Livestock Development in Ghana

Policies and Strategies

Ministry of Food and Agriculture

Animal Production Directorate
Veterinary Services Directorate
Livestock Planning & Information Unit

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List of Abbreviations

AAGDS	Accelerated Agricultural Growth and Development Strategy
AGSSIP	Agricultural Sector Services Investment Programme
APD	Animal Production Directorate
CLW	Community Livestock Worker
CBO	Community Based organization
DAC	Development Assistance Criteria
DA	District Assembly
DfID	Department for International Development
DOC	Department of Cooperatives
DOCs	Day old Chicks
ECG	Electricity Company of Ghana
EPA	Environmental Protection Agency
ERP	Economic Recovery Programme
FASDEP	Food and Agricultural Sector Development Policy
GASA	Ghana Animal Science Association
GDP	Gross Domestic Product
GGADP	Ghanaian German Agricultural Development Project
GLSS	Ghana Living Standards Survey
GoG	Government of Ghana
GPRS	Ghana Poverty Reduction Strategy
GWCL	Ghana Water Company of Ghana
LDC	Livestock Development Council
L.P.I.U	Livestock Planning and Information Unit.
MDA	Ministries, Departments and Agencies
MFEP	Ministry of finance and Economic Planning
MoFA	Ministry of Food and Agricultural
MoWH	Ministry of Works and Housing
MTADP	Medium Term Agricultural Development Project
MDG	Millennium Development Goals
NGO	Non-Governmental Organization

NLSP	National Livestock Services Project.
PARC	Pan-African Rinderpest Control
PRSP	Poverty Reduction Strategy Paper
RLRL	Role of Livestock in Rural Livelihoods
SAP	Structural Adjustment Programme
VPB	Veterinary Pharmacy Board
VSD	Veterinary Services Department
WASH	West Africa Short Horn
WG	Working Group

Table of Contents

List of Tables and Figures

Foreword

The livestock sub-sector is an important component of agriculture in the country. It is defined to include ruminants (cattle, sheep and goats), pigs. Poultry (chicken, guinea fowl, ducks, turkey, ostrich, etc), and non-conventional species (grasscutter, snail, guinea pigs, rabbits, etc). Prominent among the numerous contributions the livestock sub-sector makes to the economy of the country is food security, providing the animal protein to enhance the nutritional adequacy in diets of the people. The sub-sector provides employment opportunities for a large part of the population, particularly, in the rural areas and offers considerable prospects for wealth generation, income enhancement and improvement in rural livelihoods. The undesirably slow pace of the livestock sub-sector development in the country has created a situation whereby large volumes of ruminants, particularly, cattle are imported to slaughter, and frozen meat and dairy products are imported annually to meet the demand. The evidence throughout the world shows that as incomes increase, consumers reduce the consumption of carbohydrate foods in favour of meat and other livestock products. The situation which is gradually developing in the country will put more pressure to increase and sustain livestock growth and development to reduce the use of the scarce foreign exchange to import meat and livestock products..

The undesirable pace of livestock growth and development in the country is attributed largely to inadequate, ineffective and inefficient policies and strategies to implement them. There was the need therefore to review the existing livestock sub-sector policies and strategies and to design new ones where lacking, to address identifiable problems and constraints of growth and development. The expectation is that effective implementation of the comprehensive and coherent policies and strategies will lead to a rapid increase in the growth and development of the livestock sub-sector in the country.

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PART I

BACKGROUND AND FRAMEWORK FOR LIVESTOCK DEVELOPMENT

1. Introduction

This introduction brings out the reasons for the livestock development policy, the policy environment for livestock development, terms of reference, composition of the working group that developed the report, the working process of the development of the policies and the content of the report.

1.1 The Reason for Livestock Development Policy

The keeping of livestock is an important component of the agricultural sector and a pivotal link in the Ghanaian farming and livelihood systems. Even though the agro-ecology and climatic conditions are suitable and land is available, livestock keeping has not kept pace with the growth of human population. The slow pace of livestock development has been attributed to a number of factors, but more importantly, to the lack of the needed enabling environment for the livestock sub-sector to effect maximum contribution of livestock keeping activities to overall national development goals. As an initial step towards positioning the livestock sub-sector on the path for accelerated development, coherent and implementable livestock policies are required.

The lack of clear and coherent livestock policies in the country has been cited in many cases as contributing to the slow pace of livestock development. A recent study on 'the Role of Livestock in Rural Livelihoods in Ghana' (RLRL–Ghana), concluded that there was no overarching and coherent policy for livestock development in the country (MoFA/DFID, 2002). The Ghana Animal Science Association (GASA) in its communiqué to government after its 26th biennial conference held in Tamale in September 2002, bemoaned the absence of clear livestock policies as a major impediment to the development of the sub-sector. It is however acknowledged that some policies have been designed at specific times for some components in the livestock sub-sector, but these are scattered in different documents thus making it difficult to find them. Given the dynamic socio-cultural, economic and environmental conditions of the country, and the wider world that impact on the domestic conditions, more coherent livestock policies and review of existing ones for their appropriateness and effectiveness has become necessary. Particularly demanding the new over-arching

and coherent livestock development policy including the review of existing ones is the current national focus on poverty reduction and the effort to develop all sectors of the Ghanaian economy.

Livestock development is now seen to be about 'A transformation' of people's wider livelihoods and of the national economy. The development of livestock in the country is an important input to enhance food security, intensification of farming and poverty reduction, particularly, among the poor in the rural areas (MoFA, 1983; 1990; GPRS, 2001; MoFA/DFID, 2002).

1.2 Policy Environment for Livestock Development

Agriculture employs the vast majority of Ghana's employable population. The Ministry of Food and Agriculture (MoFA) has therefore always been at the forefront of supporting Ghana's development strategies and goals. Following Ghana's Economic Recovery Programme (ERP) and the Structural Adjustment Programme (SAP) in the 1980's, MoFA developed the Medium Term Agricultural Development Plan (MTADP) in furtherance of agricultural development. The goal of the overall agricultural policy framework was geared towards *'building a conducive enabling environment that promotes growth and development, catalyses private sector response, produces more efficiently and therefore competitively essential agricultural products for both domestic and export markets and consistent with social objectives of poverty alleviation and sound ecological management…'* The ERP/SAP led to many policy and institutional reforms. These included decentralisation, liberalisation, privatisation and civil service reform.

In the livestock sub-sector, the relevant policy and institutional reforms were pursued under the National Livestock Services Project (NLSP) of 1992-99 in support of the MTADP. This is clearly enunciated in the 1992 livestock policy statement that heralded the NLSP (World Bank appraisal report, 1992). Aside the investment component of the project (as discussed later in the report) the institutional and policy reforms included; full cost recovery for government, closing down non-productive government farms, restructuring MoFA's animal production and health services and

community participation in livestock development, streamlining public and private sector roles and operation and maintenance of livestock water supplies.

In the late 1990's Ghana's economic growth rates were not adequate to achieve Ghana's 'Vision 2020' which had been articulated at the time and aimed to transform Ghana into a middle income country. There was the need to accelerate Ghana's growth rates to between 6 -8% per annum. In the livestock sub-sector, although some successes were documented under the NLSP that supported the MTADP, the overall impact especially, on the livelihoods of the rural poor was deemed low. Livestock development policies and strategies to put the sub-sector on the path of accelerated livestock development were imminent. MoFA launched an Accelerated Agricultural Growth and Development Strategy (AAGDS) to support the 'Vision 2020'. Around this same time (late 1990's) a lot of changes in the political, socio-economic and in development thrust occurred at both the national and international fronts.

In the international arena, the advent of the 'Millennium Development Goals' (MDG) which aim to reduce world poverty by half by the year 2015, fuelled development of poverty reduction framework (often as PRSP) in the agenda in many developing countries including Ghana. Also, many international bodies consequently streamlined their vision and activities to support this over-riding goal of poverty reduction. Ghana developed the 'Ghana poverty Reduction Strategy' (GPRS).

All development agenda in Ghana are now thus being guided by the Ghana Poverty Reduction Strategy (GPRS) which clearly outlines five areas for policy intervention in its strategy. The five areas include; i) macro-economic stability, ii) production of gainful employment, iii) human resource development and provision of basic services, iv) special programmes for the vulnerable and excluded and v) governance (GPRS, 2003). The recently (2003) launched Food and Agricultural Sector Development Policy (FASDEP) is firmly rooted in the GPRS. Under the FASDEP, the new mission statement for the MoFA is '*… to promote sustainable agriculture and thriving agribusiness through research and technology development, effective extension and other support services to*

farmers, fishermen, processors and traders for improved human livelihood' (FASDEP.2003).

The implementing strategy for the FASDEP is constituted under the five elements of the AAGDS of 1997. These are;

1. Enhanced human resource and institutional capacity
2. Improved financial services delivery
3. Development, dissemination of and adoption of appropriate technology
4. Improved rural infrastructure
5. Promotion of selected commodities improved access to markets.

Out of the five implementing programmes under the AAGDS guided by the FASDEP, the Agricultural Services Sub-sector Investment Programme (AgSSIP) is the major instrument that aims to promote equitable growth and poverty reduction in support of services delivery. With positive interfaces between livestock keeping and poverty being shown in many developing countries (Seinfeld, 2000) and in Ghana (MoFA/DFID, 2002), the AgSSIP presents a new arena for livestock development activities and brings the role of the livestock sub-sector into sharp focus. Of particular significance to the livestock sub-sector, is the fact that all donors who support livestock work and research agreed in their meeting in Kent in 2000, on the vision '*Poverty alleviation through improved livestock production facilitated through collaboration'*. This vision is now guiding Development Assistance Criteria (DAC) targets. This obviously impacts directly on livestock development approaches in developing countries and brings to the fore the need for new directions, approach and paradigms for livestock development. It is against the backdrop of such policy environment fashioned by both national and international shifts that Ghana now seeks to develop appropriate livestock policies and strategies.

This document is thus long overdue and represents the over-arching livestock development policies and strategies in response to all the changes that have occurred, and at a time that cannot be more opportune for the livestock sub-sector in Ghana.

1.3 Terms of Reference and Working Group

In April 2003, the Ministry of Food and Agriculture (MoFA) inaugurated a working group (WG) with a broad mandate to develop comprehensive policies and strategies to guide accelerated development of the livestock sub-sector that also supports the livelihoods of the rural poor and consistent with the wider agricultural and national development goals and policies. The mandate of the WG included formulating a vision to guide the long term development of the livestock sub-sector that should form the basis for setting goals, designing policies and formulating strategies. In the short to medium term, the policies and strategies should be consistent with the Agricultural Sub-sector Services Investment Programme (AgSSIP) and the wider macro policies, public sector decentralization, privatisation and liberalization of the economy, etc. The membership of the WG (see appendix 1) was therefore carefully selected to provide specific inputs.

1.4 Working Process

The WG deliberations were preceded by an audit of relevant policy documents. The WG reviewed many documents that are presented in the list of bibliography. This enabled the WG to put in perspective, the current situation in the livestock sub-sector in the country. The WG members as well as others who were invited for specific issues were also tasked on several occasions to produce short write-ups on issues concerning their specific areas of representation.

To widen the consultative process adopted even further, the draft report of the policies and strategies was presented at zonal workshops for discussion and input of other stakeholder groups at four centres across the country (Tamale, Kumasi, Cape Coast and Accra) representing different agro-ecological zones. This was to ensure acceptance and ownership of the policies and strategies and prepare for successful implementation.

The WG in their deliberations reviewed the role of livestock in household consumption and food security, supply of inputs for agricultural and industrial

production, etc. and identified and ranked the livestock species kept for different purposes. The stakeholders in the livestock sub-sector were also identified and discussed with them their problems, constraints, challenges and prospects. The livestock keepers were grouped on the basis of their objectives or motives in discussing their problems, constraints, challenges and prospects. The trends in the production of the different livestock species were reviewed along with their regional distribution as far as time series data permitted. The WG also reviewed the livestock keeping systems and the programmes and projects implemented in the past and on-going.

All the reviews and discussions formed the basis for formulating a vision and appropriate policies and strategies for livestock development in the country. The WG also identified who should do what (private / public sectors) in the implementation of the policies and strategies in the short and medium terms.

The consultants were tasked to do functional analysis of public institutions, and needs assessment of private stakeholders. These are produced in separate reports.

1.5 Report Content

The report is divided into three parts. Part I provides background information and framework for livestock development. This part highlights the reasons for livestock development policy, policy environment for livestock development, terms of reference and WG and processes as section I. Section II of part I covers livestock contribution to agriculture and the economy in general and rural development. Also included in this section is the livestock-industry-linkage and livestock production environment. Section III of part I contains past and current livestock development agenda and assessment of factors impacting on livestock development.

Part II of the report presents the situation analysis and has four sections that include the structure of the livestock sub-sector, livestock production trends and keeping systems, livestock production problems and constraints, and prospects for increasing livestock production and reducing poverty.

Part III is devoted to vision and goals of future livestock development and policies and strategies that would promote effective development of the sub-sector.

2. Livestock in Agriculture, Economic and Rural Development

This section covers contributions and goals of livestock in agriculture, economic and rural development.

2.1 Contributions to Agriculture and Economy

The livestock sub-sector contributes in many areas in the agricultural and industrial sectors and the economy in general, including the GDP, food security, import substitution, employment and poverty reduction, rural livelihoods and transport, etc.

2.1.1 Contribution to Gross Domestic Product

The contribution of the livestock sub-sector to the agricultural GDP is estimated to be small as compared with the crops sub-sector. Estimation of the contribution of livestock to the economy based on GDP terms tends to underestimate livestock's contribution to many aspects of the socio-economy that go beyond marketed output (MoFA/DFID, 2002). The most recent data in 1987 show that the livestock sub-sector contributed 7 percent to the agricultural GDP. It was only higher than the fisheries sub-sector that contributed 5 percent. The crops sub-sector including cocoa contributed 77 percent and the remaining 23 percent were the contribution from the forestry, livestock and fisheries sub-sectors (MOFA, 2001). The low contribution of the livestock sub-sector to the agricultural GDP can be attributed to the low populations of livestock caused by the inadequate attention paid to the development of the sub-sector. The livestock sub-sector has the potential to develop considerably and therefore contribute a higher proportion to the agricultural GDP in future.

2.1.2 Contribution to Food Security

The definition of food security has many elements. Those currently emphasised by the Ministry of Food and Agriculture (MoFA) include good quality nutritious food, hygienically packaged, attractively presented, available in sufficient quantities all year round and located at the right place at affordable prices (FASDEP 2003).

The livestock sub-sector contributes directly to food security by supplying part of the daily calorie and the protein intake essential for nutritional adequacy. However, the

contributions to these important food security variables have been unimpressive as well as declined in the last 30 years (Table 2). The contribution of animal products that include livestock and fisheries to calorie intake per capita was 5.9 percent in 1975 and declined in a fluctuating fashion to 4.5% in 2000. The contribution to the daily protein intake per capita also declined almost steadily from 16.4 grams or 31% of the total in 1975 to 14.6 grams or 27% of the total in 2000 (Table 1).

The observed trend in developed economies is that as household income increases, the type of food consumed shifts steadily from predominantly vegetable products to animal products (meat and dairy products). The shift improves substantially the nutritional adequacy of households resulting in good health. However, excesses in meat consumption have negative health implications. The declining consumption of animal products as indicated by the calorie and protein intakes suggest that either household incomes did not increase or rather declined in the 30 years under consideration; or the supply of animal products from both the local and imported sources did not keep pace with increasing demand contributed partly by population growth and increased urbanisation. The analysis of livestock population later in the report supports the latter. Thus, the livestock sub-sector was not effective in playing its role in food security.

Table 1: Daily Calorie and Protein Intake in Ghana, 1970-2000

Year	Daily Calorie Intake			Daily Protein Intake (Grams)		
	Total	Vegetable Source	Animal Source	Total	Vegetable Source	Animal Source
2000	2,613	95.5	4.5	54.0	39.4	14.6
1995	2,467	96.2	3.8	49.9	37.6	12.3
1990	1,829	94.1	5.9	42.3	28.3	14.0
1985	1,916	94.9	5.1	42.5	29.8	12.7
1980	1,701	94.2	5.8	40.1	27.4	12.7
1975	2,131	94.1	5.9	48.2	31.8	16.4
1970	2,346	94.2	5.8	52.5	36.4	16.1

Source: FAO (series), Food Balance Sheets, Rome

Import Substitution

The country allocates substantial part of its scarce foreign exchange to import large volumes of livestock, meat and dairy products annually to supplement local production. However, the country has the necessary natural and human resources to increase domestic production to substitute for the imports. It is estimated that the country is only 30% self-sufficient in the supply of animal products for consumption.

2.1.4 Volume of Imports

The available statistics on livestock imports cover dressed or processed livestock, dairy products and animals imported live for slaughter. It is estimated that a high percentage of cattle slaughtered annually are imported from the northern Sahelian countries, particularly, Niger, Burkina Faso and Mali (Table 2).

Table 2: Volume of Live Animal Imported 1981-99

Year	*Cattle*	*Sheep*	*Goats*	*Pigs*	*Poultry (DOCs)*
1981	5889	2011	131	14	1091
1982	1070	3501	1701	1	13613
1983	0	0	0	0	0
1984	350	720	476	0	20
1985	371	9169	2324	0	159
1986	137	56	20	0	32
1987	0	3	1	0	501000
1988	325	253	28	2	0
1989	188	151	11	200	339000
1990	364	329	32	0	na
1991	21	259	118	0	na
1992	60	158	3	0	na
1993	13	351	387	6	na
1994	35	885	240	0	na
1995	252	99	17	1	na
1996	16105	4989	5212	0	na
1997	57411	8082	9176	0	na
1998	71377	12648	16522	0	48816
1999	55681	9545	10709	100	47700

Source: Veterinary Services Directorate of MoFA, Accra

na = not available

The volumes of livestock products imported from 1992 to 2002 are shown in Table 3. They include beef (cattle and buffalo), mutton, goat meat, Poultry meat (chicken, turkey and duck), pork and dairy products. Small volumes of rabbit meat were imported irregularly; for example, 200 kg of whole dressed rabbit meat were imported in 1997.

The volume of beef imported annually was the highest in the first half of the 1990s and since 1996, poultry products including whole and parts of chicken, turkey and ducks have been the highest. The volume of turkey imported however declined steadily from 3,000 mt in 1997 to 74 mt in 2001. In 2002, the imports increased by over 10 fold to 766 mt. The volume of ducks imported has been rather small. It was 13 mt in 1993 and 9 mt in 1997. From1992 onwards, it ranged from zero to 3 mt. Imports of chicken were exceptionally high in 2001, over 30,000 mt and dropped by 34% to nearly 20,000 mt in 2002 (Table 4). In the earlier years, the volume of chicken products imported increased from about 2,300 mt in 1992 to nearly 11,000 mt in 1999. The volume of pork imported increased to about 2,100 mt in 1995 and declined almost steadily to only 358 mt in 2000. The volume, however, increased in 2001 and 2002, reaching a very high level of nearly 8,000 mt.

The volumes of the different types of animal products imported annually showed considerable fluctuations. This was partly caused by disease outbreaks in the major exporting countries, such as the mad cow disease in Europe that led to a temporary ban on beef imports from those major sources and encouraged increased imports of poultry products.

Table 3: Volume of Imports of Meat and Dairy Products, 1992-2002 (mt)

Year	Beef	Mutton	Goat meat	Chicken	Duck	Turkey	Pork	Processed Meat	Dairy Products
1992	16,097	11	0	2,314	0	2,146	1,404	571	2,173
1993	19,123	204	0	3,085	13	1,833	2,048	265	2,172
1994	7,362	62	0	1,848	2	954	1,661	171	3,874
1995	8,241	165	119	3,160	0	2,268	2,142	25	8,505
1996	3,408	78	7	3,682	0	2,779	1,801	89	5,639
1997	1,817	142	0	5,891	9	3,048	741	130	6,141
1998	1,618	855	0	7,291	3	2,241	758	184	10,101
1999	2,568	423	0	10,766	3	1,491	772	83	7,407
2000	870	237	74	9,160	2	386	358	107	1,881
2001	154	478	0	30,261	2	74	1,661	80	1,549
2002	1,064	1,285	0	19,986	0	766	7,738	134	866

Source: Ministry of Food and Agriculture (2000), Monitoring of Meat and Animal \ Products Imports, Occasional Report No.9, No.10, Livestock Planning and Information Unit, Accra

2.2 Contributions to Rural Livelihoods

Livestock make significant contributions to rural livelihoods including employment and poverty reduction, multiple functions of livestock keeping, livestock and crop farming linkage and rural transportation.

2.2.1 Employment and Poverty Reduction

The agricultural sector is the major employer of the economically active population in the country. In the 2000 population census this proportion was estimated as 56% (GSS, 2002)

Many of the agricultural households keep livestock enterprises alongside crop enterprises. The GSS (1995) projected from a sample survey carried out in 1991/92 that 1.5 million households in the country raised at least one type of livestock. In another survey carried out in 1998/99, the number of households that raised livestock had decreased by 1.9% to 1.472 million. This was 53% of the total households engaged in agricultural enterprises (GSS, 2000).

The decrease in the number of households was as a result of the decrease in the households that reared rabbit, chicken and some other livestock. The number of households that reared ruminants (cattle, sheep and goats), pigs and other poultry such as ducks, increased (Table 4).

Table 4: Households Raising Livestock, 1991/92 - 1998/99

Livestock	Households (000)		Annual	Percent Households	
	1991/92	1998/99	Change %	1991/92	1998/99
Cattle	150	176	2.5	10.0	12.0
Sheep	470	502	1.0	31.3	34.1
Goat	730	812	1.6	48.7	55.2
Pigs	110	168	7.5	7.3	11.4
Rabbit	10	8	-2.9	0.7	0.5
Chicken	1,300	1,164	-1.5	86.7	79.1
Other Poultry	250	291	2.3	16.7	19.8
Other livestock	50	18	-9.1	3.3	1.2
Total	1,500	1,472	0.3	100.0	100.0

Source: Ghana Statistical Service (2000), GLSS Round Four Report

In a more recent study (MoFA/DFID, 2002), the proportion of livestock keeping households irrespective of engaging in agricultural enterprises or not was estimated at 2 million or 76% of rural Ghanaian households (Table 5)

Keeping of livestock employs a relatively higher proportion of the rural population than the urban population. In terms of the distribution of livestock, 99 percent were in the rural areas and the remaining 1% was in urban and per-urban areas.

Table 5: Livestock Numbers and Distribution in Ghana

Species	Total numbers in Ghana	Number of Rural households keeping each species	% Rural households keeping each species[a]
Poultry	18m	1.6m	64%
Goats	2.7m	0.9m	43%
Sheep	2.5m	0.8m	31%
Pigs	0.37m	0.5m	21%
Cattle	1.2m	0.5m	19%
Any Species		2.0m	76%

Source: Ashley & Annor-Frempong (2003)

[a]: Percentages do not add up to 100% due to multiple counting of household owning more than one livestock species

The proportions of distribution by locality varied considerably among the livestock types (Table 6). Cattle had highest proportion (20.6%) kept in the urban areas, followed by chicken and other poultry (18.4%), rabbit (15.4%) and pigs (11.4%).

Table 6: Distribution of Livestock by Locality 1998/99 ('000 Heads)

Livestock	Total Rural		Total Urban		Total Ghana	
	Freq	%	Freq	%	Freq	%
Cattle	1,270	79.4	330	20.6	1,600	100.0
Sheep	868,236	99.9	382	0.1	868,618	100.0
Goat	2,015,707	99.9	679	0.1	2,016,386	100.0
Pigs	1,045	88.6	134	11.4	1,179	100.0
Rabbit	33	84.6	6	15.4	39	100.0
Chicken	269,615	89.1	32,857	10.9	302,472	100.0
Other Poultry	3,151	92.5	256	7.5	3,407	100.0
Other livestock	55	87.3	8	12.7	63	100.0
Total	3,159,288	98.9	34,661	1.1	3,193,765	100.0

Source: Ghana Statistical Service (2000)

Livestock are kept in many households to generate income more than for subsistence, howbeit small the income generated. In the rural households the keeping of livestock goes beyond income and subsistence. In the poor households, particularly in rural communities, livestock are kept in support of their wider livelihoods (MoFA/DFID, 2002). The livestock species kept and numbers kept per household are closely linked to wealth status of households (Table 7)

Table 7: Livestock Numbers* in Rural Households for Different Wealth Classes in Ghana

Species	Rich Households			Self-Sufficient Households			Poor Households		
	Coastal Savannah	Transi-tion	Northern Savannah	Coastal Savannah	Trans-ition	Northern Savannah	Coastal Savannah	Trans-ition	Northern Savannah
Cattle	440	31	110	20	20	20	Nil	nil	13
Sheep	62	30	26	15	30	15	10	6	11
Goats	24	25	45	24	10	25	Nil	nil	nil
Pigs	nil	110	26	45	nil	20	Nil	nil	nil
Poultry	69	6000	109	70	40	60	12	10	50

Source: MoFA/DFID, 2002- Role of Livestock in Rural Livelihoods

*highest numbers encountered per household in each category during survey

2.2.2 Livestock's Multiple Functions in Rural Livelihoods

Many rural households keep livestock for the purpose of sustaining livelihood. Keeping livestock plays a major role as a safety net that enables households to get quick incomes to settle urgent financial needs such as buying food and farm inputs, settling hospital bills, school fees, expenses for funerals, marriages, etc. (MoFA/DFID, 2002). Keeping livestock by poor households serves as a cash buffer as well as deterrent against inflation and therefore provide income stability for the farm households (Kyomo, 1998). Over 50% of rural households keep livestock for security and bank (Table 8). This underscores the issue of vulnerability of rural people and the need to reduce risks in the rural environment. Also, 27% of households (usually non-poor) have profit motives owing to the fact that these households have a wider asset base and may be able to cope with higher risks than the poorer households.

The multiple roles of livestock in rural livelihoods can be grouped under six areas.

Livestock are kept to;

- enable savings and credit
- provide security and reduce vulnerability
- accumulate assets and widen asset base
- finance planned expenditures
- maintain social capital
- provide products

Table 8: Reasons for Keeping Livestock in rural Livelihoods

Reason [a]	% Households valuing reason*
Security and Bank	54
Selling for school or hospital bills or Farm inputs	40
Selling for subsistence: mainly buying food	35
Profit motive	27

Source: MoFA/DFID, 2002- Role of Livestock in Rural Livelihoods

[a]: Estimated from percentage of first two important reasons cited by respondents

*****Percentage stands alone of total households

2.2.3 Livestock - Crop Farming Linkage (Mixed Farming)

In mixed farming systems, livestock provide manure not only to improve the soil fertility but also the soil structure. The use of manure in crop farming is being promoted against the use of chemical fertilisers that are being discouraged, particularly for food commodities entering the world market. The use of manure leaves virtually no chemical residue in the food produced and therefore preferred. Intensive use of manure could reduce the quantity of chemical fertilisers imported and thereby conserve the scarce foreign exchange and improve the country's constant balance of trade deficit.

Livestock also provides draft power in tilling the land, especially in small-scale farming where it increases the area cultivated by about 60% (World Bank, 1992). By using draft power in tillage the country saves foreign exchange through reduced importation of tractors and equipment and also petroleum products.

2.2.4 Rural Transportation

In many rural communities with poor access roads to markets centres, particularly in the northern Savannah zone, rural transportation is mainly in the form of animal drawn carts.

Even where mechanical transport (vehicles) is available, animal drawn carts are important as they are reliable, low cost, require no fuel and usually owned by the farm households. They are used to transport virtually anything, moving farm produce from the farm to home and from home to the market, carrying water, household goods, farm supplies and also people to various places.

2.3 Livestock-Industry Linkage

The agricultural sector has both forward and backward linkages with the industrial sector. In the forward linkage, the agricultural sector supplies raw materials that are essential inputs in agro-based industries. In the backward linkage, the industrial sector provides the agricultural sector with inputs, particularly, machinery, agrochemicals

and feed. In effect, the two sectors provide markets for each other's output as input. Among the industrial sub-sectors with linkage to livestock sub-sector are the leather industry and meat processing enterprises which are beginning in the country. At this early stage, their main constraints include inadequate supply of livestock for processing. The large volumes of imported processed meat of all types and dairy products annually in the country indicate the importance of the domestic livestock production to meet this demand which is increasing.

2.4 Livestock and the Environment

Livestock keeping has both positive and negative effects on the environment. The mixed farming system has the potential of curtailing the practice of shifting cultivation which puts a heavy demand on the use of farm land. With increasing population pressure, the period of land fallow has been progressively reduced leading to eventual destruction of the vegetation and exposure of the fragile top soil to erosion.

The use of chemical fertilizers to restore soil fertility has some negative environmental consequences. A long term use of chemical fertilisers can lead to a build up of chemical residues at levels which could be harmful to the soil, plant (crop) and human (consumption of food). As indicated earlier, these are contrary to the use of manure.

On the other hand, if livestock keeping is not properly managed, it can cause environmental pollution. For example poor management / disposal of poultry waste, cow dung, etc. providing breeding grounds for flies and contamination of water bodies. Livestock keeping can also contribute to land degradation through deforestation, overgrazing and desertification. Though the estimated negative impact due to overgrazing in Ghana may appear small, the influx of transhumance livestock may predispose the country to significant overgrazing in some areas. Ruminants, especially cattle, produce a lot of methane gas and thus contribute substantially to global warming (Kyomo 1998).

3. Livestock Development Agenda

3.1 Past and current Objectives and Plans

In spite of the many contributions that the livestock sub-sector makes to economic development, the goals of livestock development as expressed in the economic development plans and agricultural development programmes since the early 1960s have been mainly in terms of nutrition (food security), increasing incomes of keepers and to a less extent providing farm power through animal traction (Table 9). The livestock species targeted for development included, poultry (chicken and guinea fowl), ruminants (cattle, sheep and goats) and pigs. The micro-livestock species received virtually no attention.

Table 9: Explicit Roles of Livestock in Agricultural and Economic Development

Period / Programme/Project /Plan	Goals of Agricultural Development	Goals for Livestock Development	Focus on Livestock species
1963/64-1969/70 (Seven-Year Development. Plan) (Plan was abrogated in 1966 after a military coup d'etat)	i). Improve nutrition and eliminate food deficits ii). Raise farm incomes, particularly, poor households in Savannah zone iii). Materials for export and domestic industries	Nutrition of the population	Mainly poultry
1975/76-1979/80 (Five Year-Dev. Plan)	i). Increase food production to ensure affordable prices ii). Progressively meet basic nutritional requirements iii). Increase productivity to release and generate resources for industrial development	To meet the protein needs of the people (p.62)	Cattle, sheep, goats, pigs and poultry
1980-81 Action Programme for Agricultural Production (APAP)	i). Increase production to raise nutritional levels ii). Raise rural incomes iii). Increase production	Increase nutrition of diets	Poultry and pigs

	for export and industrial growth		
1984-86 National Agricultural Short Term Action Plan (NASTAP)	i). Provide adequate food and balanced diet ii). Buffer stock for unforeseen food deficits	i). Increase animal protein in diets ii). Draught power	Sheep, goats, pigs and poultry in the short term Beef cattle in medium to long term
1991-2000 : Medium Term Agricultural Development Programme (MTADP)	i). Produce adequate food for nutritionally balanced diet at affordable prices ii). Create rural employment opportunities iii). Increase production of traditional and non-traditional for increased foreign exchange. iv). Increase production of industrial raw materials v). Promote regional growth for balanced national development	i). increase meat, milk and egg production ii). Increase income of livestock farmers, particularly, small holders	Beef and dairy cattle, sheep, goats, pigs, poultry (chicken /guinea fowl)
1997-2007 : Accelerated Agricultural Growth and Development Strategy (AAGDS)	i). Increase growth rate from 6% to 8% to achieve national goal of middle income country by 2020.	i). increase meat, milk and egg production ii). Increase income of livestock farmers, particularly, small holders (AAGDS, p.31)	Beef and dairy cattle, sheep, goats, pigs, poultry (chicken /guinea fowl)
2002-2006 Agricultural Sector Services Investment Programme (AgSSIP)	Reduce poverty and improve food security in an environmental sustainable basis	To promote economic growth and social equity from the livestock activities of particularly small scale producers	All Species, especially small stock

Sources: MoFA reports 1963-2003

3.2 Programmes, Projects and Activities for Livestock Development

3.2.1 Past and Current Programmes and Projects

Table 11 indicates that not many public projects were initiated in the last three decades specifically to develop the livestock sub-sector. For almost 20 years, livestock development was supported mainly through the Ghanaian-German Agricultural Development Project (GGADP) and the Pan-African Rinderpest Control (PARC). The focus of the GGADP was to reduce the incidence of trypanosomiasis through tsetse control and effective control of other animal diseases. The PARC was to control rinderpest.

A project that was designed solely for livestock development in the 1990s was the National Livestock Services Project (NLSP). It was launched in 1993 and run through 1999. The major components of the project were the improvement of health services, breeding stock, production technology, markets and rangeland utilization and resource management. The current project, namely, Livestock Development Project, was launched in July 2003. It is expected to run for a period of six years. The goals and objectives of the project include the improvement of breeding stock, provision of short and medium term credit for production, processing and marketing, training of staff, farmers and other entrepreneurs.

Many of the support for the livestock projects have been financed through the annual national budgets, particularly, activities designed as part of the Medium Term Agricultural Development Programme (1991-2000) and the Accelerated Agricultural development and Growth Strategy (2001-2007).

A few non-governmental organizations have also mounted projects since the late 1990s to support rural livelihoods through livestock keeping (Table 10). The projects mounted by the NGOs covered vaccination of rural chicken, supply of livestock to start an enterprise, and training of livestock keepers in feeding and housing.

Table 10: Livestock Related Projects Since 1978

Programme / Project / Activity	Objective / Goal	Duration of Implementation	Geographical Coverage
Livestock Development Project (LDP) Under the AAGDS	Improve breeding stock Provide short and medium term credit for production, processing and marketing Training of staff, farmers and entrepreneurs Reduce HIV/Aids, Guinea Worm and Malaria infestation through campaigns	2002-2008 (6 years)	National for animal health activities and the other activities in 25 districts in 7 regions Upper East, Upper West, Northern, Ashanti, Brong-Ahafo, Greater Accra and Volta.
National Livestock Services Project (NLSP) Under the MTADP	Improve access to livestock health services Improve breeding stock Improve animal production technology and Improve markets Improve rangeland utilization and Resource Management	1993-1999	National Cattle development emphasized 3 regions, Northern, Upper East and Upper West; Small ruminants, poultry and pigs in the south of the country and peri-urban areas; Dairy development in the Greater Accra Region
Ghanaian-German Veterinary Project (GGVP)	Tsetse control Enhance control of animal diseases through strengthening field services Strengthening central veterinary laboratory to support field services including bacterial vaccine production	1978-81 1985 - 91 1981 - 91	National Northern Region

Pan-African Rinderpest Control (PARC)	Mass vaccination of cattle annually against Rinderpest	1992-1996 /1996-1999	National
Pan-African Programme for the control of Epizootics (PACE)	To control other epizootic and Newcastle diseases	2001-2006	National
Vaccination of Rural Poultry with V4 I & 2 and Newcavac. (NGO—RICERCA & COOPERAZIONE)	Vaccination of layers and cockerels for crossing local hens – focus on female poultry keepers Provision of local poultry breeds to start backyard poultry keeping Provision of small ruminants to both men and women. Gift is passed on. Female progeny passed on to other families who do not have.	Since 1999 (on-going)	Not Available
Small Ruminants Project (NGO—World Vision International)	Supply of initial stock to selected keepers Provide training in feeding and housing	Since 1999 (on-going)	
Heifer International Project (NGO—Learning, Helping and Living)	Support for small ruminants rearing by both male and females keepers.	Since 1999 (on-going)	

3.2.2 Past and Current Activities for Livestock Development

In the annual budget statement and economic policy that government presents to parliament for approval, public sector activities earmarked for emphasis to promote livestock development are indicated. The activities related to on-going programmes

and projects. From the mid-1990s to 2003 the activities highlighted included the following:-

Provision of water sources by constructing dugouts and wells, dams, etc.

Provision of adequate feed by production of improved pasture seed, Intensification and maintenance of improved forage production, cropping heavily grazed rangelands, creating commercial grazing grounds, etc.

Importing and distributing improved breeds of livestock to farmers (guinea keets, Sahelian rams and billies, etc).

Improving indigenous breeds of cattle, sheep, goats and pigs for multiplication and distribution to farmers.

Provision for sustaining livestock health by mass vaccination of ruminants and poultry, developing simple to use, heat stable Newcastle vaccines to reduce mortality of village chicken.

Determining economic viability of fattening centres based on proper housing, health care and feeding.

Provision for profitable livestock keeping by introducing out-grower programme in the use of good breeds, husbandry practices and health care delivery.

Rehabilitation and restocking of stations with improved breeds

3.3 Qualitative Assessment of Factors Impacting on Livestock Development

Dapaah (1995) attempted a qualitative assessment of factors that impact on agricultural development in the country. The assessment was made on a range from most enabling as 1 to the most limiting as 5. With regard to livestock development, the most enabling factor was private sector involvement. In fact besides formal research and livestock genetics, the private sector dominates in all the activities carried out in the sub-sector. Three factors were assessed as enabling, these are private sector facilities, forward and backward linkages and ideal research funding (Table 11). The factors that were most limiting included grading and quality standards, market information availability and external market opportunities. There were 10 other factors that were also limiting including improved production

technology, transportation facilities and cost, Incentive prices, government support facilities, production risks and general perception (Table 11).

Table 11: Qualitative Assessment of Factors Impacting on Livestock Development in Ghana

Factor	Assessment*
Technology:	
Improved Production Technology	4
Agro-Processing Opportunities	3
Transportation Facilities / cost	4
Incentive Prices	4
Marketing and Standards:	
External Marketing Opportunities	4
Quality Standards	5
Grading Standards	5
Packaging Standards	4
Market Information Availability	5
Private Sector Involvement	1
Private sector Facilities	2
Government Support Facilities	4
Marketing Skills (National)	4
Benefit / Cost Ratio Ranking	3
Linkages:	
Forward and Backward Linkages	2
Level of Risk (Production)	4
Level of Risk (Marketing)	3
Off Season Production Activities	3
External Market Opportunities	5
Price Policy / Research Funding:	
Real Price Trends	3
Policy Consistency	3
Level of Implicit / Explicit Taxation	3
General Perception	4
Export Promotion Opportunities	4
Current Research Funding	3
Ideal Research Funding	2

Source: Dapaah (1995) cited in MoFA (2000b)

*1-most enabling, 2-enabling, 3-satisfactory, 4-limiting, 5-most limiting

4. Guidelines and Principles for Livestock Development Policy

The many lessons learnt from previous policies and programmes and the low impact of past programmes and projects have informed the development of current strategies and implementation of new programmes. Notable of such new programmes is the AgSSIP. The lessons mentioned here draw largely from the AgSSIP document (World Bank, 2000).

The relevant lessons combine assessments of the implementation of higher national policies such as decentralisation, privatisation and liberalisation and of some agricultural projects, specifically the National Livestock Services Project (NLSP).

4.1 Policy Reforms

A major issue for the implementation of decentralisation was that the pace of policy reforms is generally still slow. This presents problems to programmes and projects that set their objectives against these policies. For example, the decentralisation process being partial, presented complexities in the design of some projects that geared their implementation towards enhancing local participation. This was due to weak local government structures and community institutions. The deepening of the decentralisation process is thus expected to ensure relevance of interventions and empower rural communities to take decisions to participate more fully in their economic and social development and in the management of natural resources and other facilities.

4.2 Privatisation

It has also been noted, that against the background of low incomes of many clients - in this case livestock keepers, the success of full privatisation of public services can only be progressive with adequate support measures. Realistic levels of community contribution reflecting true ability to pay for services will enhance community participation. For instance, the Community Livestock Workers (CLW's) now known as Community Animal Health Workers (CAHW) who have been trained to provide specifically to first aid services to animals, need to be enticed to provide services hitherto provided by public agencies. Livestock services therefore need to be targeted

for efficiency and this requires acknowledging differences among livestock clients for the appropriate services.

4.3 Trade Liberalisation

Government's trade liberalisation resulted in increased imports of livestock products which was a disincentive for domestic production. This exposes clearly, weaknesses in institutional capacity of the MoFA and other regulatory agencies especially those that regulate imports of livestock and livestock products.

4.4 General approach to Development interventions

The AgSSIP document clearly spells out the pitfalls of project approach to development activities and some guidelines for future development of the agricultural sector in general.

The shortterm nature of project interventions, especially livestock projects, provides quick fixes and has failed to effect the required impact. To show visible impact, livestock projects require a longer life span and sustained support to provide sustainable solutions. Again the duration of the NLSP for example was too short.

Other lessons linked to projects include, weak monitoring systems and poor benchmarks and weak linkage of agriculture to poverty. The linkage of agriculture to poverty is not made explicitly in the objective statements of many projects and therefore no explicit targeting of the poor, although admittedly, some of the poor benefited from some of the project activities.

In view of the foregoing and in the face of the AgSSIP as well as results of specific studies in the livestock sub-sector, the 'HOW' to best achieve livestock development has been brought to question. The RLRL-Ghana study, that was carried out to inform the livestock component of the AgSSIP, clearly concluded its findings that if accelerated livestock development was to be achieved then major shifts need to be made in the approach to livestock development in Ghana.

A ten-point shift in approach provides constructive guiding principles for future livestock development policy. These include;

1. More emphasis on people (livestock keepers) than on products (livestock, milk, meat, eggs)
2. Demand driven and client-focused service delivery instead of supply driven delivery
3. The development of policies that recognise differences between livestock keepers and not blanket policies for all
4. Programmes that cater for the whole sector instead of project level approaches which have partial coverage
5. Policies and strategies that provide sustainable solutions instead of those that provide quick fixes
6. Strategies that change the system for the better instead of strategies which work within the current unworkable system
7. Policies in which government enables a range of actors instead of government delivering services itself
8. Policies that cater for all clients/stakeholders instead of policies that are selective
9. Policies that are consistent with higher national goals and priorities instead of inconsistent ones
10. Policies that are pro-poor and lead to wealth creation.

These guidelines and principles that are adopted in the development of new livestock policies are expected to remedy under achievements of previous livestock development approaches and ensure the achievement of a new vision for the livestock sub-sector.

PART II

SITUATION ANALYSIS OF THE LIVESTOCK SUB-SECTOR

5. Structure of the Livestock Sub-Sector

The structure of the livestock sub-sector is analysed from four perspectives; i). Livestock species kept. ii). Livestock keepers in the sub-sector. iii). Stakeholder activities in the sub-sector, and iv). Stakeholders and linkages.

5.1 Characterisation of Livestock

Livestock is used in its widest meaning in this document to include cattle, sheep, goats, pigs, poultry, micro-livestock, horses, donkeys and pets. The livestock species in the country can be classified into three in terms of their use as follows: i). for human consumption, ii). for draught power and iii). for recreation, pet and security. Livestock kept for human consumption include cattle, sheep, goats, pigs, poultry (chicken, ducks, turkey, guinea fowl and ostrich), grasscutters, rabbits, guinea pigs, and snails. The WG classified the importance of the livestock raised for human consumption as follows; i) important, ii) becoming important, iii) becoming less important and iv). not yet important. The criteria for the categorization were the following:-

Population of livestock
Contribution to nutrition
Contribution to import substitution (meat / dairy products)
Livestock-industry linkage
Crop – livestock production linkage (mixed farming, manure)
Contribution to GDP
Role in livelihood

Livestock for Human Consumption

In general, chicken is ranked the highest in importance followed by beef cattle, sheep and goats at the same level of importance. Pigs and dairy cattle followed in that order (Table 12). Grass-cutter is ranked the highest as becoming important followed by snail. The rearing of rabbits is becoming less important and guinea pigs as not yet important (Table 13). Ostrich production in the country though quite recent is assessed as potentially viable.

The three most important criteria used in ranking the livestock types are contribution to nutrition, livestock population (rate of increasing population) and contribution to livelihood (Table 13). These three factors should thus be the focus for supporting livestock development in the country. For ostrich, the most important criteria used for ranking it are contribution to GDP (32.4%), mixed farming (21.1%) and import substitution (9.9%).

Table 12: Importance of Livestock Species for Human Consumption

Livestock	Important		Becoming Important		Becoming Less Important		Not Yet Important		No Ranking		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Cattle Beef	12	86	0	0	0	0	0	0	2	14	14	100
Cattle Dairy	8	57	4	29	0	0	0	0	2	14	14	100
Sheep	12	86	2	14	0	0	0	0	0	0	14	100
Goats	12	86	2	14	0	0	0	0	0	0	14	100
Pigs	9	64	4	29	0	0	0	0	1	7	14	100
Poultry–Chicken	14	100	0	0	0	0	0	0	1	7	14	100
Guinea Fowl	12	92	1	8	0	0	0	0	0	0	13	100
Ducks	2	15	1	8	6	46	3	23	1	8	13	100
Turkey	6	46	5	39	2	15	0	0	0	0	13	100
Ostrich	0	0	13	100	0	0	0	0	0	0	13	100
Grass-cutter	0	0	14	100	0	0	0	0	0	0	14	100
Rabbit	1	7	3	21	9	64	1	7	0	0	14	100
Guinea Pig	0	0	0	0	2	14	10	71	2	14	14	100
Snail	0	0	9	64	3	21	2	14	0	0	14	100

Source: Working Group on Livestock Development Policy

Livestock for Draught Power

The livestock species kept exclusively for draught power in the country are mainly donkeys and also bullocks. The donkeys are used to cart goods and humans while the bullocks are used to till the land. Horses are mainly kept for sports and recreational purposes. While bullocks were not ranked by the group, donkeys were ranked by 71% as not yet important, 14% ranked it as becoming less important and 7% each ranked it as becoming important and important.

Table 13: Three Most Important Criteria for Ranking Livestock Types (Percentage)

Livestock type	Nutrition	Animal population	Livelihood
Dairy cattle	38	23	15
Beef cattle	50	25	17
Sheep	38	31	23
Goat	42	33	17
Pigs	44	22	22
Poultry Chicken	45	45	9
Guinea Fowl	33	12	47
Ducks	36	28	28
Turkey	24	31	32
Ostrich*	10	7	9
Grass-cutter	70	0	30
Snail	54	9	18
Rabbit	29	29	29
Guinea pig	44	11	33

Source: Working Group on Livestock Development Policy

Livestock for Recreation

The main livestock species kept in the country for recreation are horses, whilst those kept as pets and for security are dogs. The main recreations are sports and festivals. Horse racing is currently limited to Accra. It existed in Kumasi before the 1970s. For festivals, horses are used mainly among the ethnic groups in the northern Savannah zone where they convey a status symbol.

5.2 Characterisation of Livestock Keepers

On the basis of objective of livestock keeping and level of investment and the livelihood strategies they adopt, the livestock keepers in the country can be grouped into three as i). commercial, ii). Multiple-role and iii). Semi-commercial (dual-purpose).

5.2.1 Commercial Livestock Keepers

The commercial livestock keepers can be put in two categories; those who operate small scale enterprises and those who operate large industrial enterprises. The commercial small scale keepers form about 5% of rural households in the country. The large scale keepers are relatively small and are found mainly in the peri-urban and urban areas. Whilst some of the small scale keepers have banking/saving motives besides profit motives, the large industrial keepers have only profit motives. The commercial livestock keepers operate with the sole motive of making profit. They sell their stocks in batches on scheduled periods or when it makes economic sense though sometimes they do so at financial losses. Both large and commercial keepers are predominantly located in the urban and peri-urban areas and usually operate poultry, pig and cattle enterprises. The commercial keepers are particularly important due to their direct linkage to the marketed output they provide and the contribution of the livestock sub-sector to the gross domestic product (GDP).

5.2.2 Multiple-Role Livestock Keepers

There are two categories of multiple –role livestock keepers; the poor and the non-poor (table 14). The poor multiple role keepers form 43% of rural households and the non-poor multiple keepers form 28%.

5.2.2.1 Poor Multiple-Role Livestock Keepers

The poor multiple-role livestock keepers have mainly motives that are not profit oriented. These include the following; the use of livestock as a form of i).savings and credit, ii). widening asset base, iii) providing security / reducing vulnerability, iv). financing planned expenditure, v). building social capital, vi). Supplementation of food (meat, eggs and milk), vii). Providing draught power. They sell part of their stock when they have urgent need for cash to satisfy household obligations such as buying food and farm inputs, drugs for a household member who is indisposed, funerals, etc (MoFA/DFID, 2002). This group of livestock keepers tend to be in the rural areas and to them livestock keeping constitutes an integral part of their wider

livelihood strategy. Multiple-role livestock keepers depending on their wealth status keep varying sizes of livestock and combination of species (Table 14).

Many of them keep mixed livestock including cattle, sheep and goats, pigs and chicken. The mixed livestock kept by rural households were sheep/goats/chicken (25%), cattle/sheep/ goats (24%), sheep/goats/ pigs/ chicken (8%) and chicken alone (15%) (MoFA/DFID, 2002).

This category of livestock keepers accounts for nearly 80% of the poultry, almost all the cattle, sheep, goats and a significant proportion of pigs produced in the country. This group is particularly important due to their linkage to poverty reduction, a priority in the current economic development.

5.2.2.2 Non-Poor Multiple-Role Keepers

This group combines both profit and livelihood roles (table 14). They also operate their enterprises mainly in rural areas keeping mixed animals to generate household incomes.

5.2.3 The 'Livestockless' Keepers

This group include people who have lost or sold all their livestock, those seeking to keep other species of livestock as well as who are aspiring to keep livestock as well as those who do not want to keep livestock . They form about 24% of the rural households (table 14).

Table 14: A Categorisation of Livestock-Keepers in Ghana

Category of keeper	Characteristics	Percentage / no. of rural households
'Livestockless' (no livestock)	Including people who have lost or sold their livestock for example through disease or poverty, new families starting out, upwardly mobile people who have not previously been able to own them, downwardly mobile people who can no longer support them spiring to keep livestock Seeking to keep other species of livestock,	24% (602,400)
Multiple-role (poor)	Livelihoods may include combinations of crop farming, fishing, wage labour or small enterprise such as charcoal burning Livelihoods are vulnerable Own few resources: little land, no boat, few livestock Livestock kept as a risk coping strategy during times of need Strategy is to invest income in livestock, accumulate numbers and protect these savings from loss Mainly own fewer of the smaller species: poultry, sheep, goats, pigs	43% (1,079,300)
Multiple-role (non-poor)	• Livelihoods based on combinations of activities: farming, fishing, non-farm business such as trading • Livelihoods are fairly secure – can take care of themselves and can take some risks • Own some resources: land, savings, livestock, maybe a boat, and can access credit and may hire labour. Wealthier ones may own vehicles and larger holdings of land and livestock, some absentee owners • Livestock kept as a means of saving and accumulating wealth to be used when needed, including for investment, in the absence of viable alternatives • Own more livestock of several species, often including cattle	28% (702,800)
Commercial (small scale)	Salaried or retired workers, businessmen and women, traders Rural and peri-urban, urban, some are absentee owners, often use hired labour, some are small backyard livestock businesses Commercial objectives, but also banking/savings Mixed or single species, sometimes cattle	5% (125,500)
Commercial (Industrial)	Commercial companies producing livestock Concentrated in peri-urban and urban areas Invest to gain a return, use employees Usually pigs and poultry	Found in peri-urban and urban areas

Source: Ashley & Annor-Frempong, 2003

5.3 Livestock Keeping Households, Size and Combinations of Livestock species

5.3.1 Livestock Keeping Households

It was estimated from the GLSS in 1998/99 that 1.541 million or 56.2% of the agricultural households in the country kept livestock of one type or another (GSS, 2000). The number of households that kept poultry including chicken, guinea fowl, ducks, etc. formed the highest proportion of 94.4%. The households that kept goats formed the next highest proportion of 52.7%. Sheep (32.6%), cattle (11.4%) and pigs (10.9%) followed in that order (Table 15). The proportions of the households that kept other forms of livestock were relatively small, below 5% each.

The proportions of the farm households that kept the different types of livestock varied considerably. In a sample survey in the RLRL-Ghana study, there were no records on cattle and goats keeping in the two districts in the forest zone and pigs in the two districts in the semi deciduous forest zone and the transitional zone (Table 15). On the other hand, all the households in the two districts in Guinea and Sudan Savannah zones kept some type of poultry, and all the households in the district in the rain forest zone kept pigs.

Table 15: Distribution of Household-Owning Livestock by Farm Households

Livestock Type	% Household National	% Household Selected Districts						
		Dangbme (Coastal Sav)	Jomoro (Rain Forest)	Atwima (Deci Forest)	Kintampo Transition	E. Gonja G. Sav	Wa S. Sav	Mean
Cattle	11.4	12.0	0.0	0.0	18.0	67.0	54.0	25.2
Sheep	32.2	15.0	50.0	50.0	36.0	67.0	30.0	41.3
Goats	52.7	49.0	0.0	0.0	54.0	73.0	92.0	44.7
Pigs	10.9	15.0	100.0	0.0	0.0	13.0	38.0	27.7
Rabbit	0.5	na	na	na	na	na	na	na
Chicken	75.5	70.0	67.0	70.0	95.0	100.0	100.0	83.7
Other Poultry	18.9	*	*	*	*	*	*	*
Others	21.6	na	na	na	na	na	na	na
All	100.0							

Sources: GSS (2000), GLSS Report Fourth Round; and
MoFA/DFID (2002), Role of Livestock in Rural Livelihoods in Ghana

5.3.2 Size of Livestock Enterprises

The livestock enterprises can be grouped as small, medium and large as compiled by the MoFA/DFID(2002) for selected livestock enterprises. The national averages estimated in the GLSS Round 2 suggest that the livestock enterprises are skewed to towards small sizes (Table 16).

Table 16: Size of Livestock Enterprises by Numbers

Livestock Type	National Range		Average		
	Small	Medium Large	National	Coastal Savannah	Forest
Cattle	<25	25-75	7.1	13.9	5.0
Sheep	>75		6.4		
Goats	<50	50-150	5.6	4.5	5.9
Pigs	>150		5.6		
Chicken	<50	50-150	5.1	5.0	5.0
	>150		5.2		
	<50	50-150	6.4	7.8	4.8
	>150		5.4		
	<1000	1000-5000	14.9	15.4	15.4
	>5000		13.7		

Sources: MoFA/DFID(2002); Role of Livestock in Rural Livelihoods in Ghana and Ghana Statistical Service (1996) GLSS Round 2

5.3.3 Livestock Species Combinations

Many livestock keepers in rural communities, combine two or more livestock species. Those who keep single species formed about 27% (Table 17). The highest proportion of this group kept poultry (14.9%), followed distantly by goats only (4.6%). For the other livestock, the proportion was less than 3% each. On the average, the livestock keepers with four species formed the highest proportion (32.0), followed by those who kept three species (30.2%). Those who kept only two livestock species formed 6.3% and those who kept five and more were fewer (4.6%). The most common three-specie combination was poultry, sheep and goats (25.1%), followed by four-specie combination of cattle, sheep, goats and poultry (24%). The two-specie combinations

were along two distinct lines, sheep and goats (3.4%) or poultry and pigs (2.9). In the three-specie combinations, poultry is added to sheep and goats (25.1%) and a few keepers add cattle to sheep and goats (5.1%). In the four-specie combinations, cattle are mostly added to poultry, sheep and goats (24.0%) and only 8% of the keepers with four-specie combinations added pigs to poultry, sheep and goats. A small percentage of keepers (4.6%) combined all the five major livestock, cattle, sheep, goats, pigs and poultry.

Table 17: Livestock Enterprise Combination by Rural Households

Livestock Reared	Livestock Species	% Households	Row Total
One	Poultry*	14.9	26.9
	Goats	4.6	
	Sheep	2.9	
	Cattle	2.4	
	Pigs	2.1	
Two	Sheep and Goats	3.4	6.3
	Poultry and Pigs	2.9	
Three	Poultry, Sheep and Goats	25.1	30.2
	Cattle Sheep and Goats	5.1	
Four	Cattle, Sheep, Goats and Poultry	24.0	32.0
	Pigs, Sheep, Goats and Poultry	8.0	
Five	Cattle, Sheep, Goats, Poultry and Pigs	4.6	4.6
All		100.0	100.0

Source: MoFA/DFID (2002), The Role of Livestock in Rural Livelihoods in Ghana

* Poultry included chicken, duck, turkey and guinea fowl.

5.4 Stakeholder-activities in the Livestock Sub-Sector

The activities in the livestock sub-sector are many and may be classified as follows:

Livestock keeping

Feed manufacturing

Breeding stock improvement and multiplication

Drugs supply

Equipment manufacturing and supply

Veterinary services

Extension services

Financing

Research

Policy design and formulation

Information gathering, collating and distribution

Quality control of animal products, feed and drugs supply etc

Import control and regulations, including quarantine

Livestock imports and trading

Importation of meat and animal products

Processing of meat and animal products

Distribution of meat and animal products

Slaughter services

Transportation

5.5 Stakeholders and their Linkages

The public and private sector organizations (stakeholders) performing the several activities in the livestock sub-sector can be grouped as follows:

Ministries, Departments and Agencies (MDAs), particularly, Animal Production, Veterinary, Extension, and, Policy, Planning Monitoring and Evaluation Directorates, etc.

Livestock keepers and caretakers

Veterinary drugs importers and distributors

Community Animal Health Workers

Private Veterinary services providers

Feed manufacturers

Meat processors

Equipment manufacturers and suppliers

Research institutions

Quality Control agencies

Agencies regulating and controlling imports

Transporters

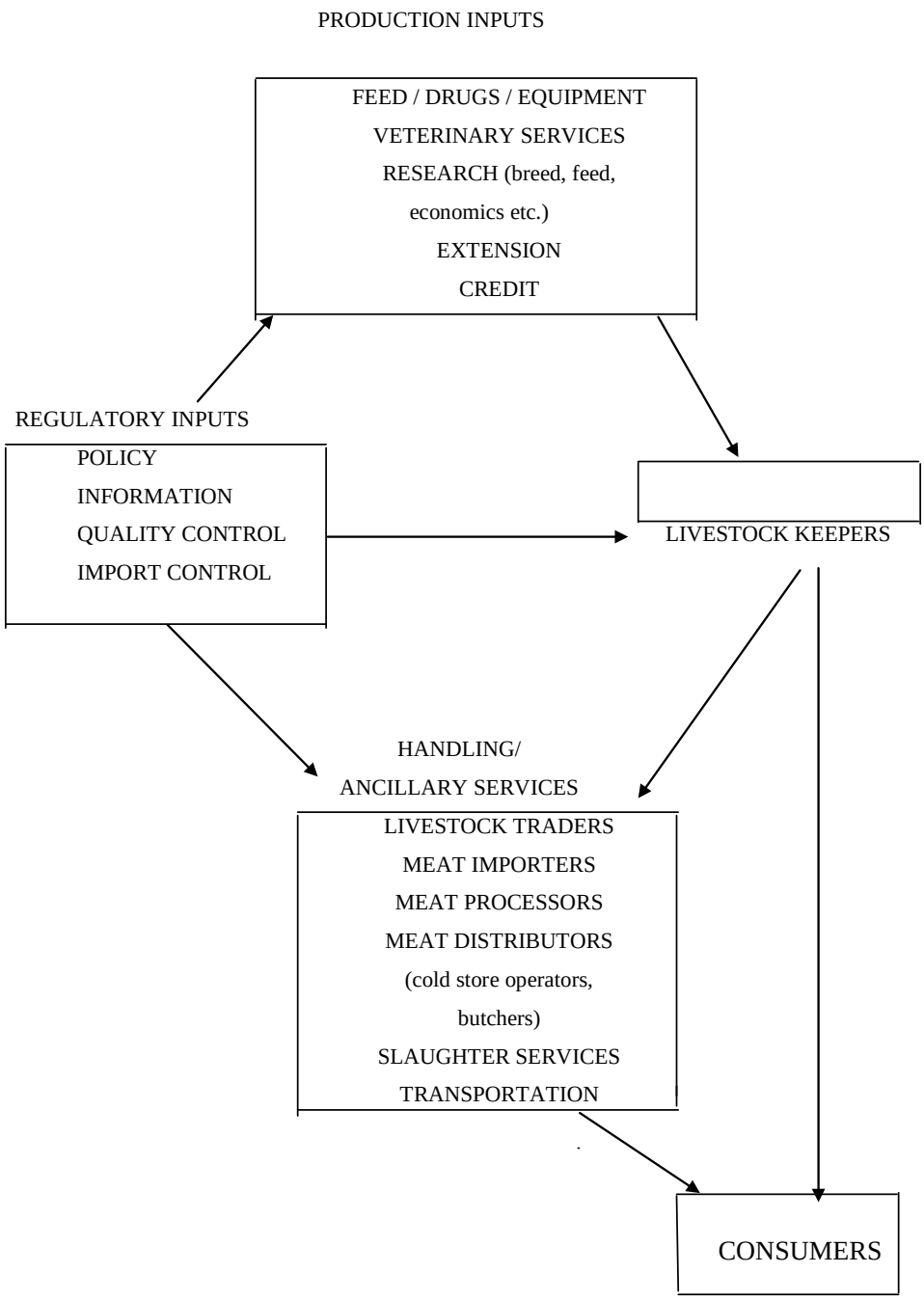
Non-governmental organizations

The stakeholders provide various inputs and services that make it possible to produce meat and animal products, distribute them to the ultimate consumers and regulate the behaviour in the livestock sub-sector. The inputs and services provided may be put into three categories namely, i). Production-oriented inputs, ii). Facilitating/regulatory inputs and iii). Handling and ancillary services (Table 18).

Table 18: Providers of Inputs and Services in the Livestock Industry

Input / Service	Provider
Production	Private / Public
Regulatory	Public (MDAs)
Handling and Ancillary	Public / Private

Figure 1: Stakeholder Linkages in the Livestock Sub-Sector



6. Livestock Production Trends and Keeping Systematics

The production of livestock is discussed from the standpoint of population trends, growth rates and the distribution of the livestock species by region and agro-ecology, where time series data are available. The last part of the section discusses the systematics of the production systems and describes the prevalent keeping systems found in Ghana.

6.1 Livestock Production Trends and Growth Rates

The production of all major livestock types used for human consumption increased over the last three decades (1970-2000), except pigs whose population peaked in 1989 and declined steadily (Table 19). However, these growth rates among the livestock species varied (Table 20). In two decades (1970-1990), the cattle population increased by 24 percent or a simple annual growth rate of 1.1 percent. In the following decade (1990-2000), the cattle population increased a little faster at a rate of 1.4 percent per annum. For sheep the population increased at an annual rate of 3.5 percent per annum in the period 1970-1990. The rate however, was slower in the period 1990-2000 at 2.3 percent per annum. In the case of goats, the average annual population growth rate was substantially higher (5.3%) in 1990-2000 than in the earlier two decades (2.4%). For pigs, the average annual population growth rate of 3.5 percent in 1970-1990 became negative (-3.2%) in the last decade (1990-2000). The average annual growth rate of poultry population was less than 1 percent in the period 1970-1990. It then increased substantially achieving average annual population growth rate of 10.5 percent in 1990-2000.

Table 19: Ghana Livestock Census and Projections (000 Heads)

Year *	Cattle	Sheep	Goats	Pigs	Horses	Donkeys	Poultry
1970	926	1,315	1,356	280	NA	NA	8,581
1986	1,135	1,814	1,633	469	2.2	13.2	6,410
1987	1,170	1,989	1,901	534	2.1	13.6	8,214
1988	1,144	2,046	1,991	478	1.9	9.9	8,040
1989	1,136	2,212	2,364	559	1.6	10.7	8,787
1990	1,145	2,224	2,018	474	1.4	10.4	9,990
1991	1,195	2,162	2,194	454	1.3	12.0	10,572
1992	1,159	2,126	2,157	413	1.6	13.0	11,232
1993	1,169	2,225	2,125	408	1.6	11.9	12,170
1994	1,217	2,216	2,204	351	1.9	11.5	12,289
1995	1,123	2,010	2,156	365	2.3	12.3	13,083
1996	1,248	2,419	2,533	355	2.8	13.2	14,589
1997*	1,261	2,496	2,659	347	2.8	13.1	15,879
1998*	1,275	2,576	2,791	339	2.7	13.0	17,282
1999*	1,288	2,658	2,931	332	2.7	13.0	18,810
2000*	1,302	2,743	3,077	324	2.7	12.9	20,472
2001*	1,316	2,831	3,230	317	2.7	12.8	22,282
2002*	1,330	2,922	3,391	310	2.7	12.7	24,251
2003*	1,344	3,015	3,560	303	2.6	12.6	26,394
2004*	1,359	3,112	3,737	296	2.6	12.5	28,727
2005*	1,373	3,211	3,923	290	2.6	12.5	31,266

Source: Ministry of Agriculture (1972) Report on Ghana Sample Census of Agriculture 1970 and Veterinary Services Directorate, Ministry of Food and Agriculture, Accra

NA = Not Available

*Projections as annual census discontinued in 1997

Note 1970 Agricultural census estimated the population of guinea fowl as 1,643,000

The growth rate of the major livestock, during the period that censuses were carried out are shown in Table 20. For the ten year period (1986-96), the average growth rates were positive for cattle (1.1%), sheep (3.2%), goats (5.0%) and poultry (8.8%) and negative for pigs (-2.2%).

Table 20: Annual Growth in Livestock Production, 1986-1996

Year	Cattle	Sheep	Goats	Pigs	Horses	Donkeys	Poultry
1986	Na	Na	Na	Na	Na	Na	Na
1987	3.1	9.6	16.4	13.9	-3.4	3.1	28.2
1988	-2.2	2.9	4.8	-10.4	-12.7	-27.5	-2.1
1989	-0.6	8.1	18.7	16.8	-14.6	8.8	9.3
1990	0.7	0.5	-14.6	-15.2	-14.2	-3.1	13.7
1991	4.4	-2.8	8.7	-4.2	-4.7	15.8	5.8
1992	-2.9	-1.7	-1.7	-9.0	26.6	8.4	6.2
1993	0.8	4.7	-1.5	-1.2	-1.6	-9.3	8.4
1994	4.1	-0.4	3.7	-14.0	17.9	-2.7	1.0
1995	-7.7	-9.3	-2.2	4.0	Na	Na	6.5
1996	11.1	20.3	17.5	-2.9	Na	Na	11.5
Av. Growth Rate 1986-96	1.1	3.2	5.0	-2.2	-0.7	-0.6	8.8

Source: Veterinary Services Directorate, Ministry of Food and Agriculture, Accra

6.2 Regional Distribution of Livestock Population

The populations of livestock types are unevenly distributed in the country. The populations of the livestock are concentrated in the northern Savannah zone covering the entire Northern, Upper East and Upper West Regions and the northern part of the Volta Region.

The Northern, Upper East and Upper West Regions have persistently accounted for over 70% of the cattle population (Tables 21 and 22). Together with the Volta region, the northern Savannah zone accounts for over four–fifths of the national cattle population. The Northern Region has for a long time had the highest proportion of cattle, followed by Upper West, Upper East and Volta Regions in that order. The regions with the lowest proportion of cattle population of 1 percent or less each are Western, Central and Ashanti in ascending order.

Sheep and goats are more evenly distributed than cattle. The highest proportion of the sheep population was in the Northern region prior to the 1990s. Since then, the Volta region has accounted for the highest proportion of the population (Table 22). The Northern Region has accounted for the second highest proportion, followed by Upper East in the early 1990s. Since the second half of the 1990s, Ashanti Region in the forest zone has accounted for the second highest proportion of the sheep population along with the Northern Region. The four regions (Volta, Northern, Ashanti and Upper West) accounted for 57% of the sheep population. The regions with the lowest proportions of sheep population of less than 5 percent each were Greater Accra and Central in ascending order.

Until the mid 1980s, the Northern Region had the highest proportion of goats population, followed by Volta and Upper East Region in that order. In the second half of the 1980s, the third highest proportion shifted to the Upper West Region and since the mid 1990s, the region accounted for the highest proportion of the goats population followed by Volta with the Northern region in the third position. The three regions (Upper West, Volta and Northern) accounted for 53 percent of the goats population.

The regions with the lowest population of goats population of 5 percent and less were Greater Accra, Western and Central, in ascending order.

In the 1980s and early 1990s, the highest proportion of the pigs population was in the Northern Region, followed by the Upper West and Volta Regions, in that order. Since the mid 1990s, the region with the highest proportion of the pigs population shifted to the Upper West Region with the Northern Region having the fourth highest proportion after the Volta and Western Regions in that order. The regions with the lowest proportions of the pigs population of less than 5 percent each were Central region.

In the 1980s, the Ashanti Region had the highest proportion of poultry population in the country, followed by Northern and Upper East Regions in that order. Since the 1990s, the Greater Accra Region has had the highest proportion of the poultry population followed by Ashanti and Northern Region, in that order. The three regions account for 63 percent of the poultry population. The regions with the lowest proportions of poultry population of less than 5 percent each are Central and Western in ascending order.

Table 21: Livestock Distribution by Region, 1986, 1990 and 1996

Year /Livestock	Upper East	Upper West	North-ern	Brong Ahafo	Ashanti	Eastern	Greater Accra	Volta	Central	Western	Total
1986											
Cattle	18.9	22.9	35.6	3.2	1.1	2.8	6.2	8.4	0.5	0.3	100.0
Sheep	12.5	7.7	23.6	8.8	10.9	9.5	2.9	13.9	4.6	5.7	100.0
Goats	12.2	10.1	24.7	8.9	8.7	9.8	2.8	13.6	5.0	4.2	100.0
Pigs	6.4	14.7	28.1	10.0	7.7	6.5	7.0	10.2	3.7	4.0	100.0
Poultry	14.8	7.5	17.4	4.4	19.2	7.2	7.8	8.6	7.3	5.8	100.0
1990											
Cattle	17.1	19.0	41.0	3.0	1.3	4.0	5.6	8.1	0.6	0.3	100.0
Sheep	8.3	10.8	18.7	8.0	6.2	7.6	2.4	20.3	6.4	11.3	100.0
Goats	8.9	16.3	20.3	7.3	4.7	9.2	2.6	18.7	6.2	5.9	100.0
Pigs	5.6	21.2	26.1	5.8	2.5	5.7	3.3	13.7	6.7	9.3	100.0
Poultry	9.2	9.3	13.1	4.0	13.4	5.3	21.4	9.3	6.2	8.7	100.0
1996											
Cattle	17.2	22.8	34.4	4.0	1.7	4.3	5.5	9.0	0.6	0.4	100.0
Sheep	8.8	13.7	14.0	9.3	14.0	9.3	4.7	15.2	5.3	9.5	100.0
Goats	7.6	21.4	14.4	9.2	7.3	7.8	4.1	17.1	5.0	6.0	100.0
Pigs	10.4	19.4	12.9	10.4	5.4	5.3	5.8	13.5	4.6	13.3	100.0
Poultry	5.6	6.9	10.7	5.5	15.7	5.7	36.6	6.7	4.7	2.1	100.0

Source: Veterinary Services Directorate, MOFA, Accra

In many instances, three or four regions accounted for over 50 percent of the populations of livestock types in the country (Table 21). These are mostly the regions in the northern Savannah zones. Ashanti and Greater Accra Regions in the forest and coastal Savannah zones, respectively, are relatively important in the production of poultry. Ashanti region has also become important in sheep production and so also is western region in the production of pigs since the mid 1990.

Table 22: Regions Accounting for More Than 50% of Livestock Population

Year	Cattle	Sheep	Goats	Pigs	Poultry
1986	Northern	Northern	Northern	Northern	Ashanti
	Upper West	Volta	Volta	Upper West	Northern
	Upper East	Upper East	Upper East	Volta	Upper East
				Brong Ahafo	
1990	Northern	Volta	Northern	Northern	Gt. Accra
	Upper West	Northern	Volta	Upper West	Ashanti
	Upper East	Upper West	Upper West	Volta	Northern
1996	Northern	Volta	Upper West	Upper West	Gt.Accra
	Upper West	Northern	Volta	Volta	Ashanti
	Upper East	Ashanti	Northern	Western	Northern
		Upper West		Northern	

Source: Compiled from Table 21

6.3 Agro-Ecological Distribution of Livestock Raised by Rural Households

Recent data on distribution of livestock species by ecology is not available, however from 1988/89 data, the indications are that the trend has probably stayed the same. The highest proportions of livestock species raised in the country are in the northern Savannah zone that covers the entire Northern, Upper East and Upper West Regions, and parts of the Volta and Brong-Ahafo Regions. The only exception is pigs that the coastal Savannah zone had the highest proportion of the population. The coastal Savannah ranked second in the proportions of the cattle, poultry and other animals (Table 23). The forest zone ranked second in the populations of sheep, goats and chicken. The proportions of cattle and pigs populations in the forest zone are particularly very low.

Table 23 Livestock Species Raised by Households in Agro-Ecological Zones 1988/89 (%)

Livestock	Coastal	Forest	Savannah	Ghana (average)
Cattle	3.1	0.3*	25.1	8.5
Sheep	18.3	27.1	38.3	28.2
Goats	34.7	38.3	58.7	43.6
Chicken	82.1	82.2	88.5	84.1
Pigs	12.4	2.4	10.4	7.4
Other Poultry	14.4	10.5	30.9	17.7
Rabbits / Guinea Pigs	1.3**	1.1**	---	0.8
Other Animals	5.5	4.9	9.8	6.5

Source: Ghana Statistical Service (1996) GLSS Round 2, Accra

- Cell contains fewer than five observations

** Cells contain fewer than ten observations

Note:1) 1747 households own at least one of livestock / poultry

2) The percentages refer to all households engaged in raising activities in the ecological zone

3) Other animals include cats and dogs

6.4 Livestock Keeping Systems

Livestock are kept under different systems in the country. A livestock keeping system is an assembly of related components in livestock production and their relationship to the environment and the wider human livelihood system that combine for a common purpose. The livestock keeping systems are delineated by the set of activities, decisions and processes that livestock keepers engage in or make in order to achieve their specific objectives. Delineating factors thus constitute the framework and criteria for the systematics underlying the classification of livestock production/keeping systems. Systems analysis may be skewed in one direction or the other depending on the focus of the delineating factor(s). It is therefore necessary for a clear understanding of the systematics for effective livestock policy analysis. Livestock keeping/production systems are classified by parameters that relate to decisions on and processes of management, ownership and caretaker system, feeding/grazing regimes and practices, size of investment, livestock species, livestock products,

enterprise location, level of technology, extent of diversification / integration, objective of livestock keeping, etc. (Table 24). Due to the varied systematics, many keeping systems may be described to exist in Ghana, even though Ghanaian production and keeping systems are mainly described as sedentary. The prominent keeping systems are discussed here for the purposes of and consistent with our framework for policy analysis. Having discussed in detail, the characterization of livestock and livestock keepers in sections 5.1 and 5.2, this section discusses systems based on management, ownership and caretaker system, Crop-livestock integration, and location.

Table 24: Systematics of Livestock Production/Keeping Systems In Ghana

Basis for Systematics	Systems	Livestock Species involved
1. Management	Intensive, semi-intensive, extensive / free-range	Poultry, pigs, micro livestock, ruminants,
2. Feeding / Grazing	Agro-pastoralism transhumance*, cut & carry	Cattle, sheep, goats
3. Size / scale of enterprise	Small, medium, large	Poultry, pigs, sheep/goats, cattle
4. Species	Ruminant, non-ruminant, micro / non-conventional	Cattle, sheep/goats, pigs, poultry, rabbits, grass-cutters, snail
5. Location	Rural, peri-urban, urban	Poultry, sheep/goats, cattle
6. Product	Meat, milk, eggs	Cattle, Poultry, Pigs, sheep, goats
7. Level of Technology	Traditional, semi-automated, Industrial	Sheep/goats, cattle poultry, pigs
8. Integration with farming/livelihood activities (Vertical)	Mixed, Tree crop-livestock, annual food crop-livestock, fishing-livestock	Sheep/goats, poultry, pigs, cattle
9. Enterprise combination (Horizontal Integration)	Diversified, specialized	Cattle, sheep/goats, pigs, poultry, rabbit
10. Keepers' Objectives	Commercial, semi-commercial, multiple-role	Poultry, pigs, sheep, goats, cattle

Source: culled from Annor-Frempong (2002), Livestock Systems Management Notes

* Transhumance is practised by alien herdsmen who enter Ghana during the dry season

6.4.1 Management Systems

The management system is usually treated from the standpoint of the level of intensification and three are identified in the country, namely, i) intensive system, ii) semi-intensive system and iii) extensive / free range. Generally, only commercial

chicken and pig keepers use the intensive system of keeping in Ghana. They use manufactured feed and invest substantially in housing and equipment necessary for effective feeding and watering and safety of eggs laid. The micro or non-conventional livestock such as rabbits, grass-cutters, guinea pigs irrespective of location (rural, peri-urban urban), are predominantly kept under intensive management systems with very low investment in housing.

The multiple-role keepers, particularly in the rural areas who raise poultry of all types and pigs use the free range / extensive management system. There is virtually no investment in housing and equipment. Cattle are predominantly kept under extensive / free range system in all locations and irrespective of the motive of keeping. There is no supplementation of feeding with manufactured feed and very low investment in housing (kraal) and equipment. Sheep and goats are also kept mainly under extensive system but a few keepers use the semi-intensive system and pasture is cut to feed them.

6.4.2 Livestock Ownership and Caretaker Systems

The ownership and caretaker system of cattle, in particular, affect management, input use, decisions on husbandry, health and adoption of technology. It is estimated that 62% of cattle in the country are owned by individuals and the remaining 38% have joint ownership, particularly, families. 'Absentee' livestock owners live away from their livestock holdings and take the strategic decisions of adding to the stock, buying drugs and vaccines for routine treatment. This system presents problems of who to target for extension services.

The majority of cattle owned both by individuals or jointly are placed under the day to day management of hired caretakers who are mostly of the Fulani tribe and have lots of experience with the agro-pastoral management system under which the cattle are put. Cattle boys are also used in some areas (Upper East region and Dangme East district). The type of caretaker system, especially the Fulani-based system presents some problems that result in 'low value' of cattle to the owners till they reach slaughter weight. This is partly because all the milk is given to the Fulanis as part of

the earnings and therefore not unaccounted for by the Fulani caretakers to the owners. Also, the relationship between the owners and the Fulani caretakers is fraught with mistrust because these settled Fulanis are known to sometimes link up with Transhumance Fulanis who engage in a number of vices including cattle rustling, destruction of crop farms and property.

6.4.3 Crop-Livestock Mixed Systems

There is a long history of integrating sheep and sometimes pigs, as found in the Jomoro district, into farming systems in Ghana. This is mainly found on oil palm, citrus and coconut plantations. The livestock keepers who have adopted the technology of integrating livestock with tree cropping show high standards of stock husbandry than the agro-pastoralist. In the high rain forest zone pigs are popular in the Jomoro district where livestock keeping is linked to the coconut industry. It offers access to fresh coconut chaff for the feeding of the pigs. The access to copra chaff has made the fattening of pigs for sale a popular rural activity for livestock keepers in this district.

6.4.4 Backyard Livestock Keeping Systems

Keeping small ruminants, poultry and some non-conventional livestock such as rabbits in the backyard of households is quite common in the peri-urban areas and even in urban areas in Ghana. In the backyard, the livestock are kept under intensive system. Simple pens are usually provided for sheep and goats within or attached to the owner's house and forages and household wastes are used to feed the animals. In the case of poultry intensive management systems are adopted and manufactured feed is predominantly used to feed the birds. Raising livestock at the backyard is usually small scale enterprise with profit as the main motive and therefore fully commercial enterprises.

7. Livestock Production Problems and Constraints

Livestock keepers and other stakeholders in the livestock sub-sector face numerous problems. Not all of these may require policy interventions, however, many require appropriate policies and strategies towards providing the enabling environment needed for accelerated development of the entire sub-sector. It is crucial that the analysis of the problems constraining and disenabling the sub-sector be based on the fundamental guiding principles as explained in section 4, which has been arrived at based on lessons from past developmental analysis and impact of ensuing programmes and projects. A major feature of the principle guiding this policy analysis is to arrive at demand-driven people-focused policies.

It is noteworthy to state that the livestock in themselves do not have problems and that the problems arise due to the decisions that keepers, technocrats and politicians make with regards to strategies and practices, inefficiencies in supporting institutional structures (especially institutional processes of service delivery and marketing), limiting resources and poor infrastructure and environmental inter-relationships.

Livestock keeping/production problems are therefore analysed at a higher and broader level under those i). specific to the different categories of keepers, ii). specific to different stakeholders performing specific roles (public and private) and iii). those constraints that are cross-cutting (affecting all livestock keepers, those pertaining to the system itself and the supporting institutions). Under these broad classes, specific problems pertaining to the keeping of different livestock species are analysed within the commercial and rural livestock sectors.

7.1 Problems and constraints of the Rural Sector

Nearly 95% of livestock keepers in Ghana are in the rural sector with rural livestock providing the bulk of Ghana's locally produced meat. For keepers in the rural sector livestock provides multiple functions including providing important social needs. Livestock development will therefore contribute to rural development. The rural

sector also includes a substantial proportion of those who are 'Livestockless' at one time or the other. Due to prevalence of mixed keeping systems in the rural sector, the constraints of this sector are therefore analysed on the basis of the different keepers with different intent.

The main underlying problems relate to the capacity of the multiple-role livestock keepers (particularly the poor) and include the following;

Many are poor and therefore unable to go beyond adopting survival strategies in their livestock keeping activities

Consequently they invest only a little, in the most relevant aspects, and can not afford to invest in the productivity of their livestock

Many have inadequate formal/non-formal education and training

7.1.1 Multiple-Role Livestock Keepers

There are two kinds of multiple role livestock keepers; the poor and the non-poor. The latter, aside taking advantage of the multiple roles their livestock provide to their livelihoods, also have profit motives for keeping livestock and can be referred to as dual purpose or semi-commercial livestock keepers. About 27% of livestock keepers in the rural sector are estimated to have profit motives, the remaining 73% depend on livestock's multiple functions to maintain their livelihoods. Multiple role livestock keepers practice mixed production systems and as shown in sections 5.2.2 and 5.3.3 often keep more than one livestock specie.

7.1.1.1 The Poor Multiple Role Livestock Keepers

Although many livestock keepers in the rural sector keep more than one livestock specie, about 15% of rural households are estimated to own only poultry (MoFA/DFID, 2002). These are the very poor households whose livestock acquisition strategies usually start with poultry. These keepers also crop very small acreages and eventually increase their acreages through income generated from livestock keeping. A very small percentage of them keep sheep in addition and in rare cases may own or have access to family (inherited) cattle as seen in the northern savannah zones.

Households in this category own poultry ranging from 50 in the Guinea and Sudan savannah to about a dozen in the Coastal savannah (MoFA/DFID, 2002).
Rural poultry has in the last decade or so received some attention because it is now seen as one of the species for ensuring food security (FASDEP, 2003). If Ghana's goals of achieving food security and poverty reduction are to be achieved then the constraints to keeping rural poultry need to be addressed. These include mainly;

High mortality (especially due to Newcastle disease) and morbidity

Some poor multiple-role keepers own pigs. Although these are generally known to be managed under extensive systems, many rural communities are now pushing pigs to the outskirts of the communities and are being kept in some form confinement system. This tendency has occurred in many communities where the last spate of African Swine-Fever in Ghana was experienced most. In the Northern and Upper regions of Ghana, pig keeping is becoming important for women who are in position to obtain by-products from their agro-processing activities (e.g. pito mash) and use to feed the pigs.
The important constraints include;

High piglet mortality rate due to anaemia

7.1.1.2 The Non-Poor Multiple Role Livestock Keepers

Many non-poor multiple role livestock keepers keep three to four livestock species, with poultry/sheep/goats combination being the most popular. The very rich often own cattle in addition to the sheep, goats and poultry. A smaller proportion may also own pigs.

In terms of population, sheep and goats are the most important livestock raised in the rural sector after poultry. Goats in particular are of high demand through the year while the demand for sheep is quite seasonal, particularly, during the Moslem festivals. Both sheep and goats as shown earlier are raised throughout the country but their populations are relatively lower in the Greater Accra and Western Regions.

Nearly all cattle in Ghana are found in the rural sector where 68% are self-owned and 32% family owned through inheritance, the latter making cattle also very important for even poorer households in the northern savannah regions in Ghana. Irrespective of ownership cattle are mainly kept under agro-pastoral systems. One of the major aims of multiple role livestock keepers is to increase crop farm sizes and ensure food security through livestock keeping, hence maintaining enough numbers is important to them.

The problems of non-poor multiple role livestock keepers in keeping livestock include the following:-

High incidence of disease leading to high mortality and morbidity

Inbreeding of stock leading to losses

Poor access to and management of grazing lands

Conflicts with cropping and the need to confine at the time when better feed is available during the cropping season. In the case of cattle conflict between livestock keepers, crop farmers and estate developers are common.

Low return on investment

Poor access to veterinary services, drugs, feed, water, etc.

High cost of drugs and chemical

Poor kraal management

Livestock theft and cattle rustling

Some of he non-poor livestock keepers own bullocks and other draught animals. These are kept for two main purposes, tillage (ploughing, ridging, weeding, harvesting, threshing, etc); and transport.(animal drawn carts) of farm produce from farm to village and village to market, etc. The main animals used are donkeys for transport and oxen / bullocks for tillage. The use of oxen for tillage is not widespread in Ghana and is heavily concentrated in the three northern regions, particularly, the Upper East Region where the Savannah vegetation is conducive. There is no culture of animal traction in the southern zones. The problem with the use of oxen for tillage includes the following:-

Lack of knowledge about the full potential of animal traction

Inadequate research and demonstration of animal traction

Inadequate manufacturing of animal traction equipment

Inadequate breeding of animals (donkeys and bullocks) for draught power leading to unavailability of draught animals

Large herd sizes need to be maintained in order to generate a pair of bullocks

High cost of veterinary care

Unavailability of well trained trainers for both animals and livestock keepers

Animal traction not incorporated into the formal extension service.

For the majority of the non-poor keepers who keep pigs, it is the one animal they readily sell to provide cash needs compared to the other species of livestock they own. The major breed of pigs kept in the rural sector is the cross-bred of the Ashanti Black pig and the exotic Large White. The important constraints include;

High piglet mortality rate due to anaemia

Poor feeding and housing

Low productivity resulting from disease, poor nutrition and management

7.2 Problems and Constraints of the Commercial Sector

The commercial livestock sector is small in Ghana involving only about 5% of livestock keepers and therefore contributes a small proportion of the local meat production. Most commercial enterprises and industries are located in the peri-urban and urban areas. The major species under the commercial sector are poultry and pig enterprises. Commercial cattle (including dairy) and small ruminants is very small. The constraints of the commercial sector are organised according to those relating to the capacity of the keepers and those relating to the specific livestock species, since commercial enterprises are often run as single specie operations.

7.2.1 Commercial Livestock Keepers

The main constraints include;

Low level of technical education / know-how

Low managerial capacity

Difficulty in cash flow management

Poultry Enterprise

The commercial poultry industry although has chalked some successes in the past is currently nearing collapse. The major problems faced by poultry keepers include the following;

Low return on investment

Poor market for eggs (Low per capita consumption)

Competition from poultry imports

High incidence of diseases

High cost of drugs, feed and utilities (due to punitive VAT on inputs such as electricity, feed, drugs, etc)

Difficulty in waste management

Poor quality feed, drugs and vaccines

Inadequate enforcement of production regulations (day old chicks, feed, drugs, vaccines, etc)

Inaccessible packaging of vaccines to small scale producers

Risks of repackaging or reconstitution of vaccines

One of the most important constraints relates to the quality of **day old chicks** even from imported sources. Day old chicks are supplied from two sources, namely, imports and domestic. Problems with day old chicks include:-

Inadequate supply to meet demand – delays in accessing supply

Poor quality as routine vaccination requirements are not met – birds develop Mareks disease, deformed legs, etc. which show later at older ages or when start to lay.

Some imported day old chicks also found to be of poor quality, probably coming from pullets or old parent stock

High chic mortality rate

No functional grand parent farms in the country

High cost of day old chicks

No quality control of day old chicks

No formal inspection of hatcheries to ensure the right things are done

7.2.3 Pig Enterprise

The commercial enterprises raise mainly crosses of the exotic Large White breeds under intensive management. The problems encountered in the pig industry are as outlined below.

Poor quality of feed;
High cost of feed, drugs, water, etc
High piglet mortality rate
Poor management practices (feeding, housing, etc.)
Prevalence of diseases including African swine fever
Poor waste management (leading to negative environmental impact)
Unavailability of organised pig market
Unstable market
Low price for pork compared to beef, chevon and mutton
Inadequate extension service support
High cost of capital (interest rate)

7.2.4 Sheep / Goats Enterprises

Commercial sheep and goat enterprises are very few in Ghana. Some of the problems include

Management of grazing land
Poor breeding material
Lack of feed and water especially in the dry season
Poor access to services (veterinary, extension, drugs)

7.2.5 Cattle enterprise

Management of grazing land
Poor breeding material
Lack of feed and water especially during dry season
Poor access to services (veterinary, extension, drugs)

Dairy Enterprise

Poor breeds

Breeds available have high disposition to diseases

Low and uneconomic level of milk production

Unhygienic collection and storage system of milk

Poor access to veterinary services, drugs, feed, water, etc.

Poor road condition between production and collection points

7.2.6 Micro / Non-Conventional Livestock Enterprises

The keeping of micro / non conventional livestock in the country is increasing in importance and many households are being encouraged to produce them, particularly, grasscutters, rabbits and snail. The production problems and constraints include the following:-

Lack of breeding stock

Inadequate research to improve breeds

Unavailability of manufactured feed, particularly for rabbits

Lack / inadequate technical back-stopping

7.3 Cross-Cutting Problems and Constraints

Certain constraints are linked to the systems of livestock production, service delivery, and other institutional processes. These are cross-cutting problems and affect all livestock keepers. The cross-cutting problems include the following:

Low efficiency and productivity of the production systems

Lack of land use policy and security which are disincentives to investment in livestock production

Poor management of resources, feed, water, etc. for livestock.

Poor access to livestock services

Theft of livestock

Irregular/inadequate off-take

Poor infrastructure including roads, markets, slaughter and distribution facilities

Weak livestock Associations and other farmer based organisations (FBOs)

7.4 Problems and Constraints of Livestock Services Providers

In line with the client-focused approach adopted in this policy analysis, this section discusses constraints linked to livestock services providers and their activity in the livestock sub-sector. In doing so, analysis of constraints relating to livestock input supply, livestock service provision and delivery, infrastructure, institutional capacity and processes are made.

7.4.1 Livestock Input Supply

The privatisation policy of government has shifted the supply of livestock inputs; feed, drugs, equipments more to the private sector. This comes with its problems. Problems in feed supply currently affect mainly the commercial sector, whilst drugs supply tend to affect both the commercial and rural sectors.

7.4.1.1 Feed Manufacturing

Animal feed, mainly for commercial poultry is currently manufactured by a few large scale commercial feed mills (for example GAFCO, AGRICARE). Many large scale/industrial poultry keepers (Darko Farms, Afariwaa Farms, etc) and small scale operators (mainly poultry and pigs) manufacture feed for their own use. The Ghana Feed Millers Association (GFMA) has 18 registered members, 12 in the Greater Accra Region, 3 in the Ashanti Region and one each in the Central, Western and Volta Regions. Several other feed manufacturers have not registered with the GFMA. The problems faced by the manufacturers include:-

Seasonal shortage of ingredients, particularly, maize;

High cost of imported ingredients to supplement seasonal production (soybean meal, fish meal, etc)

Expensive of imports of vitamin premixes and feed additives due to continued depreciation of the Cedi;

High cost of borrowing investment capital

Cost build up due to indirect taxation – VAT on poly sacks for packaging

High import permit fees

Huge amount of money to buy feed ingredients (maize) in large quantities in times of plenty to sustain operation all year round

Concentration on poultry feed; manufacture on request for other livestock, particularly pigs.

Feed mills located in urban areas and inadequate distribution network to reach rural consumers.

Inconsistent feed quality

7.4.1.2 Veterinary Drugs and Vaccines

The supply veterinary of drugs has been privatized but the supply of vaccines is still in the domain of the public sector. The general problems of the supply of veterinary drugs and vaccines include the following;

Poor quality drugs

Limited distribution

Poor storage (cold chain tend to be easily broken)

High cost

Repackaging difficulties

Inadequate training of suppliers leading to poor advice on effective use of drugs

7.4.2 Livestock Markets and Marketing

7.4.2.1 Livestock Markets

Specialised livestock markets, particularly for cattle, sheep and goats are very few in the country. In the southern part of the country, only three such markets are available, one each in Techiman, Kumasi and Accra. For the other livestock (pigs, poultry, micro-livestock (grass-cutter, rabbits), there are no organised markets in the country. Some unauthorised places are used for the sale of sheep and goats, particularly in the regional capitals. The organised markets lack infrastructure for proper handling of the animals that are traded in them. The location of some of the specialised livestock

markets, particularly, the one in Accra (Ashaiman) is no longer suitable as it is surrounded by residential houses. The Accra market is also far away from the ultra modern abattoir built at Tema, encouraging people to use unauthorised and unhygienic places to slaughter and process the carcass, particularly, sheep and goats. There is a need to relocate the Ashiaman cattle market.

The sale of livestock, particularly, cattle in the organised markets are monopolised by a few people who take over the animals when they arrive and sell on behalf of the owners. They also negotiate prices on behalf of the owners. The monopoly and price determination are not appreciated by the owners who complain but there is nothing that they are able to do.

7.4.2.2 Marketing

The major concerns with the process of marketing livestock in the country include processing, transportation, slaughtering, meat processing and distribution.

i). *Livestock Transportation*

Transportation is an important function of livestock marketing in the country due to the distance between the major supply and distribution points. Traditionally, cattle produced in the northern Savannah zone and those imported from the countries lying to the north of the country used to reach the southern markets on hoof. In the early 1960s, a law was passed to transport cattle to the southern markets on vehicles. This was done for many reasons including the destruction of food crop farms as the livestock move on hoof. Currently, the bulk of the livestock, cattle, sheep and goats are transported using mainly trucks. The problems of transporting livestock over long distances include the following:-

Use of inappropriate vehicles (with no proper tailgate, no facility for partitioning or no refrigeration vehicles to transport fresh meat) with concomitant penalties to meat quality;

Over loading of animals

High transport charges and unauthorised tariffs en route

High risk of mortality

ii) *Livestock Slaughter*

Livestock are generally slaughtered at unauthorised and sometimes unhygienic places throughout the country. In some of the regional capitals the modern abattoirs that have been built to replace the unauthorised and unhygienic places are under utilised, particularly, in the Tema Municipality as the unauthorised and unhygienic places are still preferred. Among the reasons are i).the high fees charged, ii) the Muslim tradition that ruminants should be slaughtered by designated Muslims, iii). the distance between the livestock market and the abattoir.

iii) *Meat Processing and Distribution*

Meat processing is still rudimentary in Ghana. There are only a few meat processing enterprises in the country, mostly in Accra. The processing activities are concentrated on cutting and packaging fresh local poultry, beef and pork, and making pork and beef sausages. Among the problems in the meat processing industry are the following:-

Non-availability of processing equipment

High initial cost and maintenance / repair of processing equipment due to non-availability of parts, equipment have to be sent outside the country for repairs or the needed parts imported at huge costs, and delays in arrival and installation.

Inadequate raw materials from domestic sources

High cost of transporting raw materials (animals)

Inadequate trained meat technologists – the few in the country are mostly foreigners, particularly, from the neighbouring francophone countries.

Lack of facilities to train middle level meat technologists

Processed meat market is not vibrant as compared with the neighbouring francophone countries.

7.4.3 Provision of Livestock Technology

Access to appropriate technology is a major bottleneck to livestock keeping in Ghana. Many factors that contribute to the poor access are associated with poor delivery due to inefficiencies and low capacity of institutions mainly of the public sector which currently provide the bulk of the technology services in the country.

7.4.3.1 Animal Production Services

Animal production services are mainly provided by the public sector. The major services include;

- Production and supply of genetically improved breeding stock to participating breeders for multiplication and dissemination to other livestock farmers.
- Production of dual-purpose cattle for high milk yield through the up grading the Sanga cattle with exotic dairy cattle by means of artificial insemination.
- Promoting hygienic collection, processing and distribution of locally produced milk and dairy products.
- Promoting the development of livestock feed resources through
    - Improving the nutritive quality of grazing lands by the introduction of highly nutritive and adaptable forage legumes, and
    - Collaborating with Animal Research Institution and Ghana Standards Board to enforce quality standards for commercially produced feed.

Liaising with research in the development and promotion of appropriate technologies on management, breeding, nutrition and housing of livestock.

The major problem of the delivery of production services include the following; inadequate multiplication of improved breeds, Inadequate and low capacity of staff to train keepers on improved technologies.

7.4.3.2 Veterinary Services

The veterinary services in the country were provided by public sector institutions until 1998 when the private sector was allowed to provide some of the services including artificial insemination, farmer education (extension), clinical treatment, distribution and sale of vaccines and drugs, etc.

The public sector institutions for example, VSD continue to have the monopoly in the provision of the following services:-

Control and eradication of endemic, epizootic and other diseases through vaccination and quarantine (e.g Rinderpest, Contagious Bovine Pleuro-Pneumonia, Brucellosis, Trypanosomiasis, etc).

Diagnosis and control of poultry diseases (e.g Newcastle disease)

Control of endo- and ecto-parasites through spraying, dipping and use of anti-helmintics

Provision of laboratory services

Control of imported livestock through quarantine stations in order to prevent the introduction of contagious and infectious diseases into the country.

The provision of these services and others by the public sector is constrained mainly by inadequate facilities and logistics.

7.4.3.3 Extension Services

The specialised and livestock separate extension in livestock production was unified with that of crops and other agricultural production in 1992, aimed at strengthening the extension system in the country. It has been argued repeatedly that the unified extension system has not adequately satisfied livestock keepers on the delivery of effective extension services to them. A well defined system of disease identification and reporting for quick action that was in place has been disrupted. The overwhelming emphasis placed on crop production in the country has influenced the thrust of the unified extension service delivery in favour of crop farming. In the meantime the farmer-extension agent ratio is still very high, over 1,500.

The inception of the Community Livestock Workers (now Community Animal Health Workers) concept to promote the participation of the community in the delivery of livestock extension needs to be fine-tuned to effect the needed impact.

7.4.3.4 Research Services

Livestock research in the country is carried out by both public and private institutions. The public institutions include the Animal Research Institute of the Council for Scientific and Industrial Research, the Faculties of Agriculture in the universities and some directorates of the Ministry of Food and Agriculture, particularly, Animal Production and Veterinary Services Directorates. The private institutions / farms carry out livestock research mainly in poultry. The prominent among them are Darko

Farms in Kumasi and Afariwa Farms in Accra. The research carried out by the public institutions were based largely on perceived national problems, conducted in isolation, disjointed / duplicated, open-ended, etc. However, since 1995 some committees have been put in place to co-ordinate agricultural research, to remove duplication and ensure relevance for development.

The major problem with public livestock research in the country is inadequate funding.

7.4.3.5 Regulatory Services

There are many regulations on the livestock industry in the country that are being implemented / enforced by specific public agencies as shown in Table 25. The public agencies providing the regulatory services do not collaborate effectively and their activities lack adequate co-ordination, creating problems of effective implementation of the regulations.

Table 25: Regulations in the Livestock Industry and Implementing / Enforcing Public Agencies

Regulation	Responsible Public Agency
Meat imports, Livestock imports, Drugs & vaccine quality, livestock movement, Meat inspection, Feed quality.	Ministry of Food and Agriculture (VSD, APD, ARI)
Meat inspection	Ministry of Local Government and Rural Development, Ministry of Food and Agriculture (VSD)
Livestock movement within communities, siting of kraals, poultry and pig houses	Ministry of Local Government and Rural Development (Department of Agriculture),
Feed, animal products and drugs	Ghana Standards Board, ARI, Food and Drugs Board
Livestock movement and livestock theft	Ministry of Local Government and rural Development, Police Service

7.4.3.6 Livestock Planning and Information Services

The Ministry of Food and Agriculture through the Livestock Planning and Information Unit (LPIU) is mandated to provide information needs of all in the livestock industry. The unit also has the responsibility to monitor, evaluate, process

and analyse policy issues in the livestock sub-sector. In line with its responsibilities, the LPIU develops strategies and evaluation tools to collect, collate, analyse, disseminate and monitor livestock information for development. The unit analyses issues relating to livestock service delivery to enable stakeholders to make informed choices. The LPIU engages in market intelligence to enhance MoFA's capacity to respond quickly and adequately to international livestock production and market trends. The LPIU also has planning roles in collaboration with livestock related directorates of the MoFA. In connection with this, the LPIU develops and uses the relevant benchmarks to monitor implementation and outcomes of programmes and projects.

Problems of livestock information and statistics

Poor quality of quantitative livestock data

Lack of systematic approach of gathering data on livestock population

Inadequate base for livestock population projections

Non-availability of import value of live animals and livestock products

Available data on aspects of livestock in the country are not centralized for harmonization and easy access

Inadequate capacity for collaborative planning and monitoring livestock programmes and activities

7.4.4 Implementation of Livestock Development Plans

Livestock development efforts in the country are often poorly executed, monitored and evaluated for effectiveness leading to unacceptably low impact of plans. Sometimes documents prepared for livestock development and growth are not sufficiently implemented for effectiveness, and also follows-ups are not considered for sustainability. These issues are considered as serious problems by many stakeholders in the livestock sub-sector.

Also many important issues relate to aspects that fall outside the purview of existing institutional structures, but nonetheless together constitute a major lapse in our livestock development effort. These include the following;

Inadequate linkages with the relevant agencies and bodies to enhance livestock development.

Low awareness of livestock stakeholders on many issues and opportunities geared towards livestock development

Low advocacy for livestock development, given the importance of the role livestock play in rural poverty reduction, food security and national economic growth

Low involvement of stakeholders in programme implementation and monitoring for effectiveness

8. Prospects for Increasing Production and Reducing Poverty

8.1 Prospects for Increasing Livestock Production

In the short term, there are prospects for **commercial livestock keepers** to increase poultry and pigs production because of the following:-

Existing high human capital

Potential for developing good breeds

Potential for manufacturing good quality and adequate feed

Potential for reducing feed cost that is linked to industrial efficiency in their operations

Potential for feed manufacturers to efficiently produce and distribute adequate feed over a wider area.

Availability of drugs and vaccines

Availability of credit

Huge domestic market, including demand for processing

The **multiple-role livestock keepers** deal mainly in poultry, cattle and small ruminants, to a small extent non-conventional livestock (grass-cutter, rabbit, snail) and through inheritance also own cattle.

The potentials to increase the production of ruminants are due to the following:-

Potential to move from free range system of production and provide supplemental feeding of animals;

Potential of developing a system that will be environmentally sustainable – reducing pollution, land degradation, better meat quality, etc.

Many NGOs and international agencies promoting the production in rural communities, particularly, sheep, goats and poultry.

The potential for increasing the production of the non-conventional livestock (grasscutters, rabbits, snails) are due partly to the following:-

Increasing interest of the rural and peri-urban populations to raise these animals

Many NGOs and international agencies promoting the production of these animals in the rural areas.

Fast growing, prolific, shorter generation intervals.

Simple and available feeds

Require less land

Low initial financial outlay

8.2 Prospects for Reducing Poverty

Increasing production alone does not provide adequate prospects to reduce poverty, particularly of the non-commercial livestock keepers. The prospects for reducing poverty when livestock production increased are partly the following:

- Already existing market for meat, particularly, goat in 'chop bars' throughout the country
- Good or premium prices for non-conventional livestock produced predominantly by the rural poor
- Livestock interfaces positively with poverty. Poor people who own livestock have shown to cope with poverty. Livestock offers opportunities for moving out of poverty and widen their asset base.

PART III

LIVESTOCK DEVELOPMENT

9. Vision, Goals, Policies and Strategies for Livestock Development

Livestock development should be guided by an articulate vision, SMART goals, policies and strategies which should form the basis for designing actions for implementation.

9.1 Vision for Livestock Development

The vision for development of the livestock sub-sector is stated as follows;
A well developed, modernised, efficient and profitable livestock industry capable of responding to all the livestock needs of the nation in a sustainable manner and in consonance with supporting human livelihoods to ensure poverty reduction and national economic growth.

The vision reflects government focus in the development of the livestock sub-sector and the agricultural sector as a whole that include:-

- Modernization of agriculture
- Food security and nutritional adequacy for the population
- Increasing the proportion of the food requirements produced locally (self-sufficiency), reducing imports (import substitution) and conserving the scarce foreign exchange.
- Promoting efficient, effective and profitable farming systems in order to enhance farm incomes.
- Promoting the livelihoods of rural households and reduce poverty of rural population.

The issues in the proposed vision have the following dimensions:

The Livestock needs of the nation, under the vision, includes the protein needs of the nation in terms of quality and quantity, the raw materials required by industry, the requirements to attain the needed farm power, soil nutrient flows, rural transportation and other social needs.

Modernization of the production processes, including the use of modern and improved inputs and husbandry practices.

Improving efficiency and effectiveness of using scarce resources, enhancing productivity of resources, improving competitiveness of local production vis-à-vis imports and reducing imports.

Enhancing profitability to provide incentives for increased investment in the industry,

Sustainable development to ensure adequate supply of animal products for the ever increasing population and changing taste of income towards animal products as incomes increase.

Affordability in order to ensure that the poor in the society have access to adequate nutrition.

Wealth creation to improve the livelihoods of rural households

9.2 Goals for Livestock Development

The goals for livestock development are set to provide basis to measure achievements at specific time periods towards the long term vision of the livestock development. The broad goal for livestock development in the medium term as reflected in development plans can be stated as follows:

1. To increase the supply of meat, animal and dairy products from domestic production from the current aggregate level of 30% to 80% of national requirement by the year 2015

2. To contribute to the reduction of the incidence of poverty among food farmers (who are also livestock keepers) from 59% to 30% by the year 2015

Goal 1 Specific Targets for the Production of the Major Livestock Species

Specific goals can be set for the production of the major livestock types produced for meat due to availability of data. The growth rates assigned are arbitrary and much higher than the growth rates estimated for the period 1986-96 when annual population censuses were carried out. However, they are reasonable given the low level of

production and the capacity of the country to increase. The target for cattle population in 2015 is estimated as 3.2 million heads, sheep 14.8 million, goats 39.1 million, pigs 5.1 million and poultry 89.2 million (Table 26).

Estimates are not available for the populations of dairy cattle, in the country. The goal for dairy production is therefore set in terms of reducing imports of dairy products. The goal is to reduce the imports of dairy products by 50% of the current level by 2015.

Table 26: Targets to Guide Development of Livestock Species by 2015

Livestock Species	Growth Rate 1986-1996	Target Growth Rate (%)	Population in 1996 (000 Heads)	Goal for 2015 (000 Heads)
Beef Cattle	1.1	5	1,248	3,154
Sheep	3.2	10	2,419	14,794
Goats	5.0	15	2,533	36,049
Pigs	-2.2	15	355	5,052
Poultry	8.8	10	14,589	89,225

Source: Veterinary Service Directorate of MoFA, Accra

Goal 2 Specific Targets to guide Contribution of the Livestock Sub-Sector to Poverty Reduction

Although the direct contribution of the livestock sub-sector alone to poverty reduction may be difficult to determine, livestock's positive interfaces with poverty is overwhelming. The difficulty in the measurement of livestock's contribution poses a problem for specific goals of poverty reduction to be targeted with respect to livestock keeping activities. However, if the expectation of the GPRS is to be achieved, poverty reduction goals need to be set and monitored for sub-sectors like the livestock sub-sector, whose contribution to poverty reduction is undisputed.

A number of indirect measurable parameters are used here to set the goals and targets for poverty reduction. In rural areas it is known that extremely poor and vulnerable

households are those with no livestock. Livestock acquisition strategies are therefore fundamental to the survival of many poor rural households. Also, high mortality sustained by rural livestock has been a major impediment to higher household incomes that would otherwise accrue from livestock. More definite studies are required on mortalities sustained by different livestock species in rural areas, however current best estimate of mortality of rural livestock in general is put at an average of 30%.

The specific targets are therefore as follows;

1. To reduce the proportion of 'livestockless' people in rural areas from the current 24% to 12% by the year 2015.
2. To reduce the current levels of mortalities sustained by the different species of rural livestock from 30% to 15% by the year 2015.

The specific levels of mortalities sustained by rural livestock will have to be ascertained to monitor target 2.

9.3 Policies and Strategies for Livestock Development

The policies in this document are set to help put in place the necessary processes to ameliorate or remove problems and constraints that beset the livestock sub-sector and create the enabling environment for development. The policies also essentially give guidelines and provide directions for the behaviour (including competition) of stakeholders in the production, importation, marketing and other activities carried out in the livestock sub-sector. The strategies are approaches to implement the policies. The livestock policies and strategies for implementation are designed for the specific themes within the rural and commercial sectors. These are related to problems with policy implications. The presentation merely follows a logical sequence and not ordered according to priority, because the prioritization will be relative to the category of livestock keeper or stakeholder. The different areas identified for policy intervention following the situation analysis of constraints to the livestock sub-sector include the following;

Capacity of livestock keepers

Livestock acquisition (stocking/restocking)
Livestock breeding material
Livestock health
Livestock markets and marketing
Meat and milk Processing
Livestock slaughter and facilities
Livestock transportation
Technical know-how and production efficiency
Profitability of commercial livestock enterprises
Theft of livestock
Livestock production and healthcare services
Veterinary Public health
Livestock extension services
Financial services for livestock enterprises
Livestock research and appropriate technology development
Livestock inputs (Feed, water, drugs and equipments)
Livestock industry regulatory services
Livestock statistics
Institutional capacity
Research – extension linkages
Environmental effects
Implementation of livestock development plans

These policies are addressed and organised in three parts i) those specific to the rural sector, ii) those specific to the commercial sector and iii) those that are crosscutting

9.3.1 Policies and Strategies for the Rural Livestock Sector

9.3.1.1 Capacity Building for Livestock Keepers

Many livestock keepers in the rural sector are poor and vulnerable. They are not able to bear risks and to take commercial decisions because the pre-requisites for this are not available to them. They have very low formal or non-formal training.

The extension services are also not effective partly because of the large livestock keepers per extension officer ratio.

Policy Guidelines

Support community private sector participation in livestock extension e.g. Community Livestock Workers (CLW) now Community Animal Health Workers (CAHW), NGO's

Facilitate livestock keepers into groups to make it easier for extension officers to reach many livestock producers in given areas.

Reduce ratio of livestock producers to extension officer

Strategies

Provide incentives for community participation, e. g logistics, equipments

Enhance group formation of livestock keepers to improve extension coverage

9.3.1.2 Livestock Acquisition

At any one time some livestock keepers may have no livestock for one reason or the other. This group includes those who may have lost all their stock due to some disease, theft, war and may be new families starting out and want to own livestock but are unable to do so. Many of these livestock keepers are unable to do so because they are poor or are unable to raise the necessary initial capital. It has been estimated that 'livestockless keepers' constitute nearly 25% of rural households.

Policy Guidelines

Support affected livestock keepers to acquire appropriate animals

Strategies

Introduce in-kind livestock credit schemes

Acquisition strategies should be backed by the appropriate and adequate technical advice, especially choice education on breeds.

All the credit schemes and distribution should be efficient and adequately publicised to make it transparent.

9.3.1.3 Livestock Genetic Material

Recent advances in livestock genetic diversity support the fact that livestock keepers in the rural sector are custodians of local breeds. Currently, less productive but genetically valuable local breeds, which possess traits necessary for survival in Ghana, are threatened as a result of intensification of animal agriculture which relies on crossbreeding with imported breeds (genetics) perceived to be superior. The most at risk is the Ghana shorthorn cattle (WASH), with a current reduced WASH population of 47.5% (Ahunu and Boa-Amponsem, 2001). The breed forms the bulk of the indigenous cattle population in Ghana and possesses highly desirable resistance attributes (e.g. tolerance to both trypanosansis and dermatopihilosis) and is adaptable to traditional husbandry systems.

This trend will affect the ability of many poor people in the rural sector to own livestock in the face of the harsh environmental condition coupled the general poor access to livestock services and with the low ability of many of the livestock keepers to invest in productivity by the poor.

Policy Guidelines

Encourage improvement of indigenous breeds for meat through selection of local breeds to build on the existing desired traits

Conserve local breeds so as to maintain the desirable resistant attributes of the breed for future exploitation, e.g. the WASH.

Strategies

Establish at least three nucleus herds each with a number of co-operation herds; and these should form the basis of livestock improvement programme.

Advice castrating animals not required for breeding. This may not be recommended for pigs because of effect on production efficiency.

Develop appropriate selection indices for local breeds

9.3.1.4 Health of Livestock

There are many pests, diseases and irregular disease outbreaks that affect the health of livestock in the country (Appendix 3). Rural livestock keepers face the following specific problems that relate to the health status of livestock:

High prevalence of endemic diseases

Poor condition of livestock due to inadequate and poor quality feed that reduce resistance and increase susceptibility to diseases

Policy guidelines

- Provide mass treatment and vaccination against highly contagious and infectious diseases at regular intervals in a manner that will cover the poor livestock keepers
- Pay compensation to livestock keepers where in-contact animals need to be destroyed for strategic reasons. A special fund should be created for the purpose

9.3.1.5 Inadequate and Poor Quality Feed and Stock Water

Availability and quality of feed and water are problems that have been long recognized to affect livestock development in the country. The seasonal rainfall pattern, bushfires and occasional droughts limit the availability of pasture for grazing and also stock water. Water points are inadequate and where available provision is not made for livestock. The grazing fields and water are used on communal basis, with no effective ownership and management. There has been the tendency to overgraze even when the threshold or carrying capacity is reached. Communal ownership has also resulted in conflicts in the use of grazing fields and stock water. Another source of conflict is livestock straying to destroy crop farms. There is a poor access to crop residues, and inadequate use of agro-industrial by products for supplementation.

Policy Guidelines

Encourage co-production and management of grazing fields and stock water.

Support communities in the initial costs of establishing grazing fields and stock water

Discourage crop farming within reasonable distance away from designated grazing fields.

Make provision in community water development for both human and livestock.

Strategies

Encourage the creation, protection and management of grazing fields by communities to ensure that livestock graze within the designated areas.

Provision should be made to charge user fees to enhance ownership, management and maintenance of grazing fields and stock water in order to ensure sustainability.

9.3.2 Policies and Strategies for the Commercial Livestock Sector

9.3.2.1 Capacity Building for Livestock Keepers

Many of the commercial livestock keepers in the country may be in the position to bear more risks and take commercial decisions, however a lot of them have low technical know-how of proper management and consequently, their efficiency rating is low. This is largely the result of low level of formal and non-formal education / training of the livestock keepers and the caretakers. Many of the livestock enterprises are closed down a few years after the set up.

As mentioned under section 9.3.1.1, the extension services are also not effective partly because of the large livestock keepers per extension officer ratio.

Policy Guidelines

Build operational and managerial capacity of commercial livestock keepers.

Facilitate livestock keepers into groups to make it easier for extension officers to reach many livestock producers in given areas.

Reduce ratio of livestock producers to extension officer

Strategy

Organize periodic workshops on management tools for livestock keepers

9.3.2.2 Livestock Stocking / Restocking

In the commercial sector livestock acquisition problems may involve those who may have sold all their stock or lost their stock due to some epidemic disease and need to raise the necessary capital for restocking or may be new people who want to enter into some commercial livestock enterprise and yet are unable to raise the needed capital to start.

Policy Guidelines

Support affected livestock keepers to acquire appropriate animals

Strategies

Provide financial credit schemes.

9.3.2.3 Livestock Breeds and Breeding

For the livestock keepers in the commercial sector who are able to invest in productivity, the major problem is the fact that the breeds of livestock in the country are generally very poor (low productivity). This has been a major concern in the development of the livestock industry for several decades as highlighted in almost all the plans, programmes, projects, etc.

For milk production, the country lacks suitable high yielding dairy breeds of cattle, sheep and goats. The available dual purpose cattle (Sanga breed) is a cross between the indigenous WASH and the Zebu cattle is low milk (small volume) producer.

Improving the quality of the breeds has been among the major objectives of research but the uptake results have not been encouraging. Attempts to use imported breeds to upgrade the local breeds for milk production have produced results that could not withstand the harsh environmental conditions, poor management practices and feeding and disease vectors.

Policy Guidelines

a) Breed Improvement

Conserve the local breeds so as to maintain their desirable resistant attributes for future exploitation (e.g. the WASH)

Encourage co-production of improvements in livestock breeds through research by public and private sectors.

Approve cross breeding on private farms and monitor activity

Approve livestock importation for cross breeding from proven sources.

Quarantine all imported livestock for infectious and other diseases (Policy exists but not effective, see Appendix 2).

b*) Strategies to Sustain Quality of Breeding Stock*

Establish at least three nucleus herds each with a number of co-operation herds; and these should form the basis of livestock improvement programme.

Educate livestock keepers on the benefits of sustaining the genetic quality / purity of animals.

Advise separation of all male and female animals of breeding age.

Train experts to monitor livestock breed purity

c) Production and Supply of Day Old Chicks

The country has installed capacity that is not effectively utilised to produce day old chicks to meet demand. Consequently, imports have become necessary. The local production has quality problems, thereby shifting preference to imported day old chicks in spite of price differential between the imported and the local ones. The local hatcheries do not always apply the routine vaccines for the day old chicks and the impact shows much later in the life of the birds (e.g. Mareks disease). It is also observed that some poor quality day old chicks are also being imported into the country. Other problems of domestic day old chicks production is unavailability of and unsustainable “grand parent farms”.

Policy Guidelines

- Promote domestic production of good quality day old chicks
- Support the development of special farms to hold grand parent stocks
- Establish appropriate guidelines for hatchery operation and ensure enforcement

- Develop effective monitoring system to ensure supply of good quality day old chicks

Strategies

Establish committee to monitor and inspect hatcheries with powers to close down if sub-standard chicks are produced.

Train hatchery operators

Unsanitary and poor management of production environment

Poor condition of livestock due to inadequate and poor quality feed that reduce resistance and increase susceptibility to diseases

9.3.2.4 Health of Livestock

There are many pests, diseases and irregular disease outbreaks that affect the health of livestock in the country (Appendix 3). The specific factors that affect the health status of livestock include:

Unsanitary and poor management of production environment

High prevalence of endemic diseases

Poor condition of livestock due to inadequate and poor quality feed that reduce resistance and increase susceptibility to diseases

Unsanitary and Poor Management of Production Environment

Poor management of the production environment include the following:

Poor housing

Overstocking

Poor sanitation / waste disposal

Non adherence to routine treatment and vaccination schedules due partly to high cost of vaccines, drugs and services, poor quality of drugs and vaccines, inadequate understanding of benefits and inadequate technical know-how – effective application of drugs / vaccines.

Policy Guidelines

Reconstitution/repackaging of drugs and vaccines should be done at approved pharmaceutical industries or under strong supervision of VSD

Set up Veterinary Pharmacy Board to control and regulate importation and distribution of drugs and vaccines. The existing Veterinary Council should regulate and monitor service charges of private providers, quality and efficacy of drugs, etc

- Provide mass treatment and vaccination against highly contagious and infectious diseases at regular intervals
- Pay compensation to livestock keepers where in-contact animals need to be destroyed for strategic reasons. A special fund should be created for the purpose
- Limit distribution and application of selected drugs to licensed dealers and service providers, in order to eliminate abuse of usage by producers and consequences on human health.

Strategies

- Educate livestock keepers on hygiene and proper management of livestock.
- Educate livestock keepers on the benefits of adhering to routine treatment and vaccination schedules.

9.3.2.5 Livestock Input Availability and Supply

Commercial poultry and pig keepers face problems of high cost of manufactured feed and other inputs. The high feed cost is caused directly by the high cost, seasonal and irregular supply of maize, oil seed meal, fish meal and other ingredients. Some of the ingredients are imported and their prices are negatively affected by the fluctuations in the foreign exchange rates. The network for the distribution of the manufactured feed is limited to the urban and peri-urban areas.

Policy Guidelines

Support private sector to process, package and distribute crop residue and industrial by-product

Stabilise maize supply and prices through the buffer stock system.

Allocate estimated proportion of buffer stock of maize for livestock feed.

Include legumes in the buffer stocks for use as animal feed.

Develop guidelines for feed-mill operations and ensure enforcement

Strategies

Strengthen national animal feed quality control laboratory to test and monitor all commercial feed.

Enforce severe sanctions against feed-millers producing sub-standard feed.

9.3.2.6 Livestock Marketing

Livestock marketing has several components, from buying and selling, slaughter of the animals, processing the meat and milk and finally retailing. Areas considered for policy guidelines and strategies for effectiveness and efficiency are slaughtering, processing and transportation. Policy guidelines for livestock slaughter and meat inspection are cross-cutting and are given under section 9.3.3.4 on public health.

a) Meat Processing

Meat processing is under-developed in the country. The problems include:-

Inadequate facilities

High procurement and maintenance cost of facilities

Low technical know-how

Inadequate trained personnel (Many of those in the system have been recruited from the neighbouring francophone countries)

Lack of training facilities / opportunities

Policy Guidelines

Develop national capacity of personnel and equipment for meat processing

Strategies

Incorporate meat processing in the curriculum of polytechnic institutions

Support local manufacture and maintenance of meat processing equipment

b) Milk Processing

Milk processing is under-developed in Ghana. Aside the fact that the volume of milk produced is meagre, other direct problems include;

- Inadequate milk collection system.
- Poor and unhygienic handling of milk
- Poor distribution network.
- Lack of facilities and equipments.
- Lack of technical know-how.
- Sub-standard products.
- Negative perception of quality of locally produced milk.

Policy Guidelines

Educate all milk producers, collectors and vendors to adopt hygienic methods of milk handling that will improve acceptance

Sensitize livestock keepers to improve quantity of milk produced by using high milk yielding animals.

Encourage private sector to take up milk processing ventures.

Encourage livestock keepers to screen their animals for specific contagious diseases

Strategies

Make collection points easily accessible to milk producers.

Train all stakeholders in the milk industry to improve on quality

Make available the necessary equipment and resources for milk production

c) Transportation

The vehicles used to transport livestock, notably, ruminants – cattle, sheep and goats) over long distances are not appropriate as they are poorly designed for the purpose. They lack tailgates and partitioning. The animals are also usually over crowded and

moved at times of day that result in high mortalities and reduced meat quality when slaughtered without keeping animals in lairage.

Policy Guidelines

Enforce the use of approved vehicles properly designed for movement of livestock and meat.

Strategy

Make appropriate vehicles available to the private sector.

9.3.2.7 Profitability and Production Efficiency of Livestock Enterprises

Profitability of commercial livestock enterprises is essential to attract investors into livestock keeping. The indications are that the commercial livestock keeping is not adequately profitable. The profitability is affected by the high cost of finance, feed, drugs, utilities, labour, land, etc. Low prices of output affect profitability because of dumping and subsidised imports, particularly poultry products.

Policy Guidelines

Use increase in tariffs, when necessary, on meat imports (particularly, poultry) to ensure fair competition in prices.

Strategies

Institute financial schemes to support livestock production.

Educate livestock keepers to be more efficient in the use of utilities and inputs.

9.3.2.8 Financing Livestock Enterprises and Related Activities

Financing livestock enterprises is a serious problem for livestock keepers. There is lack of access to credit facilities and high interest rate as poultry enterprise in particular is considered a high risk enterprise.

Policy Guidelines

Provide special credit facility and appropriate interest rates for commercial livestock keepers and related activities.

Strategy

Provide information on non-formal loans and facilitate access (by strengthening the relevant FBOs)

9.3.3 Cross-Cutting Policies and Strategies

9.3.3.1 Health of Livestock

Cross-cutting issues of health that affect both the rural and commercial sectors of livestock are;

Trans-boundary infections through illegal imports of livestock and products, transhumance activity, etc.

Environmental factors that encourage build up of pests or directly cause death of livestock e.g. bush burning that predisposes ruminants to anthrax and the ingestion of polythene bag waste by livestock leading to death.

a) Trans-Boundary Infections

Some infectious diseases occur as a result of ineffective control of livestock and livestock products entering the country.

Policy Guidelines

All live animals entering the country must pass through approved entry points and quarantined for the appropriate number of days.

All animals that pass through the approved entry points and quarantined must be given certificate indicating destination and intended use.

Animals that pass through the quarantine procedure must be branded for identification.

All cattle produced in the country must also be branded for identification.

Strategies

Create more authorized entry points with quarantine stations. Some known places are already being used as unapproved entry points that could be considered and made official entry points.

Strengthen the border patrol with personnel and mobility along the unapproved livestock entry points. The problem caused by transhumance for grazing and watering cattle is enormous and difficult to solve partly because of collusion with some community leaders, chiefs and others to facilitate the process, avoid detection and arrest. A cattle guard system (cattle guards) existed in the pre- and immediate

post-independence periods. The guards patrolled the borders to prevent illegal entry of livestock. This system can be re-introduced

Co-produce (create) grazing grounds and fodder banks at strategic places for use by transhumance for fees. This has an advantage of effective disease and pest (tsetse-fly) control and markets for livestock. The transhumance livestock come mainly to feed (grazing) and water the cattle and results in the destruction of food crop farms.

Transhumance cattle found in any locality must be reported to the police.

Those found with transhumance cattle illegally should be prosecuted and the animals seized.

b) Environmental Problems of Health

A major environmental factor on the health of livestock is pests, notably, tsetsefly. The environmental health problems of pests and disease can best be handled by sub-regional actions.

Bush burning also creates environmental problems by predisposing animals to anthrax.

More recently, the polythene bag 'menace' has become a major animal health hazard for ruminants particularly for sheep and goats. The animals ingest the polythene bags that lead to intestinal congestion and eventual death.

Policy Guidelines

Initiate ECOWAS sub-regional control programme

Continue to breed for disease resistance among other attributes or traits.

Strategy

Enforce the by-laws on bush burning to ameliorate the problem.

Support national efforts on effective waste /polythene bag disposal

9.3.3.2 Livestock Theft

There are incidents of livestock keepers losing some or all of their animals at a go. Non-commercial keepers lose some of their animals when they go out to graze in a free range. Even some keepers who keep their animals confined still lose some animals occasionally. The increasing rate of theft in the livestock enterprise does not encourage investment and therefore keeping many animals

Policy Guidelines

Control theft in the livestock industry.

Livestock arriving in the market for sale should have record of purchase / ownership

Strategies

Monitor movement of livestock within and between districts.

Introduce district identification marks (branding) for livestock to monitor inter district movement.

Encourage formation of local livestock keepers' associations to collaborate with police to monitor cattle movement intra district. The associations will also issue certificate of ownership / purchase in the district.

Introduce severe sanctions (without the option of a fine) for livestock stealing.

9.3.3.3 Livestock Markets

Problems in markets of livestock include the following:

Inadequate cattle markets in the country (e.g one each in Ashaiman (Tema), Kumasi, Techiman)

Cattle markets operate under control / monopoly of unauthorised groups of persons who negotiate prices and sell on behalf of the owners.

Poor infrastructure in the cattle markets and very poor access to some of these markets

Inappropriate location of markets (some markets are now engulfed by residential buildings).

- No officially organised markets for other livestock species. Sheep and goats are sold at unauthorised places mostly close to unsanitary and unauthorised locations for slaughter.
- Separation of assembly and sales points.
- Seasonal markets for broilers and sheep.

Formatted: Bullets and Numbering

Policy Guidelines

Increase the number of physical market places for cattle, particularly in the urban centres

Develop appropriate infrastructure in cattle markets and provide scales

Break the monopoly in the cattle markets for competitive marketing where cattle owners negotiate their prices

Strategies

Study the traditions and culture of livestock marketing

Public Health

Importation and Wholesomeness of Meat

The frozen meat imported into the country can carry some infectious diseases that can be passed on to humans as well as animals. There is the need to prevent this from happening. Also after the arrival of the meat at the ports, there can be a problem of the meat becoming unwholesome. Quick inspection and certification to clear the imported meat at the ports are essential but oftentimes, there are some delays.

Policy Guidelines

Permits should be issued for meats to be imported from sources that have no outbreak of contagious diseases.

Policy already exists for acquisition of interim permit before meats are imported.

Imported meat should be inspected at the ports for wholesomeness before permit is issued for clearing.

Policy already exists for inspection and issuance of clearing certificate.

Issuance of clearing permit after meat has been inspected for wholesomeness should be processed at the port of entry. This will streamline the cumbersome procedure of shuttling between the point of entry and MoFA Offices to obtain the clearing certificate.

Importation of meat and meat product should be in accordance with the article of the World Organization for Animal Health (OIE) and International Terrestrial Animal Health Code

b) Slaughter of Animals

There two modern abattoirs in the country, one in Accra and the other in Kumasi. The ultra modern abattoir jointly built by Social Security and National Insurance Trust, Accra Metropolitan Assembly and other investors in Accra is under utilised for a number of reasons including inappropriate siting; being far away from the cattle market and not easily accessible. The one in Kumasi that is located next to the livestock market is very well utilised. Livestock, particularly, goats and sheep continue to be slaughtered at the unapproved locations with very poor sanitary conditions and a high risk of unwholesome meat. There is also conflict among multiple institutions inspecting slaughtered animals in the country.

Policy Guidelines

Establish slaughter booths in close proximity to the livestock markets

Institute severe punishment for slaughtering and processing animals at unauthorized places.

Assign one institution to inspect meat (In line with international practice, VSD should provide this service).

Strategy

Improve accessibility to abattoirs, particularly Accra abattoir.

c) Meat and Milk Handlers

Meat and milk handlers do not attach enough attention to the potential human health hazard of their activities, for example, the unhygienic manner of handling and the health of the handlers themselves.

Policy Guidelines

All meat and milk handlers should provide initial health certificate and periodically undergo medical check-ups.

Strategy

Educate meat and milk handlers on need to ensure the necessary hygiene and the potential public health hazard

9.3.3.5 Livestock Research

There is a need to support livestock keeping and production with appropriate technology developed through research. The areas that are needed to support the commercial sector in the areas in breeding, feeding and nutrition, the use of agro-industrial by-products in livestock feed formulations and livestock health management, to improve profit margins.

For the rural sector research to better understand the rural livestock keepers' priorities and technology needs are required for generating technologies that are appropriate and sustainable.

All national livestock research activities should be co-ordinated and priorities set for optimum impact. It is also important that livestock research be adequately funded.

Policy Guidelines

a) Research Agenda Setting and Co-ordination.

Develop framework for livestock research prioritisation, co-ordination, networking, monitoring and evaluation.

Involve rural livestock keepers and commercial operators associations in research agenda formulation priority setting and extension activities.

Research-Extension Linkage Committees should put greater emphasis on extension of livestock technologies.

b) Funding of Research

Reserve a portion of the proposed Research Fund for livestock research.

Encourage commercial livestock producers/operators to make contribution to this portion of the research fund.

Strategies

Strengthen research activities to improve profitability to commercial operators.

9.3.3.6 Livestock Information and Statistics

Accurate time series data on livestock population, domestic off-take, volume and value of imports of live animals and products, prices and domestic demand trends among socio-economic groups, are very important in planning and designing policies and strategies for livestock growth and development. The available but insufficient and poor quality livestock data in the country include i). annual population of major livestock species (cattle, sheep, goats, pigs and chicken), ii). imports of live animals including day old chicks, iii). imports of livestock products (including meat and dairy).

From 1986 to 1996, the selected livestock population were estimated through census of animals vaccinated by the Veterinary Services Directorate (VSD) of the MoFA. The censuses are in fact, tallies of vaccinations by VSD. VSD estimates that the coverage of these vaccination exercises, and therefore of the tallies, was only about 65% of the livestock population in the country. Since 1997, the population has been based on extrapolation of the population trends in the previous decade. During this period, the population of pigs declined and so the projection gives a steady decline of pigs population in the country since 1997.

The volume of imports of live animals is estimated through the few quarantine stations in the country. In recent years, due to the deplorable facilities at the stations, they have been abandoned and therefore the count of animals entering the country has virtually stopped. In addition, the activity of transhumance has increased. With no

reliable records on transhumance animals, it is difficult to know the number of animals that are imported into the country annually.

The value of imported live animals and livestock products may be available in the country but not compiled and collated for easy access.

The available data on day old chicks (DOCs) are incomplete, for example in several years (1989 to 1998) there were no import figures. However, there is observable evidence that many DOCs were imported into the country.

Policy Guidelines

Organize proper periodic census to provide reliable data for projections of major livestock populations

Establish data bank for livestock data including value and volume of imports of both live animals and livestock products.

9.3.3.7 Capacity of Public Institutions

Some of the main problems leading to inefficiencies in institutional processes and delivery systems include;

Poor institutional capacity due to inadequate human capital in both quality and quantity terms.

Poor logistics and inadequate funding

Low morale.

Policy Guidelines

Ensure adequate human capital

Strategies

Train personnel frequently and systematically.

Hire more qualified personnel.

Improve working conditions

9.3.3.8 Coordination of Regulatory Agencies

There are many public agencies implementing regulations on livestock production and imports of livestock, meat and other animal products. They include the following:

Ministry of Food and Agriculture (VSD, APD)

Ministry of Health

Food and Drugs Board

Ghana Standards Board

Ministry of local government and rural development

Ghana Police Service

Customs, Excise and Preventive Services (CEPS)

Environmental Protection Agency (EPA)

The activities of these agencies are not coordinated and create problems of effective implementation of the regulations.

Policy Guideline

Set up standing committee of all the regulatory agencies to ensure cooperation, collaboration, efficiency and effectiveness in their operations and achievement of common or overlapping objectives.

9.3.3.9 Implementation of Livestock Development Plans

The low impact of livestock development in the country so far can be attributed the following

Poor execution of development plans and inadequate monitoring and evaluation.

Inadequate linkages among agencies and bodies involved in livestock development

Low awareness of opportunities in the livestock sub-sector

Low advocacy for livestock development

Policy Guidelines

Establish a Livestock Development Council (LDC)

The LDC will ensure that documents prepared for livestock development in the country are effectively implemented, monitored, evaluated and efforts made to sustain the development process initiated.

The LDC will play a role in ensuring effective linkages among stakeholders, awareness creation of opportunities in the livestock sub-sector and advocacy for livestock development.

The LDC will also play an advisory role on policy direction for livestock development and generally engage in oversight activities to advance livestock development.

10. Public / Private Participation in Policy Implementation

Public/private participation in the implementation of livestock policies in the country is captured in the matrix below. The matrix highlights the policies, strategies and responsibilities of implementation.

Issue/Problem	Policy	Strategy	Responsibility Private / Public	Implementer
A: RURAL SECTOR				
1) Capacity building for livestock keepers	Support community private sector participation in livestock extension	Provide incentives for community participation; logistics, equipments	Public / Private	MoFA (APD, VSD), NGOs,
	Facilitate livestock keepers into groups		Public / Pivate	APD / VSD / DOC / NGOs
	Reduce livestock keeper/extension officer ratio	Enhance group formation of livestock keepers	Public / Private	DAES / APD / NGOs
2) Livestock Acquisition	Support 'Livestockless' keepers to acquire appropriate animals	Provide in-kind credit schemes	Public / Private	MoFA (APD) NGOs, FBOs
3) Livestock genetic material	Encourage improvement of indigenous breeds	Develop selection indices for local breeds	Public	MoFA (APD, VSD, DAES)
		Facilitate with adequate technical advice especially on 'choice education'	Public / Private	APD / VSD / NGOs
		Advice castration of animals not required	Public / Private	APD / NGOs

		for breeding.		
4)Poo rHealth of livestock	Provide mass treatment and vaccination against contagious and infectious diseases 'free' of charge to benefit the poor keepers	Quarantine all animals entering the country for infectious and contagious diseases.	Public	MoFA (VSD)
	Pay compensation to livestock keepers where in-contact animals need to be destroyed. Set up a special Fund		Public	MoFA / MoFEP
5) Inadequate and poor quality feed and water	Encourage co-production and management of grazing fields and stock water	Encourage creation, protection and management of grazing fields.	Public/Private	MoFA (APD), NGO,s, FBOs
	Support communities in the initial cost of establishing grazing fields and stock water	Ensure livestock graze in designated areas	Public / Private	MoFA /NGOs
	Discourage crop farming within reasonable distance from designated grazing fields	Enhance ownership, management and sustainability by charging user-fees	Public / Private	APD / NGOs
	Make provision in community water development for both human and livestock.		Public / Private	MoWH / NGOs
B: COMMERCIAL				

SECTOR				
1) Capacity Building of livestock keepers	Build operational and managerial capacity of livestock keepers	Organise periodic workshops on management tools for livestock keepers	Public/Private	MoFA (APD, VSD), NGOs
	Reduce keeper: extension officer ratio	Employ more staff / use combination of extension methods	Public / Private	DAES / NGOs
	Facilitate livestock keepers into groups		Private / Public	DAES / DOC / APD / NGOs
2)Livestock stocking/restocking	Support affected livestock keepers acquire stock	Provide financial credit schemes	Private	NGOs, Financial institutions
	Conserve local breeds to maintain resistant traits for future exploitation		Public	APD / ARI
3) Livestock breeds and breeding				
i) Breeds available are low in productivity	Encourage co-production of improvements in livestock breeds through research	Establish at least three nucleus herds each with a number of cooperation herds to form basis of livestock improvement	Private/Public	MoFA (APD), DA
	Approve cross breeding on private farms	Educate livestock keepers on benefits of sustaining genetic quality/ purity of animals	Public	APD
		Advice separation	Public /	APD / NGOs

		males and females of breeding age	Private	
		Train experts to monitor livestock breed purity	Public / Private	APD / NGOs
	Approve livestock importation for cross breeding from proven sources		Public	APD
ii) Low availability of high yielding dairy breeds	Develop dairy breeds appropriate for environment	Use imported semen of dairy breeds to upgrade Sangas	Public/Private	APD /VSD / ARI / Keepers
iii) Low production and poor quality day old chicks (DOCs)	Promote domestic supply of DOCs		Public	MoFA (APD, VSD) / ARI Universities
Quality of domestic production not monitored, routine vaccines not given, birds develop Mareks and leg bone disease close to maturity	Support development of special farms to hold grand parent stocks		Public / Private	APD / VSD / LDC/ Keepers Associations
	Establish appropriate guidelines for hatchery operations and ensure enforcement	Establish committee to monitor local hatcheries with powers to close down if sub-standard chicks are produced	Public / Private	MoFA (VSD, APD) Food and Drugs Board, Special Committee of private and public stakeholders.
	Develop effective monitoring system to ensure supply of good quality DOCs			
		Train hatchery operators	Public / Private	APD / VSD / NGOs
4) Poor Health of Livestock				

Unsanitary and poor management practices (housing, overstocking, sanitation) Not following routine treatment / vaccination schedules		Educate livestock keepers on hygiene and proper management of livestock	Public / Private	MoFA (VSD, APD) NGOs Private Importers/Distributors of veterinary drugs and vaccines, NBSSI (BAC) Veterinary Pharmacy Council
		Educate livestock keepers on benefits of adhering to routine vaccination schedules	Public / Private	VSD / NGOs
Inadequate education and know-how, etc.)		Educate keepers on technical know-how of livestock keeping	Public / Private	APD / VSD / NGOs / Keepers' Associations
Inadequate protection of livestock from contagious diseases	Provide mass treatment of contagious and infectious diseases at regular intervals		Public	VSD
	Pay compensation to livestock keepers where in-contact animals need to be destroyed. Set up a special.		Public	MoFA / MoFEP

Proliferation of and poor quality drugs on the market Low resistance / high susceptibility to diseases	Set up Veterinary Pharmacy Board to control/regulate importation and distribution of drugs and vaccines		Public	Veterinary Council
	Reconstitution / repackaging of drugs and vaccines should be done at approved pharmaceutical industries under strong supervision by VSD		Public	VSD
	Limit distribution and application of selected drugs to licensed dealers to reduce abuse		Public	VPB

5). Livestock input availability and supply				
Inadequate and poor quality pasture and water and grazing fields	Support private sector to process, package and distribute crop residue and agro-industrial by products		Public / Private	District Assemblies, Community Based Organisations, Communities, private entrepreneurs
Irregular / seasonal supply of ingredients for manufactured feed	Co-produce grazing fields and fodder banks and charge fees for use		Public / Private	APD / Livestock keepers / CBOs
Poor quality of manufactured feed		Enforce severe sanctions against feed millers producing sub-standard feed	Public	GSB
High cost of manufactured feed, partly due to cost of energy, high prices of ingredients (maize in the off season), fluctuation in exchange rate	Make provision in the buffer stock operation for maize and legumes for animal feed		Public	MoFA
Poor access to crop residue, industrial by-products	Encourage / support private sector to package crop residues / industrial by-products as feed		Public / Private	APD / Keepers' Associations / NGOs
6)Transportation of livestock	Enforce the use of vehicle properly designed for movement of livestock	Make appropriate vehicle available to the private sector	Public/Private	MoFA (APD, VSD) Police service / Livestock traders / Transport owners

7) Meat Processing	Develop national capacity of personnel and equipment for meat processing	Incorporate meat processing in the curricular of polytechnic institutions	Public	Tertiary institutions
		Support local manufacture and maintenance of processing equipments	Public / Private	GRATIS / ITTUs / Private Fabricators
8) Milk Processing	Educate all milk processors, collectors and vendors to adopt hygienic methods	Make collection points easily accessible to milk producers	Public / Private	APD / FBOs / NGOs
	Sensitize livestock keepers to improve milk quantity by using high milk yielding animals	Train all stake holders in the milk industry to improve on quality	Public / Private	APD / VSD / DAES / NGOs
	Encourage private sector to take up milk processing	Make available the necessary equipment and resources for milk processing	Public / Private	APD / DAES / NGOs
	Encourage livestock keepers to screen their animals for contagious and zoonotic diseases		Public / Private	APD / VSD / NGOs
9) Profitability and production efficiency of livestock enterprises	Use tariff measures when necessary, on meat imports to ensure fair competition in the local market	Institute financial schemes to support commercial livestock production	Public/Private	GoG / Banking institutions
		Educate livestock keepers to be more	Public / Private	ECG / GWCL / DAES

		efficient in the use of utilities and inputs		
10) Financing Livestock Enterprises and Related Activities				
Lack of credit facilities, high interest rate as enterprise considered high risk	Provide special credit facility for commercial livestock keepers and related activities	Provide information on non-formal loans and facilitate access (by strengthening the relevant FBOs)	Public/Private	Banking institutions / NGOs
C: CROSS-CUTTING POLICIES				
1.Health of Livestock				
i)Trans-boundary infections	All animals entering the country must pass through approved entry points and quarantined for the appropriate number of days	Create more authorized entry points with quarantine stations	Public	MoFA (VSD)
		Strengthen boarder patrol with personnel and mobility along unapproved entry points	Public	APD / CEPS / Police Service
	All quarantined animals must be given certificate indicating destination and intended use. All animals passing through quarantine must be branded for identification purposes		Public	VSD

	All cattle produced in the country must be branded			
		Co-produce (create) grazing ground and fodder banks at strategic places for use by transhumance cattle	Public / Private	DA / Rural communities / Private individuals
		Transhumance cattle found in any locality must be reported to the police. Those found with transhumance cattle illegally should be prosecuted and animals seized	Public / Private	Police Service / DA / Rural communities / Keepers' Associations
ii) Environmental Problems of Health				
Pests (e.g. tsetse-fly)	Initiate ECOWAS sub-regional control programme		Public/Private	GoG (MoFA)
	Continue to breed for resistance among other attributes		Public	APD / ARI / Universities
Bush burning leading Anthrax		Enforce the by-laws on bush burning	Public / Private	Police Service / DA / Rural communities
Polythene bag menace leading to death of animals		Support the development of a	Public /	EPA /

especially small ruminants		coordinated plan for proper disposal of waste especially polythene bags	Private	Polythene bag producers
2. Livestock Theft Deterrent for commercial / non-commercial livestock keeping (investment) (ruminants, pigs, etc	Control theft of livestock	Monitor movement of livestock within and between districts	Public / Private	Security Agents, District Assemblies, Community Associations
	Livestock arriving in the market for sale must have a record of purchase and ownership	Introduce district identification marks (branding) for livestock	Private	Keepers' Associations
		Encourage formation of livestock keepers associations to collaborate with police to monitor livestock movement	Public / Private	DAES / Livestock keepers' Associations / NGOs
		Introduce severe sanctions for livestock stealing (without option of a fine)	Public / Private	Judiciary / Rural communities
3. Livestock Markets i) Inadequate livestock markets for cattle	Increase number of markets	Study the traditions and culture of livestock marketing	Public	District/Metro Assemblies
	Provide all necessary infrastructure, facilities and scales		Public / Private	DA / Market organisations

	Break monopoly in cattle markets		Public / Private	Market organisations / Traders
4) Public Health				
i) Importation of meat/meat products and Wholesomeness	Reduce import of selected meat parts if domestic production proves capable of meeting demand at competitive prices	Use tariff measures to discourage imports	Public	GoG
		Support local production to increase	Public / Private	MoFA / NGOs
ii) Contamination with infectious diseases that can be passed on to humans / livestock	Control importation of meat	Enforce quality control of meat imports	Public	MoFA (VSD)
	Issue clearing permit at point of entry	Issue permits to import meat from approved sources (countries)	Public	VSD
		Inspect meat for wholesomeness before permit to clear at point of entry	Public	VSD
iii) Slaughter of livestock – location, poor sanitation at traditional / unauthorised places	Establish slaughter booths/slabs near livestock markets	Legislation to enforce the slaughter of all livestock at approved abattoirs	Public	District / Metropolical Assemblies
	Institute severe punishment for slaughtering at unauthorized places			
	Assign one institution to inspect meat (in line with		Public/Private	MoFA (VSD), Private

	international practice VSD should provide this service)			veterinarians
iv) Meat and Milk Handlers	All meat and milk handlers should provide initial health certificate and periodically undergo medical check-ups	Educate meat and milk handlers to ensure the necessary hygiene	Public	MoFA, MOH, Standards Board
5) Livestock Research				
i) Research agenda setting and co-ordination	Develop framework for livestock prioritisation, co-ordination, networking monitoring and evaluation		Public/Private	APD / ARI / Universities / LDC/ Keepers' Associations
	Involve all categories of livestock keepers in priority setting and research agenda formulation		Private	Keepers' Associations / LDC
	Research-extension liaison committees should put greater emphasis on extension of livestock technologies		Public / Private	DAES / NGOs
ii) Research Funding	Reserve a portion of the proposed research fund for livestock research	Strengthen research activities to improve profitability of commercial livestock keeping	Public	Fund Management Committee
	Encourage commercial livestock operators to contribution to this fund		Public / Private	Keepers' Associations/ DA / LDC

6) Livestock Statistics Lack of adequate and reliable data for efficient planning and policy designing	Organise proper periodic livestock census to provide reliable data for planning Establish data bank for livestock		Public Public	LPIU / SRID LPIU / SRID
7) Capacity of Public Institutions Inadequate human capacity, poor logistics, low morale	Ensure adequate human capital	Train personnel frequently and systematically Hire more qualified personnel Improve working conditions	Public Public / Private Public / Private	Universities / MoFA / CSIR MoFA / CSIR / Universities / NGOs MoFA / NGOs
8) Poor coordination / collaboration of regulatory agencies – create problems of effective implementation of regulations in the livestock industry	Promote effective coordination / collaboration	Set up Standing Committee of all the regulatory agencies to ensure cooperation and effectiveness	Public	MoFA (VSD, APD), Ministry of Health, Customs, Excise and Preventive Services, Police Service, Forestry Service, Food and Drugs Board, Ghana Standards Board, etc
9) Implementation of				

Livestock Development Plans				
Poor execution of development plans, inadequate linkages.	Establish a Livestock Development Council (LDC)	Ensure implementation of documents prepared for development	Public/Private	MoFA (APD / VSD) / LDC / Keepers' Associations
Low awareness of opportunities, low advocacy for livestock development)		Ensure effective linkages among all stakeholders in the livestock industry,	Public / Private	APD / LDC / Keepers' Associations
		Create awareness for opportunities for growth	Public / Private	LDC / APD / DAES /
		Step up advocacy for livestock development	Private	LDC / Keepers Associations / NGOs
		Give advice on livestock policy direction	Private	LDC / Keepers Associations / NGOs

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Appendices

Appendix 1: Membership of Working Group

i). Deputy Minister of Food and Agriculture in-charge of Livestock (Chairperson).
To ensure political direction and to provide legitimacy for the WG at the highest level.

ii). Director, Veterinary Services Directorate (VSD)
To ensure ownership of emerging policies and strategies by VSD and to acilitate full support and implementation.

iii). Director, Animal Production Directorate (APD)
To ensure ownership of emerging policies and strategies by APD and to facilitate full support and implementation

iv). Director, Animal Research Institute (ARI) of the Centre for Scientific and Industrial Research (CSIR)
To ensure that the policies and strategies formulated are consistent with emerging research plans and strategies.

v). Director, Agricultural Extension Services Directorate (AESD)
To ensure that the policies and strategies are consistent with the wider extension policies and strategies and support for implementation.

vi). National Coordinator of AgSSIP
To ensure that the policies and strategies formulated are in conformity with the AgSSIP

vii). Head, Livestock Planning and Information Unit (LPIU)
To guide discussion with information on livestock and rural livelihoods from a recent study and ensure that implementation of policies and strategies can be monitored.

viii) Private Livestock Keeper (Ruminants)
To contribute to the deliberations from the perspective of ruminants production

ix). Private Livestock Keeper (Non-Ruminants—Pigs)
To contribute to the deliberations from the perspective of non-ruminants production

x). Private Livestock Keeper (Poultry)
To contribute to the deliberations from the perspective of poultry production

xi). Feed Miller
To contribute to the deliberations from the perspective of feed supply

xii). Meat Processor

To contribute to the deliberations from the perspective of meat processing.

Other stakeholders in the livestock sub-sector development not represented in the WG were invited to participate in some of the meetings for specific contributions. The WG invited a private importer of veterinary drugs and day old chicks, a cattle dealer (importer) and a researcher on draught power. The group also travelled to Akatsi in the Volta Region to have a meeting with the members of the livestock keepers association which included a female.

The WG also had the following persons to provide technical and administrative supports

A resource person – to bring in-depth understanding of the concept of livestock in the livelihoods of rural households.

A consultant -- to guide policy process and ensure that final output of the WG meets standards

A secretary /facilitator -- search for documents to facilitate the work of the WG, and provided administrative support and

Secretary / rapporteur - recorded the proceedings and produced the minutes

Appendix 2

Quarantine Stations

For a very long time, Ghana has met a large proportion of its meat requirement by importing life animals mainly ruminants (cattle, sheep and goats) for slaughter. The animals are imported mainly from the neighbouring countries lying in the north of Ghana, namely, Burkina Faso, Mali and Niger. To prevent disease transmission from the imported animals to the local animals and humans, the country has a long history of quarantining the animals for a number of days at designated entry points. There are only four such entry points and quarantine stations in the country, all located in the Upper West Region (Hamile and Mogonori) and Upper East Region (Bawku and Paga). There is ample evidence that many animals enter the country through unapproved entry points and thereby avoid being quarantined. The problem may be partly due to the inconvenience of the location of the few authorized entry point. There is also the problem of transhumance that do not use the designated entry points.

The unfortunate situation now is that all the quarantine stations are in deplorable conditions including the physical facilities, offices and staff accommodation (bungalows). Consequently, the stations have been abandoned and animals entering the country are no longer quarantined.

Appendix 3

Livestock Diseases

There are many endemic, epizootic and other diseases that affect livestock in the country. The diseases and methods of control are indicated below

Disease	Status	Control Method	Control Target	Affected Livestock
Rinderpest	No outbreak since 1989	Vaccination / quarantine / slaughter clinical cases	Eradication	Cattle
Contagious Bovine Pleuropneumonia	Endemic	Vaccination / quarantine / movement control Vaccination	Reduce incidence	Cattle
Brucellosis	High incidence	Prophylactic drugs / treatment of clinical	Reduce incidence / Eradication	Cattle
Trypanosomiasis	Endemic in West Africa	cases / tsetse control / eradication	Eradication	Cattle
Peste de Petits Ruminants	Reduced incidence	Vaccination / quarantine	Reduce incidence/ Eradication	Sheep / goats
Swine Fever	Not endemic	Quarantine / control movement and imports / surveillance / stamping out Tick control	Eradication	Pigs
Streptothricosis / heartwater	High mortality	Vaccination / control of stray animals	Reduce incidence	Exotic ruminants
Rabies	Important	Vaccination / slaughter of affected birds	Reduce incidence	Dogs / Cats
Newcastle	Important	Pullorum testing of layers	Reduce incidence	Poultry (chicken)
Pullorum	Important	Spraying / dipping / hand dressing of animals / use of pour-on preparations	Prevent transmission/spread	Poultry (chicken)
Ecto-parasites	Endemic	Tactical and strategic treatment	Contain infection	Ruminants
Endo-parasites	Endemic		Contain infection	Ruminants

Source: Veterinary Services Directorate, MoFA, Accra