



Kingdom of Lesotho



2019/2020 LESOTHO AGRICULTURAL CENSUS

VOLUME II: LIVESTOCK STATISTICS

REPORT

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Food and Agriculture
Organization of the
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Ministry of Finance and Development Planning
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MISSION STATEMENT

To coordinate the National Statistical System (NSS) and produce accurate, timely and reliable, culturally relevant and internationally comparable statistical data for evidence-based planning, decision making, research, policy, program formulation and monitoring and evaluation to satisfy the needs of users and producers

PREFACE

The Ministry of Finance and Development Planning through the Department of the Bureau of Statistics (BOS), in collaboration with the Ministry of Agriculture and Food Security (MAFS) conducted the 2019/2020 Agricultural Census. The Census was conducted with technical assistance of the Food and Agriculture Organization of the United Nations (FAO). This was the eighth Census undertaken by the Government of Lesotho since 1949/1950.

The main objective of the 2019/2020 Agricultural Census was to provide baseline data on agricultural statistics, which will be used for agricultural planning, policy formulation and implementation of agricultural programmes and projects for improvement of the agricultural sector. The information will also be used to monitor and evaluate implementation of the national, regional and international frameworks such as National Strategic Development Plan II (NSDP II), Agenda 2063 and Sustainable Development Goals (SDGs).

The census collected data at household level, non-household sector as well as community level in order to meet the demand for data. Information covered included production of crops and livestock, land use, agriculture practices and services and work on the farming holding. Community level data was collected mainly to better understand farmers' constraints in the adoption of improved agriculture practices in relation to availability of infrastructure and services.

The census used Computer Assisted Personal Interview (CAPI) for data collection for the first time. CAPI provides high quality and accuracy in results as well as shortened data processing time.

The BOS would like to express its gratitude to the Government of Lesotho for providing financial support for the census. Similar gratitude is extended to FAO for the providing technical assistance. All participants of the Census, comprising Coordinators, Supervisors and Enumerators are given special acknowledgement. Finally, appreciation goes to numerous farmers who provided information as well as District and Local leaders who provided guidance to the Enumerators in ten districts of the country where the Census was successfully undertaken.

M.C. Molato



Director, Bureau of Statistics
MINISTRY OF FINANCE AND DEVELOPMENT PLANNING

Table of Contents	Page
PREFACE.....	ii
List of Tables	v
List of Figures.....	vii
List of Acronyms.....	viii
Concepts and Definitions.....	ix
Executive Summary.....	x
Chapter 1 Introduction	1
1.0 Background.....	1
1.1 Objectives	1
1.2 Scope and Coverage.....	2
1.3 Methodology	2
1.3.1 Sample Design.....	2
1.3.2 Sample Size	3
1.3.3 Sample Weights.....	4
1.4 Sample Allocation	6
1.5 Field Organization and Data Collection.....	7
1.5.1 Census Period	7
1.5.2 Confidentiality.....	7
1.5.3 Census Implementation.....	7
1.5.4 Sampling.....	7
1.5.5 Questionnaires	7
1.5.6 Pilot.....	8
1.5.7 Listing	8
1.5.7 Recruitment and Training.....	8
1.5.8 Data Collection and Processing.....	8
Chapter 2 Livestock Ownership	9
2.0 Introduction	9
2.1 Number of Holdings with Livestock.....	9
CHAPTER 3 CATTLE INVENTORY.....	10
3.0 Introduction	10
3.1 Number of Holders with Cattle.....	10
3.2 Type of Cattle	10
3.3 Age and Sex of Cattle.....	11
3.4 Number of Cattle Kept and Sex of Holder.....	12
3.5 Purpose of Keeping Cattle	13
CHAPTER 4 SHEEP INVENTORY	14
4.0 Introduction	14
4.1 Number of Holders with Sheep	14
4.2 Type of Sheep	14
4.3 Age and Sex of Sheep.....	15
4.4 Number of Sheep Kept and Sex of Holder.....	16
4.5 Purpose of Keeping Sheep.....	16
CHAPTER 5 GOATS INVENTORY	18
5.0 Introduction	18
5.1 Number of Holders with Goats	18
5.2 Type of Goats.....	18
5.3 Age and Sex of Goats	19
5.4 Number of Goats Kept and Sex of Holder.....	20

5.5 Purpose of Keeping Goats	20
CHAPTER 6 PIGS INVENTORY	22
6.0 Introduction	22
6.1 Number of Holders with Pigs.....	22
6.2 Number of Pigs	22
6.3 Age of Pigs	23
6.4 Number of Pigs Kept and Sex of Holder.....	24
6.5 Purpose of Keeping Pigs.....	24
CHAPTER 7 EQUINES AND RABBITS	26
7.1 Equines	26
7.1.0 Introduction	26
7.1.1 Number of Holders with Equines	26
7.1.2 Number of Equines.....	26
7.1.3 Number of Equines and Sex	27
7.1.4 Number of Equines Kept and Sex of Holder	28
7.1.5 Purpose of keeping Equines.....	29
7.2 Rabbits	29
7.2.1 Introduction	29
7.2.2 Number of Holders with Rabbits.....	29
7.2.3 Number of Rabbits.....	30
CHAPTER 8 POULTRY	31
8.0 Introduction	31
8.1 Number of Holders with Chickens.....	31
8.2 Number of Chickens	31
8.3 Other Poultry.....	32
8.4 Number of Poultry Type and Sex of Holder.....	33
8.5 Purpose of Rearing Poultry	33
CHAPTER 9 LIVESTOCK SYSTEM AND TYPE OF FEEDING	34
9.0 Introduction	34
9.1 Livestock System	34
9.3 Type of Feeding.....	34
APPENDIX	35
I. Estimates of Sampling Errors	35
II. Sampling Errors for Selected Indicators.....	35
III. Questionnaire.....	38

List of Tables	Page
Table 2.1: Number of Agricultural Holdings who kept Livestock by Livestock Type and District, 2019/2020 Agricultural Census.....	9
Table 3.1: Number of Holders Who Kept Cattle by District and Sex, 2019/2020 Agricultural.....	10
Table 3.2: Number of Cattle by District, Age and Sex, 2019/2020 Agricultural Census.....	11
Table 3.3: Number of Cattle by District and Sex of Holder, 2019/2020 Agricultural Census.....	12
Table 3.4: Number of Cattle by Purpose and Agro -Zone, 2019/2020 Agricultural Census.....	13
Table 4.1: Number of Holders Who Kept Sheep by District and Sex, 2019/2020 Agricultural Census.....	14
Table 4.2: Number of Sheep by District, Age and Sex, 2019/2020 Agricultural Census.....	15
Table 4.3: Number of Sheep by District and Sex of Holder, 2019/2020 Agricultural Census.....	16
Table 5.1: Number of Holders Who Kept Goats by District and Sex, 2019/2020 Agricultural.....	18
Table 5.2: Number of Goats by District, Age and Sex, 2019/2020 Agricultural Census.....	19
Table 5.3: Number of Goats by District and Sex of Holder, 2019/2020 Agricultural Census.....	20
Table 5.4: Number of Goats by Purpose and Agro-Zone, 2019/2020 Agricultural Census.....	21
Table 6.1: Number of Holders Who Kept Pigs by District and Sex, 2019/2020 Agricultural.....	22
Table 6.2: Number of Pigs by Age and District, 2019/2020 Agricultural Census..	23
Table 6.3: Number of Pigs by District and Sex of Holder, 2019/2020 Agricultural Census.....	24
Table 6.4: Number and Percentage of Pigs by Purpose and District, 2019/2020 Agricultural Census.....	25
Table 7.1: Number of Holders Who Kept Equines by Sex, 2019/2020 Agricultural Census.....	26
Table 7.2: Number of Equine by District and Type, 2019/2020 Agricultural Census.....	27
Table 7.3: Number of Equine by District and Sex, 2019/2020 Agricultural Census.....	27
Table 7.4: Number of Horses and Donkeys by District and Sex of Holder, 2019/2020 Agricultural Census.....	28
Table 7.5: Number of Equines by Type and Purpose, 2019/2020 Agricultural Census.....	29
Table 7.6: Number of Holders Who Kept Rabbits by District and Sex, 2019/2020 Agricultural Census.....	29
Table 7.7: Number and Sex of Rabbits by District, 2019/2020 Agricultural Census.....	30

Table 8.1: Number of Holders Who Keep Chickens by District and Sex, 2019/2020 Agricultural.....	31
Table 8.2: Number of Poultry by Type and Sex of Holder, 2019/2020 Agricultural Census.....	33
Table 8.3: Number of Poultry by Type and Purpose, 2019/2020 AgriculturalCensus.....	33
Table 9.1: Number of Holdings by Type of Livestock System, 2019/2020 Agricultural Census.....	34
Table 9.2: Number of Holding by Type of Feeding and Livestock Type, 2019/2020 Agricultural Census.....	34

List of Figures	Page
Figure 3.1: Number of Cattle by Type and District, 2019/2020 Agricultural Census	11
Figure 3.2: Number of Cattle by Year, 1989/1990 - 2019/2020 Agricultural Censuses.....	12
Figure 4.1: Number of Sheep by District and Type, 2019/2020 Agricultural Census.....	15
Figure 4.2: Number of Sheep by Year, 1989/1990 - 2019/2000 Agricultural Censuses.....	16
Figure 4.3: Number of Sheep by Purpose and Agro-Zone, 2019/2020 Agricultural Census.....	17
Figure 5.1: Number of Goats by Type and District, 2019/2020 Agricultural Census.....	19
Figure 5.2: Total Number of Goats by Year, 1989/1990 - 2019/2000 Agricultural Censuses	20
Figure 6.1: Number of Pigs by Type and District, 2019/2020 Agricultural Census.....	23
Figure 6.2: Number of Pigs by Year, 1989/1990 - 2019/2000 Agricultural Censuses	24
Figure 7.1: Number of Equines by Year, 1999/2000 - 2019/2000 Agricultural Censuses.....	28
Figure 8.1: Number of Chickens by Type, 2019/2020 Agricultural Census.....	32
Figure 8.2: Percentage Distribution of Other Poultry by Type, 2019/2020 Agricultural Census.....	32

LIST OF ACRONYMS

AC	Agricultural Census
AFSSD	Agriculture and Food Security Statistics Division
APS	Agricultural Production Survey
BOS	Bureau of Statistics
CAADP	Comprehensive Africa Agriculture Development Programme
CAPI	Computer Assisted Personal Interview
CsPRO	Census and Survey Processing System
CV	Coefficient of variation
EA	Enumeration Area
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
MAFS	Ministry of Agriculture and Food Security
NSDP	National Strategic Development Plan II
NSS	National Statistical System
PSU	Primary Sampling Unit
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
SRV	Senqu River Valley
UN	United Nations
WCA	World Programme for the Census of Agriculture

CONCEPTS AND DEFINITIONS

Agricultural Census	It is a statistical operation for collecting, processing and disseminating data on structure of agriculture, covering the whole or a significant part of a country.
Agricultural Holder	It is a person who makes the major decisions regarding resource use and exercises management control over the agricultural holding operation.
Agricultural Holding	The agricultural holding or household is an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size.
Agricultural Year	In Lesotho, the time reference for the agricultural census is a full year that commences on the 1st of August and ends on the 31st of July of the following year.
Commercial Farming	Commercial farming is growing of crops and/or the rearing of animals for raw materials, food, or export, particularly for profitable reasons.
Extension Service	It is the provision of agricultural advice and information to crops and livestock producers.
Grazing System	It is characterized by ruminants grazing mainly on grasses and other herbaceous plants, often on communal or open-access areas.
Improved/Exotic Livestock	Refers to livestock, which are bred specifically for producing meat or milk or eggs. These may be cross-bred or pure bred
Industrial System	Refers to intensive livestock-raising methods in which animal feed is off-farm produced. It often consists of a single species (beef cattle, pigs or poultry) fed in feedlots or other in-house systems of feeding.
Livestock Farming	Livestock farming is the management and breeding of domestic, livestock or farm animals for the purpose of obtaining their meat and products

EXECUTIVE SUMMARY

The Government of Lesotho conducted 2019/2020 Agriculture Census in March 2021. This was the eighth Census undertaken by the Government of Lesotho since 1949/1950. The Census covered both subsistence and commercial farmers. Commercial farming was covered for the first time. In addition, the latest technology, Computer Assisted Personal Interview, was used for the first-time using tablets, which provided more accurate results because data processing time was shortened. The processes include data collection, editing, and capturing.

There were 227,899 holders engaged in subsistence agriculture. Of the total agricultural holders 37,571 were engaged in crops only, 61,040 were engaged in livestock only, 129,288 were engaged in both crops and livestock.

The major crops that were covered during 2019/2021 included maize, sorghum, wheat, beans and peas. The main type of livestock covered included cattle, sheep, goats, pigs, chicken.

Total land area available to subsistence farmers was estimated at 290,521ha, of which more than 50.0 percent was used for temporary crops. Land was mostly acquired through inheritance (66.2%). Most of the land was planted temporary crops (45.6 percent) and permanent crops covered (1.0 percent). Temporary meadows and pastures occupied 5,155ha. Maize was the most planted crop (147,133ha) followed by followed by beans and sorghum with 38,865ha and 26,847ha respectively.

Improved seed was commonly used by holdings; however, most holders still use seeds obtained from their produce. Use of fertilizer shows that on the total area planted about 45.1 percent was fertilized mainly with Mineral and manure. Pesticides use shows that majority of households applied insecticides (30,8651) on the crops. About 4,486 holders had irrigated their crops. Irrigation was not commonly practiced in the country due to no irrigation systems.

About 81.3% of agricultural holders (38,214) reported to have received extension services from Ministry of Agriculture and Food Security extension officers. Most of them received extension services on crop selection (20, 857) followed by livestock husbandry (13,615).

Majority of holdings reported to have used their own tractor driven ploughs (2,314) for their agricultural activities. Some holdings reported to have received credits from different sources which were mainly for purchasing seeds and livestock.

Total number of households who were engaged in Livestock rearing was 168,656. There were 125,718 holders who kept cattle, 94,399 kept sheep and 64,944 keep goats.

CHAPTER 1 INTRODUCTION

1.0 Background

Lesotho is a high-altitude country landlocked by the Republic of South Africa. The country is divided into ten administrative districts that cover four ecological zones; Lowlands, Foothills, Mountains and Senqu River Valley (SRV). The lowland zone is most densely populated and intensively cultivated zone with relatively high chances of rainfall. The Foothill zone, as compared to Lowland is less populated with less rainfall. The Mountain zone is the largest zone of the country that is characterized by very cold winter. Senqu River Valley is the smallest zone which runs from the east to the west across some districts.

Agriculture is the backbone of the rural economy. The population of Lesotho is predominantly rural where 65.8 percent of the population lives. Agriculture remains a critical sector for food security, employment creation, poverty alleviation and rural development. Contribution of agriculture to Gross Domestic Product (GDP) is 4.7%. Despite its low contribution to GDP, it is an important source of livelihoods for rural population. It is mostly dominated by subsistence farming with small commercial agriculture which is composed of crops and livestock production.

In Lesotho, the Census of Agriculture is undertaken every ten years. The first census was conducted in 1949/1950 and the 2019/2020 Agricultural Census was the eighth census. The 2019/2020 Lesotho Agricultural Census was conducted to provide information for agricultural planning, policy formulation as well as monitoring and evaluation of agricultural programmes. The report focuses on livestock subsector and the information provided covers number of holdings and livestock population, births, deaths and off-take.

1.1 Objectives

The 2019/2020 Agricultural Census was designed to meet the data needs in the agricultural sector, and this includes; planners, policy makers, rural development agencies, researchers, NGO's and farmers' unions and other agricultural development agencies. The data requirements of regional and international frameworks were also considered.

Specifically, the Census was designed to:

- Provide data on the structure of agriculture, focusing on small administrative units
- Provide data to use as benchmarks for reconciliation of current agricultural statistics in relation to policies and interventions promoted and led by Ministry of Agriculture and Food Security (MAFS), as well as monitoring trends in food and nutrition security
- Provide baseline data for measuring the impact of the objectives of the agricultural sector development programmes as articulated in the National Strategic Development Plan (NSDP II)
- Provide frames for subsequent agricultural sample surveys

1.2 Scope and Coverage

The 2019/2020 Agricultural Census was conducted for both subsistence and commercial farmers and covered crops and livestock. A sample of 500 Enumeration Areas (EA's) was selected for Subsistence farming, while Commercial farming was based on complete enumeration. The report covers information on livestock subsistence farming. The analysis on crops subsistence and Commercial farming are presented separately. The census scope and coverage were based on national, regional and international data requirements.

1.3 Methodology

1.3.1 Sample Design

The target population or the universe for the census of Agriculture 2019/20 was defined as all the rural agricultural households engaged in crop cultivation and/or livestock farming in the districts. The Census Population consisted all rural areas and agro-ecological areas of the selected PSUs in Lesotho. The PSUs were first stratified according to the ten administrative districts namely: Botha-Bothe, Leribe, Berea, Maseru, Mafeteng, Mohale's Hoek, Quthing, Qacha's Nek, Mokhotlong, and Thaba-Tseka. PSUs were grouped into the following four agro-ecological zones, within each district:

- Lowlands
- Foothills
- Mountains
- Senqu River Valley

1.3.2 Sample Size

A total of 8,000 agricultural households in 500 sample PSUs from rural areas and all the four ecological zones were covered in the 2019/20 Census

In arriving at the 8,000 agricultural households, a number of factors including resources, time and logistical considerations influenced the choice of the sample size. These include:

1. The lowest domain of estimation is the district;
2. Production levels of maize, wheat and sorghum;
3. Livestock numbers of cattle, sheep and goats;
4. The expected level of precision for the important variables like maize, wheat, sorghum (crops), cattle, sheep and goats (livestock) at the district level is fixed around **7.5% CV** (Coefficient of Variation);
5. The minimum sample size at the district level is fixed as **400** agricultural households;
6. Available human and financial resources.

Hence, the estimation formula for the minimum sample size, n_h , is:

$$n_h = \left(z^2 \right) (r) (1-r) (f) (k) / [(p) \left(\bar{n} \right) (e^2)], \text{ where}$$

n_h is the parameter to be calculated and is the sample size in terms of number of agricultural households to be selected;

z is the statistic that defines the level of confidence desired (95%) i.e. 1.96;

r is an estimate of a key indicator to be measured by the survey (e.g. Maize production, number of livestock);

f is the sample design effect, *deff*, assumed to be 2.0 (default value);

k is a multiplier to account for the anticipated rate of non-response;

p is the proportion of the total population accounted for by the target population (**agricultural households**) and upon which the parameter, r , is based;

\bar{n} is the average household size (number of persons per household);

e is the margin of error (CV) to be attained¹

1.3.3 Sample Weights

I. Computation of Weights

The 2019/2020 Agriculture Census is not a self-weighting sample design because disproportionately larger samples from regions with smaller populations were drawn. Therefore, each sample household did not have the same chance of selection into the sample. Hence, weights were computed to account for the different probabilities of selection in order to obtain the true contribution of each selected PSU in the sample based on the first and second stage probabilities of selection. For instance, an observation with a sampling weight of 25 represents twenty-five individuals from the target population while another observation with a sampling weight of say 17 represents only seventeen individuals.

Let M_{hi} = Number of 2016 Lesotho Population households in the i^{th} selected PSU in

the h^{th} stratum or District

ΣM_{hi} = Population in the i^{th} stratum (i.e. population size in

either in rural areas or ecological zones in a District)

M_{hi}^* = Number of agricultural households listed in the i^{th} selected PSU in the h^{th} stratum

a_h = Number of clusters selected in the h^{th} stratum

b = 16 (number of selected agriculture households per PSU in each stratum)

Then the first and second stage probabilities of selection are:

$$P_{1hi} = \frac{a_h M_{hi}}{\sum M_{hi}} \quad \text{and} \quad P_{2hi} = \frac{b}{M_{hi}^*}$$

Where,

¹ United Nations (2008): Designing Household Survey Samples: Practical Guidelines, New York (P.41).

P_{1hi} is the probability of selecting the i^{th} PSU in the h^{th} stratum, and P_{2hi} is the probability of selecting a household in the i^{th} PSU of the h^{th} stratum. The overall probability of selection of a household in the i^{th} selected PSU of the h^{th} stratum is given by:

$$F_{hi} = P_{1hi} * P_{2hi}$$

$$= \frac{a_h b}{\sum M_{hi}} * \frac{M_{hi}}{M_{hi}^*}$$

II. Design Weight (Base Weight)

Since the PPS selection is not self-weighting, the sample data was weighted. These weights which are generally called sample weights or design weights/base weights are the inverse of the inclusion probability.

Therefore, the weighting factor (or expansion factor), W_{hi} , for a household in the i^{th} selected PSU in the h^{th} stratum is the reciprocal (inverse) of the overall probability of selecting that household.

That is,
$$W_{hi} = \frac{1}{F_{hi}}$$

$$= \frac{\sum M_{hi}}{a_h b} * \frac{M_{hi}^*}{M_{hi}}$$

III. Non-response Adjustment

To cater for non-response the number of households successfully interviewed in each PSU were used in the computation. Therefore,

The final weight for the sample households in the j^{th} cluster within the i^{th} sample PSU in stratum h is given as:

$$W_{hi}' = W_{hi} * \frac{b'}{b''}$$

Where:

b' = The number of interviews plus the number of no interviews in the sample cluster

b^i = Total number of interviewed sample households selected in the j-th sample PSU within the i-th sample stratum h.

IV. Post Stratified Adjustment

Finally, the estimated totals and sub groups of the population were compared with current statistics. It was observed that there were marked differences, consequently, using this information another adjustment factor was applied to the non-response adjusted weights so that the sub group totals from the census data were reconciled with the system of current statistics.

1.4 Sample Allocation

The final distribution of the 500 PSUs and 8,000 agricultural households by district and Zone is shown in Tables 7 and 8 respectively.

District	PSUs	Households	Percentage of PSUs
Botha-Bothe	41	656	8.2
Leribe	71	1,136	14.2
Berea	61	976	12.2
Maseru	75	1,200	15
Mafeteng	52	832	10.4
Mohale's Hoek	47	752	9.4
Quthing	36	576	7.2
Qacha's Nek	30	480	6
Mokhotlong	39	624	7.8
Thaba-Tseka	48	768	9.6
Lesotho	500	8,000	100

Table 1. 2: Distribution of Sample PSUs and Agricultural Households by District and Zone, 2019/2020

S/N	District	Zone				PSUs	Agric. Household
		Lowlands	Foothills	Mountains	SRV		
1	Botha-Bothe	19	18	4		41	656
2	Leribe	53	9	9		71	1,136
3	Berea	49	11	1		61	976
4	Maseru	40	24	11		75	1,200
5	Mafeteng	39	13			52	832
6	Mohale's Hoek	12	7	8	20	47	752
7	Quthing			16	20	36	576
8	Qacha's Nek			14	16	30	480
9	Mokhotlong			39		39	624
10	Thaba-Tseka			41	7	48	768
11	Lesotho	212	82	143	63	500	8,000

1.5 Field Organization and Data Collection

1.5.1 Census Period

The reference period for Agricultural censuses/surveys follows the Lesotho's agricultural year, which starts from 1st August to 31st July of the subsequent year. The 2019/2020 Agricultural census reference period for crop production was from 1st August 2019 to 31st July 2020, while the reference period for livestock was the day of enumeration.

1.5.2 Confidentiality

The information collected from agricultural households is strictly confidential as per Statistical Act 2001 and it will only be used for statistical purposes. Identity of individual respondents is anonymized and only aggregated results is published.

1.5.3 Census Implementation

Bureau of statistics (BOS) in collaboration with the Ministry of Agriculture and Food Security (MAFS) were responsible for preparation and implementation of 2019/2020 Agricultural census activities which began in April 2018.

1.5.4 Sampling

The 2019/2020 Agricultural Census adopted a stratified multi-stage cluster sampling design where two or more enumeration areas combined to form a Primary Sampling Unit (PSU). A total of 500 rural PSUs were selected at the first stage in all the four ecological zones. A Probability Proportional to Size (PPS) was used for the selection of PSU's where agricultural households were taken as a measure of size. In each PSU, 16 agricultural holdings were selected for enumeration making a total of 8,000 agricultural holdings.

1.5.5 Questionnaires

The 2019/2020 Agricultural Census was implemented using three questionnaires namely:

- Household Questionnaire which collected information at household level
- Commercial Questionnaire which collected information from commercial farmers
- Community Profile Questionnaire which collected data at community level.

1.5.6 Pilot

The Pilot survey was undertaken from 14th September to 14th October 2020 in five Districts namely; Botha-Bothe, Leribe, Maseru, Mohale's Hoek and Thaba-Tseka. The exercise covered the four ecological zones and was meant to test the efficiency of the census tools and the workload of the entire exercise.

1.5.7 Listing

Listing for the main census took place in all the selected PSU's in ten Districts starting from 31st October to 29th November 2020. It was followed by a systematic sampling of 16 agricultural holdings in each PSU.

1.5.7 Recruitment and Training

A total of 258 enumerators were recruited and trained to interview the selected holdings. Training of trainers started on the 30th November to 6th December 2020. It was followed by training of supervisors which took place on the 7th to 18th December 2020. Training of enumerators was conducted on the 17th February to 7th March 2021.

1.5.8 Data Collection and Processing

Data collection commenced on the 7th March to 13th April 2021. A face-to-face interview method was used to conduct the survey. A computer Assisted Personal Interview (CAPI) method was adopted. A public domain software named Census and Survey Processing package (CSPro) was used for CAPI development. Data collected from the field was sent to the server and this was the first Agricultural Census to use CAPI. Statistical Package for Social Sciences (SPSS) was used for data cleaning and tabulation.

Chapter 2 Livestock Ownership

2.0 Introduction

Most of farming holdings or households in rural areas of Lesotho keep livestock namely cattle, sheep, goats, horses, donkeys, pigs and poultry. They are kept for different purposes, as a source of meat, milk, eggs, wool, mohair, transport and draught power.

2.1 Number of Holdings with Livestock

Table 2.1 shows the number of agricultural holders who kept livestock by livestock type. There were 125,718 holders who kept cattle, 94,399 kept sheep and 64,944 kept goats. Maseru reported the highest number of holdings (20,766) who kept cattle while Mafeteng had more holdings (13,167) who kept sheep than other districts. The table further shows that the total of 45,232 holdings kept pigs of which more holdings (10,034) were from Maseru and least holding (579) were from Mokhotlong. The total number of livestock was not the same as total agricultural holders because one holder kept one or more types of livestock.

Table 2. 1: Number of Agricultural Holdings who kept Livestock by Livestock Type and District, 2019/2020 Agricultural Census

District	Type of Livestock**								
	Cattle	Sheep	Goats	Pigs	Poultry	Rabbits	Donkeys	Horses	Mules
Botha-Bothe	7,438	4,937	3,409	2,806	6,363	50	4,223	2,574	59
Leribe	18,996	12,032	8,210	7,121	15,185	193	11,738	5,698	102
Berea	16,704	10,242	7,085	7,487	11,823	140	11,492	4,410	0
Maseru	20,766	11,665	10,225	10,034	14,997	565	11,297	8,007	3
Mafeteng	15,022	13,167	4,894	5,780	10,643	84	8,973	2,153	0
Mohale's Hoek	12,474	11,463	7,177	4,953	10,187	67	6,990	4,740	0
Quthing	9,116	7,981	6,728	3,542	6,938	13	5,983	4,597	0
Qacha's Nek	5,047	3,917	3,373	1,648	4,473	30	3,000	3,714	0
Mokhotlong	10,486	10,296	7,082	579	7,768	0	8,018	6,156	28
Thaba-Tseka	9,668	8,701	6,761	1,283	6,448	83	7,613	5,973	58
Lesotho	125,718	94,399	64,944	45,232	94,822	1,227	79,326	48,021	250

**Notes. This is multiple response. Total livestock type is not the same as Total Agricultural holdings

CHAPTER 3 CATTLE INVENTORY

3.0 Introduction

The section covers cattle distribution and the purpose of which they were kept for.

3.1 Number of Holders with Cattle

Table 3.1 indicates the number of holders who kept cattle by district and sex. It reveals that out of 125,718 holders who kept cattle, only 33,483 females kept cattle. Males who kept cattle dominated in all districts. Maseru had the highest number of males who kept cattle (14,689) followed by Leribe with 14,436. Qacha's Nek had the smallest number of males who kept cattle (3,807).

Table 3.1: Number of Holders Who Kept Cattle by District and Sex, 2019/2020 Agricultural Census

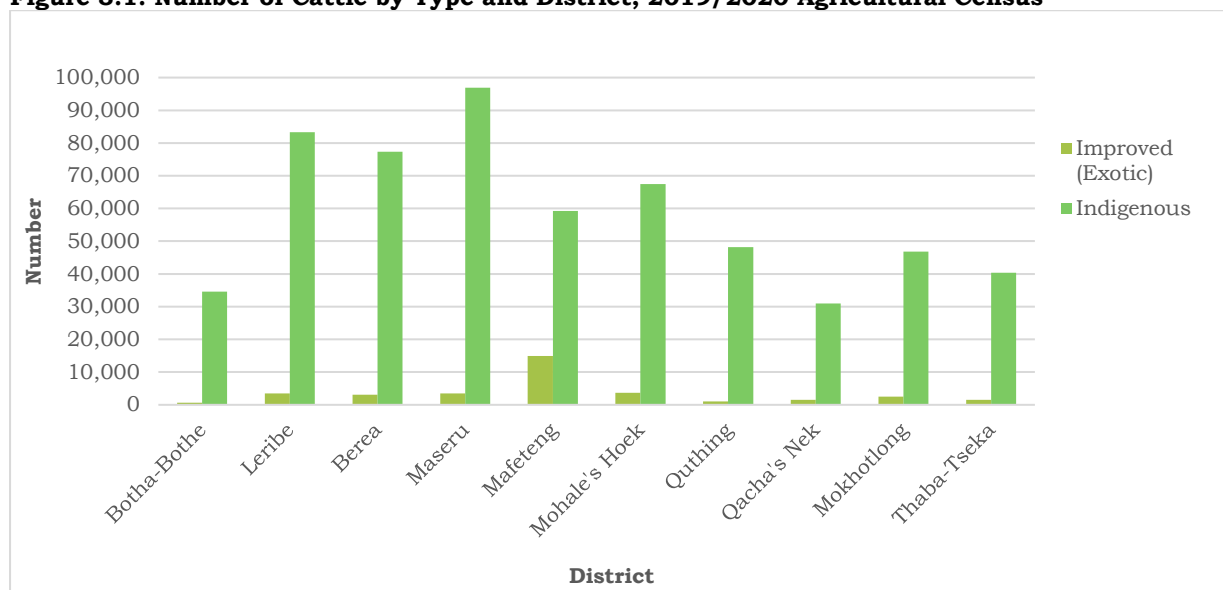
District	Male	Female	Total
Botha- Bothe	5,219	2,219	7,438
Leribe	14,436	4,560	18,996
Berea	12,426	4,278	16,704
Maseru	14,689	6,077	20,766
Mafeteng	10,913	4,109	15,022
Mohale's Hoek	8,616	3,859	12,474
Quthing	6,645	2,471	9,116
Qacha's Nek	3,807	1,240	5,047
Mokhotlong	8,253	2,233	10,486
Thaba-Tseka	7,230	2,437	9,668
Lesotho	92,235	33,483	125,718

3.2 Type of Cattle

There were two main types of cattle raised in Lesotho during 2019/2020 Agricultural census namely; indigenous and exotic(improved) cattle.

The total number of cattle were reported to be 620,996 in the country of which 585,199 were indigenous. Total number of cattle declined by 0.9 percent from 2009/2010 Agricultural Census (626,343). Figure 3.1 portrays the number of cattle by type and district. Maseru had the highest number (96,924) of indigenous cattle followed by Leribe with 83,306. Mafeteng had the highest number of Improved Cattle (14,894).

Figure 3.1: Number of Cattle by Type and District, 2019/2020 Agricultural Census



3.3 Age and Sex of Cattle

Cattle are classified by three age categories, those less than one year, one year but less than two years and those two years and above and sex.

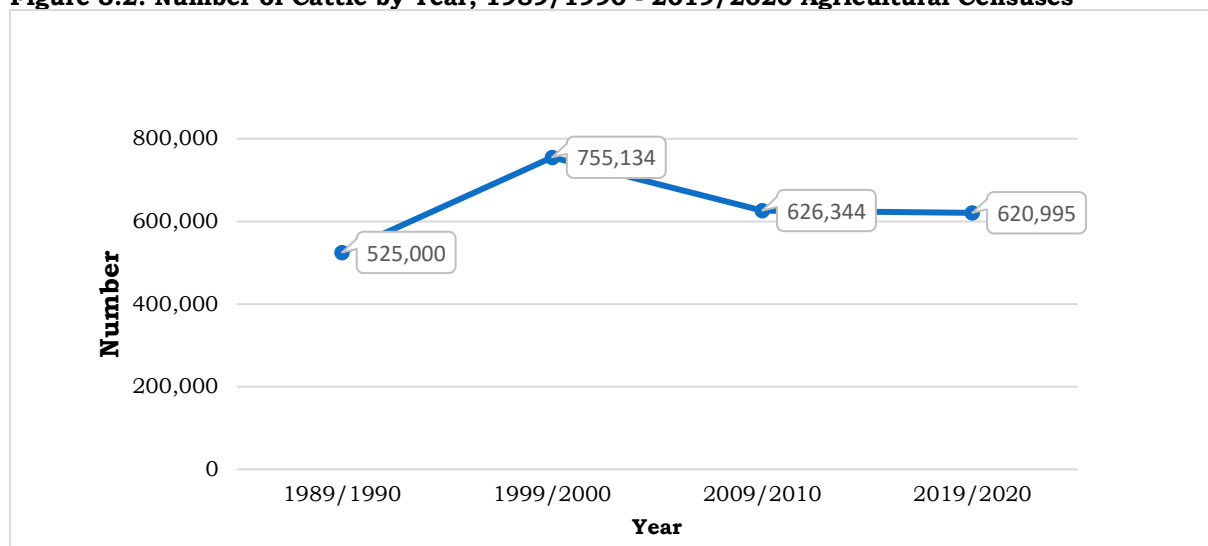
The section covers the information on age and sex of the cattle during 2019/2020 Agricultural Census. Table 3.2 presents the number of cattle by district, age and sex. It is shown that there were 620,995 cattle in the country, out of which 60.9 percent were females (378,107). Majority of them were aged 2 years and above (277,270). Maseru had the highest number (100,394) of cattle followed by Leribe with (86,780) while Qacha's Nek had the lowest with 32,540.

Table 3.2: Number of Cattle by District, Age and Sex, 2019/2020 Agricultural Census

District	Sex						Total
	Male			Female			
	Under 1yr	Under 2yrs	2yrs+	Under 1yr	Under 2yrs	2yrs+	
Botha-Bothe	2,628	2,243	7,981	2,999	2,741	16,628	35,219
Leribe	6,052	5,598	23,474	6,545	6,882	38,229	86,780
Berea	5,934	5,100	20,695	6,444	5,382	36,887	80,442
Maseru	7,272	6,109	24,352	9,779	6,022	46,861	100,394
Mafeteng	5,857	4,613	16,003	6,932	6,568	34,182.00	74,155
Mohale's Hoek	5,079	3,883	18,542	5,809	7,156	30,681	71,150
Quthing	3,486	2,964	14,310	4,359	3,709	20,357	49,184
Qacha's Nek	2,204	1,967	9,932	2,497	1,767	14,172	32,540
Mokhotlong	3,860	2,473	13,094	4,792	3,626	21,468	49,314
Thaba-Tseka	3,212	2,943	11,030	3,683	3,145	17,805	41,817
Lesotho	45,584	37,891	159,413	53,839	46,998	277,270	620,996

Figure 3.2 portrays the number of cattle and trends from 1999/2000 to 2019/2020 Agricultural Censuses. The number of cattle increased by 43.8 percent in 1989/1990 to 1999/2000, then decreased by 17.1 percent from 1999/2000 to 2009/2010 and 0.9 percent from 2009/2010 to 2019/2020 Agricultural Census.

Figure 3.2: Number of Cattle by Year, 1989/1990 - 2019/2020 Agricultural Censuses



3.4 Number of Cattle Kept and Sex of Holder

Table 3.3 indicates the number of Cattle by districts and Sex of Holder. It shows that male holders kept more cattle (502,877) than females (118,119). Maseru dominated in both male and female holders with 81,477 cattle and 18,917 cattle respectively.

Table 3.3: Number of Cattle by District and Sex of Holder, 2019/2020 Agricultural Census

District	Sex of Holder		Total
	Male	Female	
Botha-Bothe	27,274	7,944	35,218
Leribe	71,204	15,576	86,780
Berea	66,061	14,379	80,440
Maseru	81,477	18,917	100,394
Mafeteng	59,863	14,292	74,155
Mohale's Hoek	55,185	15,964	71,149
Quthing	38,396	10,789	49,185
Qacha's Nek	26,797	5,744	32,541
Mokhotlong	41,929	7,385	49,314
Thaba-Tseka	34,690	7,128	41,818
Lesotho	502,877	118,119	620,996

3.5 Purpose of Keeping Cattle

The section gives information on the purpose in which cattle are mainly reared for; milk, meat, breeding and draught power.

Table 3.4 presents the distribution of cattle by agro-zone and purpose of keeping cattle. According to the Table, most cattle (352,198) were kept for draught power of which (126,058) were kept in the Lowlands. The least number of cattle (95,431) were kept for dairy.

Table 3.4: Number of Cattle by Purpose and Agro -Zone, 2019/2020 Agricultural Census

Agro-Zone	Purpose			
	Meat	Diary	Breeding	Draught Power
Lowlands	33,988	28,001	92,514	126,058
Foothills	28,141	19,851	53,735	82,631
Mountains	41,603	38,895	79,774	106,708
Senqu River Valley	17,887	8,684	27,085	36,801
Lesotho	121,619	95,431	253,108	352,198

CHAPTER 4 SHEEP INVENTORY

4.0 Introduction

The chapter covers number of sheep, sex of holders and purpose of rearing.

4.1 Number of Holders with Sheep

Table 4.1 presents number of holders who kept sheep by district and sex, it is shown that 94,399 holders kept sheep. Males who kept sheep dominated with 73,348. Mofale's hoek had the highest females who kept sheep followed by Mafeteng with 3,385 and 3,285 respectively.

Table 4.1: Number of Holders Who Kept Sheep by District and Sex, 2019/2020 Agricultural Census

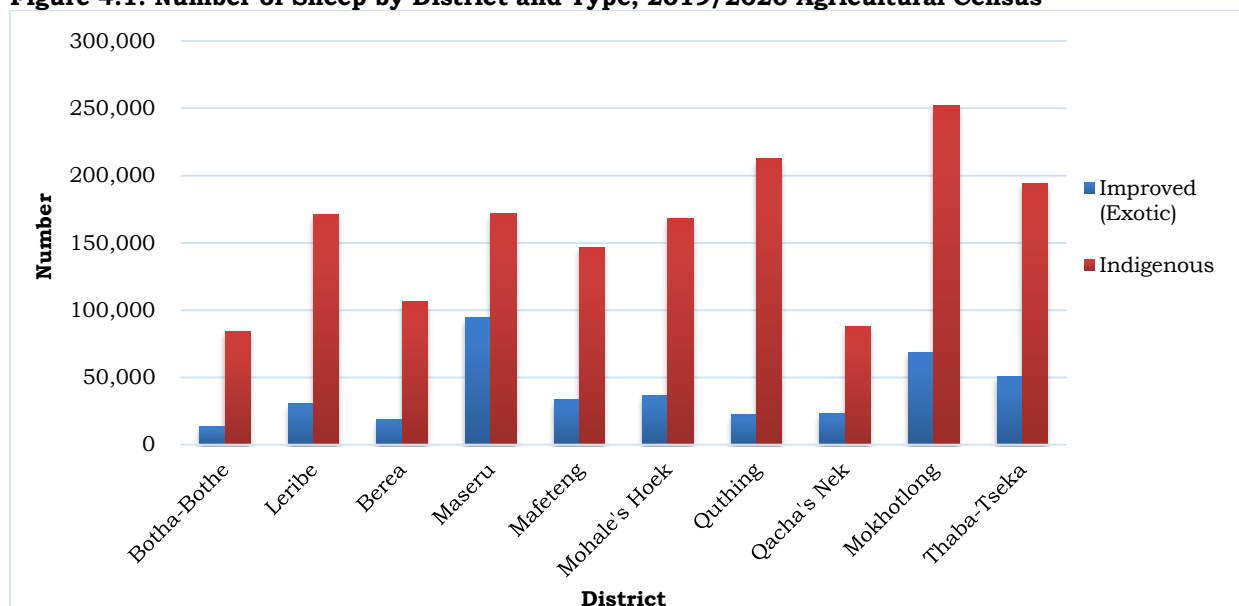
District	Sex		Total
	Male	Female	
Botha	3,836	1,101	4,937
Leribe	9,983	2,049	12,032
Berea	7,774	2,468	10,242
Maseru	9,052	2,613	11,665
Mafeteng	9,882	3,285	13,167
Mohale's Hoek	8,079	3,385	11,463
Quthing	6,095	1,885	7,981
Qacha's Nek	3,046	871	3,917
Mokhotlong	8,344	1,952	10,296
Thaba-Tseka	7,258	1,443	8,701
Lesotho	73,348	21,052	94,399

4.2 Type of Sheep

There were two main types of sheep kept in Lesotho during 2019/2020 Agricultural census namely; indigenous and exotic(improved) sheep.

Figure 4.1 indicates the number of sheep by type and district. It shows that there were 1,987,962 sheep across the country, out of which 1,594,434 were indigenous. Mokhotlong had the highest number (252,021) of indigenous sheep followed by Quthing with 212,373. Maseru had the highest number of improved sheep (94,243).

Figure 4.1: Number of Sheep by District and Type, 2019/2020 Agricultural Census



4.3 Age and Sex of Sheep

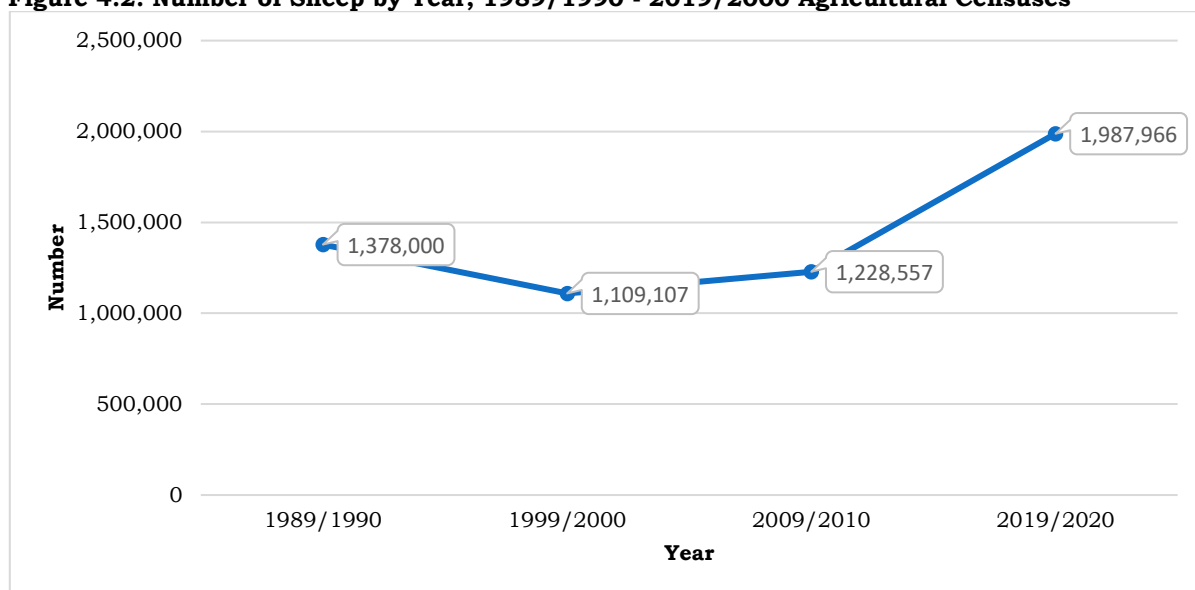
Sheep distribution by district, age and sex is shown in Table 4.2. There were 1,987,966 sheep during the 2019/2020 Agricultural Census, out of which Mokhotlong had the highest number (320,863) while Botha- Bothe had the lowest (97,651). Female sheep out-numbered male sheep in both age categories and about 51.1 percent of the sheep were females aged one year and above.

Table 4.2: Number of Sheep by District, Age and Sex, 2019/2020 Agricultural Census

District	Male		Female		Total
	Under 1yr	1yr+	Under 1yr	1yr+	
Botha-Bothe	12,697	20,720	14,849	49,384	97,651
Leribe	22,995	49,698	26,786	102,497	201,975
Berea	11,493	28,445	19,385	66,027	125,351
Maseru	27,648	55,141	38,060	145,055	265,904
Mafeteng	19,866	36,660	26,468	96,898	179,892
Mohale's Hoek	21,262	42,977	35,888	104,554	204,681
Quthing	26,580	60,128	33,288	115,125	235,121
Qacha's Nek	12,606	23,965	17,990	56,688	111,249
Mokhotlong	39,158	69,978	54,115	157,612	320,863
Thaba-Tseka	26,509	59,381	37,181	122,209	245,280
Lesotho	220,814	447,092	304,011	1,016,049	1,987,966

Figure 4.2 shows the total number of sheep for four consecutive Agricultural Censuses. The number of sheep were reported to have decreased by 19.5 percent from 1989/1990 to 1999/2000, increased by 10.8 percent in 2009/2010 and by 61.8 percent in 2019/2020 Agricultural Censuses.

Figure 4.2: Number of Sheep by Year, 1989/1990 - 2019/2000 Agricultural Censuses



4.4 Number of Sheep Kept and Sex of Holder

Table 4.3 indicates the number of Sheep by districts and Sex of Holder. It shows that male holders kept more sheep (1,733,656) than females (254,310). Mokhotlong dominated in male holders with 291,526 sheep followed by Maseru with 239,388 sheep. Mohale's Hoek had the highest number female holders with 40,905.

Table 4.3: Number of Sheep by District and Sex of Holder, 2019/2020 Agricultural Census

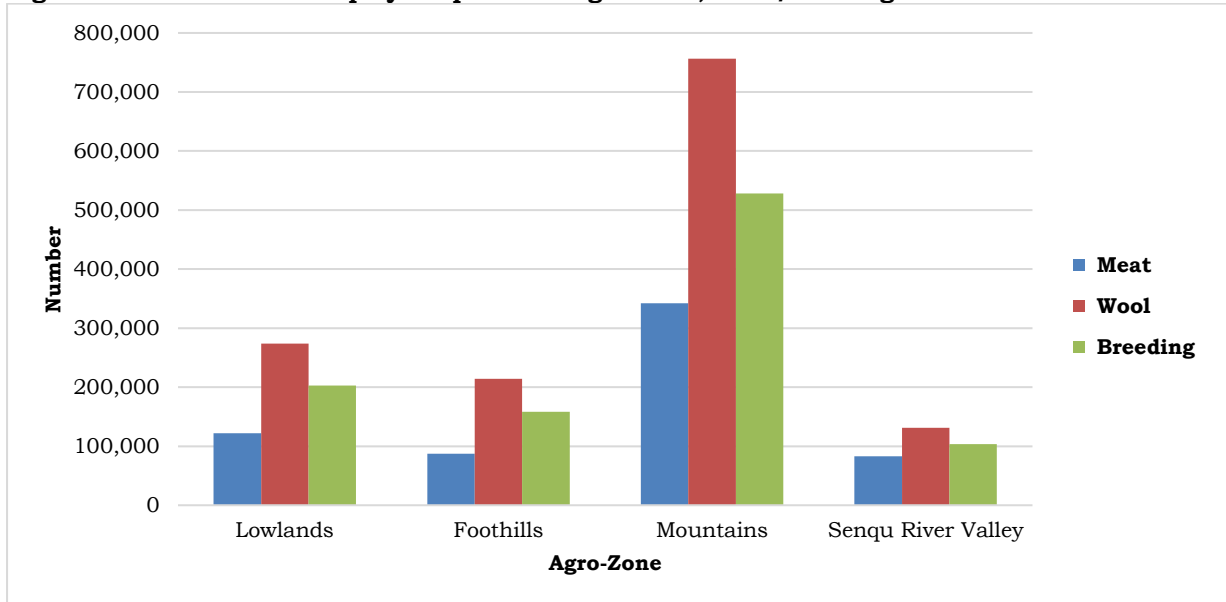
District	Sex of Holder		Total
	Male	Female	
Botha-Bothe	83,685	13,966	97,651
Leribe	183,073	18,902	201,975
Berea	107,775	17,576	125,351
Maseru	239,388	26,516	265,904
Mafeteng	144,780	35,112	179,892
Mohale's Hoek	163,776	40,905	204,681
Quthing	204,581	30,540	235,121
Qacha's Nek	91,825	19,424	111,249
Mokhotlong	291,526	29,337	320,863
Thaba-Tseka	223,248	22,032	245,280
Lesotho	1,733,656	254,310	1,987,966

4.5 Purpose of Keeping Sheep

Sheep in Lesotho are mainly reared for meat, breeding and wool. Figure 4.3 depicts the number of sheep by purpose and agro-zone. It can be observed that across all

the zones most sheep were reared for wool followed by breeding. The Mountains recorded the highest number of sheep of which 756,575 were reared for wool, 528,066 for breeding and 342,053 were reared for meat.

Figure 4.3: Number of Sheep by Purpose and Agro-Zone, 2019/2020 Agricultural Census



CHAPTER 5 GOATS INVENTORY

5.0 Introduction

The chapter covers number of goats, sex of holders and purpose of rearing.

5.1 Number of Holders with Goats

The Census results show that, during 2019/2020 Agricultural Census there were 64,944 holders who kept goats. Females who kept goats were smaller (16,029) than males (48,915) who kept goats.

Table 5.1: Number of Holders Who Kept Goats by District and Sex, 2019/2020 Agricultural Census

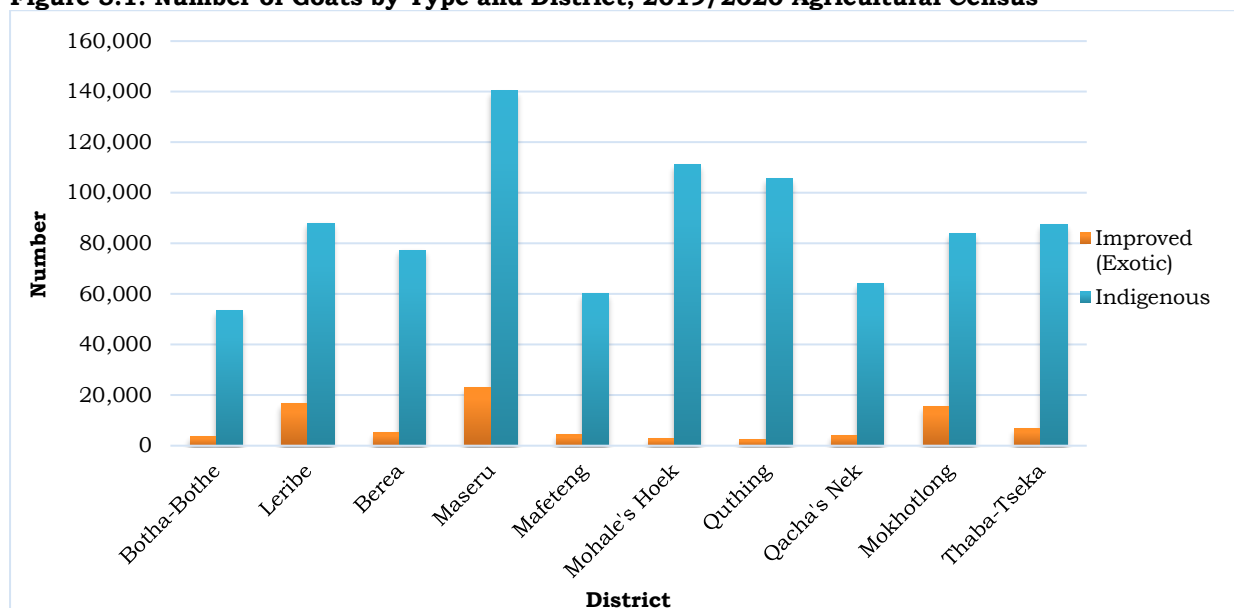
District	Sex		Total
	Male	Female	
Botha- Bothe	2,748	662	3,409
Leribe	6,489	1,721	8,210
Berea	5,485	1,600	7,085
Maseru	7,348	2,878	10,225
Mafeteng	3,387	1,506	4,894
Mohale's Hoek	5,069	2,108	7,177
Quthing	4,864	1,864	6,728
Qacha's Nek	2,582	790	3,373
Mokhotlong	5,608	1,474	7,082
Thaba-Tseka	5,335	1,426	6,761
Lesotho	48,915	16,029	64,944

5.2 Type of Goats

There were two main types of goats kept in Lesotho during 2019/2020 Agricultural census namely; indigenous and exotic(improved) goats.

Figure 5.1 portrays the number of goats by type and district. It is shown that there were 955,922 goats in the country, out of which 871,564 were indigenous. Maseru dominated in both exotic and indigenous goats with 140,380 and 23,050 respectively. Botha-Bothe had the lowest number of indigenous goats (53,539) while Quthing had the lowest number of exotic goats (2,529).

Figure 5.1: Number of Goats by Type and District, 2019/2020 Agricultural Census



5.3 Age and Sex of Goats

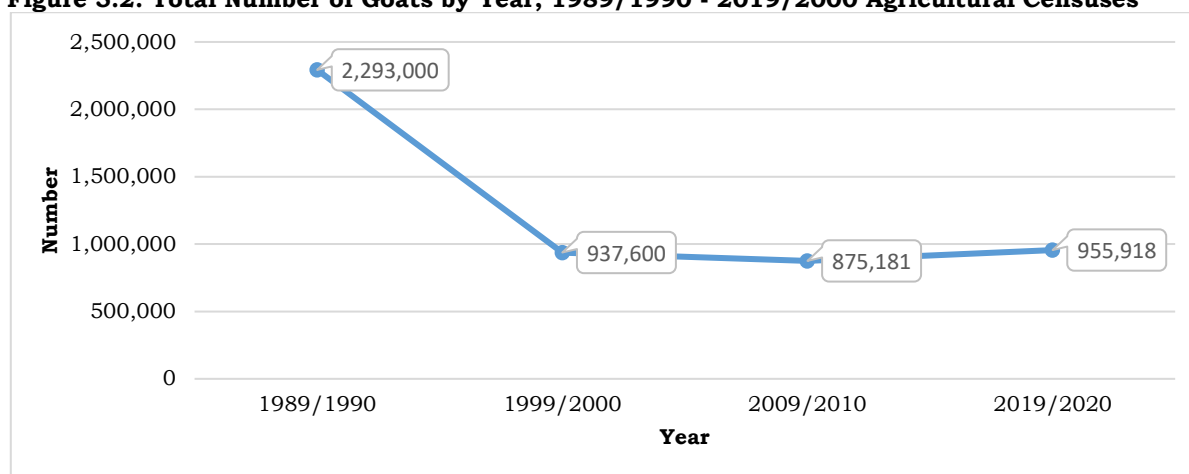
Table 5.2 presents number of goats by district, age and sex during 2019/2020 Agricultural Census. The table shows that there were 955,918 goats of which 67.8 percent were female goats. Majority of female goats were aged one year and above (493,208) followed by male goats aged one year and above (204,324).

Table 5.2: Number of Goats by District, Age and Sex, 2019/2020 Agricultural Census

District	Male		Female		Total
	Under 1yr	1yr+	Under 1yr	1yr+	
Botha-Bothe	7,033	11,266	10,074	28,695	57,068
Leribe	9,610	22,967	16,498	55,509	104,585
Berea	9,238	13,818	16,272	43,110	82,438
Maseru	18,657	34,301	25,799	84,671	163,429
Mafeteng	6,454	13,768	10,207	33,891	64,320
Mohale's Hoek	11,600	24,695	18,612	59,061	113,968
Quthing	14,157	24,349	17,500	52,045	108,051
Qacha's Nek	6,853	17,660	10,065	33,488	68,066
Mokhotlong	10,242	20,444	16,281	52,615	99,581
Thaba-Tseka	9,741	21,056	13,493	50,123	94,413
Lesotho	103,585	204,324	154,801	493,208	955,918

Figure 5.2 depicts trend of goats for the past four consecutive Agricultural Censuses. The number of goats has decreased by 151.2 percent from 1989/1990 to 2009/2010 Agricultural censuses, then increased by 9.2 percent 2019/2020 Agricultural census.

Figure 5.2: Total Number of Goats by Year, 1989/1990 - 2019/2000 Agricultural Censuses



5.4 Number of Goats Kept and Sex of Holder

Table 5.3 indicates the number of goats by districts and sex of holder. It shows that male holders keep more goats (812,499) than females (143,419). Maseru dominated in both male and female holders with 139,394 and 24,035 respectively. Qacha's Nek had the lowest number of female holders (7,977) followed by Berea with 7,975.

Table 5.3: Number of Goats by District and Sex of Holder, 2019/2020 Agricultural Census

District	Sex of Holder		Total
	Male	Female	
Botha-Bothe	47,956	9,112	57,068
Leribe	90,667	13,918	104,585
Berea	74,463	7,975	82,438
Maseru	139,394	24,035	163,429
Mafeteng	52,111	12,209	64,320
Mohale's Hoek	93,462	20,506	113,968
Quthing	88,701	19,350	108,051
Qacha's Nek	60,089	7,977	68,066
Mokhotlong	85,551	14,030	99,581
Thaba-Tseka	80,106	14,307	94,413
Lesotho	812,499	143,419	955,918

5.5 Purpose of Keeping Goats

Goats are mainly reared for meat, breeding and mohair. Table 5.4 depicts the number of goats by purpose and agro-zone. According to the table most goats (618,104) were reared for mohair (492,274), breeding (308) and meat (186). Mountains had highest number of goats kept for mohair (270,193), breeding (198,377) and meat (122,873).

Table 5.4: Number of Goats by Purpose and Agro-Zone, 2019/2020 Agricultural Census

Agro-Zone	Purpose		
	Meat	Mohair	Breeding
Lowlands	54,837	107,018	6,640
Foothills	70,526	146,073	118,437
Mountains	122,873	270,193	198,377
Senqu River Valley	59,950	94,820	88,820
Lesotho	308,186	618,104	492,274

CHAPTER 6 PIGS INVENTORY

6.0 Introduction

The section covers number, type and purpose of rearing pigs.

6.1 Number of Holders with Pigs

Table 6.1 depicts the number of holders who kept pigs by district sex. There were 45,232 holders who kept pigs during 2019/2020 Agricultural Census, out of which 32,050 males and 13,182 females kept pigs. Maseru dominated in both males and females who kept pigs with 6,355 and 3,680 respectively. The smallest number of males and females with 501 and 77 respectively who kept pigs were observed in Mokhotlong.

Table 6.1: Number of Holders Who Kept Pigs by District and Sex, 2019/2020 Agricultural Census

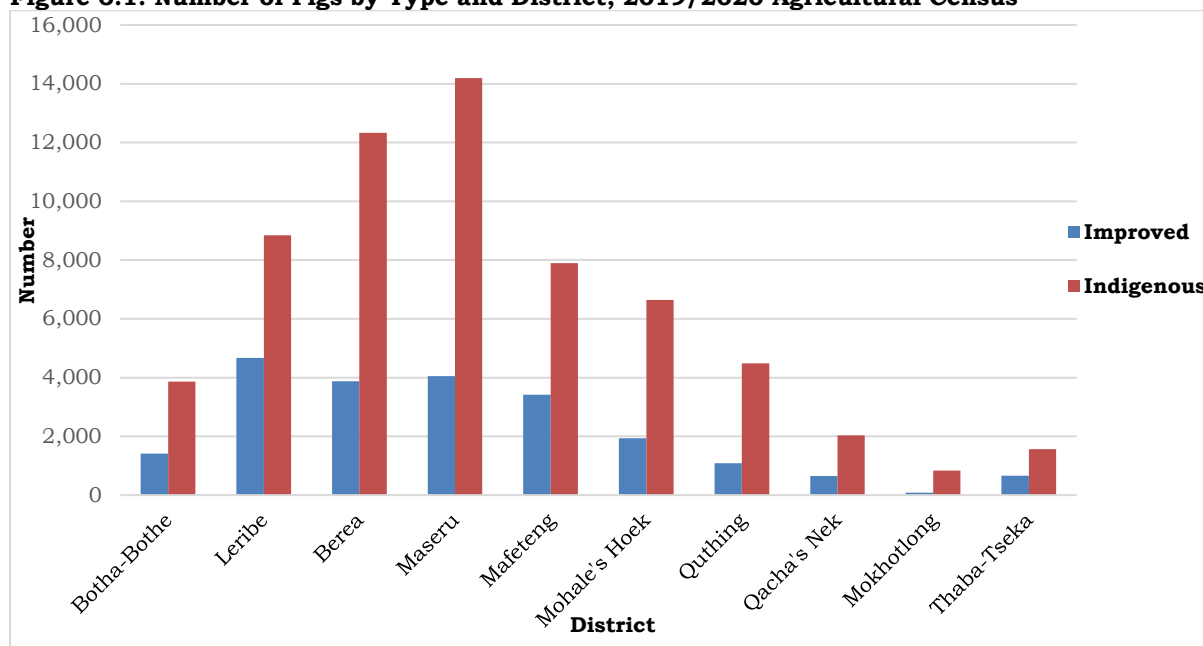
District	Sex		Total
	Male	Female	
Botha- Bothe	2,012	795	2,806
Leribe	5,491	1,630	7,121
Berea	5,658	1,829	7,487
Maseru	6,355	3,680	10,034
Mafeteng	4,002	1,778	5,780
Mohale's Hoek	3,384	1,569	4,953
Quthing	2,605	937	3,542
Qacha's Nek	1,068	580	1,648
Mokhotlong	501	77	579
Thaba-Tseka	976	307	1,283
Lesotho	32,050	13,182	45,232

6.2 Number of Pigs

There were two main types of pigs kept in Lesotho during 2019/2020 Agricultural census namely; indigenous and exotic(improved) pigs.

Figure 6.1 illustrates the number of pigs by type and districts. It shows that there were 84,526 pigs across the Country, 74.2 percent were indigenous. Maseru dominated with 14,189 of indigenous pigs while Leribe dominated with 4,673 of improved pigs. In general, Mokhotlong had the least number of both improved (89) and indigenous pigs (833).

Figure 6.1: Number of Pigs by Type and District, 2019/2020 Agricultural Census



6.3 Age of Pigs

Table 6.2 presents the number of pigs by district and age. It is shown that the majority of pigs (32,104) were older than 6 months and Maseru had the highest number (7,890). The smallest number of 20,845 pigs were recorded in the age group of piglets less than 3 months of which Leribe dominated with 3,870.

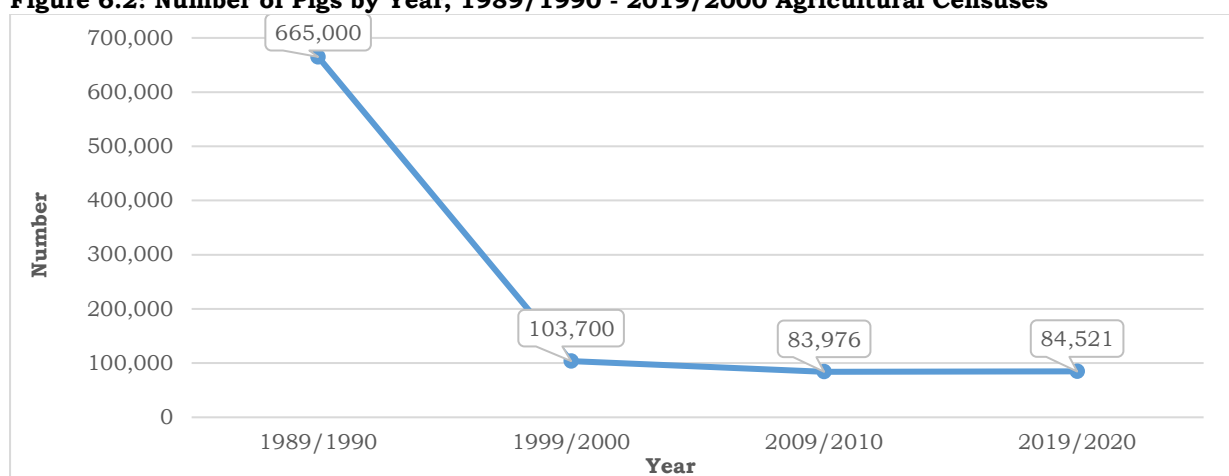
Table 6.2: Number of Pigs by Age and District, 2019/2020 Agricultural Census

District	Age Group			Total
	Less than 3 Months	3 - 6 Months	6 Months+	
Botha-Bothe	742	2,798	1,738	5,278
Leribe	3,870	4,661	4,979	13,511
Berea	5,619	5,210	5,372	16,202
Maseru	3,535	6,805	7,890	18,231
Mafeteng	3,002	4,150	4,157	11,309
Mochale's Hoek	1,898	3,675	3,008	8,581
Quthing	797	2,110	2,662	5,569
Qacha's Nek	653	969	1,063	2,685
Mokhotlong	47	341	534	922
Thaba-Tseka	682	852	701	2,234
Lesotho	20,845	31,572	32,104	84,521

Figure 6.2 illustrates the trend of Pigs for the past four consecutive Censuses. It was shown that number of pigs decreased by 84.4 percent from 1989/1990 to 1999/2000

Agricultural censuses, they also decreased by 19.0 percent in 2009/2010 and increased by 0.6 percent in 2019/2020 Agricultural Census.

Figure 6.2: Number of Pigs by Year, 1989/1990 - 2019/2020 Agricultural Censuses



6.4 Number of Pigs Kept and Sex of Holder

Table 6.3 indicates the number of Pigs by Districts and Sex of Holder. It shows that 54,038 pigs were kept by male holders and 30,486 pigs were kept by females. Maseru dominated in male holders with 11,657 pigs followed by Berea and Leribe with 9,193 pigs and 9,179 pigs respectively. Berea dominated in female holders with 7,010 pigs.

Table 6.3: Number of Pigs by District and Sex of Holder, 2019/2020 Agricultural Census

District	Sex	
	Male	Female
Botha-Bothe	3,476	1,802
Leribe	9,179	4,333
Berea	9,193	7,010
Maseru	11,657	6,576
Mafeteng	7,386	3,923
Mohale's Hoek	5,617	2,964
Quthing	3,981	1,589
Qacha's Nek	1,891	794
Mokhotlong	565	357
Thaba-Tseka	1,095	1,139
Lesotho	54,038	30,486

6.5 Purpose of Keeping Pigs

Pigs are mainly reared for meat and breeding.

Table 6.4 depicts the number and percentage of pigs by purpose and district. According to the table most pigs (29,228) were reared for meat of which the highest

percent were in Maseru (22.0 percent) and the least percent were in Mokhotlong (1.0 percent).

Table 6.4: Number and Percentage of Pigs by Purpose and District, 2019/2020 Agricultural Census

District	Number		Percent	
	Meat	Breeding	Meat	Breeding
Botha-Bothe	1,554	1,137	5.3	5.5
Leribe	4,366	3,441	14.9	16.5
Berea	4,544	2,971	15.5	14.3
Maseru	6,425	4,250	22.0	20.4
Mafeteng	4,941	3,148	16.9	15.1
Mohale's Hoek	2,854	2,070	9.8	9.9
Quthing	2,638	1,712	9.0	8.2
Qacha's Nek	926	822	3.2	3.9
Mokhotlong	293	858	1.0	4.1
Thaba-Tseka	686	431	2.3	2.1
Lesotho	29,228	20,840	100.0	100.0

CHAPTER 7 EQUINES AND RABBITS

7.1 Equines

7.1.0 Introduction

Equine population is classified by horses, donkeys and mules.

7.1.1 Number of Holders with Equines

Table 7.1 indicates the number of holders who kept equines by districts and sex. It is observed that males kept more horses (39,455) than female (8,567). Maseru dominated in both males and females who kept horses with 5,983 and 2,024 respectively.

It further shows that more males (59,459) kept donkeys than female (19,868). Leribe had the highest number males who kept donkeys with 9,159 followed by Berea with 8,650. Maseru had the highest number (3,120) females who kept donkeys.

Table 7.1: Number of Holders Who Kept Equines by Sex, 2019/2020 Agricultural Census

District	Horses		Donkeys	
	Male	Female	Male	Female
Botha- Bothe	2,203	372	3,230	993
Leribe	4,884	814	9,159	2,579
Berea	3,754	655	8,650	2,842
Maseru	5,983	2,024	8,177	3,120
Mafeteng	1,855	298	6,522	2,451
Mohale's Hoek	3,595	1,145	4,938	2,052
Quthing	3,888	709	4,515	1,468
Qacha's Nek	3,056	658	2,271	729
Mokhotlong	5,277	878	6,259	1,759
Thaba-Tseka	4,959	1,014	5,739	1,874
Lesotho	39,455	8,567	59,459	19,868

7.1.2 Number of Equines

The section covers information on equines that are reared in Lesotho namely; horses, donkeys and mules.

Table 7.2 gives the distribution of horses, donkeys and mules by district. During 2019/2020 Agricultural Census there were 86,627 horses and 161,555 donkeys. Maseru had the highest number of donkeys and horses, 16,606 and 22,089 respectively. Leribe had the highest number of mules (147).

Table 7.2: Number of Equine by District and Type, 2019/2020 Agricultural Census

District	Type of Equine		
	Horses	Donkeys	Mules
Botha-Bothe	3,962	7,913	59
Leribe	8,633	21,528	147
Berea	6,309	21,006	0
Maseru	16,606	22,089	3
Mafeteng	2,978	17,862	0
Mohale's Hoek	9,236	14,963	0
Quthing	8,483	13,908	0
Qacha's Nek	8,652	8,354	0
Mokhotlong	11,397	17,046	56
Thaba-Tseka	10,371	16,886	58
Lesotho	86,627	161,555	323

7.1.3 Number of Equines and Sex

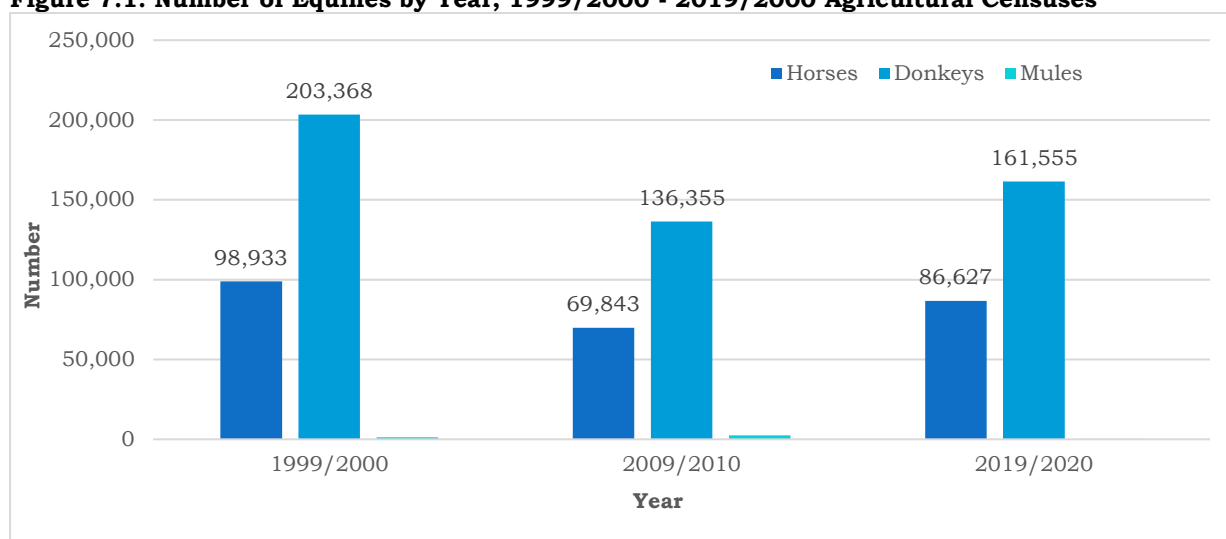
Table 7.3 shows the number of equines by district and sex. It is shown that there were 86,627 horses and 161,555 donkeys across the country. There were more male donkeys (53.9 percent) and male horses (44.1 percent) than females.

Table 7.3: Number of Equine by District and Sex, 2019/2020 Agricultural Census

District	Horses		Donkeys		Mules	
	Male	Female	Male	Female	Male	Female
Botha-Bothe	2,448	1,514	4,613	3,300	18	41
Leribe	5,195	3,438	11,710	9,818	57	90
Berea	3,968	2,341	10,708	10,298	0	0
Maseru	8,614	7,992	10,812	11,277	0	3
Mafeteng	1,814	1,164	9,357	8,505	0	0
Mohale's Hoek	4,882	4,354	8,256	6,707	0	0
Quthing	5,146	3,337	7,327	6,581	0	0
Qacha's Nek	4,499	4,153	4,555	3,799	0	0
Mokhotlong	6,278	5,119	9,938	7,108	28	28
Thaba-Tseka	5,588	4,783	9,761	7,125	58	0
Lesotho	48,432	38,195	87,037	74,518	161	162

Figure 7.1 depicts the trends of equines for three consecutive years. The number of horses decreased by 41.7 percent in 2009/2010 and increased by 19.4 percent in 2019/2020 Agricultural Census. Similarly, donkeys followed the same pattern, decreased by 49.1 percent in 2009/2010 and increased by 15.6 percent in 2019/2020.

Figure 7.1: Number of Equines by Year, 1999/2000 - 2019/2000 Agricultural Censuses



7.1.4 Number of Equines Kept and Sex of Holder

Table 7.4 indicates the number of horses and donkeys by districts and sex of holder. It is shown that male holders keep more horses (39,212) than female holders (6,464). Maseru dominated by number of horses kept by both male and female holders with 8,061 and 1,648 horses respectively.

It is observed that more donkeys (78,070) were kept by male holders than those kept by female holders (18,959). Maseru had the highest number of donkeys kept by male holders with 10,346 donkeys, followed by Leribe with 9,711 donkeys. It further shows that Thaba-Tseka had the highest number (2,530) of donkeys in female holders.

Table 7.4: Number of Horses and Donkeys by District and Sex of Holder, 2019/2020 Agricultural Census

District	Horses		Donkeys	
	Male	Female	Male	Female
Botha-Bothe	1,368	239	3,628	1,107
Leribe	3,295	311	9,711	1,832
Berea	1,920	428	9,305	2,305
Maseru	8,061	1,648	10,346	2,511
Mafeteng	901	194	8,113	2,421
Mohale's Hoek	3,742	1,379	7,221	1,810
Quthing	4,395	397	7,770	1,582
Qacha's Nek	5,333	406	5,164	1,076
Mokhotlong	5,643	641	8,441	1,785
Thaba-Tseka	4,554	821	8,371	2,530
Lesotho	39,212	6,464	78,070	18,959

7.1.5 Purpose of keeping Equines

Equines in Lesotho are mainly reared for transport, breeding and draught power.

Table 7.5 presents the number of equines by purpose of rearing. According to the table, most donkeys (119,594) were reared for transport, followed by donkeys that were reared for breeding (43,624).

Table 7. 5: Number of Equines by Type and Purpose, 2019/2020 Agricultural Census

Type of Equine	Purpose		
	Transport	Breeding	Draught Power
Horses	73,967	43,624	16,945
Donkeys	119,594	80,105	61,982
Mules	295	-	173

*Dash (-) means not applicable

7.2 Rabbits

7.2.1 Introduction

The section covers the number and sex of rabbits.

7.2.2 Number of Holders with Rabbits

Table 7.6 presents the number of holders who kept rabbits by district and sex. There were 1,227 holders who kept rabbits, 946 males and 280 females kept rabbits.

Table 7.6: Number of Holders Who Kept Rabbits by District and Sex, 2019/2020 Agricultural Census

District	Sex		Total
	Male	Female	
Botha- Bothe	16	34	50
Leribe	174	20	193
Berea	106	34	140
Maseru	425	141	565
Mafeteng	84	0	84
Mohale's Hoek	37	30	67
Quthing	13	0	13
Qacha's Nek	30	0	30
Mokhotlong	0	0	0
Thaba-Tseka	61	22	83
Lesotho	946	280	1227

7.2.3 Number of Rabbits

Table 7.7 shows the number of rabbits by districts and sex. It can be observed that there were more female rabbits (3,454) across the country. Maseru recorded the highest number (2,471) of rabbits followed by Leribe and Botha Bothe with 671 and 502 respectively.

Table 7.7: Number and Sex of Rabbits by District, 2019/2020 Agricultural Census

District	Sex		Total
	Male	Female	
Botha-Bothe	228	273	501
Leribe	247	424	671
Berea	229	234	463
Maseru	768	1,703	2,471
Mafeteng	91	239	330
Mohale's Hoek	144	245	389
Quthing	108	67	175
Qacha's Nek	78	186	264
Mokhotlong	0	0	0
Thaba-Tseka	51	83	134
Lesotho	1,944	3,454	5,398

CHAPTER 8 POULTRY

8.0 Introduction

Poultry consists of improved, indigenous chickens and other poultry. Other poultry consists of ducks, geese and turkeys.

8.1 Number of Holders with Chickens

Table 8.1 depicts the number of holders who kept chickens by district and sex. There were 90,731 holders who kept chickens during 2019/2020 Agricultural Census. Out of that number, 63,836 were males while 26,895 were females. Leribe had the highest number of males who kept chickens with 10,835 followed by Maseru with 9,467 females. The smallest number of males who kept chickens were observed in Qacha's nek with 2,924.

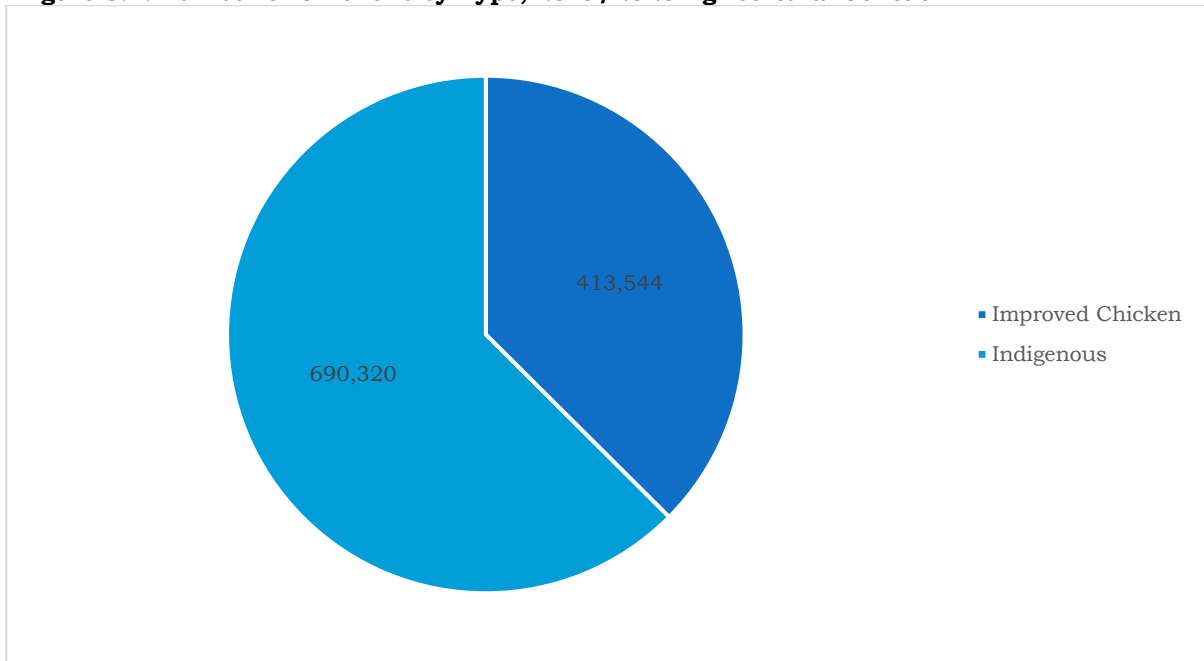
Table 8.1: Number of Holders Who Keep Chickens by District and Sex, 2019/2020 Agricultural Census

District	Sex		Total
	Male	Female	
Botha- Bothe	4,358	1,785	6,143
Leribe	10,835	3,697	14,532
Berea	7,996	3,258	11,253
Maseru	9,467	4,492	13,960
Mafeteng	7,022	3,135	10,157
Mohale's Hoek	6,133	3,539	9,672
Quthing	4,704	2,124	6,828
Qacha's Nek	2,924	1,398	4,322
Mokhotlong	5,637	1,828	7,465
Thaba-Tseka	4,759	1,639	6,399
Lesotho	63,836	26,895	90,731

8.2 Number of Chickens

Figure 8.1 portrays the number of chickens by type. There were 1,103,864 chickens of which the largest number (690,320) were indigenous chickens, followed by improved chickens (413,544). Improved chickens include laying hens, broilers, etc.

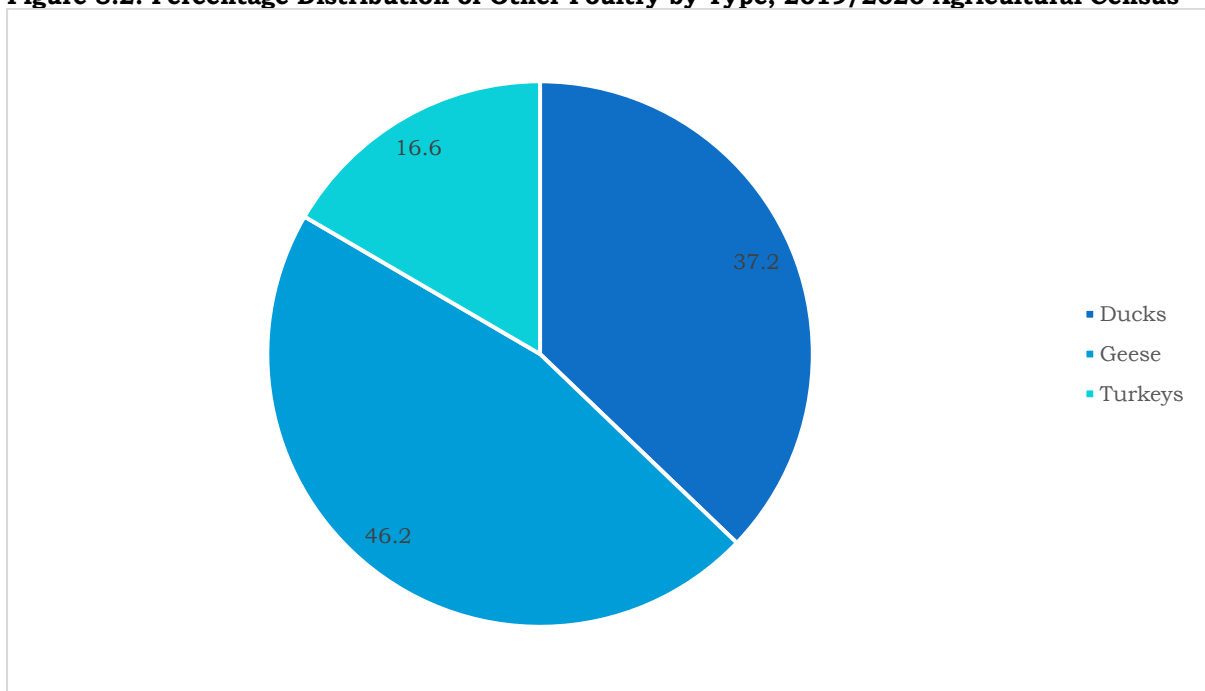
Figure 8.1: Number of Chickens by Type, 2019/2020 Agricultural Census



8.3 Other Poultry

Figure 8.2 illustrates percentage distribution of other poultry by type. There were 20,952 other poultry of which geese were 46.2 percent, followed by ducks with 37.2 percent and Turkey with 16.6 percent.

Figure 8.2: Percentage Distribution of Other Poultry by Type, 2019/2020 Agricultural Census



8.4 Number of Poultry Type and Sex of Holder

Table 8.2 indicates the number of poultry by type and sex of holder. It shows that female holders keep more poultry (844,485) than male holders (280,331). Indigenous Chickens dominated in both male holders and female holders with 187,432 chickens and 502,888 chickens respectively. Male holders had more ducks (5,501) than female holders (2,287).

Table 8.2: Number of Poultry by Type and Sex of Holder, 2019/2020 Agricultural Census

Type of Poultry	Sex	
	Male	Female
Improved Chickens	80,599	332,944
Indigenous Chickens	187,432	502,888
Ducks	5,501	2,287
Geese	5,041	4,646
Turkey	1,758	1,720
Total	280,331	844,485

8.5 Purpose of Rearing Poultry

Poultry are mainly reared for meat, eggs and breeding. Table 8.3 depicts the number of poultry by type and purpose. It is observed that most improved chickens (239,311) were kept for meat production followed by those kept for eggs production (201,610). The table further shows that more indigenous chickens were kept for meat production and breeding with 561,828 and 426,319 respectively.

Table 8. 3: Number of Poultry by Type and Purpose, 2019/2020 Agricultural Census

Type of Poultry	Purpose		
	Meat	Eggs	Breeding
Improved Chickens	239,311	201,610	32,719
Indigenous Chickens	561,828	280,567	426,319
Ducks	4,838	652	5,655
Geese	7,214	3,256	8,242
Turkeys	1,034	262	2,809

CHAPTER 9 LIVESTOCK SYSTEM AND TYPE OF FEEDING

9.0 Introduction

The section covers information on livestock system and feeding.

9.1 Livestock System

Livestock system is the general characteristics and practices of raising livestock on the holdings. Table 9.1 table shows that most holdings practiced grazing system to raise their livestock. Industrial system was the least practiced type of feeding for all types of livestock. Industrial system was mostly practiced on Cattle (727 holdings) and Sheep (744 holdings). About 9,065 holdings practiced both grazing and industrial system (mixed system) on cattle.

Table 9. 1: Number of Holdings by Type of Livestock System, 2019/2020 Agricultural Census

Type of Livestock	Livestock System		
	Grazing	Industrial	Mixed
Cattle	115,955	727	9,065
Sheep	85,283	744	8,373
Goats	61,917	92	2,935
Horses	44,633	234	3,154
Donkeys	76,699	103	2,525
Mules	250	0	0

9.3 Type of Feeding

This section covers the number of livestock type and types of feeding. Table 9.2 shows that most holdings fed their livestock with forages/roughages (496,858) of which the highest number was cattle (128,701 holdings) followed by sheep with 97,152 holdings. Agro-industrial by product/concentrate components were used by 46,012 holdings to feed their livestock.

Table 9.2: Number of Holding by Type of Feeding and Livestock Type, 2019/2020 Agricultural Census

Type of Livestock	Type of Feeding				
	Forages/ Roughages	Agro-Industrial By- Products/Concentrate Components	Household Waste/Swll	Supplements /Additives	Other
Cattle	128,701	10,719	6,578	38,574	720
Sheep	97,152	9,661	3,221	31,845	276
Goats	66,570	3,430	1,608	19,708	247
Pigs	20,401	6,893	33,279	4,991	463
Horse	47,996	3,366	1,282	13,198	193
Donkeys	79,394	2,866	1,803	16,384	232
Mules	290	28	0	85	0
Chicken	55,197	8,805	61,180	8,276	932
Rabbits	1,157	246	331	259	0
Total	496,858	46,012	109,282	133,321	3,064

APPENDIX

I. Estimates of Sampling Errors

The SPSS Software Complex Samples (CSPlan) module was used for estimating the sampling errors, the coefficient of variation (CV), the confidence limits, the design effect and the square root of the design effect for key indicators (Table A2). A CV exceeding 20% is considered very low and signifies that the sample size is too small (Table A1).

Table A1: Interpretation of the Reliability co-efficients

No.	CV %	Indicator
1	1% - < 5%	Highly precise
2	5% - < 10%	Good precision
3	10% - < 15%	Acceptable if close to 10%
4	15% - < 20%	Less precise
5	20% or more	Very low precision (sample size is too small)

Table A2: Sampling Errors for Key Indicators

No.	Indicator	Estimate	Base Population
1	Total Agric. Population	Number	All Agric. household members
2	Total Agric. Households	Number	All Agric. Households
3	Agric. Household size	Mean	All Agric. Households
4	Total Agric. Holders	Number	All Agric. Holders
5	Area Harvested of Maize	Hectares	All Agric. Holders
6	Total Maize Produced	MT	All Agric. Holders
7	Area Harvested of Sorghum	Hectares	All Agric. Holders
8	Total Sorghum Produced	MT	All Agric. Holders
9	Area Harvested of Wheat	Hectares	All Agric. Holders
10	Total Wheat Produced	MT	All Agric. Holders

II. Sampling Errors for Selected Indicators

The design effect is the ratio of the variance of an indicator used in the sample design to the variance calculated under a simple random sampling. The square root of the design effect of 1.0 indicates that the sample design is as efficient as a simple random sample, whereas a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. Again, a CV not exceeding 15% is deemed precise enough for the indicator and indicates that the sample size for the domain is appropriate. The results are shown in Tables A3-A5.

Table A3: Number of Cattle

District	Estimate	Standard Error	95% Confidence Interval		Coefficient of Variation	Design Effect	Square Root Design Effect	Unweighted Count
			Lower	Upper				
Botha-Bothe	35,219	3,1809.920	27,733	42,705	10.8	5.509	2.347	2,632
Leribe	86,780	7,090.968	72,847	10,0712	8.2	9.337	3.056	4,788
Berea	80,440	5,814.826	69,015	91,865	7.2	6.470	2.544	4,263
Maseru	100,394	11,292.106	78,207	122,581	11.2	16.067	4.008	5,523
Mafeteng	74,155	6,099.899	62,170	86,141	8.2	7.354	2.712	3,612
Mohale's Hoek	71,149	7,279.218	56,847	85,452	10.2	9.191	3.032	3,102
Quthing	49,185	4,439.740	40,461	57,908	9.0	5.151	2.270	2,422
Qacha's Nek	32,541	3,012.605	26,622	38,461	9.3	2.660	1.631	2,030
Mokhotlong	49,314	2,742.286	43,926	54,702	5.6	2.271	1.507	2,618
Thaba-Tseka	41,817	3,218.751	35,493	48,142	7.7	3.763	1.940	3,115
Ecological Zone								
Lowlands	230,974	14,420.450	202,640	259,308	6.2	14.873	3.857	14,210
Foothills	137,386	15,981.280	10,5985	168,786	11.6	23.977	4.897	6,076
Mountains	190,092	13,934.555	16,2713	217,471	7.3	14.037	3.747	9,765
SRV	62,544	7,430.173	47,945	77,143	11.9	11.251	3.354	4,054
Lesotho	620,995	19,052.153	583,561	658429	3.1	10.177	3.190	34,105

Table A4: Number of Sheep

District	Estimate	Standard Error	95% Confidence Interval		Coefficient of Variation	Design Effect	Square Root Design Effect	Unweighted Count
			Lower	Upper				
Botha-Bothe	97,651	16,331.279	65,563	129,739	16.7	5.844	2.417	1,012
Leribe	201,974	30,488.490	142,069	261,879	15.1	8.184	2.861	1,804
Berea	125,350	15,325.716	95,237	155,462	12.2	5.314	2.305	1,640
Maseru	265,904	60,907.336	146,231	385,577	22.9	11.575	3.402	1,840
Mafeteng	179,893	20,650.205	139,319	220,467	11.5	4.131	2.032	1,988
Mohale's Hoek	204,680	30,959.343	143,850	265,510	15.1	9.502	3.082	1,520
Quthing	235,120	33,655.831	168,992	301,248	14.3	7.014	2.648	1,208
Qacha's Nek	111,248	16,523.807	78,781	143,715	14.9	3.315	1.821	864
Mokhotlong	320,862	25,576.150	270,609	371,115	8.0	3.271	1.809	1,484
Thaba-Tseka	245,280	23,504.641	199,097	291,463	9.6	2.809	1.676	1,624
Ecological Zone								
Lowlands	395,163	31,790.500	332,700	457,626	8.0	7.100	2.665	5896
Foothills	316,689	420,58.071	234,052	399,326	13.3	9.991	3.161	2152
Mountains	1,086,438	92,190.120	905,299	1,267,576	8.5	9.676	3.111	5184
SRV	189,672	28,380.727	133,908	245,435	15.0	7.692	2.774	1752
Lesotho	1,987,962	95,593.465	18,00136	2,175,788	4.8	7.991	2.827	14,984

Table A5: Number of Goats

District	Estimate	Standard Error	95% Confidence Interval		Coefficient of Variation	Design Effect	Square Root Design Effect	Unweighted Count
			Lower	Upper				
Botha-Bothe	57,068	9,888.866	37,636	76,499	17.3	4.559	2.135	684
Leribe	104,585	14,411.854	76,266	132,905	13.8	5.964	2.442	1,052
Berea	82,439	12,288.370	58,292	106,586	14.9	5.964	2.442	992
Maseru	163,430	26,129.365	112,086	214,775	16.0	9.889	3.145	1,472
Mafeteng	64,320	12,108.283	40,527	88,112	18.8	7.469	2.733	596
Mohale's Hoek	113,968	13,748.432	86,953	140,984	12.1	4.421	2.103	1,188
Quthing	108,050	12,860.973	82,778	133,322	11.9	4.376	2.092	1,160
Qacha's Nek	68,066	11,305.524	45,851	90,282	16.6	2.889	1.700	792
Mokhotlong	99,581	8,392.530	83,089	116,072	8.4	1.954	1.398	1,012
Thaba-Tseka	94,415	9,048.930	76,634	112,196	9.6	2.627	1.621	1,288
Ecological Zone								
Lowlands	183,624	18,937.059	146,413	220,836	10.3	5.774	2.403	2,568
Foothills	224,801	28,069.168	169,645	279,957	12.5	9.839	3.137	1,884
Mountains	391,231	35,342.488	321,783	460,679	9.0	8.642	2.940	3,768
SRV	156,266	20,043.739	116,880	195,652	12.8	6.654	2.580	2,016
Lesotho	955,923	43,822.438	869,812	1,042,034	4.6	6.717	2.592	10,236

III. Questionnaire

THE KINGDOM OF LESOTHO
2019/2020 LESOTHO AGRICULTURAL CENSUS
HOUSEHOLD QUESTIONNAIRE

SECTION A: IDENTIFICATION

A.	IDENTIFICATION INFORMATION	Codes	
A1. District			
A2. Constituency			
A3. Community Council			
A4. PSU Code			
A5. Serial Number of PSU			
A6. Agro-Zone			
A7. Village Name			
A8. Chief/Headman			
A9. Structure Number			
A11. Household Number			
A12. Name of Household Head			
A13. Name of Respondent		A14. Contact number of Respondent	

STAFF DETAILS			
Name of Enumerator			
Number of Visits	1	2	3
Start Date			
Start Time			
End Date			
End Time			
Name of Supervisor			
Date of Inspection			

SECTION B: DEMOGRAPHIC AND SOCIAL CHARACTERISTICS (THEME 1 and THEME 8)

Household Member ID <i>(CAPI generated)</i>	B1. Names of household members <i>(Start from the head)</i>	B2. What is (name's) relationship to head?	B3. Is (name) Male/female? 1=Male 2=Female	B4. How old is (name) in completed years? <i>(If age is less than 1 year, write 00)</i>	B5. What is (name's) marital status? <i>(12 years or older)</i>	B6. What is (name's) highest educational level? <i>(For those aged 3 years and above)</i> <i>Check if B4<3 years, skip to Next member</i>	B7. What is (Name's) Main activity	B7_1. What is (Name's) Status in employment of Main Job activity <i>(Refer to codes)</i>	B8. What is (Name's) Secondary activity <i>(10 years and above)</i> <i>(Refer to codes)</i>	B8_1.W What is (Name's) Status in employment of secondary Job activity <i>(Refer to codes)</i>	B9. Does (Name) operate fields or keep livestock? 1=Yes 2=No 3=N/A <i>(if B7&B8=14) skip to next member</i>	B10. What kind of decision does (name) make on fields/livestock? 1=C complete decision 2=Partial (in consultation) 3=No decision Check if B7&B8=1-5 and B10=1 or 2 then is a holder <i>Else if, Not a holder, end interview for member.</i>	B11. What is (Holder's) agricultural activity? 1=Mainly crop production <i>(Copy the ID of member to Section C and applicable Sections)</i> 2=Mainly livestock production <i>(Copy the ID of member to Section K and applicable Sections)</i> 3=Mixed <i>(Copy the ID of member to Section C and applicable Sections)</i>	B12. Has (Holder) had any of the following agricultural training? <i>(Refer to codes)</i>	
1															
2															
3															
4															
5															

CODES FOR RELATIONSHIP TO HEAD(B2)	CODES FOR MARITAL STATUS(B5)	CODES FOR EDUCATIONAL LEVEL ATTAINED(B6)	CODES FOR MAIN & SECONDARY ACTIVITIES (B7 and B8)	CODES FOR STATUS OF MAIN & SECONDARY ACTIVITY (B7_1 and B8_1)	CODES FOR AGRICULTURAL TRAINING/ EDUCATION OF HOLDER (B12)
01 = Head of Household	00 = Never Married	00= Pre-school	1=Crop production	1= Employee	00=None
02 =Spouse	01 = Monogamously Married	(01-07) = Std 1-7	2= Livestock	2= Employer	01= Informal Learning in Agriculture
03 = Partner (Cohabiting)	02 = Polygamously Married	(11-15) = Form 1-5	3= Fisheries	3 = Own-account Worker	02= Non-formal Education in Agriculture
04 = Son/Daughter	03 = Cohabiting	18=None	4= Forestry	4= Contributing Family Worker	03=Secondary Education in Agriculture
05 = Son/Daughter-in-law	04 = Separated	19= Non=Formal Education	5=Aquaculture	5= Member of Producers' Cooperative	04= Tertiary Education in Agriculture
06 = Step Child	05 = Divorced	20= Diploma/Certificate after Primary	6=Trader	6=N/A (if B7&B8=14)	
07 = Sibling	06 = Widowed	21= Vocational and Technical after Primary	7= Artisan	11= Other (Specify)	
08 = Own Parent	07 = Don't know	22= Diploma/Certificate after Secondary	8= Agricultural Paid Job outside Holding		
09 = Step Parent		23=.Vocational Technical after Secondary	9 = Non-Agriculture Paid Job		
10 = Parent-in-law		24= Diploma/Certificate after High School	10= No Activity - Looking for Work		
11 = Grand Parent		25= Vocational and Technical after High School	11= No Activity - Not Looking for Work		
12 = Great/Grandchild		26=Graduate	12 = Student		
13 = Other Relative		27=Post Graduate Diploma /Honours	13 = Household Work		
14 = Not Related		28=Masters	14 = Too Young/Old		
		29=PHD			
		30= Other (Specify)).....			
		99= Don't Know			

B14. What is the main purpose of production of the holding?	B15. Apart from agricultural production, what were the other economic activities of the household? (Multiple response)	B16. What is the MAIN source of income for the household?	B17. How much is the contribution of agriculture to the total household income?
1=Producing only for sale	A=Support activities to agriculture and post-harvest crop activities	01=Subsistence Farming	0=NONE (For a livestock farming household, if livestock is still too young (kids or calves only))
2=Producing mainly for sale with some own consumption	B=Hunting, trapping, and related service activities	02= Cash Crop	1=Less than a quarter
3=Producing mainly for own consumption with some sales	C=Forestry and logging	03= Livestock	2=A quarter to less than a half
4=Producing mainly for own consumption	D= Fishing and aquaculture	04 = Livestock Products	3=A half to less than three-quarters
	E= Manufacturing - Processing of agricultural products (agro-processing), Handicrafts	05= Remittance/Transfers	4=Three-quarters to less than all
	F= Wholesale and retail trade, repair of motor vehicles and motorcycles	06 = Wage/Salary	5=All income
	G=Hotels and restaurants (excluding agrotourism)	09= Social Grant	
	H=Agrotourism	13 = Other (Specify).....	
	Q=None		
	X= Other (specify.....)		

Holder ID (from Section B11)	C1_1. How many fields does (Holder) operate? (If B11=1 or 3)	C1_2. Field No.	C1. Where is the field located? 1= Within PSU 2= Outside PSU but within District	C2. What is the Land use (LU) type for this field? (Refer to codes)	C3. What is the area of the field by land use in acres? (Holder Estimate)	C4. What is the tenure of the land? 1= Inherited 2= Purchased 3= Community land 4= Use right from Local Authority 5= Sharecropping 6= Borrowed 7= Rented 11= Other (Specify...) End of question for fallow fields	C5. What were the soil conservation measures used in the field? (multiple response) A= Terraces/Contour B= Cover Cropping C= Crop Rotation D= Conservation Agriculture Q= None X= Other (specify).....	C6. Check C2, if holder has: 1. Temporary crops only, Continue to Cii; 2. Permanent Crops only, Skip to Ciii; 3. Both Temporary and Permanent Crops Continue to Cii and Ciii

Holder ID (from Section B11) CAPI (INCLUDE NAME OF HOLDER FOR EASY ADMINISTRATION OF QUESTIONNAIRE)	C1_2. Field No.	C7_1. Is this (field) Pure (Compact) stand or mixed? 1= Yes, pure 2= Yes, mixed	C7. What type of crop is planted on the field? (See Crop Codes)	C9. What proportion of the area was planted to temporary crops? 01=1/4 of field 02=1/2 of field 03=3/4 of field 04=Whole field	C10. What proportion of the area planted was harvested? 00=None 01=1/4 of field 02=1/2 of field 03=3/4 of field 04=Whole field If None Skip to next Field	C11. What was the purpose for harvested crop? <i>Multiple response)</i> A=Food for human consumption B=Feed for animals C=Biofuels X=Other uses (Specify)	C12. Was the area harvested fertilized? 1= Yes 2= No If no skip to C14_1	C13. What type of fertilizer was used? (Refer to codes)

Ciii: Land under Permanent Crops during 2019/2020 Agricultural Year. If a field is planted to more than one crop, field number must be divided by each crop

Holder ID (from B11) CAPI (INCLUDE NAME OF HOLDER FOR EASY ADMINISTRATION OF QUESTIONNAIRE)	C1_2. Field No.	C14_1. Is this field Scattered or Compact? 1= Scattered 2= Compact	C14. What was the type of tree planted on the field? (See tree codes) Check if C14_1=1 Skip to C21	C15. What was the total number of trees in compact plantations?	C16. What proportion of the area was planted to compact plantations? 01=1/4 of field 02=1/2 of field 03=3/4 of field 04=Whole field	C17. Was the area planted fertilized? 1= Yes 2= No (If No Skip to C19)	C18. What type of fertilizer was used? (Refer to codes)	C19. What was the total number of bearing trees in compact plantations? 01=Food for human consumption 02=Feed for animals 03=Biofuels 05=Other uses (Specify)	C20. What was the purpose for harvested crop? 01=Food for human consumption 02=Feed for animals 03=Biofuels 05=Other uses (Specify)	C21. What was the total number of trees in scattered plantations? Write 00 if none
1										
2										
3										
4										
5										

Codes for Temporary Crops (C7)	Codes for Permanent Crops (C14)	Land Use Codes(C2)	Codes for Types of Fertilizer(C13 and C18)
A=Maize	A= Apple	01= Land under temporary crops	1= Mineral fertilizers (Inorganic fertiliser)
B=Wheat	B= Peach	02= Land under temporary meadows and pastures	2=Organo-mineral fertilizers
C=Sorghum	C= Grape	03= Land temporary fallow	3= Organic fertiliser
D=Beans	D= Pear	04= Land under permanent crops	4=Biofertilizers

E=Peas	E= Apricot	05= Land under permanent meadows and pastures	5=Manure
	F= Plum	06= Land under farm buildings and farmyards	9=Other organic materials to enhance plant growth
	G= Quince	07= Forest and other wooded land	
	H= Orange	08= Area used for aquaculture (including inland and coastal waters if part of the holding)	
I=Cabbage	I= Pomegranate	09= Land under temporary and permanent crops	
J=Tomato	J=Nectarines	013= Other area not elsewhere classified	
K=Spinach	K= Cherry		
L=Carrots	L= Blueberries		
M=Sepaile	M=Raspberry		
N=Rapa	N=Fig		
O=Beetroot	O= Chest Nuts		
P= Potatoes	P= Lemon		
Q=Onion	Q= Olives		
R=Lettuce	R= Prickle pears		
S=Spring onions			
T=Green pepper	X= Other (Specify)		
U=Bell pepper			
V=Pumpkin			
X= Other (Specify....)			

Civ: Production and disposition of crop products (sum of All crops from individual holders)
(C23=C25+C27+C28+C29+C30+C31+C32+C33)

Holder ID (from B11)	C22. Crop Code (refer to crop codes)	C23. What was the quantity harvested? (Response in kg) Enter 00 if no harvest and skip to next crop	C24.	C25. What quantity of unprocessed crop harvested was sold? (If no sale, record 00 and skip to C27)	C26. To whom was quantity mostly sold to? 1= Govt. organizations (through auction sales) 2=Parastatals 3= Private trader local market village 4= Private trader district market 5= Private trader at farm gate 6= Development Partners 7=NGOs 8= Neighbour/Relative 11= Other, specify
01					
02					
03					

Production and disposition of crop products Cont'd

Holder ID	Crop Name	Crop Code <i>(refer to crop codes)</i>	C27. What quantity was processed for sale? (if none record 00).	C28. What quantity was used for animal feed? (if none record 00).	C29. What quantity was given to: (if none record Q). A. Land lord / proprietor B. For labour C. Friends/relatives D. Exchange for other goods Q. None X. Others (specify)	C30. What quantity was consumed by household? (including that before harvest)	C31. What quantity was used for seed? (if none record 00). Not applicable to fruits and vegetables	C32. What Quantity was stored/ currently in storage? (if none record 00).	C33. How much was lost after harvest (%)? (Holder estimate) Write 00 if none then skip C34 to D1	C34. Where did MOST losses occur? 1= on the field 2= during the storage 3= during the transport 4=Loss at Processing 5=Loss at Packaging 6=Loss at Sales 8 = Others
01										
02										

SECTION D: AGRICULTURAL PRACTICES (THEME 6)

Holder ID (From B11) CAPI (INCLUDE NAME OF HOLDER FOR EASY ADMINISTRATION OF QUESTIONNAIRE)	D1. Which of the following seed inputs did (holder) use? 01=Yes 02= No (if no, skip to next input) Multiple response	D2. What was the main source of seeds?	D3. Which of the following fertilizer inputs did (holder) use? 01=Yes 02= No If none skip to D5 Multiple response	D4. What was the main source of fertilizer used?	D5. Which of the following pesticides inputs did (holder) use? 01=Yes 02= No If none skip next holder Multiple response	D6. What was main source of Pesticides?
	A. Self-production		A= Mineral fertilizers (Inorganic fertilizer)		A. Insecticides	
	B. Local seeds	1=Own	B=Organo-mineral fertilizers	1=Own	B. Herbicides	1=Own
	C. Improved seeds	2=Exchanges within community	C= Organic fertilizer	2=Markets	C. Fungicides	2=Markets
	D. Hybrid seeds	3=Markets	D=Biofertilizers	3=Cooperatives	D. Rodenticides	3=Cooperatives
	E. Genetically Modified (GM) seeds	4=Seed company	E=Manure	4=Government	Q=None	4=Government
	F. Seedlings	5=Donation	Q=None	5=NGOs	X. Other pesticides (Specify...)	5=NGOs
		6=Cooperatives	X=Other organic materials to			

			enhance plant growth			
		7=Government				
		8=NGOs				

Holder ID (From B11) CAPI (INCLUDE NAME OF HOLDER FOR EASY ADMINISTRATION OF QUESTIONNAIRE)	Field No.	E3. What was the main source of irrigation water? <i>(Refer to codes)</i>	E4. What was the main method of irrigation used? <i>(Refer to codes)</i>	E5. What area was irrigated (acres)?
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

(E2)

Reasons for not Irrigating

- 01 No irrigation System
- 02 Inadequate Water
- 03 Adequate rains (no need)
- 09 Other (Specify) *(for each field)*

(E3)

Source of Irrigation Water

- 1= Surface water River /Lake/Pond/Mountain *(by gravity)*
- 2= Surface water (River /Lake/Pond *(pump)*)
- 3= Dam /Reservoir /earth dam (Manual watering (buckets/cans)
- 4=Dam /Reservoir /earth dam (pump)
- 5= Ground water (Deep Well/Tube well) (Motor Pump)

(E4)

Irrigation Method

- 01 Gravity
- 02 Hand Pump
- 03 Motor Pump
- 04 Manual watering (buckets/cans)
- 07 Other (Specify) *(for each field)*

SECTION F: SERVICES FOR AGRICULTURE (THEME 7)

Fi: Extension Services

<p> Holders ID (From B11)</p>	<p>F1. Did the holder receive extension services during 2019/2020 Agricultural Year? 1= Yes 2= No (IF NO, skip to F5)</p>	<p>F2. Which of the following extension service providers did the holder interact with? (SELECT ALL THAT APPLY) A. MAFS veterinary staff B. MAFS agricultural extension officer C. Farmers' unions D. Local/INGO E. Fisheries F. Forestry G. Private sector Dealers H Environmental Protection Agency (EPA) X. Other</p>	<p>F3. Which of the following extension services did holder receive? (SELECT ALL THAT APPLY) A. Farm management B. Selection of crop C. Input use D. Credit E. Farm mechanization F. Livestock husbandry G. Plant protection H. Environmental conservation I. Marketing J. Water irrigation and drainage K. Nutrition X. Other</p>	<p>F4. Which of the following extension service providers best satisfied the holder's need? (SELECT ALL THAT APPLY) A. MAFS veterinary staff B. MAFS agricultural extension officer C. Farmers' unions D. Local/INGO E. Fisheries F. Forestry G. Private sector Dealers H. Environmental Protection Agency (EPA) I. Nutrition Q. None. X. Other (Note: evaluate only the selected responses in F2.)</p>	<p>F5. Did the holder receive any agricultural related information? 1= Yes 2= No IF NO, GO TO SECTION F8</p>	<p>F6. What type of information did holder receive? (SELECT ALL THAT APPLY) A. Weather B. Crop varieties C. New agricultural practices D. Farm machinery E. Credit facilities F. Plant diseases and pests G. Marketing H. Livestock husbandry & diseases I. Agronomic practices J. Water & Irrigation K. Fish farming L. HIV/AIDS M. Nutrition X. Other</p>	<p>F7. What was the MAIN source of information? 01= Radio 02= Television 03= Internet 04= Newspaper 05= Agric. Magazines/Bulletins 06= Extension officers 07= Farmer to farmer 08= Farmers' associations 09= Agric. show/exhibitions 10= Neighbour 15= Other (Specify...)</p>
01							
02							
03							

Fii: Access to Agricultural Credit/Loan

Holder ID (From B11)	F8. Did this holder apply for a Credit/Loan for agricultural purposes in the last 5 years? 1= Yes 2 = NO, Skip to F15	F9. Was the credit/loan granted? 1= Yes 2 = No If No, Skip to F14	F10. What was the MAIN Source of Credit/Loan received during last 5 years? 01= Commercial Banks 02= Microfinances institutions 03= Farmers' Union 04= Input supplier 05= Money lenders 06= Self-help group 07= Government 08= Cooperatives 09= NGO 10= Family and friends 15= Other	F11. What was the credit/Loan Period? 1= Less than 12 months 2= Between 12 and 36 months 3= More than 36 months 8= Others (specify)	F12. What was the MAIN purpose for the credit/Loan? 01= Agriculture labour 02= Seeds 03= Fertilizer 04= Agro chemicals 05= Farm implements and machinery 06= Irrigation structures 07= Livestock 08= Aquaculture (marine resources and fisheries) 09= Trading agricultural produce 10= Tractor 11= Borehole 12= De-bushing (clearing of land) 13= Threshing 18= Other agricultural purpose (Specify)	F13. What was the MAIN Type collateral security? 0= No collateral 1= Land title 2= Crops 3= Livestock 4= Salary 5= Third party 6= Property (Movable/Immovable) 7= Investment 11= Other (specify)	F14. Why was the credit/loan not granted? (MAIN Reason) 1= Lack collateral security 2= Not profitable 3= Income too low 4= Previous debt problems 5= Could not get a guarantor 6= Amount applied for too high 7= Inappropriate purpose of loan 8= Did not meet requirements 9= Late application 12= Other	F15. What were the reasons for not seeking credit/loan? 01= No need for credit 02= Unavailability of lending facilities 03= Interest too high 04= Negative Past experience 05= Unaware of the service 09= Other (specify)
01								
02								
03								

SECTION G: FARM IMPLEMENT AND ASSETS (household level)

Farm implements and assets used and owned by the household during 2019/2020 Agricultural Year				
Machinery/Equipment		G1. Did the holding use (Name of Equipment) during the past 12 months? 01=Yes 02= No <i>(If no, go to next equipment)</i>	G2. What was the source of ownership? 1=Owned solely by the holder 2= Owned by a member(s) of the holder's household 3=Owned by the household jointly with other households 4=Provided by the landlord 5=Provided by other private holders (excluding cooperatives) 6=Provided by a cooperative (farmers' Union) 7=Provided by a private agricultural service establishment 8=Provided by a government agency 9=Rented 10=Borrowed 14=other (specify)	G3. How many of the equipment used were owned by the holding? (If G2=1)
S/N	Machinery	Crops	Livestock	
1	Forage Harvester			
2	Combine Harvester/			
3	Truck/Other Vehicles			
4	Generator			
5	Sprayer			
6	Incubator			
7	Ridger			
8	Scotch Cart			
9	Tractor Seed Planter			
10	Tractor			
11	Tractor Plough			
12	Threshers			
13	Power Tiller			
14	Milking Machine			
15	Disks Harrower			
16	Water Pump (Pompi)			
17	Honey Extractor			
18	Drip Irrigation			
19	Other (specify).....			
	Manual			
20	Hoe			
21	Digging Fork			
22	Rake			
23	Spade			
24	Hand Pump And Other Hand Irrigation Devices			
25	Transplanter			
26	Sprayer (Knap Sack)			
27	Ox-Plough			
28	Seed Planter			
29	Scotch Cart			
30	Disks Harrower			
31	Cultivator (Sekofolo)			
32	Yoke			
33	Other (specify)			

SECTION H. Non- Residential Buildings (Holding Level)

H1. Did the holding use non-residential building for agricultural purposes during 2019/2020 Agricultural Year?
01= Yes 02= No **(If No Skip to Section J)**

Household member ID (From B1, Col 1)	J2. Names of Household member	J3. Was (name) male or female? 01=Male 02=Female	J4. What was (name's) age? <i>(In completed years)</i>	J5. Did (name) work on the holding during the past agricultural year? 1= Yes 2= No If No, end interview for member	J6. What was (name's) working time on the holding? <i>(Refer to codes)</i>
ID (CAPI generated)	H2. What was the purpose of the non-residential building? 1=Keeping livestock other than poultry 2=Keeping poultry 3=Storing agricultural products 4=Mixed or other purposes		H3. What was the Area (acres) for each type?	H4. What is the tenure of the building? 01=Owned 02=Rented 03=Borrowed 07=Other	
1					
2					

SECTION J: LABOUR INPUT (WORK ON THE HOLDING) (THEME 9)

Ji: Labour Input of Household Members

Ji. Did any member of the household work on this holding in the past agricultural year? Yes= 1, No=2 **if No skip to J7**

Jii: Labour Input of Employees

J7. Did this holding have any employees for the past agricultural year? Yes= 1, No=2 **if No skip to Next Section**

Codes for Working Time	Codes for Type of Service	Codes for Form of Payment	Codes for Terms (Nature) of Employment
01= Full-time work for less than 1 month in a Year	01=Tree pruning	01= Money	01= Temporary
02=Full-time work 1-3 months in a Year	02= Crop harvesting	02= Farm produce	02= Permanent
03=Full-time work 4-6 months in a Year	03= Weeding	03= Exchange of Labour	
04= Full-time work 7+ months in a Year	04= Planting	05= Other forms of in-kind labour	
05= Part-time work for the less than 1 month in a Year	05= Applying pesticides		
06 = Part-time work 1-3 months in a Year	06= Herding		
07= Part-time work 4-6 months in a Year	07= Sheep/goat Shearing		
08= Part-time work 7 + months in a Year	08= Farm Administrations		
	11= Other (Specify)		

SECTION K: LIVESTOCK (THEME 5) (Holding)

Employee ID (CAPI generated)	J8. Names of farm employees	J9. Was (name) male or female? 01=Male 02=Female	J10. What was (name's) age? <i>(In completed years)</i>	J11. What was (name's) terms (nature) of employment?	J12. What was (name's) working time on the holding? <i>(Refer to codes)</i>	J13. What types of services were provided by (name)?(multiple response) <i>(Refer to codes)</i>	J14. Did (name) work for pay? 01=Yes 02= No <i>(Skip to Next employee)</i>	J15. What was the form of payment? <i>(Multiple response)</i> <i>(Refer to codes)</i>
Ki. Type of Livestock	K1. Does the holding keep/rear any livestock? <i>(Note that the reference period for the livestock is the day of enumeration)</i> 01= Yes 02= No <i>(Multiple response)</i>					K2. What is MAIN the type of livestock system for the holding? <i>(If Ki=01to06)</i> 01= Grazing System 02= Industrial System 03= Mixed System		
01=Cattle								
02=Sheep								
03=Goats								
04=Horses								
05=Donkeys								
06=Mules								
07=Pigs								
08=Rabbits								
09=Chicken								
10=Duck								
11=Geese								
12=Turkey								

Kii. CATTLE

Type of Cattle	K3a. Did the holding keep any Improved Cattle (Exotic)? 1=Yes 2=No if No, skip to K3d	K3b. How many improved cattle does the holding have?	K3c. How many are owned by female holders?	K3d. Did the holding keep any indigenous cattle? 1=Yes 2=No if No, skip to next type	K3e. How many indigenous cattle does the holding have?	K3f. How many are owned by female holders?	K4. How many cattle are kept mainly for meat/milk/breeding/draught Power?			
							Meat	Dairy	Breeding	Draught Power
	A	B	C	D	E	F	B	C	D	
Females Calves under 1 Year										
Female Calves 1 Year but less than 2 Years										
Males Calves under 1 Year										
Male Calves 1 Year but less than 2 Years										
Bulls (2 years and over)										
Cows (2 years and over)										
Oxen										
Total Cattle										

Kiii. SHEEP

Type of Sheep	K5a. Did the holding keep any Improved Sheep (Exotic)? 1=Yes 2=No if No, skip to K5d	K5b. How many improved sheep does the holding have?	K5c. How many are owned by female holders?	K5d. Did the holding keep Sheep? 1=Yes 2=No if No, skip to next type	K5e. How many indigenous sheep does the holding have?	K5f. How many are owned by female holders?	K6. How many sheep are kept mainly for meat/wool/breeding?		
	A	B	C	D	E	F	Meat	Wool	Breeding
	A	B	C	D	E	F	A	B	C
Improved Sheep (Exotic)				Indigenous Sheep					
Females Sheep under 1 Year									
Female Sheep 1 Year and above									
Males Sheep under 1 Year									
Male Sheep 1 Year and above									
Total Sheep									

Kiv. GOATS

Type of Goats	K7a. Did the holding keep any Improved Goats (Exotic)? 1=Yes 2=No if No, skip to K7d	K7b. How many improved goats does the holding have?	K7c. How many are owned by female holders?	K7d. Did the holding keep any Improved Goats (Exotic)? 1=Yes 2=No if No, skip to next type	K7e. How many improved goats does the holding have?	K7f. How many are owned by female holders?	K8. How many Goat are kept mainly for meat/mohair//breeding?		
							Meat	Mohair	Breeding
	A	B	C	D	E	F	A	B	C
	Improved Goats (Exotic)			Indigenous goats					
Females Kids under 1 Year									
Female Goats 1 Year and above									
Males Kids under 1 Year									
Male Goats 1 Year and above									
Total Goats									

Kv. PIGS

Type of Pigs	K9a. Did the holding keep any Improved Pigs (Exotic)? 1=Yes 2=No if No, skip to K9d	K9b. How many improved pigs does the holding have?	K9c. How many are owned by female holders?	K9d. Did the holding keep any indigenous Pigs? 1=Yes 2=No if No, skip to next type	K9e. How many indigenous pigs does the holding have?	K9f. How many are owned by female holders?	K10. How many pigs are kept mainly for meat/breeding?							
							A	B	C	D	E	F	Meat	Breeding
													A	B
Piglet less than 3months														
Pigs 3months to 6months														
Pigs Over 6months														
Total														

Kvi. EQUINES

Type	K11. How many male/female equines does the holding own, raise or manage?		K12. How many of each are owned by female holders?		K13. How many equines are kept mainly for transport/draught power/breeding?		
	Male	Female	Male	Female	Transport	Breeding	Draught Power
					A	B	C
Horses							
Donkeys							
Mules							

Kvii. POULTRY

Type of Poultry	K14. What is the number of poultry kept by the holding?	K15. How many are owned by female holders?	K16. How many are kept mainly for meat/eggs/ breeding		
			Meat	Eggs	Breeding
Improved Chicken					
Koekoek					
Other Improved					
Sub-Total					
Indigenous Chicken					
Total Chicken					
Ducks					
Geese					
Turkeys					
Grand Total					

Kviii RABBITS

	Male	Female	Total
K17. How many male/female rabbits does the household own, raise or manage?			
K18. How many are owned by female holders?			

Kix. Livestock Feeding Practices during 2019/2020 Agricultural Year		
Type	Improved	Unimproved
Cattle		
Sheep		
Goats		
Pigs		
Horse		
Donkeys		
Mules		
Poultry		
Rabbits		

Type of Feeding	
01	Forages/Roughages
02	Agro-industrial by-products
03	Swill/Household Waste
04	Supplements/Additives
05	N/A
09	Other (Specify)