificate levels as well as training of livestock farmers as indicated in the table below:

Institute	Location	Capacity	Course programmes
LITI Tengeru	Northern Zone	500	• Diploma in Animal Health • Diploma in Animal Production • Certificate in Animal Health & Production • Farmer Training
LITI Mpwapwa	Central Zone	321	• Diploma in Animal Health • Diploma in Animal Production • Certificate in Animal Health & Production • Farmer Training
LITI Morogoro	Eastern Zone	270	• Diploma in Animal Health • Diploma in Animal Production • Certificate in Animal Health & Production • Diploma in Range Management and Tsetse Control • Farmer Training
LITI Madaba	Southern Zone	166	• Diploma in Animal Production • Certificate in Animal Health and Production • Farmer Training
LITI Buhuri	Eastern Zone	174	• Diploma in Animal Production • Farmer Training
LITI Temeke	Eastern Zone	69	• Diploma in Veterinary Laboratory Technology

Source: MLFD

Three of the LITIs namely Tengeru, Mpwapwa and Morogoro are expected to be fully accredited after the validation of the Modularized Curricula by the National Council for Technical Education (NACTE). The other LITIs are at different levels of registration. Currently there is a deficit of more than 13,624 livestock extension staff. This calls for massive training of field livestock extension staff using LITIs and retraining of the existing ones to equip them with new technologies.

Emerging aspects of agribusiness such as commercial livestock production, private inputs supply and processing of livestock products have specific training needs that require re-designing of training curricula and development of new ones. Also, However, for these to happen, there will be a need for improvement of training facilities and capacity building of the training staff to effectively address the needs. The LITIs have limited number of teaching staff, staff houses and student accommodation. The institutes have old teaching facilities and obsolete other infrastructures and poorly stocked and equipped farm units that need rehabilitation and retooling for students' practical training. However, the institutes have enough land for any sort of expansion and strategically located to meet livestock training requirements. LSDP recognises the role played by human resource development and has included interventions aimed at developing the human resource in the livestock sector. The expected output and the planned interventions are presented below.

Expected output

Livestock training improved to avail competent human resource and professionals to cater for development of the livestock industry.

Intervention

- Strengthen capacity of human resources and stakeholders by retooling, rehabilitating and constructing Livestock Training Institutes' infrastructures; reviewing curricula and programmes for livestock training; training tutors and training livestock personnel and other stakeholders trained.

4.3.3 Livestock Extension

Livestock extension services deals with transfer of knowledge and skills to farmers and sharing of information and experiences amongst stakeholders in order to increase production and productivity. The extension service currently is mainly provided by public service providers with gradual increase of private sector participation in delivery of the services, livestock extension delivery to end users is the responsibility of LGAs. Currently there are about 12,111 Villages, 3,383 Wards and 147 LGAs with only 4,172 livestock extension staff. This brings a deficit of 16,050 staff.

The main challenges facing livestock extension services delivery include increasing the number of extension staff; knowledge and skills among livestock stakeholders; research-training-extension-farmers linkages; collaboration among extension services providers; participation of private sector in the delivery of extension services; and extension services delivery infrastructure. LSDP intends to improve extension services. The planned interventions and expected output are outlined below.

Expected output

Livestock extension services improved so as to increase access to the services by livestock farmers.

Intervention

- Promote and support livestock farmers' empowerment through formation of groups, networks, associations and organizations.

4.3.4 Livestock Farmers Empowerment

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Institutional and financial empowerment of livestock farmers entails role of livestock farmers in the planning and management of activities undertaken by their groups and fora at different levels. This will need livestock farmers training workshops on forum establishment, operation and improvement of ward facilities for communication, equipment and other facilities.

Challenges which face livestock farmers empowerment includes provision of knowledge to livestock farmers' communities on management of livestock industry; formation of sustainable livestock farmers associations and improving livestock infrastructures. LSDP aims at empowering livestock farmers so that they can participate effectively in livestock development.

Expected output

Livestock farmers empowered by availing knowledge and facilitating formation for livestock farmers groups, networks and associations that address livestock farmers' interest.

Intervention

- Promote and support livestock farmers' empowerment through formation of groups, networks, associations and organizations.

4.3.5 Surveillance and Laboratory Diagnosis

Disease surveillance plays an important role in the control of animal diseases, entailing both active and passive search and monitoring, with the aim of mapping the animal disease situation for a specified period. Disease surveillance provides information necessary for undertaking appropriate mitigation measures that include prevention of occurrence and spread of diseases.

The current animal health surveillance system involves a link between the directorate of veterinary services and the decentralised local government system via the zonal veterinary investigation centres. Record shows that between 70 & 80% of all local councils do have District Veterinary Officers (DVOs).

At present almost all of the surveillance at the district level is being carried out passively based on clinical diagnosis, and the level of reporting to the central unit dealing with epidemio-surveillance is pretty low. For example in 2007, a total of only 1,172 disease surveillance reports from 74 out 133 districts were received and in 2009 a total of only 213 monthly reports from 74 out 133 districts were received.

The challenge facing surveillance and laboratory diagnosis is to have a strong and sustainable animal disease surveillance system supported by laboratory diagnostic facilities and private sector participation in surveillance. It is in the interest of LSDP develop effective surveillance and laboratory diagnosis and has included interventions aimed at developing services in the livestock sector.

Expected output

Surveillance and laboratory diagnosis assurance improved to strengthen capacity of disease surveillance system for effective control of animal diseases.

Intervention

- Strengthen disease surveillance system through supporting livestock development centres at ward level; rehabilitation and equipping laboratories at District level; and introduction of decentralized data entry at zonal and district level.

4.3.6 Quality Control and Safety Assurance

Livestock industry constitutes an important source of livelihood and therefore protection and promotion of animal health is a key factor in all animal production systems. Promotion of animal health entails the use of different livestock inputs which include drugs, vaccines, pesticides, animal feeds and other inputs which eventually influence the quality and safety of food of animal origin. The inspection system play a key role to farmers who have a right to access quality and safe animal feeds and therefore the

later provides information on the status of the animal feeds and food of animal origin. Livestock inputs and their usage if left unregulated can negatively affect the quality and safety of animal products and can have effect on human health.

Currently, legislation aiming at regulating the animal feed resources is in place; however there is a weak laboratory and inspectorate system to support its enforcement, therefore calling for a need to have a capacitated laboratory system to cater for livestock inputs and food tests of animal origin coupled with effective inspectorate services. LSDP is in recognition of the importance of quality and safety of animal products. Information on quality and safety of animal products facilitates marketing and consumption of the products. LSDP will implement interventions to improve these services. Below are the expected output and intervention planned.

Expected output

Quality control and safety assurance improved to facilitate the supply of quality and safe livestock inputs and products in order to promote production and safeguard animal and public health.

Interventions

- Strengthen laboratory capacity for carrying out quality control tests through equipping laboratories with appropriate detection and quantization tests; capacity building on quality assurance; and encouraging the private sector laboratories.
- Promote and support surveillance on quality of livestock inputs and food of animal origin.

4.4 Animal Diseases Control and Veterinary Public Health Component

Animal diseases are amongst the factors which adversely affect livestock production and productivity in the country and hence need a control. Animal disease control plays an important role in improving the livelihood not only to livestock keeping community but also indirectly boosting national economy through widening the extent of market for livestock products. Animal diseases control provides an assurance to the public on their health. The fourth specific objective is to improve animal diseases control and veterinary public health. An assessment of the status of animal diseases control and veterinary public health is summarized below followed by an outline of the expected outputs and interventions aimed at improving the resources.

4.4.1 Trans-boundary Animal Diseases

Trans-boundary Animal Diseases (TADs) are notifiable diseases that require urgent actions. They are diseases that are beyond farm level and impact on the productivity of the livestock sub-sector as well as on trade in livestock and livestock products. These diseases need proper coordination and cooperation at national, regional and

international levels. This can be done through an enhanced system of early warning and development of capacity for early detection, rapid reaction, coordination and harmonization of controlling strategies at the various levels.

Common TADs that occur in the country include Contagious Bovine Pleuropneumonia (CBPP), Rabies, Foot and Mouth Disease (FMD) and Contagious Caprine Pleuropneumonia (CCPP). Other TADS of national importance include Newcastle Disease (ND), which accounts for more than 90% mortality of rural chicken, Pest des Petit Ruminants (PPR), Rift Valley Fever (RVF), Lumpy Skins Disease (LSD), and African Swine Fever (ASF).

Currently new animal diseases such as Bovine Spongiform Encephalopathy (BSE) and Highly Pathogenic Avian Influenza (HPAIH5N1) for which action has to be taken to prevent introduction into the country. These diseases demand dynamic approaches to the acquisition and dissemination of knowledge about the diseases, the standards, the regulation and strategies for their effective prevention and progressive control. Disease control efforts face challenges include inadequate availability of veterinary services, transport facilities and health infrastructure, awareness creation among livestock farmers and inadequate funds for implementing control and eradication strategies. Through the LSDP the government in collaboration with other stakeholders will implement interventions meant to remove these obstacles.

Expected output

Trans-boundary Animal Diseases controlled for sustaining livestock industry and access both domestic and export markets.

Interventions

- Strengthen capacity for livestock movement and zoosanitary inspectorate services by, among other things, facilitating livestock health certification system; increasing the number of equipped zoosanitary check points; and establishing centralised TADs control systems; improving the capacity for early warning, detection and response systems.
- Improve capacity for early warning, detection and response by establishing early warning facilities; facilitating effective coordination and reporting mechanisms and support livestock community sensitization on early warning systems.

4.4.2 Parasitic, Vector and Vector Borne Diseases

Parasitic organisms have negative effects on health and productivity of livestock. They can be a nuisance or cause direct or indirect pathological damage, with some being vectors (i.e. those which transmit pathogen from one source to another) of viral, bacterial, protozoa or helminth diseases. In Tanzania, the most important parasites and the diseases they transmit include, Ticks and Tick Borne Diseases; Tsetse and

Trypanosomosis; Helminths (worms) and helminthosis. Others include certain external parasites such as fleas, mange, lice and biting flies.

(a) Parasitic Diseases

Parasitic diseases are of economic importance in the development of livestock sector. They cause unthriftiness, poor growth and production; and in acute cases they may lead to significant mortalities. The main challenge in the control of parasitic diseases is knowledge on management principles. In this area, LSDP will focus on improving the knowledge on livestock husbandry so as to control incidences of parasitic diseases. Below is the expected output and planned interventions.

Expected outputs

Control of parasitic, Vector and Vector Borne Diseases improved for increasing livestock production and productivity.

Intervention

- Promote and Strengthen control of parasitic diseases. This will be implemented, among others, through establishing diseases control mechanisms and livestock farmers' sensitization to use indigenous knowledge and medicinal plants in parasitic diseases control.

(b) Ticks and Tick-Borne Diseases

Tick-borne diseases especially East Coast Fever, Babesiosis, Anaplasmosis and Heartwater attribute to more than 70% of all cattle deaths in Tanzania and losses of more than Tshs. 72 billion annually. In order to mitigate the losses, the Government has been putting substantial investment in the construction and rehabilitation of dips and provision of acaricides subsidies. Currently there are 2,314 dips out of which 1,556 are operating while 758 are not operating and from 2006/2007 to 2009/2010 the Government has spent a total of Tshs. 13.5 billion on acaricides subsidies.

The Government is also coordinating an East Coast fever (ECF) vaccine delivery and immunisation programme. All the above efforts are in line with the objective of improving livestock through integrated approaches including support of tick Control Strategy.

Challenges which face Ticks and Tick-borne Diseases control, among other, are to increase number of operating dips; accessibility to acaricides and scaling up immunization of cattle against ECF. In this area, LSDP will focus on improving the knowledge on livestock husbandry so as to control incidences of tick and tick-borne Diseases.

Expected outputs

Control of tick and tick-borne diseases improved using integrated approaches in order to livestock increase production and productivity.

Intervention

- Promote and Strengthen control of tick and tick-borne diseases. This will be implemented, among others, through rehabilitation of dips; training of livestock farmers in control of ticks, tick-borne diseases and Helminthosis; animal vaccination; livestock famers' sensitization to use indigenous knowledge and medicinal plants in ticks and TBDs control.

(c) Control of Tsetse and Trypanosomosis

African Trypanosomosis (AT) is a severe disease transmitted to humans and animals by tsetse flies and has continued to be among the most important constraints to socio economic development, causing a great deal of animal and human suffering, agricultural losses and food insecurity in Tanzania. Presence of tsetse flies in the rangelands is also one of the limiting factors in the expansion of livestock production.

Challenges which face control of Tsetse and Trypanosomosis include controlling livestock movement; vicinity of wildlife to grazing areas; skilled human resource and funding. In this area, LSDP will focus on improving the knowledge on livestock husbandry so as to control incidences of tsetse and trypanosomosis.

Expected outputs

Control of tsetse and trypanosomosis improved using integrated approaches in order to livestock increase production and productivity.

Intervention

- Strengthen integrated Tsetse and Trypanosomosis management. This will be implemented, among others, through establishment of a strong Tsetse control mechanism and establishment of tsetse free areas in selected regions.

4.4.3 Veterinary Public Health

Veterinary public health deals with monitoring and control of zoonotic diseases and quality of animal products with a view to safeguard human health. Common zoonotic diseases are Rabies, Brucellosis, Tuberculosis, Anthrax, Cysticercosis and Salmonellosis.

Challenges which face veterinary public health include baseline data on prevalence of many zoonotic diseases in Tanzania; knowledge of the diseases; infrastructure and

skilled human resources. In this area, LSDP will focus on improving the knowledge on livestock husbandry so as to improve veterinary public health.

Expected outputs

Veterinary public health improved to safeguard human health and ensure safety and quality food of animal origin.

Intervention

- Strengthen zoonotic diseases control. The will involve screening of animals, treatment and vaccination; strengthening the capacity on inspectorate and establishment of an effective surveillance mechanisms on quality of livestock inputs and food of animal origin.

4.5 Livestock and Livestock Products Marketing Component

Marketing of live animals in the country takes place in primary, secondary and tertiary livestock markets. The primary markets are managed by Local Government Authorities while secondary, tertiary and border markets are under the management of the Central Government. The trading is done on negotiation between buyers and sellers with less consideration of grade. Currently, livestock production is mainly subsistence whereby livestock and livestock products produced in the country is largely for the domestic market and only a small amount is exported. For example, in the year 2009/10 a total of 857,208 cattle and 682,992 goats and 122,035 sheep were sold of which 2,970 cattle and 302 goats were exported to neighbouring countries and Middle East.

Likewise, in the year 2009/10, milk production was estimated at 1.65 billion litres of which 10% was marketed in both formal and informal markets which are largely dominated by processors and informal vendors respectively. Processed milk products account for about 20% of marketed raw milk and the rest falls under the informal markets. Most of the milk from urban and peri-urban areas, because of proximity to reliable market, is sold directly to consumers.

Large amount of eggs marketed in the country are predominantly from indigenous and little from commercial layer chickens. Commercial layers contribute more than 80% of all eggs consumed in urban and peri-urban areas whereas indigenous chickens contribute about 80% and 20% of eggs consumed in rural and urban areas respectively. There is no specific market place for eggs, vendors collect eggs from producers and move around for one customer to another customer. The fifth specific objective is to promote livestock and livestock products marketing. An assessment of the status of livestock and livestock products marketing is summarized below followed by an outline of the expected outputs and interventions aimed at improving the resources.

4.5.1 Livestock Marketing Infrastructure

In order to facilitate the marketing of livestock and livestock products Tanzania has developed strategically domestic and export trade facilitating infrastructure. These include primary, secondary and border markets, holding grounds, veterinary checkpoints and slaughter facilities including abattoirs. Currently there are over 400 primary, 12 secondary and 10 border livestock markets for cattle, sheep and goats and none for pigs and poultry. Primary markets which are under the jurisdiction of the LGAs, though functioning most of them are with limited requisite marketing infrastructure. Most of the secondary and border markets which are managed by the Central Government lack essential marketing facilities to facilitate auctioning and grading. In addition, border markets are rarely utilized due to weak law enforcement.

On the other hand, there are 6 meat processing plants and 7 modern abattoirs for red meat and a few for slaughtering and processing of chicken meat. Currently, there are no standard slaughter facilities for pigs despite meat inspection being carried out. Other constraints facing livestock marketing in the country include relatively high investment capital requirement making it unattractive for private sector investment, under utilization of the existing marketing infrastructure and inadequate maintenance of the existing infrastructure.

Challenges of the livestock marketing infrastructure include increasing public and private investment in marketing infrastructure; optimize utilization of the existing marketing infrastructure and maintenance of the existing marketing infrastructure. One of the main objectives of LSDP in this area is to remove these obstacles so that marketing of livestock and livestock products can be improved.

Expected output

Livestock marketing infrastructure improved for efficient and effective livestock and livestock products trade.

Interventions

- Promote investment, maintenance and utilization of livestock marketing infrastructure through, among others, Private Public partnerships in investments for livestock and livestock products marketing infrastructure.

- Promote the application of sector standards through 'the reference to standards' principle in technical regulations addressing safety and quality requirements in the internal and international markets.

4.5.2 Livestock Marketing Information

Reliable, timely and consistent livestock marketing information is essential for efficient, effective and transparent marketing operations. Currently, there is limited available information on traded live animals from **53** out of **400** markets in the country and are accessible electronically through LINKS (*www.lmist.net*). Other sources of information include mass media and routine data available from Local Government Authorities. However, there is no information on livestock products and by products. In addition, there is a need to have a comprehensive Livestock marketing information system to facilitate market intelligence for efficient and effective functions of livestock marketing.

Presently there is some information on live animals, collected from a few selected markets which are accessible through mass media and electronic means (website, email, cell phones) but none for livestock products and by products and in addition market intelligence is inexistent, which renders the marketing functions ineffective and inefficient. The challenge facing livestock marketing information is to have consistent, reliable and timely livestock marketing information, to have a well coordinated system of data collection, analysis and dissemination which is harmonized between institutions and availability of trained technical staff in data management. One of the main objectives of LSDP in this area is to facilitate the availability of adequate so that marketing of livestock and livestock products can be improved.

Expected output

Reliable livestock marketing data and information available to stakeholders for informed decision making.

Intervention

- Establish and strengthen a well coordinated and harmonized livestock marketing information management system for data collection, processing and dissemination.

4.5.3 Identification, Traceability, Eco-labeling and Animal Welfare

(a) Identification

Livestock Identification, Traceability System (LITS) and eco-labelling system has emerged as national, regional and international trade and marketing concerns from the 1990s and more specifically after the emergency of Bovine Spongy Form Encephalitis (BSE) in Europe. In view of increasing food-borne disease incidences and increasing threats of bio-terrorism consumers have become wary and demanding for food safety assurance of the foods they partake. The evolution of cloned animals that are genetically modified organism, in the scene, has in further called for demands for organically grown or produced foods such as grass fed animals and necessity of distinguished labelling as eco-labelling.

Furthermore, LITS is an essential cross-cutting animal husbandry tool used for efficient production and productivity of the livestock industry. LITS has important roles in animal disease surveillance, disease control, livestock theft mitigation and prevention as well as in quality control and in food safety assurance of food of animal origin. In cognizance of this the National Livestock Policy 2006 has provisions for the establishment and implementation of LITS in the country. Challenges for implementing LITS include increasing investment in it and promoting adoption and involvement of the stakeholders as it is a new paradigm. In this area LSDP intends to facilitate livestock identification, traceability system and eco-labelling system so that marketing of livestock and livestock products can be improved.

Expected output

Identification, Traceability Eco-labelling and animal welfare practiced to increase production performance, market access and improve quality and safety of animal products from producer to the consumer.

Intervention

- Promote and implement LITS to enhance livestock and livestock products production and quality improvement.

(b) Animal Welfare

Animal welfare is a concern in livestock production and marketing. As consumer affluence increases, besides quality concerns, they develop tendencies to assume additional demands on characteristics such as how the animals have been raised, handled and slaughtered. Other concerns include, among others, scientific, cultural, spiritual and recreational purposes.

The World Organization for Animal Health (OIE) has included animal welfare as one of the Sanitary and Phytosanitary Measures in international trade. The National Livestock Policy 2006 provides statements for Animal Welfare, which addresses animal welfare principles and standards compliance in animal production and marketing. In addition the Government has reviewed and updated the legal framework by enacting the Animal Welfare Act No. 19 of 2008 and its regulations as well as formed the Animal Welfare Council (AWC).

The challenge in animal welfare is to promote animal welfare compliancy at all levels in the livestock industry value chain. In this area LSDP intends to facilitate animal welfare compliance so that livestock and livestock products can be acceptable in the international niche markets in which animal welfare is a condition.

Expected output

Animal welfare compliance by stakeholders in order to meet various needs including, among others, trade, scientific, cultural, spiritual and recreational purposes

Intervention

- Promote and support animal welfare adherence to enhance livestock production and marketing.

4.5.4 Processing and Value Addition

In order to meet the Government and other stakeholders' Vision of a commercially run and sustainable livestock industry, a change from subsistence pastoral and agro-pastoral livestock husbandry practices to market oriented livestock production methods. To ensure sustainability, farmers producing for the market must satisfy consumer demand for quantity, quality and safety of livestock and livestock products. In line with the NLP (2006), the private sector is expected to play a major role in improving commercial processing, marketing and promotion of consumption of meat and meat products, milk and milk products and eggs which meet the quality and safety demands of consumers in conventional and niche markets and for export.

(a) Milk Processing

Annual milk production is estimated at 1.64 billion litres which is largely generated from the traditional sector in small quantities and widely spread remote rural areas. At present, there are about 48 small and medium milk processing plants with the installed capacity of 394,600 litres per day, however, majority of the plants are operating at very low capacities. On the average these processing plants currently process about 105,380 litres/day, which is equivalent to 27% of the installed capacity. The current processing capacity accounts for 2% of the annual milk production. This situation has led to increased milk imports. Milk processing in Tanzania is constrained by inadequate raw milk supply, high costs of milk collection, transportation and processing (due to high cost of equipment, machinery, packaging materials and utilities), poor infrastructure, low domestic demand of milk due to low consumption levels and low technical capacity.

Milk processing in the country is facing various challenges including increasing collectable amount of milk; increasing processing efficiency and improving accessibility and availability of milk packaging materials, machinery, equipment and technology; increasing domestic demand of milk and milk products. The LSDP includes interventions meant to remove these obstacles. An outline of the expected output and interventions is presented below.

Expected output

Milk processing improved by optimally utilizing the existing processing capacity and utilization the existing milk production potentiality in the country.

Interventions

- Promote milk collection and processing. This will be achieved by supporting farmer organisation; promoting establishment of milk collection centres and processing plants through public and private sector partnership.
- Promote compliance to standards in internal and international markets. This will involve training of stakeholders in quality and safe dairy products and by-products.

(b) Meat Processing

The processing of meat and meat products in Tanzania is generally limited. Most of meat consumed in the country is unprocessed mainly sold directly from the slaughter slabs /butcheries/abattoirs to consumers. Most butchers are sub standard and lack basic meat cutting equipment, chilling and packaging facilities. Apart from the seven (7) modern abattoirs (Dodoma, SAAFI, Sakina, Tanzania Meat Pride, Interchick, Mkuza and Manyara) there are three meat processing plants with installed capacity of 2.6 tons per day. The volumes produced by these plants are generally small to meet the domestic demand, necessitating some importation of meat and meat products to bridge the gap. Currently, most of meat is sold without registered brand name except that of *Kongwa beef* from National Ranching Company

The challenges facing the meat and meat products processing in the country include production of quality and safe meat and meat products, availability of the meat and meat products of consistent quantity and quality, installation of new and capacity utilization of the existing meat processing facilities including cold chain. Others are availability of trained technical staff in meat production and processing as well as awareness on the importance of consuming locally produced safe and quality meat and meat products.

Expected output

Meat processing improved to meet safety and quality standards for domestic and export markets.

Intervention

- Establish and strengthen production of quality, safe meat and meat products by improving slaughter facilities, promoting investments in processing facilities, and training in processing, quality and safety of meat and meat products.

(c) Hides and Skins Processing

Hides and skins are important by-products of livestock that form an important input to the industrial sector and contribute significantly to foreign exchange earning in Tanzania. Despite of its strong raw material base, the capability of the domestic leather sector industry in terms of value addition on raw materials is still below the supply potential. Tanzania has seven (7) tanneries out of which six (6) are operating namely, Moshi Leather Industries, Tanzania Leather Industries Ltd (Morogoro), Lake Trading Co. Ltd, Afro Leather industries, Salex tanneries Ltd (Arusha), Himo tanneries and Planters and JAET Ltd which are privately owned and to-date majority are still tanning to only semi-processed leather (pickled and wet blue) for export and small quantity of finished leather for domestic consumption.

The installed capacity for the seven tanneries is estimated at 43.2 million ft^2 per year. The capacity of these tanneries remains largely under-utilized despite the current estimated potential of 86.4 million sq. ft of hides and skins. For instance, in the year 2008/2009, out of the 58.4 million ft^2 of hides and skins collected only 11.8 million sq. ft were processed and exported. This represents only 20% of the total actual collection, hence, the need for increasing investment in the tanning sector.

The challenges facing the hides and skins processing include increasing availability of quality hides and skins, improving capacity utilization of existing tanneries, building technical capacity to drive the industry, stiff competition between tanners and raw hides and skins exporters, unfair competition of local products with imported products, availability and reliability of crucial utilities (electricity and water) and environmental management issues.

Expected output
Processing of hides and skins improved to paving way for the manufacturing of footwear and leather goods, while protecting the environment.

Intervention
- Promote the production of the quality of hides and skins through improvement in hides and skins production, collection, processing and marketing.

(d) Other Livestock By-products

Livestock by-products such as bones, hooves, horns, blood, bristles, feathers, hair and fur form important components of slaughter of animals. By-products yield vary from 55-60% depending on the species of animals. It is known that by-products have multifarious uses like human food, medicinal, pharmaceuticals, leather goods, sports, textiles, garments, animal feeds and energy. The economic value of the by-products is high hence revenue from these by-products is enormous if efficiently tapped.

Production, handling, processing and use of livestock by-products is faces a challenge of low knowledge on code of practice and procedures on production, handling, processing and inappropriate technology so as to ensure quality and safety of both producers and consumers. The LSDP includes interventions meant to remove these obstacles. An outline of the expected output and interventions is presented below.

Expected output

Other livestock by-products developed through support and promotion of sustainable production, processing and utilization of the by-products for provision of industrial inputs and income generation to livestock producers and traders.

Intervention

- Promote and support production, processing, handling and utilization of other livestock by-products using appropriate processing technologies.

4.6 Legal and Institutional Framework Component

4.6.1 Regulatory Framework of the Livestock Sector

There are a number of public agencies and institutions, which play a critical role in supporting livestock development often of a regulatory nature. These include the Veterinary Council of Tanzania (VCT), the Tanzania Dairy Board (TDB) and the Tanzania Meat Board (TMB). Other institutions include Tanzania Food and Drugs Authority (TFDA), the Tropical Pesticides Research Institute (TPRI), the National Environmental Management Council (NEMC), the Tanzania Bureau of Standards (TBS) and the Cooperative Audit and Supervision Corporation (COASCO).

Delivery of veterinary services is provided by both private and public sectors. Both service providers are required to abide to the Veterinary Act No 16, 2003, observe ethics as stipulated in the codes of conduct and they are also required to comply with guidelines set by OIE regarding delivery of veterinary services. The Veterinary Council of Tanzania which is established under Section 3 of the Veterinary Act No.16, 2003 is responsible for regulation of these services. Veterinary services delivery in the country are still constrained by weak private sector, inadequate veterinary infrastructure and inadequate technical support services, inadequate capacity to enforce ethics and standards, inadequate facilities, and little adherence to standards and ethics by service providers.

The legal and regulatory framework of the livestock sector requires transparency, predictability, minimum discretion and resource ownership. The effective implementation of the legal and regulatory framework requires adequate capacity to enforce and monitor compliance of the laws governing the sector. Currently, law enforcement is weak due to low capacity to respond effectively to uncontrolled livestock

movements and livestock diseases. LSDP will put in place mechanisms to facilitate law enforcement. The LSDP's planned interventions and expected output are summarised below.

Expected output

Regulatory framework of the livestock Sector improved to enhance the capacity for monitoring and enforcement.

Intervention

- Harmonise and rationalise various laws and regulations which oversee livestock industry and natural resources. This will involve enhancing national capacity on legal and regulatory framework; updating laws and regulations; and facilitating inter-ministerial meetings to harmonise issues which cause conflicts in implementation of laws governing the sectors.

4.6.2 Institutional Framework

An effective institutional framework and adequate capacity are prerequisites for proper management of the livestock sector. The National Livestock Policy of 2006 provides for clear roles and responsibilities of stakeholders including private and public sectors. However, ineffective institutional framework and inadequate capacity hinders effective implementation of the policy. LSDP will seek to improve institutional framework for smooth implementation of the policy and other livestock interventions.

Expected output

Institutional framework improved for effective development and management of the livestock sector.

Intervention

- Improve institutional capacity for effective development and management of the sector by among others setting up a national institutional capacity for effective monitoring and evaluation the sector and facilitating collaboration with stakeholders to improve institutional capacity.

4.7 Cross Cutting and Cross-Sectoral Issues

4.7.1 Gender Mainstreaming in the Livestock Industry

The Government, through the Ministry of Communication Development, Gender and Children (MCDGC), has developed a Gender Policy, and is promoting the use of gender analysis in community-based development programmes. Besides the Gender policy it is important to mainstream gender in the different sectors of the economy. Gender

mainstreaming refers to the process of integrating needs of men and women and all vulnerable groups at all levels in policy, strategic plans, programmes, rules, procedures, reforms and circulars.
Gender mainstreaming in livestock development is the strategy to achieve sustainable gender equality in the livestock industry. It focuses on aligning with and influencing the designs, formulation and implementation of policy, programmes, strategic plans and operational practices. The strategy aims at bringing about equity and equal chances to access opportunities and control over resources for both men and women at all levels.

Gender mainstreaming is constrained by low awareness among stakeholders, inadequate expertise, cultural practices and traditions. These constraints need to be mitigated so as to facilitate gender mainstreaming. Efforts will be made during the implementation of LSDP ease the constraints. Below an outline of the expected output and planned interventions are summarised.

Expected output

Gender mainstreamed in the livestock sector programmes in order to achieve gender equality.

Intervention

- Promote gender mainstreaming in the livestock industry through awareness creation; gender empowerment; and institutional and human resource capacity building.

4.7.2 HIV/AIDS, Malaria and Tuberculosis

HIV/AIDS is a national disaster affecting particularly young men and women. According to the National Policy on HIV/AIDS (2001), Tanzania is among the most affected countries in Sub-Saharan Africa. Besides HIV/AIDS, Malaria and Tuberculosis are also important diseases that drain resources and cause shortage of skilled and unskilled labour as well as livestock farmers and other actors in the different livestock value chains thus affecting the livestock industry. In addition, these diseases deplete financial resources in the form of diagnosis and treatment costs of associated diseases.

Concerted efforts are being directed towards creating awareness among the stakeholders on the importance of controlling the rate of new infections. However, efforts to combat HIV/AIDS in the livestock sector are constrained by socio-economic and cultural factors, low level of awareness among stakeholders, inadequate health infrastructure and facilities especially in the pastoral communities. These constraints need to be mitigated so as to facilitate HIV/AIDS, Malaria and Tuberculosis control. Efforts will be made during the implementation of LSDP ease the constraints. Below an outline of the expected output and planned interventions are summarised.

Objective

HIV/AIDS, Malaria and Tuberculosis controlled and prevented amongst stakeholders in order to increase productivity in the livestock industry.

Intervention

- Promote HIV/AIDS, Malaria and Tuberculosis management capacity by awareness creation on the diseases; supporting care services to employees of the ministry; and strengthening collaboration with other stakeholders in the control of HIV/AIDS, TB and Malaria among livestock stakeholders

4.7.3 Environmental conservation

The livestock sector attaches strong emphasis on environmental conservation as it has effects on land, water and forage which may affect social and economic factors influencing the lives of livestock farmers. Increased livestock populations and human activities related to livestock production in some areas of the country have resulted in over exploitation of natural resources. This has led to over grazing, soil erosion, deforestation, destruction of water sources and environmental pollution. Challenges to environmental conservation in livestock production include awareness among stakeholders, priority accorded to allocation of land for livestock use, expertise and inter-sectoral coordination. These challenges need to be addressed so as to facilitate environmental conservation. Efforts will be made during the implementation of LSDP ease the challenges. Below an outline of the expected output and planned interventions are summarised.

Expected output

Environment is conserved for sustainable livestock production.

Intervention

- Promote environmental conservation in the livestock industry by, among others, strengthening capacity for environmental conservation; awareness creation on environmental conservation among livestock farmers; promotion of the use indigenous knowledge in environmental conservation; enforcement of laws and regulations.

4.7.4 Finance and Credits

Livestock industry requires high capital investment, which is not readily available to most livestock entrepreneurs. However, most credits available are on short-term basis with high interest rates and livestock projects are of high risks. Financial institutions supporting investment in the livestock development include commercial banks, micro-finance institutions (MFIs) such as Savings and Credit Associations (SACAs) and Savings

and Credit Cooperative Societies (SACCOS). Others are informal financial institutions, livestock in-trust schemes and rural savings and credit societies. Finance and credits in livestock industry is constrained by high interest rate, high investment costs and returns to investment take long, high risks associated with livestock enterprises, lack of livestock insurance schemes, lack of collaterals and low awareness amongst stakeholders. The following are the expected output and planned interventions to ease the constraints.

Expected output
Financial resources easily accessible for investments in the livestock sector

Intervention
- Promote investment in the livestock industry through promotion of the private sector investment in the financial sector; promoting guarantee schemes; encouraging and promote livestock insurance; supporting designated financial institutions for livestock sector; and promoting and support establishment of livestock stakeholders' financial associations.

5.0 PROGRAMME MANAGEMENT

The Programme will be managed through the existing line departments at the centre, regional and at the districts. The programme will be managed under the Directorate of Policy and Planning within MLFD to oversee and coordinate implementation under the guidance of National Programme Steering Committee (NPSC). Overall responsibility for the programme will be vested with DPP who will coordinate programme activities in collaboration with district authorities and other participating agencies.

The NPSC will be chaired by the Permanent Secretary (PS), MLFD and will comprise officials not below the rank of Directors from ASLMs, the Ministries of Finance and Economic Affairs (MoFEA), Office of the President- Planning Commission, PMO-RALG, MITM, MoW, MNRT, and Office of the Prime Minister. In addition, it will comprise Directors for Veterinary Services, Pastoral System, Animal Production and Marketing, Research, Training and Extension and Policy and Planning (DPP), the selected financial institutions, a representative of the private sector (livestock), Regional Administrative Secretaries and District executive Directors from the selected regions and districts respectively. The National Programme Coordinator/Focal point will be the Secretary to the Steering Committee. PSC will be responsible for the overall guidance and direction of the Programme implementation, and shall meet at least twice a year. It will be responsible for reviewing and approving (a) the annual work programmes and budgets, and (b) the project progress and audit reports. The NPSC will meet every six months at the programme's expense.

The Programme management will also have a technical committee which will comprise directors from MoFEA, Office of the President- Planning Commission, PMO-RALG, MITM, MoW, MNRT, Office of the Prime Minister, ASLMs and a representative from private sector which will be chaired by DPP, Ministry of Livestock and Fisheries Development. The committee will oversee the LSDP, review work plan and budgets. Moreover, the committee will discuss the general progress of planed activities and review the work plan accordingly. The technical committee will meet quarterly.

The programme reports will be prepared and submitted to DPP who will be responsible for critical tasks including annual work planning and budgeting, managing programme accounts, preparing financial and quarterly progress reports for NPSC. DPP will also be responsible for coordinating training of National, Regional and District staff, undertaking monitoring, backstopping, supervision and review missions. The focal point will be responsible for storage of all programme documentation and a point of interface with other institutions and donor agencies.

The coordination of Programme will comprise a full-time National Project Coordinator/Focal Point, Monitoring and Evaluation Officer, Procurement Officer and a Project Accountant, all to be assigned to the programme fulltime by MLFD. A Technical Committee chaired by the DPP comprising relevant MLFD Desk Officers to assist its work on programme technical matters will support and report to the DPP but not be part of it. The Technical Committee will meet at least quarterly and more frequently, if necessary at programme's expense.

At the Regional level, the Regional Livestock Sector Development Committee (RLSDC) will be chaired by the Regional Administative Secretary (RAS) and will comprise of members of the Regional Management Team (RMT), Advisors to the livestock sector; and representatives from the private sector, livestock associations, CSOs and NGOs. This Committee will be responsible for coordinating and monitoring all livestock development related interventions in the Region, promoting initiatives to achieve sustainable livestock development in the Region and facilitate reporting on livestock development situation and interventions to appropriate organs.

District Programme Coordinating Committee (DPCC) comprising the relevant district implementing institutions (including DALDO, DPLO, DFsO, District ASDP Coordinator) and District Project Coordinator (DPC) from existing district staff nominated for each of the project's will be set up and chaired by the District Executive Director (DED). The DPCC will clear the way for programme implementation by establishing a good understanding and linkage between the programme on the one hand, and the beneficiaries and local institutions, on the other. At the Districts, the programme will be implemented through the existing line Departments in the District. The DPCC (using the DPC) will liase with the DPP for all programme activities regarding the District. The DPCs (under the leadership of the DEDs) will prepare progress reports (Financial and Physical) on implementation of the programme. The DPCC (using the DPCs) will, in their

co-ordination duties, work closely with officials of the various local governments and other implementing agencies within the Districts, as well as provide the technical and reporting link with MLFD.

At the ward level the Ward Livestock Development Committee (WLDC) will be chaired by the Ward Executive Officer (WEO). The committee will comprise village chairpersons, Village executive officers, extension workers, leaders from religious organizations, representatives from NGOs and CSOs operating in the ward as well as influential people (business people, and livestock keepers). The committee will prepare progress reports on implementation of the programme and will liaise with the district authorities on LSDP implementation.

At village level the Village Livestock Development Committee (VLDC) will be chaired by the village chairman. It will comprise the Village Executive officer, who will be the secretary to the committee, village extension workers (livestock, community development, trade and industry), and representatives from NGOs and CSOs operating in the village, leaders of religious denominations, livestock keepers, processors of livestock products and livestock traders. The responsibilities of the VLDC will be similar to those of the WLDC.

6.0 PROGRAMME BENEFICIARIES

The primary beneficiaries will be the livestock farmers and traders in terms of increased income while consumers will benefit nutritionally and consuming products of good quality. Since women and youth are the ones mainly involved in the milk trade, they will be the foremost beneficiaries in terms of knowledge and skills, income and employment. The other beneficiaries will be both the Institutions dealing with livestock, NGOs, Central government and districts councils.

7.0 PROGRAMME SUSTAINABILITY

Analysis of the elements needed for ensuring sustainability such as administrative capability at various operational levels (National, Regional, District and Village level), management process involved in the implementation of LSDP and willingness of the key beneficiaries to contribute in the planning, implementation and monitoring shows sufficient evidence to concluded that the LSDP has a good if not excellent chance of sustainability. Management resources (social mobilization, training, leadership implementing structure and support) and management process (planning, implementation, monitoring and evaluation) are all embedded in the programme's features and strategies The regular feedback or monitoring and evaluation allows programmatic adjustments from time to time or troubleshooting to address weaknesses and constraints in programme implementation.

The implementation structure of LSDP adheres to the decentralisation and organizational framework which make it more workable. Consultative leadership coupled with clear delineation of roles and responsibilities of various line sectoral ministries, agencies, integration and coordination is achieved through a shared view of the goals and objectives of LSDP. Multi-sectoral and ministries involvement is also regarded as a one of the major tower of strength to the successful implementation of the LSDP and those involved particularly ASLMs, regions and districts recognise that this will be pursued and encouraged.

At local level community have a sense of ownership and with their active involvement in decision making there is a room of innovation and sustaining ongoing efforts. Moreover, communities will continue to contribute in the construction of different interventions of the LSDP where necessaries such as water dams, dips, milk collection centre by offering labour and other material available locally. The contribution of the community in the different activities will make them fill that they are part and parcel of the programme hence run it even after the end of the project.

This programme is expected that in the long run will have created social benefit to livestock farmers since the volume of milk marketed will increase through the established milk collection centres (owned by communities) and will be of good quality hence fetch good price. The project will reduce the environmental degradation by providing infrastructures in the rangeland, which will minimize livestock movements and overstocking in one area due to unavailability of water.

The strengthening of animal health delivery services will at least minimize/reduce the spread of diseases from one point to another and reduce animal mortality rates hence increase food security. Hence in long run the livestock keeper will benefit because they will have healthy livestock that will fetch good prices and also losses will be minimal. Also, quality of hides and skin will be improved and fetch good price.

Without doubt, the importance and priority LSDP has accord to livestock sector for poverty reduction, food security and contribution to the national economy as well as its ability and commitments with technical aspect of development, is certain a solid combination difficult to undermine. Even ASLMs and other government institutions and agencies value highly the LSDP's interventions at present and the strong link and partnerships that exist with other technical organizations and donor communities are a signs that the LSDP is not alone.

8.0 RISK AND ASSUMPTIONS

8.1 Assumptions

The assumptions for the successful attainment of the project goals, objectives, purpose and result areas are well spelt out in the Logical Framework**.** However, it is assumed that the current macro-economic policies are maintained and that the government will continue to give its commitments and priorities to the livestock sector. Moreover, it is assumed that LSDP will be reorganised along the lines of the Agricultural Sector Development Programme (ASDP) and existing GoT operating system. Furthermore, the strong link and coordination which is existing among the ASLMs will continue and PMO-RALG will be ready to accommodate the implementation of basic recommendations from MLFD such as contribution in construction of water chaccos/dam, dips and milk collection centres.

(i) The programme assume that local community will be willing to fully participate in the whole exercise of implementing the programme and consider it as their property;

(ii) Local Government Authorities and Village councils are supportive of the programme;

(iii) Enabling environment such as political willingness, peace, security, macro-economic stability and rule of law; and

(iv) Shocks from climate change will not significantly increase.

8.2 Risks and flexibility

There is a risk that regards less of the improvement of the quality we might fail to export live animals and livestock products due to diseases incidences. Development of animal disease surveillance with particular emphasis on TADs may lead to identification of new emergency diseases, which may have to be taken into account under the LSDP.

Institutional and political factors may have an adverse impact on the project organisation and implementation. There is a risk that some LGAs might not give LSDP activities priority hence lead to low status of implementation.

9.0 PROGRAMME COSTS AND FINANCE

Tables 1 summarise programme costs by components. Total project cost including contingencies is estimated at Tshs. **1,332,979,000,000 (Table 1)**. All costs were estimated using the prevailing market prices in Tanzania Shillings and converted to USD at the May 2010 exchange rates. Physical contingencies on civil works were estimated at 10% and at 5% for other categories. Foreign inflation contingency at the rate of 7.9% has been added, based on the Consumer Price Index of Agricultural and petroleum products. Inflation on local prices has been cost at 7.9 % per year from FY 1-5.

Table 1: A Summary of LSDP Estimated Costs by Components and Sub-Components (Tshs. "000,000")

COMPONENT	SUB COMPONENT	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	Total	% Total
1. LIVESTOCK RESOURCE	Grazingland Development	13,170	12,445	10,695	7,550	3,250	47,110	3.5%
	Pastures Development	14,300	15,750	11,960	4,460	4,110	50,580	3.8%
	Animal Feeds and Feed Additives	2,810	2,496	2,210	2,250	1,530	11,296	0.8%
	Water for Livestock	40,400	39,300	37,300	36,300	36,300	189,600	14.2%
TOTAL COMPONENT		**70,680**	**69,991**	**62,165**	**50,560**	**45,190**	**298,586**	**22.4%**
2. LIVESTOCK PRODUCTION AND PRODUCTIVITY	Meat Production	58,310	51,425	40,750	29,950	27,500	207,935	15.6%
	Milk Production	18,111	19,275	13,545	9,570	5,290	65,791	4.9%
	Egg Production	4,820	2,580	2,550	2,540	2,540	15,030	1.1%
	Hides and Skins Development	6,530	8,400	6,750	1,750	2,200	25,630	1.9%
	Animal draught power	1,138	950	950	800	515	4,353	0.3%
	Other Livestock By –products	1,000	1,080	1,140	1,070	1,232	5,522	0.4%
TOTAL COMPONENT		**89,909**	**83,710**	**65,685**	**45,680**	**39,277**	**324,261**	**24.3%**
3. LIVESTOCK SUPPORT SERVICES DELIVERY AND EMPOWERMENT	Livestock research	29,374	26,267	24,158	17,500	17,673	114,972	8.6%
	Livestock training	12,620	11,500	10,380	9,300	9,300	53,100	4.0%
	Livestock extension	27,625	30,085	26,505	22,125	22,925	129,265	9.7%
	Livestock farmers empowerment	1,420	1,240	1,060	940	670	5,330	0.4%
	Surveillance and laboratory diagnosis assurance	4,230	2,574	1,861	1,650	1,540	11,855	0.9%

COMPONENT	SUB COMPONENT	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	Total	% Total
	Quality Control and Safety Assurance	659	827	595	657	510	3,248	0.2%
TOTAL COMPONENT		**75,928**	**72,493**	**64,559**	**52,172**	**52,618**	**317,770**	**23.8%**
4. ANIMAL DISEASES CONTROL AND VETERINARY PUBLIC HEALTH	Trans-boundary Animal Diseases.	9,600	7,820	6,060	5,030	3,745	32,255	2.4%
	Parasitic, Vector and Vector Borne Diseases.	20,970	20,550	16,805	15,505	14,220	88,050	6.6%
	Veterinary public health	4,175	3,265	3,225	2,510	2,380	15,555	1.2%
TOTAL COMPONENT		**34,745**	**31,635**	**26,090**	**23,045**	**20,345**	**135,860**	**10.2%**
5. LIVESTOCK AND LIVESTOCK PRODUCTS MARKETING	Livestock Marketing Infrastructure.	41,000	30,400	28,170	10,900	2,500	112,970	8.5%
	Livestock marketing information	2,500	2,240	2,195	1,200	1,200	9,335	0.7%
	Identification, Traceability Eco-labelling and animal welfare	5,420	3,036	2,386	1,418	1,228	13,488	1.0%
	Processing and Value Addition	15,570	17,470	16,470	11,770	8,458	69,738	5.2%
TOTAL COMPONENT		**64,490**	**53,146**	**49,221**	**25,288**	**13,386**	**205,531**	**15.4%**
6. LEGAL AND INSTITUTIONAL FRAMEWORK	Regulatory Framework for the Livestock Sector	250	250	250	200	200	1,150	0.1%
	Institutional Framework.	7,150	16,500	4,950	5,300	5,750	39,650	3.0%
TOTAL COMPONENT		**7,400**	**16,750**	**5,200**	**5,500**	**5,950**	**40,800**	**3.1%**
7. CROSS CUTTING AND CROSS-SECTORAL ISSUES.	Gender Mainstreaming in the Livestock Industry	450	520	590	680	750	2,990	0.2%
	HIV/AIDS, Malaria and Tuberculosis	190	200	210	220	180	800	0.1%
	Environmental conservation	790	800	800	580	540	3,510	0.3%
	Business Environment	500	591	590	600	590	2,871	0.2%
TOTAL COMPONENT		1,930	2,111	2,190	2,080	2,060	10,171	**0.8%**
TOTAL PROGRAMME		**345,082**	**329,836**	**275,110**	**204,325**	**178,826**	**1,332,979**	**100.0%**

The following benefits are expected to be accrued from implementation of LSDP over a five year period (2011/11 – 2015/16):-

(i) Overall livestock sector growth will improve from the current 2.7% per annum in 2010 to 5 % per annum by 2016;

(ii) Overall livestock contribution to the GDP will increase from 4.7% equivalent to 789 million US $ (947 billion T.shs) in 2008 to 7% worth 1.27 billion US $ (1,440.30 billion T.shs);

(iii) Calf mortality in the traditional sector will decrease from the current 30-45% due to TBD to less than 10%;

(iv) Mortality among local chicken will be reduced from current level of more than 60% to less than 30%;

(v) The traditional cattle herd will increase by 3.5% per annum to 21.5 million, 10% of which will be improved beef breeds or Tanzania Shorthorn Zebu finished in commercialised feedlots;

(vi) Cattle off take from the traditional smallholder sector will improve from 8-10% to 12-15% leading to meat production increasing from 422,230MT to 809,000MT;

(vii) Commercial ranching in NARCO and privatised satellite ranches will increase from the present 83,160 cattle to 127,000 cattle with an off-take rate of 22-23% supplying about 10,000 steers equivalent to 1500 MT of beef per annum

(viii) Number of improved dairy cattle will increase from 605,000 cattle kept by about 150,000 farm households through annual insemination of about 100,000 doses to about 985,000 cattle kept by about 300,000 farmers;

(ix) Milk production growth will increase from current 5-6% per annum to 7% per annum reaching 2.25 billion litres;

(x) Egg production will increase by 10% per annum from 2.8 billion to 4.7 billion eggs; and

(xi) Production of hides and skins will increase by 12% per annum from 5 million pieces worth 21 billion T.shs in 2008 to 9.8 million pieces worth about 40 billion T.shs.

10.0 MONITORING AND EVALUATION

Monitoring and Evaluation (M&E) will be provided, within the existing national M&E system, timely and reliably adequate physical and financial progress information on processes and impacts in suitable form. It will also give directions emanating from the Secretariat to its advisory services field staff and zonal research stations; and for LGAs, in particular and increasingly the elected District Councils, to make informed requests based on the M&E information.

The Monitoring and Evaluation (M&E) will be co-ordinated by the Directorate of Policy and Planning and undertaken on a regular basis based on the current Government system and incorporates the requirements of government which include physical and financial performance on different interventions. The current M&E government system to be consulted in the implementation of the programme include:-

- Government's Routine Data System (RDS) including its new focus on district M&E capability and the PMO-RALG socio-economic database; this is the foundation of M&E for the Programme;
- Government's Poverty Monitoring Master Plan; and
- ASDP M & E framework.

The M&E of the programme will be done quarterly, this will include visits to programme areas which will be undertaken jointly by MLFD and all other participating agencies of the programme, while District Co-ordinators will visit the sites at least every month and report to MLFD headquarters. Programme monitoring and supervision at the district level will be undertaken by the relevant local authorities at programme costs. This M&E will provide, within the existing national M&E system, timely and reliably adequate physical and financial progress information on processes and impacts in suitable form.

Participating agencies will, on a quarterly basis, prepare and submit to MLFD reports on programme activities that they are responsible for implementing; MLFD will also prepare similar reports. MLFD will furnish the PSC with Quarterly Progress Reports (QPR) in the agreed format. In addition to biannual supervision missions, MLFD will undertake a Mid-Term Review (MTR) in PY3. The monitoring and evaluation unit/officer will collect process and disseminate relevant information on the project's activities and achievements to all the key stakeholders of the programme. This M&E will be done in participatory manners as one of the important element of the M&E system, this will includes be participant, beneficiary and service provider responsibility and input, allied to compatibility with the reporting and M&E systems already in place at Village, Ward and District levels through the local government reform programme. Also M&E will define simple specific, technical and organizational indicators for the whole programme, by using the indicators given in the matrices as a reference.

ANNEX 1

LIVESTOCK SECTOR DEVELOPMENT PROGRAMME LOGFRAME

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
OVERALL GOAL The overall goal of the LSDP is to increase food security, stakeholder's incomes and contribution to the national economy so as to reduce poverty.	• Reduction in the number of households who are food insecure by the year 2016 • The proportion of households falling below poverty line reduced in the intervention areas by the year 2016 • The livestock sector growth rate increased from 2.7% in 2010 to 4.7% by 2016 • The contribution of livestock sector to GDP increased from 3.8% in 2010 to 5% by 2016	• LSDP M&E reports and periodic surveys • LGAs progress reports • Regional Secretariat progress reports • Ministry of Livestock and Fisheries reports • National MKUKUTA review reports • Households Budget Surveys	• The programme assume that local community will be willing to fully participate in the whole exercise of implementing the programme and consider it as their property; • Local Government Authorities and Village councils are supportive of the programme; • Enabling environment such as political willingness, peace, security, macro-economic stability and rule of law; and • Shocks from climate change will not significantly increase.
PURPOSE The purpose of the LSDP is to improve the livelihoods of the livestock farmers (pastoralists and agro-pastoralists) by	• The average income of the livestock farmers increase by 2016 • Reduce vulnerability to livestock communities (food security,	• LSDP M&E reports and periodic surveys • LGAs progress reports • Regional Secretariat progress reports	• The programme assume that local community will be willing to fully participate in the whole exercise of implementing

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
enhancing the delivery of livestock inputs and services to livestock farmers; improving marketing infrastructure and marketing systems for livestock and livestock products; strengthening the capacity of livestock farming communities and the private sector; and strengthening national and local government institutions to provide services to the livestock sector.	employment, access to services)	• Ministry of Livestock and Fisheries Development reports • National MKUKUTA II review reports • Households Budget Surveys	the programme and consider it as their property; • Local Government Authorities and Village councils are supportive of the programme; • Enabling environment such as political willingness, peace, security, macro-economic stability and rule of law; and • Shocks from climate change will not significantly increase.
SPECIFIC OBJECTIVES			
Objective 1: To develop livestock resources.	• Access to grazinglands, water, improved pasture and forage increased by 2016 • Infrastructure (dips, charco dams, dams) in the livestock keeping areas improved by 2016.	• LSDP M&E reports and periodic surveys • LGAs progress reports • Regional Secretariat progress reports • MLFD reports	• Shocks from drought will not significantly increase.
Objective 2: To promote livestock production and productivity	• Productivity in livestock enterprises increases by 5% per annum. • Increased availability of quality animals • Increased use of AI and embryo transfer	• LSDP M&E reports and periodic surveys • LGAs progress reports • Regional Secretariat progress reports • Ministry of Livestock and Fisheries Development reports	• Shocks from bad weather (drought) will not significantly increase. • No outbreak of serious economically important diseases

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
Objective 3: To improve livestock support services delivery and empowerment.	• Availability of improved technologies throughout the programme implementation period and after. Improved animal husbandry among livestock throughout the programme implementation period and after. • Increased number of private service providers. • Degree of satisfaction with services provided in LGAs improves annually.	• LSDP M&E reports and periodic surveys • LGAs progress reports • Regional Secretariat progress reports • Ministry of Livestock and Fisheries Development reports	• Livestock farmers' willingness to adopt developed technologies.
Objective 4: To improve animal disease control and veterinary public health	• Incidence of animal diseases reduced. • Livestock mortality rate reduced. • Livestock productivity increased.	• LSDP M&E reports and periodic surveys • LGAs progress reports • Regional Secretariat progress reports • MLFD reports	
Objective 5: To promote livestock and livestock products marketing	• Livestock and livestock products sales by livestock farmers and traders increase by at least 20% annually. • Margins more equally distributed in the livestock chain by year 2016.	• LSDP M&E reports and periodic surveys • LGAs progress reports • Regional Secretariat progress reports • MLFD reports • TRA export reports	
Objective 6: To improve legal and institutional framework	Improved legal and institutional framework in place by 2013	• MLFD reports reports. • LGAs progress reports • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
		• Ministry of Home Affairs reports.	
Objective 7: To mainstream cross cutting and cross sectoral issues	cross cutting and cross sectoral issues further mainstreamed in sector's plans and budget by 2012	• LSDP M&E reports and periodic surveys • LGAs progress reports • Regional Secretariat progress reports • MLFD reports	
SPECIFIC OBJECTIVES AND OUTPUTS			
Specific Objective 1: To develop livestock resources			
Output 1.1: Grazing lands developed	• Access to grazinglands increased by 2016. • Number of improved infrastructure (dips, charco dams, dams) in the livestock keeping areas increased.	• MLFD reports LGAs progress reports. • LSDP M&E reports and periodic surveys. • Ministry of Land Housing and Human Settlement reports. • Ministry of Natural Resources reports. • TIC reports	• Collaboration between various institutions dealing with land.
A1.1.1: Develop and implement grazinglands management plans	• National Grazinglands Management Master plan in place by 2013; • Number of district grazinglands management plans developed by 2013; • Number of LGAs implementing district grazinglands management	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys. • Ministry of Land Housing and Human Settlement reports. • Ministry of Natural	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	plans annually. • Number of districts with demarcated grazingland areas by 2015.	Resources reports.	
A1.1.2: Strengthen early warning system and provide timely information and mitigation strategies	• Livestock Early Warning Systems established and equipped in 7 existing zones by 2016. • Number of pastoralists and agro-pastoralists communities and other stakeholders sensitized by 2015.	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys. • TMA reports	
A1.1.3: Support environmental conservation in pastoralist communities	• Environmental management plan for livestock sector prepared by 2012. • Guidelines on climate change mitigation and adaptation prepared by 2012. • Degree of reduction in degradation in grazinglands.	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 1.2: Pasture for livestock developed.	• Access to improved pasture increased annually.	• Ministry of Livestock and Fisheries Development reports. • PMO-RALG reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A1.2.1: Promote Production and utilization of improved pasture seeds and fodder trees	• 8 government pasture seed farms supported annually. • Types of pasture seeds certified with TOSC and distributed by ASA.	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	• Number of private sector investments in production and conservation of pasture by 2016. • Degree of utilization of conventional and indigenous knowledge and techniques increases annually.		
A1.2.2: Improvement of in-situ pastures	• Number of in-situ pastures improved annually. • Proportions of livestock farmers who conservation in-situ pastures annually.	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 1.3: Production of animal feeds and feed additives increased	• Quantity of animal feeds and feed additives produced annually • Quality of animal feeds and feed additives improved • Types of value added animal feeds developed	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A1.3.1: Promote animal feeds and feed additives production, processing and marketing	• Number of animal feed factories established in the country by 2016 • Quantity of animal feeds and feeds additives produced, processed and marketed annually.	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
A1.3.2: Promote animal feeds and feed additives quality control and laboratory services	• Proportion of analysed animal feed samples that meet set standards annually. • Number of stakeholders aware of animal feed standards annually. • Types of appropriate technologies adopted by animal feed manufacturers by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A1.3.3: Promote utilization of agro and industrial by products as animal feed resources.	• Number of livestock farmers' sensitized on the collection, processing, conservation and use of crop and agro - industrial residues annually.	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 1.4: Water for Livestock availed	• Proportion of livestock accessing water within their vicinity by 2016	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A1.4.1: Promote availability of sustainable water sources for livestock	• Number of inventorized of water sources by 2016. • Proportion of the livestock keeping communities practicing water harvesting for livestock annually. • Number of acquired water user rights annually	• MLFD reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • Ministry of Water progress reports • MAFC progress reports	
Specific objective 2: To promote livestock production and productivity			
Output 2.1 Meat Production increased	• Quantity of quality meat produced annually. • Extent of change in meat	• Ministry of Livestock and Fisheries Development reports.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	productivity per animal annually. • Proportion of livestock farmers improving production and productivity annually.	• LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A2.1.1: Increase availability of fast growing and consistent supply of quality meat animals for production	• Number of institutions with livestock (cattle, sheep, goats and pigs) breeding capacity by 2016 • Number of bull centres established by 2016 • Number of genetically superior bulls imported and distributed by 2016 • Number of established indigenous breed associations by 2016 • Number of sheep and goat multiplication farms established by 2016 • The proportion of traditional cattle improved by the use of AI and embryo transfer technology. • Number of service providers and livestock farmers trained on AI and embryo transfer by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A2.1.2: Support production of quality meat	• The number of livestock fattened through feedlot annually. • Number of small scale and contracting ranches established by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	• Proportion of livestock farmers trained on farm management and agri-business by 2016.	periodic surveys.	
Output 2.2: Milk Production increased	• Quantity and quality of milk produced annually. • Number of livestock farmers and dairy farmers improving production and productivity annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A2.2.1: Promote production and availability of quality dairy animals	• Quantity of Semen doses produced and distributed annually. • Number of LGA staff and service providers trained on MOET and AI annually. • New AI centre for Southern highlands at Sao Hill established by 2015. • Number of pure breed dairy cattle and genetic material imported annually. • Number of dairy breeder associations established and strengthened by 2016. • Number of Livestock Multiplication Units supported • Number of new LMU's established.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
A2.2.3: Strengthen the capacity of traditional livestock milk producers.	• Number of private sector involved in the provision of technical support services and production of dairy animals (Heifer in Trust Scheme) promoted by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 2.3: Egg Production increased	• Number of eggs produced annually	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A2.3.1: Promote production of quality eggs	• Number of commercial farms and hatcheries established annually • Number of poultry farmers provided with technical support services annually • Number of formed poultry farmer's associations by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 2.4: Hides and Skins industry developed	• Quantity and quality of hides and skins produced annually. • Number of livestock farmers improving production and productivity of hides and skins annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
A2.4.1: Promote production and collection of quality hides and skins	• Number of pieces of improved hides and skins produced annually • Number tanneries processing improved hides and skins at their fully capacity annually. • Number of processing facilities of hides and skins rehabilitated annually. • Number of persons trained in production of quality hides and skins annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 2.5: Use of animal draught power increased	• Number of livestock farmers using animal draught power annually.		
A2.5.1: Promote the production and use of draught animals	• Number of animal draught power centres established for support of multiplication and training of draught animals annually. • Number of rehabilitated animal draught power centres. • Number farmers and livestock farmers sensitized and trained on the use of draught animals annually. • Number of technical animal draught power operators trained annually. • Number of draught animals produced and trained annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
Output 2.6: Production, processing and utilization of other livestock by –products increased.	• Extent of increase in the level of other products production by 2016 • Extent of change in other products productivity by 2016 • Proportion of poultry farmers improving production and productivity of other products by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A2.6.1: Promote production, storage, processing and utilization of other livestock by-products.	• Quantity of other livestock by-products produced processed and utilized annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MITM progress report.	
A2.6.2: Promote production and utilization of manure and biogas	• Number of livestock farmers sensitized on the use of manure and biogas annually. • Number of digesters constructed annually	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Specific objective 3: To improve livestock support services delivery and empowerment			
Output 3.1: Livestock research improved	• Number and type of technologies developed and adopted	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
		• COSTEC reports • Research institutions reports	
A3.1.1: Develop technologies for improving livestock production and productivity	• Number of livestock research institute and centres rehabilitated, constructed and equipped annually • Number of improved livestock breeds annually. • Number of developed technologies to improve quality and shelf life of livestock products. • Type of livestock feeding regimes and feed resources technologies developed by 2016. • Number of improved livestock species adopted. • Degree of adoption of various dairy and meet technologies developed.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • COSTEC reports • Research institutions reports	
A.3.1.2: Promote conservation of potential indigenous breeds.	• Types of identified potential livestock genetic resources/germplasm by 2016. • Number of established and strengthened gene bank centres by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • COSTEC reports • Research institutions reports	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
Output 3.2: Livestock feed resources research improved	• Number and type of available of improved livestock feeds technologies annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • COSTEC reports • Research institutions reports	
A3.2.1: Promote and support research on feed resources production and utilization	• Quantity of potential pastures and forage genetic materials developed by 2016. • Types of livestock feed resources developed by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • COSTEC reports • Research institutions reports	
Output 3.3: Animal Diseases Research improved	• Number of available disease control and cure technologies developed	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • COSTEC reports • Research institutions reports	
3.16.1: Promote and strengthen research on livestock diseases prevention and control	• Number of animal diseases control methods developed by 2016.	• Ministry of Livestock and Fisheries Development reports.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	• Types of animal disease drugs and vaccines developed by 2016 • Number of staff trained on animal diseases control annually. • Number of livestock research institutions strengthened by 2016	• LGAs progress reports. • LSDP M&E reports and periodic surveys. • COSTEC reports • Research institutions reports	
A3.3.2: Strengthen quality control of animal diseases vaccines	• Types of vaccines tested for efficacy, potency and safety annually. • Number of assessment on developed vaccines and other biological to environment and livelihood annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • COSTEC reports • Research institutions reports	
A3.3.3: Strengthen research on quality control of livestock inputs and foods of animal origin	• Number of research on quality control of animal inputs and food of animal origin conducted annually. • Types of research conducted on veterinary drugs, acaricide residues, aflatoxins and other contaminants of animal feeds origin annually • 6 Types of methods for quality control of animal inputs and food of animal origin developed by 2016	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • COSTEC reports • Research institutions reports	
A3.3.4: Strengthen the Laboratory capacity for early	• Number of Scientists trained annually	• Ministry of Livestock and Fisheries Development	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
detection, identification, response and mapping of known TADs and Re-emerging infectious diseases.	• Number of veterinary laboratories retooled and rehabilitated for diagnosis and control of TADs and Re-emerging infectious diseases annually.	reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 3.4: Livestock training improved	• Number of human resources in livestock sector trained annually	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A3.4.1: Strengthen capacity of livestock human resources and stakeholders.	• Number Livestock Training Institutes retooled and rehabilitated annually. • Number of review curricula and programmes for livestock training by 2016 • Number of Tutors trained at MSc level by 2016. • Number of livestock farmers and other stakeholders trained in Livestock Training Institutes.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 3.5: Livestock extension improved	• Proportion of livestock farmers with access to extension services annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
3.5.1 Strengthen and support livestock extension services delivery for both public and private sectors.	• Number of livestock farmers with access to extension services annually. • Number of extension services packages developed by 2016. • Proportion of livestock farmers receiving extension services annually. • Number of livestock extension staff (both public and private) and farmers trained annually	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 3.6: Livestock farmers empowered	• Number of farmers' groups, networks, organizations and associations formed and operationalized annually. • Number of livestock farmers trained on issues related to empowerment annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A3.6.1: Promote and support livestock farmers' empowerment through formation of groups, networks, associations and organizations.	• Number of farmers' groups, networks, organizations and associations formed and strengthened annually. • Number of livestock farmers trained on management and entrepreneurship skills annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 3.7: Surveillance and laboratory diagnosis improved	• Number of VIC strengthened (human resource, infrastructure, equipment and tools) annually. • The extent of improvement of Central Veterinary Laboratory	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	annually.	periodic surveys.	
A3.7.1: Strengthen disease surveillance system	• Number of Livestock Development Centres established at ward level annually. • Number of laboratories rehabilitated, constructed and equipped at District level by 2016. • Number of VICs rehabilitated and constructed by 2016. • Number of staff trained on animal disease surveillance annually. • Proportion of livestock farmers trained on timely reporting of diseases annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A3.7.2: Strengthen laboratory capacity for carrying out quality control tests	• Number of laboratories equipped with appropriate detection and quantization tests facilities by 2016. • Number of staff trained on quality assurance annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A3.7.3: Promote and support surveillance on quality of livestock inputs and products.	• Proportion of livestock inputs sample that meets standards. • Number of stakeholder's sensitized on quality management of livestock inputs and products.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
Specific objective 4: To improve animal diseases control and veterinary public health			
Output 4.1: Trans-boundary Animal Diseases controlled.	• Incidences of Trans-boundary Animal Diseases reduced significantly	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A4.1.1: Strengthen capacity to control livestock movement and zoosanitary inspectorate services.	• Number of equipped zoosanitary checks points by 2016. • Number of staffs trained on Trans-boundary Animal Diseases control by 2016 • Number of established disease free zones by 2016. • Number of livestock farmers sensitized on importance of controlled livestock movements	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A4.1.2: Improve capacity for early warning, detection and response	• Number of facilities for improving early warning, detection and response by 2016. • Proportion of livestock community sensitized on early warning, detection and response by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 4.2: Control of parasitic, Vector and Vector Borne Diseases improved.	• Reduction level of incidences of parasitic, Vector and Vector Borne Diseases by 2016	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
		periodic surveys.	
A4.2.1: Promote and Strengthen control of parasitic diseases.	• Number of livestock farmers sensitized on control of parasitic diseases • Types of control methods for ticks and tsetse developed by 2016 • Types of medicinal plants developed and used to control livestock parasitic diseases by 2016 • Number of surveys conducted for parasitic diseases by 2011.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A4.2.2: Promote and Strengthen control of ticks, tick-borne diseases and Helminthosis	• Number of dilapidated dips rehabilitated and new ones constructed by 2016. • Number of livestock farmers trained on control of ticks, tick-borne diseases and Helminthiosis annually. • Number animals vaccinated against East Coast Fever (ECF) annually. • Number of livestock farmers sensitized on the use of indigenous knowledge and medicinal plants for ticks and TBDs control. • Number of livestock technical staff trained in modern diagnostic and control technologies.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
A4.2.3: Strengthen Integrated Tsetse and Trypanosomosis Management.	• Number of LGAs with established tsetse free zones in selected regions by 2016 • Number of livestock farmers sensitized on tsetse and trypanosomes control methods annually. • Number of technical staff trained on new techniques for tsetse and trypanosome control.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 4.3: Veterinary public health improved	• Extent of incidences of zoonotic diseases reduced annually.	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MoHSW reports.	
A4.3.1: Strengthen zoonotic diseases control	• Number of animals screened, treated and vaccinated against zoonotic diseases annually. • Number of livestock farmers sensitized on veterinary public health annually. • Number of zoo-sanitary centres strengthened by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MoHSW reports.	
Specific objective 5: To promote livestock and livestock products marketing			
Output 5.1: Livestock marketing infrastructure improved.	• Number of livestock marketing infrastructure constructed, rehabilitated and equipped by 2016	MLFD reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MoHSW reports.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
A5.1.1: Promote investment and maintenance of livestock marketing infrastructures.	• Number of livestock marketing infrastructures established by 2016 • Number of livestock markets with required facilities (weighing scales, loading and off-loading rumps) installed annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MoHSW reports.	
A5.1.2: Promote compliance to standards in internal and international markets.	• Number of livestock stakeholders sensitized to meet standards in internal and external markets. • Number of new external market for livestock and livestock products identified annually	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MIT reports	
Output 5.2: Livestock marketing information improved	• Marketing information systems for livestock and livestock products in place	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MIT reports	
A5.2.1: Establish and strengthen livestock marketing information management system for data collection, processing and dissemination.	• Database units at LGAs for collection, processing and dissemination of data for livestock marketing in place by 2012. • User guidelines manual for market data collection, processing, storage, retrieval and dissemination in place by 2013 • Number of staff trained on livestock marketing data collection, processing, storage, retrieval and dissemination	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MIT reports	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	annually • Type of livestock marketing data collected, analysed, published and distributed annually.		
Output 5.3: Identification, Traceability Eco-labelling and animal welfare practiced	• The Livestock Identification and Traceability System and eco-labelling adapted. • Extent of animal welfare adherence	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A5.3.1: Promote and implement LITS to enhance livestock and livestock products production and quality improvement.	• Livestock Identification and Traceability System Database (LITSDB) in place by 2013 • Number of livestock farmers and other stakeholders trained and sensitized on LITS implementation annually.	• MLFD reports • LGAs progress reports. • LSDP M&E reports and periodic surveys.	Willingness of livestock farmers to participate in National Livestock Register.
A5.3.2: Promote and support animal welfare adherence to enhance livestock production and marketing.	• Number of illegal animal welfare practices reduced by 80% by 2014 and after. • Enforcement mechanisms for animal welfare in place by 2014 • Number of stakeholders trained and supported in animal welfare advocacy annually. • Numbers of schools and students trained on animal humane education annually. • Number of Animal Welfare Officers and Inspectors trained in animal welfare science and	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	• Effective law enforcement • Effective community involvement • Effective commitments by livestock farmers

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	operations annually • Number of public awareness campaigns on adaption and compliance with animal welfare and best practices		
Output 5.4: Processing and value addition improved	• Livestock and livestock products produced and processed into semi-finished or finished goods annually. • Quantity value added livestock products and by-products annually • Number of value addition of livestock products and by-products infrastructure established annually. • Value addition of livestock products increase by 10% per annum.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MITM reports	
A5.4.1: Promote milk collection and processing	• Number of stakeholders in dairy products produced and processed annually. • Quantity of dairy products produced and processed annually. • Number of dairy and livestock by-products value addition associations established and supported annually. • Number of milk collection centres and processing plants established by both public and private sector	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MITM reports	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	annually. • Number of stakeholders trained on quality and safe dairy products and by-products production annually. • Percentage increase in consumption of domestically produced dairy products and other by-products annually.		
A5.4.2: Establish and strengthen production of quality and safe meat and meat products.	• Quantity of quality and safe meet produced annually. • Number of livestock stakeholders sensitized on quality and safe meat production annually. • Number of meat value addition associations established annually. • Number of slabs and abattoirs constructed, rehabilitated and retooled annually. • Number of stakeholders trained on quality and safe meat production annually. • Extent of private sector investments in meat processing infrastructures by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MITM reports • MoHSW reports	
A5.4.3: Promote marketing of quality hides and skins.	• Number of quality pieces of hides and skins produced and processed annually. • Number of stakeholders sensitized on production of quality footwear	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
	and leather products annually. • Proportion of livestock farmers participating in management of hides and skins annually.	periodic surveys. • MITM reports.	
Specific objective 6: To improve legal and institutional framework			
Output 6.1: Regulatory framework for livestock sector strengthened.	• Policies, legislations and strategies related to livestock sector in place. • Number of Policies, legislations and strategies related to livestock sector developed by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A6.1.1: Harmonise and enforce various laws and regulations which oversee livestock industry and natural resources.	• Legal and regulatory framework for livestock sector improved by 2016. • Number of livestock stakeholders sensitized on various laws and regulations related to livestock sector annually. • Number of harmonised laws and regulations related to the livestock sector by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • Ministry of Home Affairs reports	
Output 6.2: Institutional framework for livestock sector development improved.	• Extent of institutional performance in coordinating and regulating livestock sector annually. • Institutional framework for livestock sector developed and implemented annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
A6.2.1: Improve institutional capacity for effective development and management of the sector.	• LSDP monitoring and evaluation framework in place by 2012. • Number of staff trained on LSDP management annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Specific objective 7: To accommodate cross cutting and cross-sectoral issues			
Output 7.1: Gender issues mainstreamed in the livestock sector.	• Extent of gender equity in the livestock sector. • Number of staff and other stakeholders trained on gender issues annually.	MLFD reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
A7.1.1: Promote gender mainstreaming in the livestock industry.	• Number of stakeholders sentized on gender issues in the livestock sector annually. • Amount of budget allocated for gender activities. • Types of gender friendly technologies for livestock production in place.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys.	
Output 7.2: Awareness on HIV/AIDS, Malaria and Tuberculosis increased.	• Extent of sensitization on HIV/AIDS, Malaria and Tuberculosis.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • Ministry of Health and Social Welfare reports	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
A7.2.1: Promote and support awareness creation on HIV/AIDS, Malaria and Tuberculosis.	• Number of staff sensitized on HIV/AIDS • Number of staff accessing Voluntary Counselling and Testing services. • Number of employees living with HIV/AIDS accessing care. • Number of HIV/AIDS awareness meeting conducted annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • Ministry of Health and Social Welfare reports	
Output 7.3: Environmental conservation in livestock communities promoted.	• Extent of environmental conservation in livestock communities. • Degree of environmental degradation by livestock keepers reduced annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • VPO reports.	
A7.3.1: Promote environmental conservation in the livestock industry.	• Number of stakeholders trained and sensitized on environmental conservation annually. • Number of stakeholders sensitized on climate change and its adaptation. • Proportion of the community sensitized on de-stocking in relation to grazingland carrying capacity annually. • Number of LGAs with rehabilitation programmes on degraded grazingland by 2016.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • VPO reports.	

Objectives Hierarchy	Objectively Verifiable Indicators	Means of Verification	Assumptions
Output 7.4: Business environment in livestock sector promoted.	• Extent of investment in livestock sector increased annually.	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MITM reports • Prime Minister's Office • TIC reports	
A7.4.1: Promote investment in the livestock industry.	• Existence of conducive investment environment for private sector; • Existence of guarantee schemes to investors; • Evidence of efforts to encourage establishment of livestock insurance schemes; • Number of livestock stakeholders accessing credit facilities; • Number of established of savings and credit societies and associations	• Ministry of Livestock and Fisheries Development reports. • LGAs progress reports. • LSDP M&E reports and periodic surveys. • MITM reports • Prime Minister's Office • TIC reports	

ANNEX 2

LIVESTOCK SECTOR DEVELOPMENT PROGRAMME ACTIVITIES ESTIMATED COSTS (TSH. "000,000")

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
4.1 LIVESTOCK RESOURCE COMPONENT								
4.1.1 Grazing-land Development	Develop and implement grazing-land management plans	Facilitate the National Land Use Planning Commission (NLUPC) to Survey and demarcate grazing land in 1,600 villages from 80 districts with livestock potential and inventories available resources	7,500	6,500	6,200	3,800	-	24,000
		Establish grazing land management and monitoring plans in 80 districts with livestock potential	400	400	400	-	-	1,200
		Create awareness on the importance of establishing grazing-land management plan in 1600 villages from 80 districts with livestock potential	600	600	400	-	-	1,600
		Support technical backstopping in implementation of grazing-land management plan in 1600 villages from 80 districts with livestock potential	1,100	1,200	1,300	1,400	1,400	6,400

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Prepare and implement grazing-land technical backstopping module for pastoral and agro-pastoral in 1200 villages from 60 districts with livestock potential	250	250	250	250	250	1,250
		Support training on Participatory Land Use Management (PLUM) in 1600 villages from 80 districts with livestock potential	300	400	400	300	200	1,600
Total Intervention			**10,150**	**9,350**	**8,950**	**5,750**	**1,850**	**36,050**
	Strengthen early Warning system and provide timely information and mitigation strategies.	Establish and operationalize early warning systems centres in 7 existing zones	2,000	2,175	1,000	1,000	1,000	7,175
		Create awareness to Pastoralists and agro-pastoralists' community and other stakeholders in 1600 villages from 80 districts with livestock potential	400	400	400	400	0	1,600
		Prepare and disseminate guidelines on climate change mitigation and adaptation for livestock sector	320	120	0	0	0	440

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Build capacity to 41 staff on Livestock Early Warning System from National level (2), Regional level (25) and existing zones level (14).	300	400	345	400	400	1,845
Total Intervention			**3,020**	**3,095**	**1,745**	**1,800**	**1,400**	**11,060**
Total Sub Component			**13,170**	**12,445**	**10,695**	**7,550**	**3,250**	**47,110**
4.1.2: Pastures Development	Promote production and utilization of improved pasture, pastures seeds and fodder trees.	Establish irrigation infrastructure (dams, water reservoir and deep wells) in 8 public pasture and pasture seeds farms (Vikuge, Langwira, Kizota, Mabuki, Kongwa, Mivumoni, Buhuri and Sao Hill)	2,800	2,800	2,800	0	0	8,400
		Retool 8 public pasture and pasture seeds farms with agro-mechanization equipment and transport facilities (Vikuge, Langwira, Kizota, Mabuki, Kongwa, Mivumoni, Buhuri and Sao Hill).	4,000	5,500	900	0	0	10,400
		Establish 80 demonstration farms for pasture and pasture seeds production and a system of pasture seeds dissemination to pasture farmers in 80 districts.	800	800	1,800	600	800	4,800

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Train 122 staff from 80 LGAs in short and long courses on pasture development.	550	500	460	260	60	1,830
		Increase acreage in 8 public pastures and pasture seed farms by 4,500 acres.	650	650	650	300	0	2,250
		Train 8,000 livestock farmers in 80 districts on pasture production and conservation.	150	150	100	50	50	500
		Facilitate 80 LGAs on fodder tree planting nurseries.	800	800	800	800	800	4,000
		Sensitize private sector in 7 zones to invest in and use of livestock farm machinery in commercial production and conservation of pasture	150	150	150	150	100	700
Total Intervention			**9,900**	**11,350**	**7,660**	**2,160**	**1,810**	**32,880**
	Improvement of in-situ pastures	Control of invasive pasture species in 80 LGAs with demarcated grazingland	300	300	200	200	200	1,200
		Improve in-situ pastures by over-sowing and re-planting of degraded pasture demarcated grazingland from 1,600 villages.	4,000	4,000	4,000	2,000	2,000	16,000
		Train and sensitize 8,000 livestock farmers on conservation and harvesting of in-situ pasture.	100	100	100	100	100	500
Total Intervention			**4,400**	**4,400**	**4,300**	**2,300**	**2,300**	**17,700**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Total Sub Component			**14,300**	**15,750**	**11,960**	**4,460**	**4,110**	**50,580**
4.1.3: Animal Feeds and Feed Additives	Promote animal feeds and feed additives production, processing and marketing	Survey and inventorise animal feed factories in all regions	50	50	40	40	20	200
		Sensitize formation of zonal and national livestock feeds producers and processors associations	220	200	0	0	0	420
		Train and sensitize 800 livestock farmers and feed processors on production, processing and marketing of animal feeds in 80 LGAs	90	90	90	100	110	480
Total Intervention			**360**	**340**	**130**	**140**	**130**	**1,100**
	Promote animal feeds and feed additives quality control and laboratory services	Train 133 animal feeds inspectors from all LGAs on animal feeds and feeds additives quality control	130	136	0	0	0	266
		Formulate and disseminate to stakeholders animal feed standards and guidelines	120	120	180	180	0	600
		Establish and operationalize grazing-land and animal feeds inspection services in 133 districts.	400	400	300	230	0	1,330
Total Intervention			**650**	**656**	**480**	**410**	0	**2,196**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	Promote utilization of agro and industrial by-products as animal feed resources.	Train and sensitize 8,000 livestock farmers from 80 LGAs on improvement of crop residues and use of industrial by-products for animal feed.	1,800	1,500	1,600	1,700	1,400	8,000
Total Intervention			**1,800**	**1,500**	**1,600**	**1,700**	**1,400**	**8,000**
Total Sub Component			**2,810**	**2,496**	**2,210**	**2,250**	**1,530**	**11,296**
4.1.4 Water for Livestock	Promote availability of sustainable water sources for livestock	Conduct survey and inventorize, water sources for livestock in 80 LGAs	4,000	3,000	1,000	0	0	8,000
		Construct 400 chaco dams in 80 LGAs for livestock	8,000	8,000	8,000	8,000	8,000	40,000
		Construct 200 small dams in 80 LGAs for livestock	20,000	20,000	20,000	20,000	20,000	100,000
		Construct 500 bore holes in 80 LGAs for livestock	8,000	8,000	8,000	8,000	8,000	40,000
		Train and sensitize livestock farmers in 80 LGAs on water harvesting techniques	400	300	300	300	300	1,600
Total Intervention			**40,400**	**39,300**	**37,300**	**36,300**	**36,300**	**189,600**
Total Sub Component			**40,400**	**39,300**	**37,300**	**36,300**	**36,300**	**189,600**
TOTAL COMPONENT			**70,680**	**69,991**	**62,165**	**50,560**	**45,190**	**298,586**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
4.2 LIVESTOCK PRODUCTION AND PRODUCTIVITY COMPONENT								
4.2.1 Meat Production	Increase availability of fast growing and consistent supply of quality meat animals.	Support establishment of 25 bull centres in all regions.	8,000	7,000	5,000	0	0	20,000
		Establish five (5) goat and sheep multiplication farms in Mtwara, Singida, Iringa, Kigoma and Kilimanjaro.	2,000	2,000	1,000	0	0	5,000
		Train and sensitize 20,000 small and 800 medium livestock farmers on animal fattening in areas with livestock potential.	2,400	2,000	2,000	2,000	2,000	10,400
		Strengthen feed-loting infrastructure in 10 public ranches and 5 LMUs	6,000	3,000	750	0	0	9,750
		Facilitate 10 public ranches and 5 LMUs pasture farms to produce livestock supplementary feeds for livestock fattening.	2,930	3,060	4,300	4,810	4,400	19,500
		Facilitate 10 public ranches and 5 LMUs to supply parent stock which have high genetic potential for fattening.	9,000	8,000	3,550	0	0	20,550
		Establish storage and distribution of meat and meat products value chain system in 80 districts.	10,000	9,000	7,000	6,000	4,000	36,000

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Support joint venture initiatives in establishing goat and sheep production in 10 NARCO ranches and promote feedlot production system	4,700	4,700	4,700	4,700	4,700	23,500
		Train and sensitize 12,000 farmers to improve their traditional cattle through Artificial Insemination (AI) and embryo transfer technology in 80 LGAs.	1,800	1,200	1,000	1,000	1,000	6,000
		Facilitate NAIC - Arusha to train 1,470 service providers on AI and embryo transfer from all LGAs.	180	165	150	140	100	735
		Build operate and transfer 5 meat plants in Arusha, Mbeya, Mara, Kagera and Shinyanga.	10,800	10,800	10,800	10,800	10,800	54,000
		Conduct studies on market opportunities for livestock and livestock products.	500	500	500	500	500	2,500
Total Intervention			**58,310**	**51,425**	**40,750**	**29,950**	**27,500**	**207,935**
Total Sub-component			**58,310**	**51,425**	**40,750**	**29,950**	**27,500**	**207,935**
4.2.2 Milk Production	Promote production and availability of quality dairy animals	Strengthen NAIC Usa River Arusha to purchasing 43 bulls, AI equipment and machinery; and rehabilitate farm infrastructure.	890	600	120	0	0	1,610

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Establish new artificial insemination centre for Southern highlands at Sao Hill.	500	6,000	3,000	1,500	0	11,000
		Strengthen seven zonal AI centers in Coast (Kibaha), Central (Dodoma), Lake (Mwanza), Southern Highlands (Mbeya), South (Lindi), Eastern (Tanga) and Wetern (Tabora)	161	105	105	0	0	371
		Establish 2 new Artificial Insemination centers in Iringa and Kagera	800	220	0	0	0	1,020
		Train 800 staff from 80 LGAs and 1,200 private service providers on MOET and AI for dairy animals	600	500	400	300	200	2,000
		Import 3,000 dairy cattle for multiplication at LMU - Kitulo	1,800	1,800	1,800	1,800	1,800	9,000
		Promote establishment of dairy breeder associations at zonal and national level	50	50	30	30	30	190
		Facilitate NAIC to import quality genetic material (embryo and semen) of dairy animals.	900	700	800	700	120	3,220

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Strengthen 5 Livestock Multiplication Units (Sao Hill, Ngerengere, Kitulo, Nangaramo & Mabuki)	5,000	4,000	3,000	2,000	1,900	15,900
		Establish 5 new LMU's at Kigoma, Tabora, Rukwa, Singida and Manyara	6,000	4,000	3,000	2,000	0	15,000
Total Intervention			16,701	17,975	12,255	8,330	4,050	59,311
	Strengthen the capacity of traditional livestock milk producers.	Support private sector involvement in the provision of technical support services and production of dairy animals (Heifer in Trust Scheme) in Mbeya, Iringa, Morogoro, Lindi, Pwani, Mwanza, Manyara, Arusha, Tanga, Ruvuma, Kagera and Rukwa regions.	1,410	1,300	1,290	1,240	1,240	6,480
Total Intervention			1,410	1,300	1,290	1,240	1,240	6,480
Total Sub-component			18,111	19,275	13,545	9,570	5,290	65,791
4.2.3 Egg Production	Promote production of quality eggs and chicken meat	Support establishment of 5 breeders and 10 commercial farms and hatcheries in 10 regions of Dar es Salaam, Arusha, Kilimanjaro, Iringa, Pwani, Morogoro, Mwanza, Mbeya, Singida and Dodoma	2,500	2,000	1,500	1,500	0	7,500

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Support improvement of local chicken through use of exotic breeds in all LGAs.	4,700	2,500	2,500	2,500	2,500	14,700
		Facilitate formation of poultry farmer's associations in national (1), zonal(7) and regions (25).	120	80	50	40	40	330
Total Intervention			4,820	2,580	2,550	2,540	2,540	15,030
Total Sub-component			4,820	2,580	2,550	2,540	2,540	15,030
4.2.4 Hides and Skins Development	Promote production and collection of quality hides and skins	Facilitate inspection in 80 LGAs for hides and skins quality assurance	430	400	450	550	650	2,480
		Train 7,350 collectors and processors of hides and skins on production and marketing of quality hides and skins in all LGAs	1,800	1,800	1,200	1,100	1,450	7,350
		Strengthen existing and promote formulation of new hides and skins association at district, regional and zonal level	300	200	100	100	100	800
		Build operate and transfer hides and skins tanneries in Dodoma, Moshi and Shinyanga.	4,000	6,000	5,000	0	0	15,000
Total Intervention			**6,530**	**8,400**	**6,750**	**1,750**	**2,200**	**25,630**
Total Sub-component			**6,530**	**8,400**	**6,750**	**1,750**	**2,200**	**25,630**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
4.2.5: Animal draught power	Promote the production and use of draught animals	Establish 25 animal draught power centres for support of multiplication and training of draught animals in all region	800	700	700	600	450	3,250
		Train and sensitize 1,470 farmers and livestock keepers on the use of draught animals in all districts.	220	160	160	130	65	735
		Train 147 technical draught power operators in all LGAs	118	90	90	70	0	368
Total Intervention			**1,138**	**950**	**950**	**800**	**515**	**4,353**
Total Sub-component			**1,138**	**950**	**950**	**800**	**515**	**4,353**
4.2.6: Other Livestock by - products	Promote production, storage, processing and utilization of other livestock by-products.	Train and sensitize value addition to 800 collectors and processors of other livestock by-products from 80 districts with livestock potential.	200	200	180	140	80	800
		Facilitate collection of livestock by-products for industrial processing in 80 LGAs with livestock Potential	400	500	600	600	840	2,940
		Promote private sector investment in the use of livestock by-products in 80 districts with other livestock by-products potential.	110	100	80	60	50	400
Total Intervention			**710**	**800**	**860**	**800**	**970**	**4,140**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	Promote production and utilization of manure and bio-gas.	Train 147 ToT from all LGAs and sensitize livestock keepers on bio-gas technologies in all LGAs.	100	100	100	100	100	500
		Construct three (3) demonstration digesters in 147 districts.	190	180	180	170	162	882
Total Intervention			**290**	**280**	**280**	**270**	**262**	**1,382**
Total Sub-component			**1,000**	**1,080**	**1,140**	**1,070**	**1,232**	**5,522**
TOTAL COMPONENT			**89,909**	**83,710**	**65,685**	**45,680**	**39,277**	**324,261**
4.3 LIVESTOCK SUPPORT SERVICES DELIVERY AND EMPOWERMENT COMPONENT								
(a) Dairy Cattle Research								
4.3.1 Livestock research	Develop technologies for improving dairy production and productivity	Facilitate NLRI-Mpwapwa and 6 zonal LRCs to breed and select indigenous livestock.	2,000	3,000	4,000	3,000	4,000	16,000
		Rehabilitate, build and equip NLRI-Mpwapwa and 6 zonal LRCs	7,000	7,000	7,000	3,000	3,000	27,000
		Facilitate 6 LRCs to evaluate biotechnologies for improved dairy breeds.	353	352	352	268	268	1,593
		Strengthen collaboration with relevant dairy research stakeholders.	120	120	120	104	104	568

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Facilitate 6 LRCs and other dairy research stakeholders to conduct research on appropriate technologies for improvement of quality and shelf life of dairy products.	2,000	1,500	1,000	900	800	6,200
		Facilitate 6 LRCs and other stakeholders to establish various livestock feeding regimes and emerging feed resources.	300	280	280	270	260	1,390
		Facilitate 6 LRCs and other dairy research stakeholders to conduct on-farm testing of improved livestock breeds.	120	200	200	220	220	960
		Facilitate 6 LRCs and other dairy research stakeholders to assess adoption rate of various dairy technologies.	200	320	440	440	460	1,860
		Facilitate NLRI-Mpwapwa, 6 LRCs and other dairy research stakeholders to strengthen coordination and collaboration with relevant international, regional and national institutions in dairy research.	170	170	177	177	177	871
Total Intervention			**12,263**	**12,942**	**13,569**	**8,379**	**9,289**	**56,442**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
(b) Beef Cattle Research								
	Develop technologies for improving beef production and productivity.	Facilitate NLRI-Mpwapwa, 6 zonal LRCs and other beef research stakeholders to select and breed indigenous livestock.	61	100	120	120	130	531
		Facilitate NLRI - Mpwapwa and 6 LRCs to evaluate biotechnologies for improved beef breeds.	50	50	40	40	40	220
		Facilitate NLRI-Mpwapwa and 6 LRCs and other stakeholders to establish livestock feeding regimes and emerging feed resources for beef animals.	170	170	177	177	177	871
		Facilitate NLRI-Mpwapwa and 6 LRCs and other beef research stakeholders to conduct on-farm testing of improved beef livestock breeds.	350	350	340	340	340	1,720
		Facilitate 6 LRCs and other beef research stakeholders to assess adoption rate of various beef technologies.	70	70	70	70	70	350

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Strengthen collaboration with relevant international, regional and national institutions in beef research.	50	50	50	50	50	250
Total Intervention			**751**	**790**	**797**	**797**	**807**	**3,942**
	Promote conservation of potential indigenous breeds.	Facilitate NLRI-Mpwapwa to identify potential livestock genetic resources/germplasm.	150	110	80	80	80	500
		Establish and strengthen gene bank centers in NLRI-Mpwapwa, NAIC-Arusha and 7 LMUs.	120	100	100	90	90	500
Total Intervention			**270**	**210**	**180**	**170**	**170**	**1,000**
(c) Sheep and Goat Research								
	Promote research on appropriate technologies for sheep and goats production	Facilitate NLRI-Mpwapwa and 6 LRCs to select and breed indegenous sheep and goat.	240	200	160	100	90	790
		Facilitate NLRI-Mpwapwa and 6 LRCs to evaluate bio-technologies for improved Sheep and goat breed	70	70	70	70	70	350
		Facilitate NLRI-Mpwapwa and 6 LRCs to establish various sheep and goat feeding regimes and emerging feed resources.	130	130	110	100	90	560

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Facilitate NLRI-Mpwapwa and 6 LRCs to conduct on-farm testing of improved sheep and goat breeds.	130	160	180	190	100	760
		Facilitate NLRI-Mpwapwa and 6 LRCs to conduct impact assessment on developed sheep and goat technologies.	140	120	100	100	100	560
Total Intervention			**710**	**680**	**620**	**560**	**450**	**3,020**
(d) Pig and Poultry Research								
	Develop and disseminate appropriate technologies for Pig and poultry production in the domains of breeding and feeding.	Facilitate NLRI-Mpwapwa, 6 LRCs and other livestock research institutions to select and breed hybrid pig and chicken.	400	300	200	200	100	1,200
		Facilitate NLRI-Mpwapwa and 6 LRCs and other livestock research institutions to establish various poultry and pig feeding regimes and emerging feed resources.	270	170	177	177	177	971
		Facilitate NLRI-Mpwapwa and 6 LRCs and other livestock research institutions to Conduct on-farm testing of improved pig and poultry breeds.	125	130	130	140	150	675

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Facilitate NLRI-Mpwapwa and 6 LRCs to conduct impact assessment on developed pig and poultry technologies.	54	64	74	77	80	349
Total Intervention			**849**	**664**	**581**	**594**	**507**	**3,195**
(e) Pasture and Forage Research								
	Promote and support research on pastures and forage production and utilization.	Facilitate PRC-Kongwa, 6 zonal LRCs and other livestock research institutions (SUA) to identify, introduce and evaluate potential pastures and forage genetic materials.	600	400	150	150	100	1,400
		Facilitate PRC-Kongwa, 6 zonal LRCs and other livestock research institutions to conduct research on rangeland resources management and utilization.	400	300	200	150	150	1,200
		Strengthen collaboration with relevant international and regional institutions in pasture research.	40	30	30	25	25	150

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Facilitate PRC-Kongwa, 6 zonal LRCs and other livestock research institutions to develop new pasture seed with high production and productivity.	321	421	421	435	435	2,033
Total Intervention			**1,361**	**1,151**	**801**	**760**	**710**	**4,783**
(f) Animal Diseases Research								
	Promote and strengthen research on livestock diseases prevention and control	Facilitate CVL and 7 VICs to conduct surveillance for determination of viral/bacterial field active foci for early identification and reaction	1,100	900	800	600	600	4,000
		Facilitate CVL to produce test reagents for possible use in laboratory diagnosis and control.	120	80	80	80	80	440
		Facilitate CVL to estimate prevalence of infection for diseases control and risk management	800	700	600	500	400	3,000
		Facilitate CVL and 7 VICs to conduct surveillance of new, emerging, or re-emerging dangerous pathogens and active viral search.	1,500	1,600	1,600	1,700	1,700	8,100

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Facilitate CVL to develop vaccines and other biological for PPR and CBPP and up scale production of Newcastle (100m doses), Blackquarter (500,000 doses) and Anthrax (500,000 doses) and Brucellosis (200,000 doses) diseases.	8,000	5,000	3,000	2,000	2,000	20,000
		Perform full investigation and characterization of "unknown" highly dangerous infectious zoonotic pathogens.	1,000	900	800	700	600	4,000
		Facilitate CVL to assess the impact of developed vaccines and other biological to environment and human livelihood.	0	60	120	60	60	300
Total Intervention			**12,520**	**9,240**	**7,000**	**5,640**	**5,440**	**39,840**
	Strengthen capacity building for early detection, identification, response and mapping of known TADs and re-emerging infectious diseases	Train 50 Scientists (30 laboratory technicians and 20 researchers) from CVL and VIC at Msc and PhD level.	200	200	250	300	300	1,250
		Retool and rehabilitate CVL for diagnosis and control of TADs and re-emerging infectious diseases.	450	390	360	300	0	1,500
Total Intervention			**650**	**590**	**610**	**600**	**300**	**2,750**
Total Sub-component			**29,374**	**26,267**	**24,158**	**17,500**	**17,673**	**114,972**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
4.3.2 Livestock training	Strengthen capacity of livestock human resources and stakeholders.	Retool, rehabilitate and build infrastructures in six (6) Livestock Training Institutes (LITIs)	6,000	5,000	4,000	3,000	3,000	21,000
		Review LITIs curricula and programmes for livestock training	220	200	80	0	0	500
		Train 80 Tutors at MSc level from 6 Livestock Training Institutes.	400	300	300	300	300	1,600
		Facilitate 6 LITIs to train 10,000 students in five years at certificate and diploma levels.	6,000	6,000	6,000	6,000	6,000	30,000
Total Intervention			**12,620**	**11,500**	**10,380**	**9,300**	**9,300**	**53,100**
Total Sub-component			**12,620**	**11,500**	**10,380**	**9,300**	**9,300**	**53,100**
4.3.3: Livestock extension	Strengthen and support livestock extension services delivery	Facilitate MLFD to identify knowledge gap for both public and private livestock extension service providers in all 147 LGAs	600	540	0	0	0	1,140
		Support MLFD to coordinate livestock extension services providers and undertake technical backstopping.	125	125	125	125	125	625
		Provide extension kits, vehicles (147) and motor cycles (3,000) in 147 LGAs						68,000

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Support training of 294 livestock extension staff at MSc level from all LGAs						5,880
		Support training of 147,000 farmers on new and improved livestock production technologies in all 147 LGAs	12,100	11,000	9,000	6,000	6,000	44,100
		Rehabilitate four (4) and build three (3) livestock infrastructure in seven (7) zonal agricultural show grounds	200	100	100	100	0	500
		Establish and equip TV and Radio programmes recording studios at national level	100	100	0	0	0	200
		Establish 147 livestock development centres in all LGAs	3,000	3,820	2,000	0	0	8,820
Total Intervention			**27,625**	**30,085**	**26,505**	**22,125**	**22,925**	**129,265**
Total Sub-component			**27,625**	**30,085**	**26,505**	**22,125**	**22,925**	**129,265**
4.3.4 Livestock farmers empowerment	Promote and support livestock farmers' empowerment through formation of groups, networks,	Facilitate 147 LGAs to sensitize formation and strengthening farmers' groups, organizations and associations	160	170	100	80	90	600
		Facilitate 147 LGAs to identify and inventorize livestock farmers' groups/associations	60	70	60	60	70	320

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	associations and organizations	Build capacity of 14,700 livestock farmers on management and entrepreneurship skills in all LGAs	1,200	1,000	900	800	510	4,410
Total Intervention			**1,420**	**1,240**	**1,060**	**940**	**670**	**5,330**
Total Sub-component			**1,420**	**1,240**	**1,060**	**940**	**670**	**5,330**
4.3.5 Surveillance and laboratory diagnosis assurance	Strengthen disease surveillance system	Rehabilitate, build and equip veterinary laboratories at District level.	2,450	1,400	1,200	1,200	1,100	7,350
		Rehabilitate and equip 6 Veterinary Investigation Centers	600	500	400	400	400	2,300
		Train 294 Livestock Officers on timely diseases reporting	80	74	50	50	40	294
		Provide 147 motor cycles, 147 computer sets in established livestock development centres to collect livestock diseases data at district level	1,100	600	211	0	0	1,911
Total Intervention			**4,230**	**2,574**	**1,861**	**1,650**	**1,540**	**1,855**
Total Sub-component			**4,230**	**2,574**	**1,861**	**1,650**	**1,540**	**1,855**
4.3.6 Quality Control and Safety Assurance	Strengthen laboratory capacity for carrying out	Equip seven (7) VICs laboratories with appropriate detection and quantitation tests	320	440	170	190	100	1,220

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	quality control tests	Support MLFD to sensitize and promote private sector investment in laboratory diagnostic services in all 25 regions.	30	40	45	50	55	220
Total Intervention			**350**	**480**	**215**	**240**	**155**	**1,440**
	Promote and support surveillance on quality of livestock inputs and food of animal origin	Facilitate seven (7) Zonal VICs to conduct surveillance on quality of animal feed resources and food of animal origin in all zones	264	297	330	362	295	1,548
		Facilitate seven (7) Zonal VICs to sensitize stakeholders on quality of livestock inputs and food of animal origin.	45	50	50	55	60	260
Total Intervention			**309**	**347**	**380**	**417**	**355**	**1,808**
Total Sub-component			**659**	**827**	**595**	**657**	**510**	**3,248**
TOTAL COMPONENT			**75,928**	**72,493**	**64,559**	**52,172**	**52,618**	**317,770**
4.4 ANIMAL DISEASES CONTROL AND VETERINARY PUBLIC HEALTH COMPONENT								
4.4.1 Trans-boundary Animal Diseases.	Strengthen capacity for livestock movement and zoosanitary inspectorate services.	Train and 7,350 sensitize livestock farmers and traders in all districts on the importance of vaccination and livestock health certification system.	1,100	900	800	600	275	3,675
		Equip and strengthen 35 zoosanitary border posts.	1,500	1,600	900	600	400	5,000

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Train 100 zoosanitary inspectors on zoosanitary inspectorate services in all centers.	50	50	40	30	30	200
		Establish 4 disease free zones compartments in Dodoma (Kongwa), Kagera (Misenyi), Rukwa (Sumbawanga) and Morogoro (Mvomero).	1,500	1,200	1,100	1,200	1,000	6,000
		Sensitize livestock farmers on livestock movement regulations in all LGAs.	2,400	1,500	1,500	1,000	950	7,350
		Facilitate CVL to develop and support centralized TADs control system.	150	150	90	60	50	500
Total Intervention			**6,700**	**5,400**	**4,430**	**3,490**	**2,705**	22,725
	Improve capacity for early warning, detection and response	Facilitate seven (7) zonal VICs to invest in early warning facilities	2,000	1,500	800	700	400	5,400
		Facilitate seven (7) zonal VICs to collaborate with stakeholders on Trans-boundary Animal Diseases detection and response.	100	120	130	140	140	630
		Facilitate MLFD to strengthen coordinating and reporting mechanisms on TADs.	500	500	400	400	300	2,100

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Support seven (7) VICs to sensitize livestock community on trans-boundary animal diseases early warning systems.	300	300	300	300	200	1,400
Total Intervention			**2,900**	**2,420**	**1,630**	**1,540**	**1,040**	**9,530**
Total Sub-component			**9,600**	**7,820**	**6,060**	**5,030**	**3,745**	**32,255**
(a) Parasitic Diseases								
4.4.2 Parasitic, Vector and Vector Borne Diseases.	Promote and Strengthen control of parasitic diseases.	Facilitate seven (7) zonal VICs to conduct survey and mapping for parasitic diseases in LGAs.	600	400	300	-	-	1,300
		Facilitate seven (7) zonal VICs to promote use of indigenous knowledge and medicinal plants in parasitic diseases control.	750	650	500	500	400	2,800
		Facilitate 25 regions and seven (7) zonal VICs to conduct awareness campaign on parasitic diseases.	200	200	200	200	200	1,000
Total Intervention			**1,550**	**1,250**	**1,000**	**700**	**600**	**5,100**
(b) Ticks and Tick-borne Diseases								
	Promote and Strengthen control of ticks, tick-borne diseases and Helminthosis	Facilitate seven (7) zonal VICs to conduct tick survey and mapping in all regions	200	200	100	100	100	700
		Facilitate 147 LGAs to rehabilitate 250 and construct 250 new dips	4,600	4,600	1,900	2,200	1,700	15,000

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Train 2,940 livestock farmer as ToT on dip management	350	350	300	250	220	1,470
		Facilitate vaccination of 2,850,000 cattle against East Coast Fever disease in all LGAs	11,880	11,880	11,780	10,730	10,730	57,000
		Facilitate seven (7) VICs to promote use of indigenous knowledge and medicinal plants in ticks and TBDs control in all LGAs.	350	350	300	300	300	1,600
		Facilitate seven (7) VICs to train 29,400 livestock farmers on modern livestock diseases diagnosis and control technologies	900	800	600	400	240	2,940
Total Intervention			**18,280**	**18,180**	**14,980**	**13,980**	**13,290**	**78,710**
(c) Control of Tsetse and Trypanosomosis								
	Strengthen Integrated Tsetse and Trypanosomosis Management.	Establish tsetse free areas in 16 regions of Lindi, Pwani, Tanga, Rukwa, Tabora, Kigoma, Arusha, Manyara, Mtwara, Mara, Kagera, Dodoma, Mbeya, Morogoro, Iringa and Ruvuma	600	600	400	400	0	2,000

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Facilitate regions to coordinate tsetse control activities in 16 tsetse infested regions	140	120	125	125	130	640
		Facilitate 16 regions to train 16,000 livestock farmers on tsetse control methods	400	400	300	300	200	1,600
Total Intervention			**1,140**	**1,120**	**825**	**825**	**330**	**4,240**
Total Sub-component			**20,970**	**20,550**	**16,805**	**15,505**	**14,220**	**88,050**
4.4.3 Veterinary public health	Strengthen zoonotic diseases control	Support 7 VICs to train 7,350 staff from LGA on screening, treatment and control zoonotic diseases.	735	735	735	735	735	3,675
		Facilitate 147 LGAs to vaccinate livestock against zoonotic diseases.	2,000	1,500	1,500	1,000	1,000	7,000
		Support and strengthen capacity in 147 LGAs on inspectorate services against zoonotic diseases	440	330	240	225	195	1,430
		Facilitate sensitization campaign on veterinary public health in all regions.	200	200	350	350	350	1,450
		Facilitate 7 VICs to conduct baseline survey and map zoonotic diseases areas in the whole country.	700	400	300	100	0	1,500

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Facilitate VCT to inspect veterinary standards and ethics in private and public practice facilities	100	100	100	100	100	500
Total Intervention			**4,175**	**3,265**	**3,225**	**2,510**	**2,380**	**15,555**
Total Sub-component			**4,175**	**3,265**	**3,225**	**2,510**	**2,380**	**15,555**
TOTAL COMPONENT			**34,745**	**31,635**	**26,090**	**23,045**	**20,345**	**135,860**
4.5 LIVESTOCK AND LIVESTOCK PRODUCTS MARKETING COMPONENT								
4.5.1 Livestock Marketing Infrastructure.	Promote investment and maintenance of livestock marketing infrastructures.	Facilitate 147 LGAs to establish inventory of livestock markets and marketing infrastructure.	600	500	370	0	0	1,470
		Rehabilitate 350 existing livestock markets	2,500	2,000	2,000	2,000	2,000	10,500
		Construct two (2) new livestock market in each region	18,000	16,000	14,000	2,000	0	50,000
		Install livestock weighing scales in 400 livestock markets.	4,000	4,000	4,000	0	0	12,000
		Conduct survey of 400 livestock market for legal land occupation title deed.	900	900	800	900	500	4,000
		Demarcate and fence 350 livestock market to discourage trespassing and human encroachment.	15,000	7,000	7,000	6,000	0	35,000
Total Intervention			**41,000**	**30,400**	**28,170**	**10,900**	**2,500**	**112,970**
Total Sub-component			**41,000**	**30,400**	**28,170**	**10,900**	**2,500**	**112,970**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
4.5.2 Livestock marketing information	Establish and strengthen a well coordinated and harmonized livestock marketing information management system for data collection, processing and dissemination	Establish, strengthen database units at 147 LGAs for collection, processing and dissemination of livestock marketing information.	1,100	940	900	0	0	2,940
		Train 329 staff from MLFD (10), Regional Secretariate (25) and LGAs (294) on livestock marketing data collection, processing, storage, retrieval and dissemination	200	100	95	0	0	395
		Facilitate LGAs to train 4,000 livestock farmers and traders on livestock marketing (commercialization and negotiation) skills.	400	400	400	400	400	2,000
		Facilitate and strengthen the existing livestock marketing association/groups networking in 80 districts with livestock potential.	800	800	800	800	800	4,000
Total Intervention			**2,500**	**2,240**	**2,195**	**1,200**	**1,200**	**9,335**
Total Sub-component			**2,500**	**2,240**	**2,195**	**1,200**	**1,200**	**9,335**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
4.5.3 Identification, Traceability Eco-labeling and animal welfare	Promote and implement LITS to enhance livestock and livestock products production and quality improvement.	Develop Livestock Identification and Traceability System Database (LITSDB)	2,000	0	0	0	0	2,000
		Provide LITS facilities to 147 LGAs in order to operationalize LITSDB	1,200	940	800	0	0	2,940
		Train 294 staff from LGAs on management of LITSDB	300	288	0	0	0	588
		Train livestock extension officers on livestock branding, ear tagging and livestock registration.	147	147	147	147	147	735
		Sensitize stakeholders in all LGAs on the use and importance of LITS.	532	400	338	200	0	1,470
Total Intervention			**4,179**	**1,775**	**1,285**	**347**	**147**	**7,733**
	Promote and support animal welfare adherence to enhance livestock production and marketing	Facilitate 147 LGAs to implement Animal Welfare Legal Framework	441	441	441	441	441	**2,205**
		Support existing animal welfare advocacy groups initiatives to work at grass root level	100	120	120	130	140	610
		Facilitate 147 LGAs to sensitize stakeholders awareness, adoption and compliance with animal welfare and best practices	700	700	540	500	500	2,940
Total Intervention			**1,241**	**1,261**	**1,101**	**1,071**	**1,081**	**5,755**
Total Sub-component			**5,420**	**3,036**	**2,386**	**1,418**	**1,228**	**13,488**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
4.5.4 Processing and Value Addition	Promote milk collection and processing.	Establish 300 milk collection centres in Kagera, Mwanza, Shinyanga, Mara, Arusha, Manyara, Kilimanjaro, Tanga, Morogoro, Pwani, Iringa and Mbeya.	2,000	2,000	2,000	0	0	6,000
		Establish 6 milk processing plants through public and private sector partnership in Mbeya, Morogoro, Arusha, Pwani, Mwanza and Kagera.	0	3,000	3,000	3,000	0	9,000
		Support LGAs to train 2,940 dairy farmers on production of quality and safe dairy products and by-products.	120	120	120	120	108	588
		Support implementation of School Milk Feeding programme (SMFP) in all LGAs	900	900	900	900	900	4,500
		Support LGAs, milk producers and processors to promote consumption of domestically produced dairy products and by-products.	900	800	800	800	800	4,100
Total Intervention			**3,920**	**6,820**	**6,820**	**4,820**	**1,808**	**24,188**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	Promote compliance to standards in internal and international markets.	Train and sensitize 225 small and medium scale producers of products of animal origin to produce products that meet international standards.	450	450	450	450	400	**2,200**
Total Intervention			**450**	**450**	**450**	**450**	**400**	**2,200**
	Establish and strengthen production of quality, safe meat and meat products	Promote establishment of 147 modern slabs in each region	3,000	2,000	1,000	800	550	7,350
		Promote establishment of six (6) modern abattoirs in Arusha, Mbeya, Shinyanga, Kagera, Mara and Singida	4,000	4,000	4,000	3,000	3,000	18,000
		Train 1,000 meat processors on meat and meat products value addition.	100	100	100	100	100	500
		Promote private sector investment in meat processing industries.	1,000	1,000	1,000	1,000	1,000	5,000
Total Intervention			**8,100**	**7,100**	**6,100**	**4,900**	**4,650**	**30,850**
	Promote production of quality of hides and skins.	Support 80 LGAs to promote use of standards and guidelines for improving hides and skins production, collection, processing and marketing.	2,000	2,000	2,000	1,000	1,000	8,000

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Facilitate 80 LGAs to promote establishment of improved systems for collection and preservation of hides and skins.	1,000	1,000	1,000	500	500	4,000
		Promote utilization of domestically produced leather products in the country	100	100	100	100	100	500
Total Intervention			**3,100**	**3,100**	**3,100**	**1,600**	**1,600**	**12,500**
Total Sub-component			**15,570**	**17,470**	**16,470**	**11,770**	**8,458**	**69,738**
TOTAL COMPONENT			**64,490**	**53,146**	**49,221**	**25,288**	**13,386**	**205,531**
4.6 LEGAL AND INSTITUTIONAL FRAMEWORK COMPONENT								
4.6.1 Regulatory Framework for the Livestock Sector	Strengthen institutional capacity for effective development and management of the sector.	Sensitize stakeholders on existing National Livestock Policy, laws and regulations related to livestock sector	200	200	200	200	200	1,000
		Rationalise and harmonise multiple laws and regulations impacting on the livestock sector	50	50	50	0	0	150
Total Intervention			**250**	**250**	**250**	**200**	**200**	**1,150**
Total Sub-component			**250**	**250**	**250**	**200**	**200**	**1,150**
4.6.2: Institutional Framework.	Improve institutional capacity for effective development & management of the sector	Build capacity of 200 staff responsible for sector coordination and management	200	200	200	200	200	1,000
		Strengthen collaboration with various stakeholders to improve LSDP implementation	100	150	200	200	100	750
Total Intervention			**300**	**350**	**400**	**400**	**300**	**1,750**

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	Strengthen co-ordination, Monitoring and Evaluation of LSDP	Strengthen the Department of Policy and Planning to monitor and evaluate LSDP.	600	650	700	800	1,000	3,750
		Coordinate plans formulation, budget allocation against various plans and their execution.	250	300	350	400	450	1,750
		Conduct annual performance assessment and review of LSDP implementation	3,000	3,200	3,500	3,700	4,000	17,400
		Conduct livestock total enumeration census	3,000	12,000	0	0	0	15,000
Total Intervention			**6,850**	**16,150**	**4,550**	**4,900**	**5,450**	**37,900**
Total Sub-component			**7,150**	**16,500**	**4,950**	**5,300**	**5,750**	**39,650**
TOTAL COMPONENT			**7,400**	**16,750**	**5,200**	**5,500**	**5,950**	**40,800**
4.7 CROSS CUTTING AND CROSS-SECTORAL ISSUES								
4.7.1 Gender Mainstreaming in the Livestock Industry	Promote gender mainstreaming in the livestock industry	Promote gender awareness in the livestock farming communities.	150	200	250	300	350	1,250
		Promote gender empowerment by facilitating equitable access and ownership of resources in the livestock sector.	100	120	140	160	180	700
		Promote and strengthen capacity for gender mainstreaming in the livestock sector	80	80	80	100	100	440
		Promote development of gender specific technologies	120	120	120	120	120	600

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		in livestock sector						
Total Intervention			**450**	**520**	**590**	**680**	**750**	**2,990**
Total Sub-component			**450**	**520**	**590**	**680**	**750**	**2,990**
4.7.2 HIV/AIDS, Malaria and Tuberculosis	Promote HIV/AIDS management capacity	Promote MLFD staff awareness on HIV/AIDS and VCT.	60	70	80	90	50	250
		Strengthen care and support to MLFD employees living with HIV/AIDS	80	80	80	80	80	400
		Strengthen collaboration with other stakeholders in the control of HIV/AIDS, TB and Malaria among livestock stakeholders	50	50	50	50	50	150
Total Intervention			**190**	**200**	**210**	**220**	**180**	**800**
Total Sub-component			**190**	**200**	**210**	**220**	**180**	**800**
4.7.3 Environmental conservation	Promote environmental conservation in the livestock sector	Train 899 livestock personnel on environmental management in all LGAs	100	90	90	60	20	360
		Sensitize livestock farmers on use of indigenous technical knowledge and conventional technologies for sustainable livestock production and environmental conservation	130	130	130	130	130	650
		Promote awareness to livestock farmers on climate change and adaptation in all LGAs	130	150	150	160	160	750

Sub-component	Interventions	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		Create livestock community awareness on stocking in relation to grazing-land carrying capacity in 80 LGAs with livestock potential	30	30	30	30	30	150
		Rehabilitate degraded grazing-land in 80 LGAs with livestock potential	400	400	400	200	200	1,600
Total Intervention			**790**	**800**	**800**	**580**	**540**	**3,510**
Total Sub-component			**790**	**800**	**800**	**580**	**540**	**3,510**
4.7.4 Business Environment	Promote investment in the livestock industry	Provide conducive investment environment for private sector	200	300	300	350	350	1,500
		Sensitize designated financial institutions to provide credit to the livestock industry	80	80	80	80	80	400
		Promote establishment of insurance schemes to cater for the livestock sector	100	100	110	110	110	530
		Promote and support establishment of livestock savings and credit societies and associations in all LGAs	120	111	100	60	50	441
Total Intervention			**500**	**591**	**590**	**600**	**590**	**2,871**
Total Sub-component			**500**	**591**	**590**	**600**	**590**	**2,871**
TOTAL COMPONENT			**1,930**	**2,111**	**2,190**	**2,080**	**2,060**	**10,171**
TOTAL PROGRAMME			**345,082**	**329,836**	**275,110**	**204,325**	**178,826**	**1,332,979**