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RAPID MARKET APPRAISAL FOR SMALL RUMINANT VALUE CHAINS
FINAL REPORT



PRISM PROJECT
July 2022

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Acronyms

AHS	:	Agricultural Households Survey
DMRS	:	Domestic Market Recapturing Strategy
DRC	:	Democratic Republic Of Congo
EDPRS	:	Economic Development and Poverty Reduction Strategy
ENABEL	:	Belgian Development Agency
GDP	:	Gross Domestic Product
HHS	:	Households
ICT	:	Information and Communication Technologies
IFAD	:	International Fund for Agricultural Development
LMP	:	Livestock Master Plan
MIGEPROF	:	Ministry of Gender and Family Promotion
MIGEPROF	:	The Ministry of Gender and Family Promotion
MINAGRI	:	The Ministry of Agriculture and Animal Resources
MiR	:	Made in Rwanda
NGO	:	Non-Governmental Organization
NISR	:	National Institute of Statistics of Rwanda
NST	:	National Strategy for Transformation
PRISM	:	Partnership for Resilient and Inclusive Small livestock Market
PSTA	:	Plan Stratégique pour la Transformation de l'Agriculture
RAB	:	Rwanda Agriculture and Animal Resources Development Board
RCA	:	Rwanda Cooperative Agency
RCVD	:	<u>Rwanda Council of Veterinary Doctors</u>
RDB	:	Rwanda Development Board
SPIU	:	Single Project Implementation Unit
SWOT	:	Strengths, Weaknesses, Opportunities and Threats

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1. EXECUTIVE SUMMARY

Small ruminants are important for income generation of the household and contribute to family nutrition. As per the Agriculture Households Survey (AHS), 2020 in Rwanda, there are 1,745,806 goats and 420,365 sheep.

Small ruminants are easy to grow and can adapt in different grazing places and all climatic conditions of Rwanda. Particularly goats prefer moderate hot places compared to sheep which are favorable to colder places like Northern and Western Province.

The biggest market of small ruminants is made of hospitality sector but also households during festive seasons. Small ruminants are bought also by other farmers for breeding reasons without ignoring a portion of own-consumption by breeders themselves.

Rwanda exports small ruminants' products whereby the main market of live animals and meat is DRC. The numbers range between seven and ten thousand goats and four to five thousand sheep per week. Skins are mainly exported to Kenya.

Farmers stressed the issue of low prices received on their animals when they sell them to neighbors or other people. But also, the distortion between the farmer and the price at the end market for export or last consumer is big.

It was observed that small Ruminants farmers are not formally organized. The actual small ruminants value chain is “trader” dominated and many “intermediaries in-between”. A very low value addition is made during the sale of goat products locally and abroad. For exports, they are mostly exported live. The new structure of the value chain is only possible if farmers are more organized and business conducted in a “win-win situation” whereby the benefit of the farmer is increased allowing him having stake in modern abattoirs and modern hides and skin processing units.

The main recommendations concern mainly:

- Organizing small ruminants' farmers
- Private sector engagement
- Market linkage facilitation
- Genetics improvement
- Availing and improving feeds of small ruminants

- More access to veterinary services
- Promotion of value addition products
- More access to finance
- Attracting investment and education farmers on entrepreneurship
- Identification and Support “anchor firms” in small ruminant’s value chain
- Distribution of small ruminants
- Small ruminants sector planning
- Youth engagement in small ruminants’ value chain

2. INTRODUCTION AND BACKGROUND

2.1. Introduction

Rwanda aspires to become an Upper-Middle Income Country (UMIC) by 2035, and a High Income Country (HIC) by 2050 (Vision 2050). That will be achieved through focusing on transformation of the entire economy and society. The Vision expresses the country's ambitions and constitutes the drive towards self-reliance and competitiveness. That vision aspires also for the agriculture to be Modern market-oriented and climate resilient.

Different strategies have been developed to support the agriculture and livestock in general to thrive, namely Strategic Plan for Agricultural Transformation, the National Agricultural Policy, the livestock master plan and others.

For the agribusiness to be competitive, some incentives are provided and infrastructure developed. It is in that framework that, for instance, the income from the agriculture and livestock activities has some income tax incentives. The article 21 of the law N° 016/2018 of 13/04/2018 establishing taxes on income zero taxes agriculture revenue of less than twelve million Rwandan francs value.

The Government of Rwanda has acknowledged livestock as an important part in achieving food security for Rwanda, especially in terms of the protein requirements and also its potential role in poverty alleviation. Livestock is also one of the key pillars for economic growth and poverty reduction. If the agriculture sector contributes more than 30% to the country GDP, livestock share is very important.

This study aims at “**market appraisal for small ruminant value chains in Rwanda**”, namely goats and sheep. It has been financed by IFAD through RAB/PRISM project. The study focused only on market appraisal of those two animals.

2.2. About RAB/PRISM project

PRISM (Partnership for Resilient and Inclusive Small livestock Market) is a project of the Ministry of Agriculture and Animal Resources (MINAGRI) implemented under the Rwanda Agriculture and Animal Resources Development Board (RAB) through the Single Project Implementation Unit of IFAD Funded Projects (SPIU-IFAD).

PRISM is constituted of two complementary interventions, supported respectively by IFAD and ENABEL, whose content and strategies have been aligned, and which will be implemented jointly, under a common implementation mechanism.

At production level, IFAD-supported interventions will target primarily smallholder livestock holdings and vulnerable households, while ENABEL will engage and support larger scale commercial and industrial actors.

In terms of value chains, IFAD-supported interventions will target mainly the small ruminants, backyard pig and backyard chicken value chains, that correspond to its priority target groups, when ENABEL will concentrate on pig and poultry commercial value chains.

✓ **Goals and Development Objectives of the Project**

- The PRISM goal is to reduce poverty by empowering poor rural men, women and youth to participate in the transformation of the Rwanda livestock sector and to enhance their resilience. Specifically, the program seeks to increase competitiveness and profitability of the small livestock sector for the provision of quality products from smallholder producers to domestic and regional consumers
- The PRISM development objective is to improve food and nutrition security and incomes of poor rural households and through better performance of the targeted value chains.

The main expected outcomes at the end of PRISM project include:

- (i) Small livestock farmers are socially, technically and economically empowered
- (ii) Value chain actors' access improved inputs, services and output markets,
- (iii) Institutional and policy environment improved.

✓ **PRISM Target Groups**

The IFAD supported interventions will directly benefit a total of 26,355 poor rural households belonging to Ubudehe categories 1, 2 with the 'graduation approach' promoted with Heifer international and Ubudehe 3 through the 'productive alliances'. The programme will address three main target groups that will be reached through complementary approaches meant to support their participation in commercial and inclusive value chains: 23,400 poor and food insecure rural households (approximately 88,000 household members falling in Ubudehe categories 1 and 2); 1,425 market-oriented producers (mostly from Ubudehe categories 2 and 3) and 1,530 rural youth (at least 50% women; from Ubudehe categories 1,2 and 3).

✓ **Project area**

IFAD-funded interventions will be implemented in 15 Districts located in 3 provinces of **Northern:** (Musanze, Burera, Gakenke, Rulindo, Gicumbi); **Southern** (Ruhango, Huye,

Gisagara, Nyaruguru, Nyamagabe) and **Western** (Rutsiro, Ngororero, Nyabihu, Karongi, Nyamasheke).

ENABEL interventions will have a national coverage but will be concentrating on areas with higher potential for market-oriented poultry and pig production, and where the larger commercial producers are located such as Kigali, Rwamagana, Musanze, and Lake Kivu region (Rubavu and Rusizi).

2.3. Policy and Regulatory framework of small ruminants in Rwanda

The Government of Rwanda provides much consideration on small ruminants value chain. Starting from the National Strategy for Transformation (NST1), the PSTA-4, and other policies and strategies, it has been noticed how important is livestock sector and small ruminants in particular. Some country strategies, policies, agriculture related documents have inspired the development of small ruminants and/or oriented the way their markets have to be promoted in one or another way:

(i) Vision 2050

Vision 2020 came to an end by re-dream other aspirations aimed to accelerate country's development in all dimensions including agriculture where the country aspires a Modern market-oriented and climate resilient agriculture by 2050 (Vision 2050, p.10).

(ii) National Strategy for Transformation (NST1, 2017-2024)

In its 7-year government program, the government of Rwanda is committed to transform the livestock industry. Some of the targets include the establishment of a program to improve professionalization of livestock farmers and increase their output in terms of quality, volume and productivity. This will be achieved through: improving breeds by genetic research and animal health, promotion of local animal feed production, standardization in meat processing, and certification. The meat output is expected to increase from 138,231 MT (2017) to 175,164 MT in 2024.

The Government is also determined to put in place mechanisms to increase access to finance for farmers and strengthen the commercialization of crop and animal resource value chains by increasing private sector engagement, promoting market-oriented agri-businesses, and capturing greater in-country surplus and value addition.

(iii) National Agricultural Policy

The National Agricultural Policy emphasizes on the efforts to improve animal breeds, feed, health service, markets and values addition. Among policy actions, the promotion of small stocks is noticed.

(iv) Strategic Plan for Agricultural Transformation (PSTA4)

The PSTA-4 recognizes that the numbers and importance of pigs, poultry, and goats have been increasing and underlines the fact that based on the fact that small-ruminant is less feed-intensive, they are expected to have higher growth potential in the future. The strategy has set the produce from goats to grow from 13 MT in 2016 to 20 by 2024 and that of sheep to grow from 3 to 4 respectively.

(v) Rwanda Livestock Master Plan (2018 – 2023).

The LMP sets out the strategies, activities and investment budgets for better genetics, feed, and health services, as well as complementary policy support, which could help meet the national development plan targets and development objectives of Rwanda by improving animal productivity and total product output in the key livestock value chains for cow dairy, red meat-milk, poultry, and pork, as well as by contributing more substantially to national income or GDP (LMP, 2018).

(vi) Made in Rwanda Policy

The made in Rwanda policy which aims at recapturing domestic market and increasing exports considers the meat value chain as important. The MiR policy underlines the potential for value addition to Rwanda's economy which is estimated potential exports to DRC at more than \$50 Million. The meat is among targeted exports to that country but also mentioned among priority sectors: "With such criteria in mind, a list of priority sectors to be developed next has been highlighted. These sectors draw on core recommendations raised by the DMRS (such as sugar) but also other sectors not addressed by the strategy (e.g. meat)".

(vii) National Export Strategy II

The National Export Strategy II has attracted the attention on the Non-Traditional Exports. Among them the live animal and animal produce products such as milk, cheese, and meat are mentioned without specifying which type of meat to be focused on.

(viii) National food and nutrition policy

The main purpose of this strategy is to strengthen, expand and promote services and practices that result in household food security year-round. The importance of this strategic direction rests in the high potential to raising the nutritional status of agricultural household members

by improving food production quantity, diversity and promoting practices that result in more nutritious meals for the family. Home gardening can improve access to vitamin and mineral rich vegetables and livestock holding can increase household availability of vitamin and mineral rich products, like eggs and meat.

This strategy recommends introduction of small livestock teaching in education by strengthening the curriculum and extracurricular activities including the use of gardening and small livestock as teaching learning resources. Also, MIGEPROF is recommended to mobilize NGOs which support poor families in fighting malnutrition to consider cows and small livestock. That will increase protein availability and provide a pathway to increased income for vulnerable families.

(ix) Competition and Customer Protection Law (N°36/2012 of 21/09/2012)

This law aims to encourage fair and robust competition in the economy by prohibiting anticompetitive practices, and protects the rights and interests of consumers by setting out standards for fair trading.

(x) Rwanda income tax law

The taxation of Rwanda eases taxes for agriculture sector by zero taxing income of produce of less than twelve million Rwandan francs value.

3. Technical Approach and Methodology

3.1. Objectives of the assignment

The main objective of this assignment is to support the small stock market analysis, identification of business opportunities and actively supporting small stock enterprises to access the profitable and sustainable market.

The specific objectives of this market assessment included:

- To analyze the markets both national and regional, with a specific focus on the DRC market;
- To assess the markets systems and characteristics of private and public actors;
- To assess the current small ruminant's value chain markets and identify current challenges existing as well as business opportunities available for smallholder farmers;
- To provide recommendations on how to facilitate/broker market-based interventions that focus on adding value to small ruminants' products and connecting smallholder farmers with the market;
- To assist in a practical analysis of market demand and supporting small livestock value chain actors (producers and processors, sellers) to access the profitable markets;
- To provide technical support to the Project staff, small livestock producers, processors, sellers and other stakeholders to identify strategic interventions for the small livestock Value Chain,
- To design the long-term marketing strategic plan to grant the sustainable markets of small livestock products.

3.2. Expected deliverables

During the process the inception report, draft report and the final report will be drafted. Considering the specific objectives, expected deliverables are of two categories in one report as follows:

Specific objectives	Expected deliverables
<ul style="list-style-type: none"> • To analyze the markets both national and regional, with a specific focus on the DRC market; • To assess the markets systems and characteristics of private and public actors; • To assess the current small ruminant's value chain markets and identify current challenges existing as well as business opportunities available for smallholder farmers; 	Market Assessment report

Specific objectives	Expected deliverables
<ul style="list-style-type: none"> • To provide recommendations on how to facilitate/broker market-based interventions that focus on adding value to small ruminants' products and connecting smallholder farmers with the market; • To assist in a practical analysis of market demand and supporting small livestock value chain actors (producers and processors, sellers) to access the profitable markets; • To provide technical support to the Project staff, small livestock producers, processors, sellers and other stakeholders to identify strategic interventions for the small livestock Value Chain, • To design the long-term marketing strategic plan to grant the sustainable markets of small livestock products. 	Marketing strategies

3.3. Scope of the assignment

✓ **Technical scope of the assignment:**

Technically this study limited to:

- A desk review of the already existing study reports.
- A desk review of the existing small livestock national policies, strategies, programmes and plans.
- Consult value chain actors (large and small stock producers and processors, as well as sellers of small stock products in the country).
- Drafting a detailed strategy to boost the marketing of small ruminants' products.
- Visit the potential small stock products' market niches in the country as well as those on cross – border markets (esp. DRC) to see how locally made products may penetrate them.
- Provide a detailed assessment of the products standards that are required on different markets, and on how to acquire them.
- Produce the long-term marketing plan for small ruminants' products.

✓ **Geographic coverage:**

The assignment focused on the PRISM project operations Districts. Other districts with high number of small ruminants as well as those bordering DRC were also considered. Purposively 11 Districts were hence selected which are Rusizi, Rubavu, Huye, Gisagara, Burera, Musanze, Gakenke, Nyagatare, Bugesera, Kayonza and Nyarugenge.

A questionnaire was used to conduct a survey among breeders involved in the small ruminants' value chain. As per AHS, 2020 the number of households that grow goats and sheep are 714,000 and 188,100 respectively. A total number of target populations is hence approximately 902,100. So the sample size determination was calculated by using Yamane formula:

$$n = \frac{N}{1+N(e)^2}$$

Where: n is the required sample size, N is the size of the population from which the sample is drawn from. e is the margin or proportion of error estimated at 5 %.

And the sample size will be:

$$n = \frac{902,500}{1+902,500 (0.05)^2} = 399 \text{ households}$$

A contingency of 10% was applied to take care of non-respondents. Then, the actual sample size was:

$$n = 399 + (399 * 0.1) = 438 \text{ Goats and sheep Farmers.}$$

Table 1: selected Districts

	District	Selection criteria	Sample	
			Goats	Sheeps
1	Rusizi	Cross - border trade	31	9
2	Rubavu	Cross - border trade	31	9
3	Nyarugenge	Urban District	31	9
4	Ngororero	Western Province	31	9
5	Huye	Southern Province	31	9
6	Bugesera	Eastern Province	31	9
7	Gakenke	Northern Province	31	9
8	Nyagatare	High number of goats	31	9
9	Kayonza	High number of goats	31	9
10	Burera	High number of sheep	31	9
11	Musanze	High number of sheep	31	9
Total			341	99

For each District, an urban and a rural sector was selected. Then in those two sectors, participants were selected using simple random sampling (SRS) system.

- **Key Informants Interviews (KIIs)**

KIIs with relevant staff from different institutions (central, local and NGOs) was conducted to understand their views on the subject under study.

- **Focus Group Discussions and value chain actors' interviews**

Focus group discussions were organized in each District with small ruminants' traders. Other actors in small ruminants were also visited and interviewed. They include slaughterhouses, hotels, bars, restaurants and other processors involved in that Value chain, i.e. hides and skins processors and wool processors.

Furthermore, Congolese counterparts operating in cross – border business between Rwandan and DRC were interviewed.

4. SMALL RUMINANTS' HUSBANDRY

4.1. Background

Globally, reducing poverty and ensuring livelihoods resilience among poor rural households promoted through the 'productive alliances' have been and remain a great consideration especially in developing countries. More than 47 percent of the African population is living on \$1.90 or less a day (Stoian et al,2016, World Bank,2020 and Mattes, R. 2020).

Inadequate access to pasture (about the area of land dedicated for livestock pasture around the world has declined by 1.4 million square kilometers) remains a serious problem facing a significant portion of the global population; about 60 percent of rural households in developing countries are estimated to fully or partly depend on livestock for their livelihoods (Zane et al,2021 and Kim et al,2022). Small livestock provide smallholders with milk, meat, eggs, wool and manure, making an important contribution to household food and economic security, and playing significant economic, social and cultural roles(IFAD,2021).

Small ruminants, predominantly sheep and goats, were among the first livestock to be domesticated for food and fiber. The primary agricultural products of these animals are milk and milk products, meat, wool, mohair, and cashmere (Herzog et al,2019).

From an economic perspective, small ruminant value chains have had a number of benefits. More importantly, small ruminant is likely to increase access to participation in commercial, inclusive value chains and market-oriented producers; contribute to the self-reliance and resilience of rural households, empowering them to meet their needs in a safe, sustainable and dignified manner; and finally contribute to their host economies (RISCHKOWSKY and ,2021).

Hence, Global Sustainable Development Goals (SDGs) demand priority for small ruminants to empower poor rural men, women and youth to participate in the transformation of the economy and to enhance their resilience. Ending poverty in rural areas is well highlighted in the recent SDGs. More explicitly, SDG-1 entails the need to end poverty in all its forms everywhere.

4.2. Small ruminants' husbandry in Rwanda

Small Ruminants, such as sheep and goats play an important role in the livelihoods of rural communities through provision of meat for food security and incomes. Goats and sheep

unlike cows are sold or bartered easily and can easily be turned into cash. In addition, goats contribute to family nutrition through milk, meat, cheese, ghee and butter as well as manure for crop production. Goats and sheep are thus very important to small scale farmers, that is why they are commonly referred to as “the poor man’s cow”. Goats and sheep contribute substantially to national economic development (GDP) (RLMP Team, 2017). Currently in Rwanda interest in this sector is growing although there is still a mismatch between demand and supply. Therefore, investment in goat and sheep production would be a wise and potentially profitable action. However, its profitability would depend on operational efficiency of the goat and sheep entrepreneurs (Uddin *et al.* 2010). Thus, knowledge of improved small ruminant management is essential.

As per the recent AHS 2020, in Rwanda there are 1,745,806 goats. The Eastern Province and Southern Provinces have the biggest number of 718,408 and 513,334 respectively whereby Western has 242,128, Northern 216,035 and Kigali 55,900 only. That is because goats like hot climate and savanna places rather than high mountains.

4.3. Goats’ husbandry in Rwanda

Table 2 : Number of goats in Rwanda

Gender	Age category	Provinces					Rwanda
		Kigali	South	West	North	East	
Male	Kids	7,163	59,733	28,217	26,380	96,525	218,018
	Buck/bulls	4,073	15,501	12,409	12,039	49,536	93,557
	Total	11,235	75,234	40,626	38,418	146,061	311,575
Female	Kids	8,761	99,441	43,590	39,308	134,144	325,244
	Does/namies	35,904	338,660	157,911	138,308	438,204	1,108,987
	Total	44,665	438,101	201,501	177,617	572,347	1,434,231
Grand total		55,900	513,334	242,128	216,035	718,408	1,745,806
Source: NISR, AHS 2020							

The number of goats has been growing in the early of the last decade before starting declining highly with its end.

Table 3 : Growth of number of goats from 2008 to 2020

Year	2,008	2,016	2,017	2,020
Number of goats in Rwanda	1,736,211	2,940,992	2,277,648	1,745,806

The following graph illustrates clearly the growth of ruminants in Rwanda in the last decade:

Figure 1 : Growth of number of goats in Rwanda

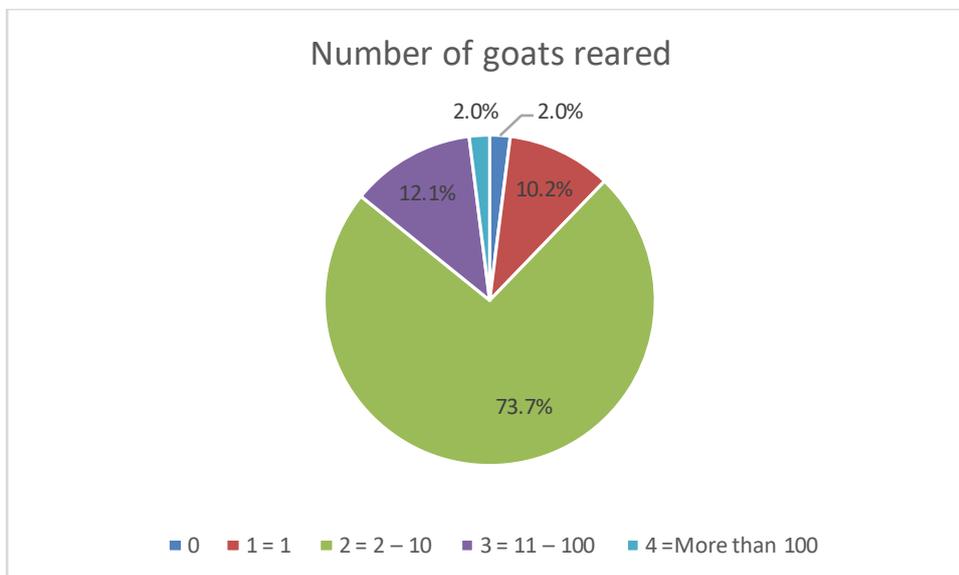


Source: Consultant design using data NAS 2008, Rwanda Livestock Master Plan, FY 2017/2018 AHS 2017 and 2020

Countrywide, 1.9 million agricultural households reportedly reared livestock in 2020 (NISR, AHS 2020). Among them 37.6 percent reared goats, i.e. 714,400 households. According to NISR large-scale farmer was defined as any individual person, institution, company, association or cooperative rearing at least 100 goats/sheep . In Rwanda 22 for big goats’ farmers were identified (NISR, AHS 2020).

That indicates that the goats are reared by small farmers. The survey conducted indicates that more than 10% rear only 1 goat while more than 73% rear between 2 and 10 goats, making 83% rearing less or equal than 10 goats.

Figure 2 : Number of goats reared by HHS



Source: Prism, 2022

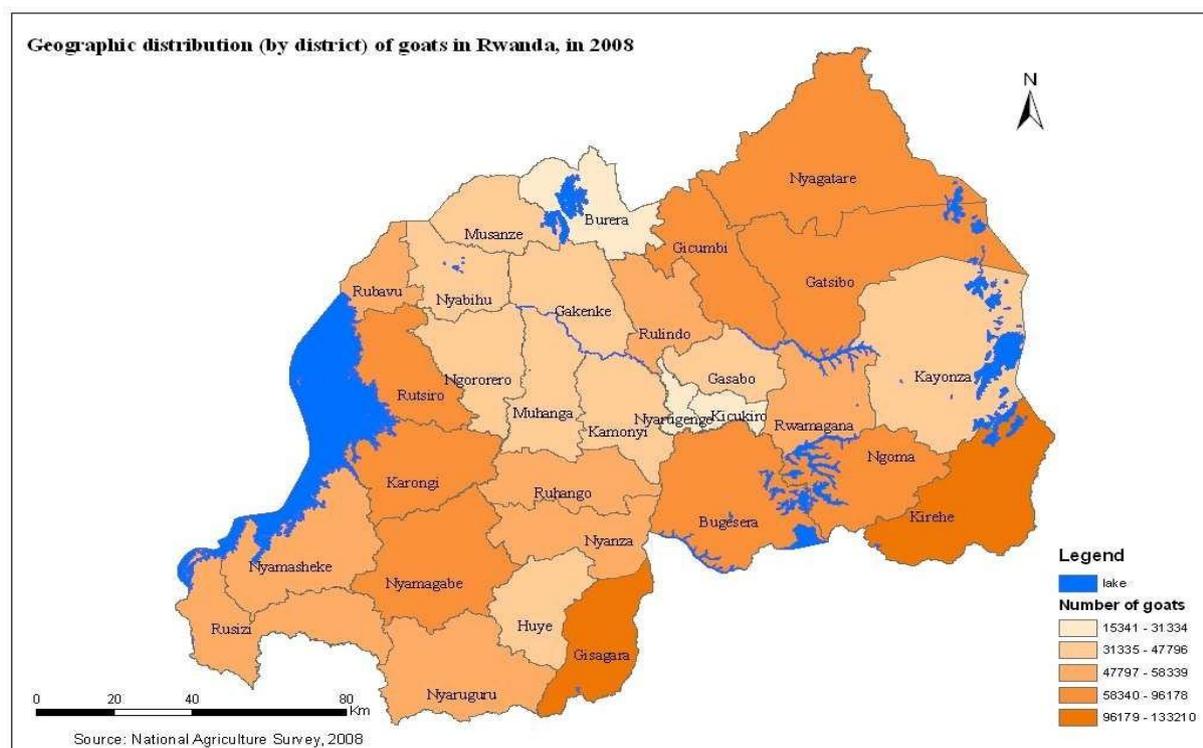


Figure 3 : Geographic Distribution of goats

Source : NAS, 2008

4.4. Sheep husbandry in Rwanda

As per the recent AHS 2020, in Rwanda there are 420,365 sheep. The Western Province and Northern Provinces have the biggest number of 160,162,408 and 178,971 respectively whereby Eastern has 36,234 Southern 41,035 and Kigali 3,752 only.

Table 4 : Number of sheep in Rwanda

Gender	Age category	Provinces					Rwanda
		Kigali	South	West	North	East	
Male	Ram/lamb	459	5,928	20,406	23,861	3,734	54,388
	Ram/tup	554	3,206	11,376	14,084	3,061	32,281
	Total	1,013	9,134	31,782	37,945	6,795	86,669
Female	Lam	651	7,532	27,472	28,020	5,473	69,147
	Ewe	2,088	24,569	100,907	113,006	23,978	264,548
	Total	2,739	32,100	128,380	141,026	29,451	333,696
Grand total		3,752	41,234	160,162	178,971	36,246	420,365

Source: NISR, AHS 2020

The number of sheep is reducing in the recent years as in the 5 years from 2016 to 2020 they reduced from 723,480 to 420,365.

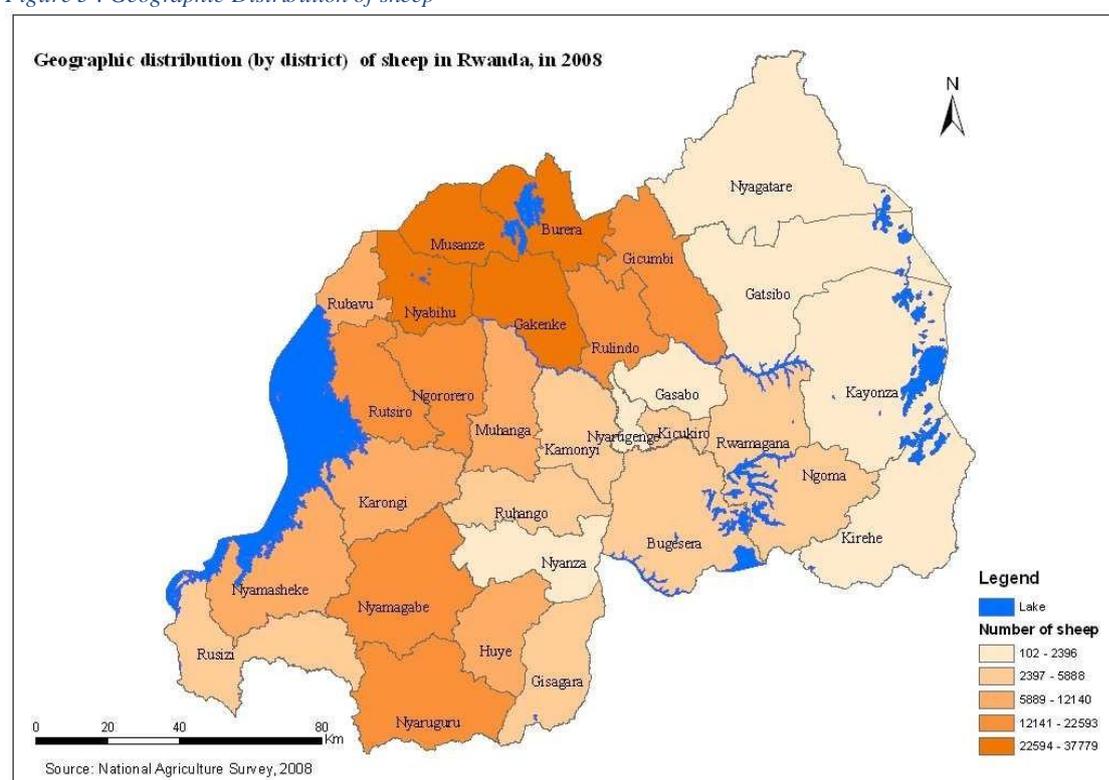
Year	2,008	2,016	2,017	2,020
Number of sheep in Rwanda	323,003	723,480	495,609	420,365

Figure 4 : Growth in number of sheep



Source: Consultant design using data NAS 2008, Rwanda Livestock Master Plan, FY 2016/2017 AHS 2017 and 2020

Figure 5 : Geographic Distribution of sheep



Source : NAS, 2008

4.5. Importance of goat production

Small ruminants have some advantages to farmers, for their relatively inexpensive production, suitability for grass-fed and small-scale operations, high return on investment, and market profitability.

There are some peculiarities with small ruminant production which make it more attractive.

The following are some of them as mentioned by experts (RAB, PRISM at al.):

- ✓ Small ruminants have a high economic value because the demand for red meat (chevon and mouton) is high.
- ✓ Goat and sheep production requires small initial capital investment.
- ✓ Small ruminants adapt easily to the diverse climatic conditions
- ✓ Small ruminants can be a quick source of household incomes and food security
- ✓ They have a high reproductive potential such as early maturity which enables quick build-up of a flock with low investment
- ✓ Small ruminants have a high turnover due to their short generation intervals.
- ✓ They have ability to thrive on low quality vegetation (shrubs, bushes, and tree leaves)
- ✓ They can be used also in conservation grazing; they can clear unwanted shrubs without degrading the environment.
- ✓ Small ruminants are less susceptible to infectious diseases and are therefore good for meat production.

4.6. Key problems and challenges to goat production in Rwanda

During the survey experts mentioned major challenges encountered in a goat production enterprise:

- ✓ Diseases
- ✓ Inadequate grazing land
- ✓ Inadequate feeds in terms of both quality and quantity
- ✓ Internal and external parasites
- ✓ Water scarcity especially in dry season for Eastern zone
- ✓ Thieves in some corners of the country
- ✓ Construction of the goat and sheep shelters.
- ✓ Inadequate knowledge and skill in managing small ruminant production as a business

4.7. Small ruminant species and their characteristics

Different authors including Researchers in Rwanda Agriculture and Animal Resources Board (RAB) reveal that there are various goat species for meat and milk production in Rwanda including but not limited to the indigenous the Small East African breeds, the exotics (Boer, Galla, and Saanen) and the crosses. Sheep found in Rwanda fall into local indigenous and merino breeds. They are described based on origin and physical characteristic such as color, hair, body size, ears shapes and length.

4.7.1. Goat species found in Rwanda

a) Local breed

Figure 6: Local breed



Distinctive features are mainly mixed colors of white, black and brown, the adult weight between 20-25kg live weights. They have a high fertility, are hardy, and have some resistance to parasitic infection.

They are brought from East Africa.

Local breed goat found all over the country. The photo has been taken in KARAMA, RAB Station

b) Boer

Figure 7: Boer



These are from South Africa with distinct features of creamy-white with reddish-brown patch on the neck and head with weight between 80 and 135kg. They are characterized by a high carcass dressing percentage, good adaptation to semi-arid conditions, and high milk yield. They also have excellent skin and are well-muscled with strong bones.

Cross of Boer Goat / / Picture taken during the survey, 2022



c) Galla

Figure 8: Galla

This is sometimes referred to as ‘boran or Somali goat’ which is a relatively large breed compared to Small East African Goats. The goat has a white skin all over the body with a black nose, feet and under tail. It weighs between 45 and 55kg for females and up to 70kg for males.

Galla goat/ Picture taken during the survey, 2022

d) Saanen

Figure 9: Saanen



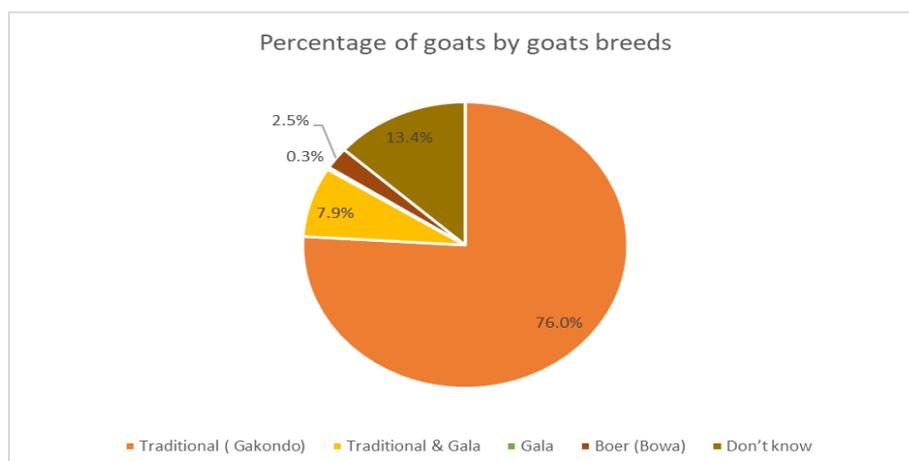
This is a dairy breed, characterized by white or light cream colour and erects ears. They are heavy milk producers and usually yield 3 to 4 percent fat milk.

Saanen goat/ Picture taken during the survey, 2022

e) Goats breeds found in Rwanda

During the survey conducted, it was found that traditional breeds are predominant as reared by 76%. Other breeds are cross of traditional and another breed which are 7.9%, pure Boer 2.5% and gala 0.3%. 13.4% who don't know exactly the type of breed they grow Those statistics show the need for breeds improvement.

Figure 10: % of goats by breed



4.7.2. Sheep species found in Rwanda

a) Local sheep

Figure 11: Local sheep



Indigenous sheep found in the different parts of the country

The breed is a hair sheep, meaning it does not produce wool, though it may have a shaggy coat of hair. It is also a fat-tailed sheep breed known for visibly large fat deposits in its tail and hindquarters.

b) Merino sheep

Figure 12: Merino breed



Merino sheep at Musanze District/ Kinigi (Flock of 340 merino sheep/ UmuzabibuMwiza)

The Merino sheep is a very important and popular breed of domestic sheep in Northern and Western Provinces. It is highly prized for its wool.

As a medium sized animal, average live body weight of the mature rams is around 80-105 kg. And the mature ewes on average weight around 55-80 kg. Merino sheep are wool sheep breed. They

are raised primarily for wool production. But they are also good for meat production.

The merino sheep are very hardy and strong animals, well adapted to almost all climates, excellent foragers. They are shorn at least once a year and their wool is of very good quality.

4.7.3. Crosses (local and exotic) or improved small ruminants (goats & Sheep)

These exotic and improved breeds are well adapted to tropical conditions; they grow faster and mature early. They are resistant to diseases, have a high fecundity (produce twins/triplets), a relatively high carcass dressing percent and well-muscled with strong bones. All these attributes lead to profitability. Thus, rearing improved goats and sheep leads to profit maximization of small ruminant enterprise.

4.7.4. The common small grazing practices in Rwanda

Small ruminants are kept under different production systems such as intensive, semi-intensive and extensive production systems depending on the availability of land.

a) Intensive system

This is the purely zero grazing system where the goat or sheep is continuously confined in an enclosed pen or stall and cut and carry fodder feeding (fresh chopped green fodder) is used. The flocks are usually small (2-10 goats/ sheep). They are sometime supplemented with crop-residues (banana peels, and potato vines).

b) Semi-intensive system

This is the most commonly adopted method of production especially in the rural communities with flock size of 1-10 goats/ sheep or more as shown. The goats/ sheep are tethered on pegs or tree stumps in the pastures during day. However, often tethering is combined with zero grazing/ and with herding.

c) Extensive system

This is a method commonly practiced in areas where land is owned communally as well as in pastoral communities. Basically, goats and sheep get herded together with cattle unattended in free range open grazing on natural pastures often without attendant. Herding is common among farmers who have exotic meat breeds (Boer and Merino sheep) and their crosses or medium number (10-20) of indigenous goats/ sheep.

4.7.5. Phases of production, selection and breeding of improved small ruminants

To succeed as an entrepreneur in the goat business you must be equipped with knowledge of goat production, reproduction, management and marketing.

Reproduction is the ultimate path through which expansion of flocks and the number of excess goats for sale expands. It reflects availability of meat and milk for food security and increased household incomes. The more reproductive does you have the faster the rate of flock growth, more goats for sale and consumption.

a) Phases of production

- ✓ Kids/ lamb and weaners
- ✓ Growing does and buck
- ✓ Breeding stock
- ✓ Pregnant does
- ✓ Lactating does

b) Selection and Breeding of Improved small ruminants

This involves the management of breeding (control of the conception and hereditary) in small ruminants and the different breeding techniques. In selection and breeding, screening goats and sheep for quality traits is made. These traits are genetically determined and controlled by the environment. Thus, to get the qualities needed, selection is done in the family with those qualities.

c) Characteristics of good breeds

- ✓ They provide high milk/meat or wool production
- ✓ They have good mothering ability
- ✓ They mature early and have faster growth
- ✓ They have large size/body weight
- ✓ They produce more than two off-springs (high fecundity)
- ✓ They are very tolerance to diseases and resistant to parasites

d) How to select good breeding buck

In selection of good bucks/ rams (male goats/ sheep), five parameters are considered:

- ✓ **Health conditions:**
 - Look out for its general body conditions. It must be healthy with sharp eyes
 - Two developed testicles and easily seen from the back.

- Testicles not too hard or too soft to touch and no wounds/or scars on the scrotum
- It should not be emaciated; rather should have heavy muscles over the loins, hips and upper fore limbs.
- It should have strong limbs without any deformity and not too fat with hooves in good condition.
- Avoid genetically polled bucks/ Rams (genetically hornless) because of the increased chances of sterility- sex genes are closely linked with the genes that determine horns
- Select bucks/ rams with high libido index (degree of activeness of the goat/ ewe). It should be i.e., interested in the females.

✓ **How to show libido index:**

Active buck/ ram is attracted to the smell, sight and sound of female goat. There are some signs which display high interest in females:

- Sniffing and licking female round the vulva (keep at least 2 females on heat around)
- Extending neck displaying flehmen-lip curling and urinate on his fore limbs and face
- Biting the side of doe and wool pulling.
- Pawing the doe; raising and lowering of one front leg in stiff legged striking motion
- Mounting and mating.
- A good buck should have the ability to protrude the glands and secrete

✓ **Examination of reproductive organ**

On examination of the reproductive organ:

- The prepuce should be free of pus, wounds and adhesion
- Scrotum should not be swollen and should have two testicles.
- A good buck should have odor (secreted by sebaceous scent gland at the base of horn) which make him attractive to females

✓ **History of herd/ goat**

The history of the herd or goat/ sheep is useful in determining the animal health. If there is a disease in the area, the animal becomes risky.

✓ **Freedom from transmissible and parasitic diseases**

This is an equally important consideration when selecting breeding bucks or rams.

4.8. Breeding setups or arrangements to enhance the breeding methods

In Rwanda, there are three main breeding methods:

- ✓ Hand mating
- ✓ Pen mating (for numbers between 10-20 goats/ sheep)
- ✓ Flock mating

Note: Inbreeding and line breeding (mating closely related members or related parents) is discouraged. Inbreeding leads to exposure of recessive genes which contribute to decline in average productive performances (inbreeding depression) such as reduced fertility, reduced fecundity, reduced disease resistance, poor growth rate, small offspring size, poor milk and meat and or wool.

Instead, cross breeding (mating of members of different breeds or unrelated parents) is recommended. Similarly, avoid mating polled goat/ sheep (goats/ sheep without horns) as this increases the probabilities of sex-linked genes (undesired genes). Farmers are also encouraged to frequently replace breeding males, restrict mating closely related goats/ sheep to cull and probably to castrate the undesired buckling/ ramming to control inbreeding.

4.9. Reproduction and management methods to optimize breeding

In this phase you have to be knowledgeable about the reproduction efficiencies like the reproductive efficiency (number of kids born per number of does/ ewes bred) and kid rearing efficiency (number of kids/ lambs per number of breeding does/ ewes).

Reproductive cycle and breeding management:

Estrus cycle is the period between one heat to the next heat. The average cycle is 20 days (18-24 days)

Does / ewes (female goats/ sheep) reach puberty between 4 and 12 months and breed preferably at 10 to 12 months (after reaching a 60-70% adult body weight of breed and after at least one pair of permanent teeth).

The ideal age is 14-17 month with pair of permanent teeth under extensive feeding system, although could be 12 months under intensive feeding system where goats/ sheep are well fed. Always avoid mating female goats/ sheep less than 12 months of age.

The breeder could improve the success rate of mating by preparing the breeding parents for the breeding season by flushing or giving them extra feed with concentrate supplementation

or using leguminous hay. Nutrition has a large effect on does/ ewes. A sudden availability of good feed for example can induce oestrus and ovulation rates and an increase in multiple births. In similar way nutrition levels can have dramatic effects on buck's libido, semen volume, sperm count per ejaculate, and percentage of live sperm, sperm motility, semen fructose concentration and percentage of abnormal spermatozoa.

4.10. Management of breeding buck/ rams

First and foremost, proper management of the breeding buck/ ram is vital to raise breeding buck/ ram with high libido and demonstrated breeding prowess. The buck or ram has greatest genetic impact on the herd and should be well taken care of at all times. It is important to observe proper feeding, good health and freedom from stress. Although proper selection of the breeding buck or ram cannot be overemphasized, genetic traits are the starting point. It is on this that proper management should be added to obtain the best response.

4.11. Record keeping in small ruminant business

Record keeping is neglected task of many farmers in rural and urban areas. It is hardly ever practiced forcing farmers to measure profits by intuition, losses by hunch and often failing to correctly assess the situation. Record keeping is mandatory thing for the farmer who wants to know exactly the profitability of each enterprise through actions taken in a timely way with regard to livestock breeding and disease immunization among others.

Keeping the information in one's memory is not reliable every one forgets. The documented or written records help to avoid loss of useful information. Record keeping is thus an essential part of good animal farm business management.

- **Purpose of record keeping:**

- ✓ On-farm records are essential in evaluating and improving the performance of the different livestock enterprises within a farm operation.
- ✓ A good record keeping system assists the farmer to make informed business and management decisions.
- ✓ Helps the farmer trace the origins of his/her animals and serve as a tool for selection of breeding animals. If records are used for selection purposes, comparisons can be made between animals of the same flock where conditions are constant
- ✓ Provides data for farm planning and budgeting. Accurate financial and production data help a producer make the necessary adjustments to operate more efficiently, plan

for the future and pinpoint weakness of a farm and allow the producer to take corrective action.

- **Type of records**

The value and relevance of the different types of records will vary with differing goat/ sheep production systems.

- ✓ **Health records:** These comprise morbidity, mortality, signs and symptoms, diagnosis, treatment and vaccinations.
- ✓ **Feed purchase records:** This is difficult to estimate on farms where animals graze, but for capital intensive farm businesses, such as finishing and fattening operations, the amount of concentrate fed, should be recorded to calculate profitability.
- ✓ **Mating records:** Sire, dam, and progeny identification is important in breeding, sale and culling decisions.
- ✓ **Lambing/Kidding records:** These include identity, dam ID, birth weight, date of birth, type of birth and sex.
- ✓ **Milk production records:** recording once weekly may suffice as this give an indication of total milk production. Therefore, in dual- purpose goats, or even in meat types, a random sample of lactating females may be selected for recording once a week for milk production.
- ✓ **Growth/weight and or wool records:** These are kept periodically by recording the body weight of animals or by wool production of animals.
- ✓ **Inventory:** This is the record of the animals on the farm and other assets.

4.12. Common diseases of small ruminants

There are some steps a farmer could take to prevent and control diseases on the farm. Some of the strategies to be adopted by farmers they include the following:

- ✓ Strategic deworming
- ✓ Vaccinations to booster herd immunity
- ✓ Spraying to control tick borne and trypanosomiasis
- ✓ Biosecurity measures (cleaning, isolation and disinfection)
- ✓ Prophylactic and curative treatments- for control of trypanosomiasis
- ✓ Vector control through for example use of traps
- ✓ Culling out of unproductive and chronic case i.e., mastitis cases

- ✓ Control of animal movement especially for infectious diseases i.e., foot and mouth disease
- ✓ Gradual change of diets to mitigate against the dietary conditions, for instance acidosis
- ✓ Routine management practices like hoof trimming to avoid overgrown hooves

The common diseases suffered by small ruminants are:

- Peste Des Petits
- Ruminants (PPR)
- Orf
- Goatpox
- Heart water
- Foot and mouth disease
- Mange
- Tetanus/Lockjaw
- Foot rot
- Pneumonia
- Worms
- Mastitis
- Brucellosis
- Trypanosomiasis
- Contagious Caprine Pleuropneumonia
- Enterotoxaemia
- Abscess or caseous lymphadenitis
- Pick eye/eyeinfection
- Diarrhea
- Lameness
- Neonataldiarrhea
- Rabies
- Rift valley fever
- Black quarter

4.13. Diseases suffered by small ruminants in Rwanda

Small ruminants suffer from those diseases mentioned above and most of them are treated at the level of more than 90%.

Table 5: Animal health and vaccination

Animal type		Percentage of animals		
		Animal suffered from the disease	Animal treated	Animals vaccinated
Goats	Exotic	37.5	53.5	0
	Cross	24.2	99.8	0
	Local	27.6	87.5	0
Sheep	Exotic	31	90.2	0
	Local	17.7	84.4	0

Source: NISR, AHS 2020

4.14. Challenges in small ruminants' production

4.14.1. Animal feed

The main challenge expressed by farmers, during the Survey conducted by PRISM, is feeding small ruminants whereby the related challenges expressed by respondents are small land

(65%), high cost of land (12%) and high cost of concentrates and supplements (3%). Animal feed is hence becoming a serious challenge.

4.14.2. Veterinary services

6% of respondents expressed low access to veterinary services.

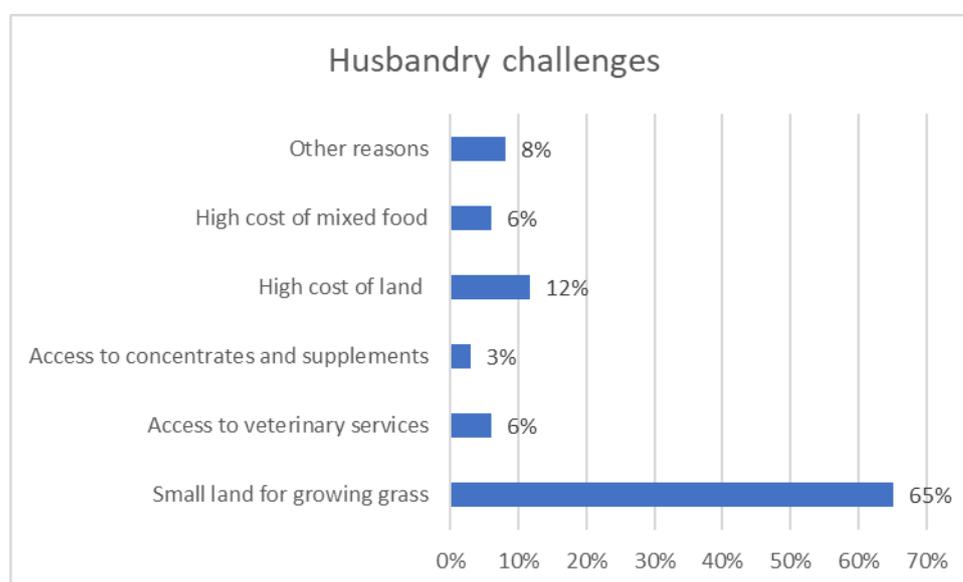
4.14.3. Other challenges

Other challenges expressed by farmers are:

- Robbery: Farmers expressed the issue of a growing number of small ruminants that are stolen. That issue was also expressed by different key interviewees. That has even pushed some farmers to sell all their animals to avoid them being stolen.
- Diseases: Other farmers expressed a challenge over their animals facing some diseases.

4.15. Husbandry challenges

Figure 13 : Husbandry challenges

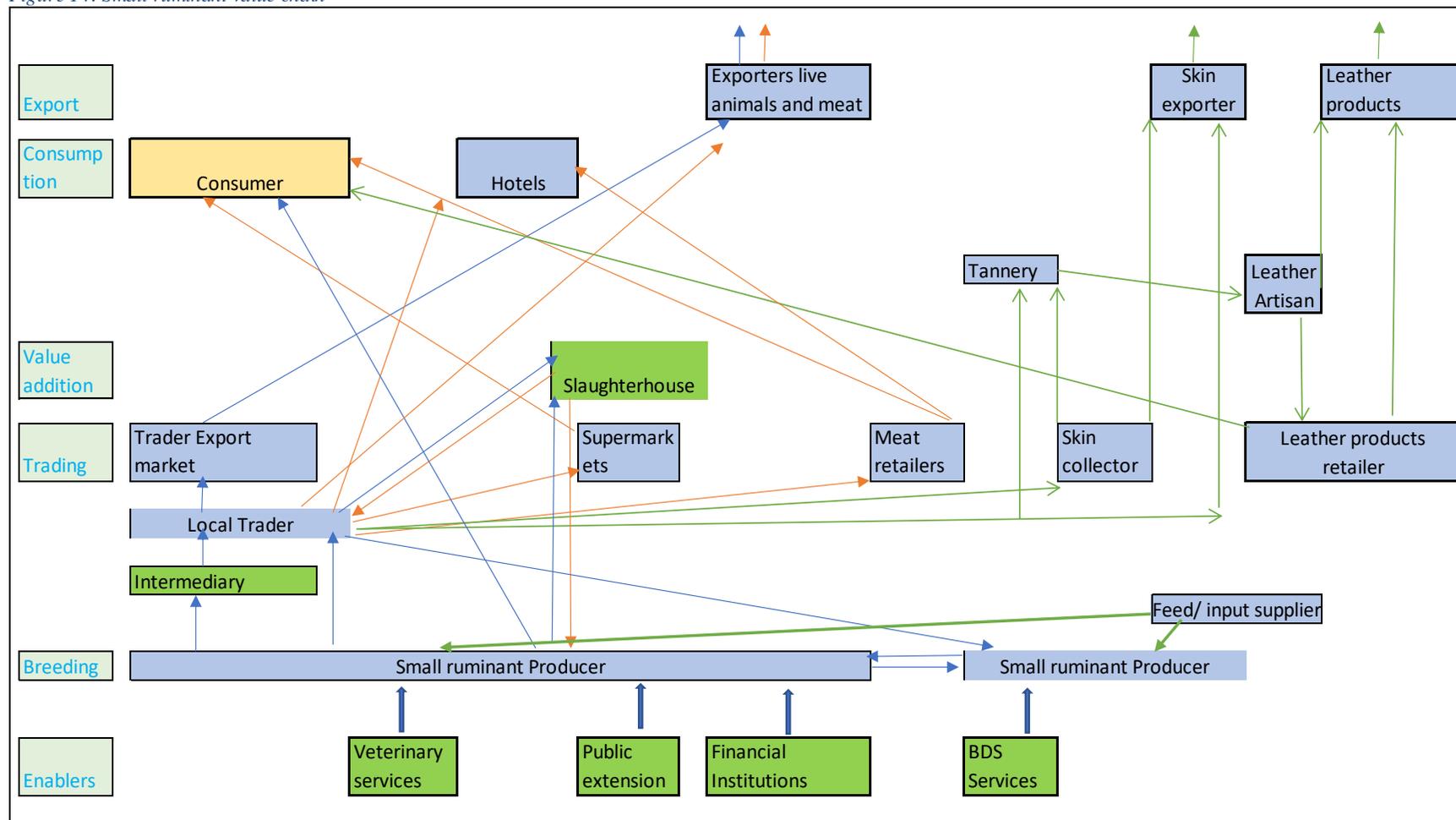


Source : Prism, 2022

5. Small ruminant Value chain analysis

The Rwanda small value chain diagram should be summarized in the following diagram.

Figure 14: Small ruminant value chain



Source : Consultant design ,2022

Based on the above figure, the small ruminant value chain is dominated by traders and goes through five main steps:

- Breeding
- Trading
- Value addition
- Consumption
- Export.

Other players include enablers such as public extension service providers, veterinary service providers, Business development services (BDS) providers and financial Institutions.

Actually, slaughterhouses play the role of providing slaughtering services only. After that, meat, skins and other products are given back to traders who sell meat to retailers and others who need them and skins to skin collectors. These are people specializing in buying skins and selling them to exporters and tanneries.

6. Sales and marketing of small ruminants and their by-products

6.1. Exports of small ruminants' products

Cross – border traders cooperatives indicated that on average monthly exports to DRC are as follows:

- 2500 goats through Rubavu border
- 3000 goats through Rusizi boarder
- 1500 goats through Nyamasheke (Rugari)
- 1500 sheep through Rubavu border
- 1000 sheep through Rusizi boarder
- 600 sheep through Nyamasheke (Rugari)
- A small number traded through Karongi and Rutsiro

Small ruminants' exports in the regional countries of DRC, Burundi, Uganda, Tanzania and Kenya have been USD 36,819,935 as indicated by the table below:

Table 6 : Exports for 5 years in the region

Produits	value (\$)
Live goats	18,600,774
goat meat	2,591,890
Mutton	1,083,793
Live sheep	1,048,903
Hides and skin	13,494,575
Total	36,819,935

Source : BNR, 2022

During the last five years, exports have been dominated by live goats and hides and skins.

Live goats are mostly exports to DRC whereby hides and skins are exported to Kenya:

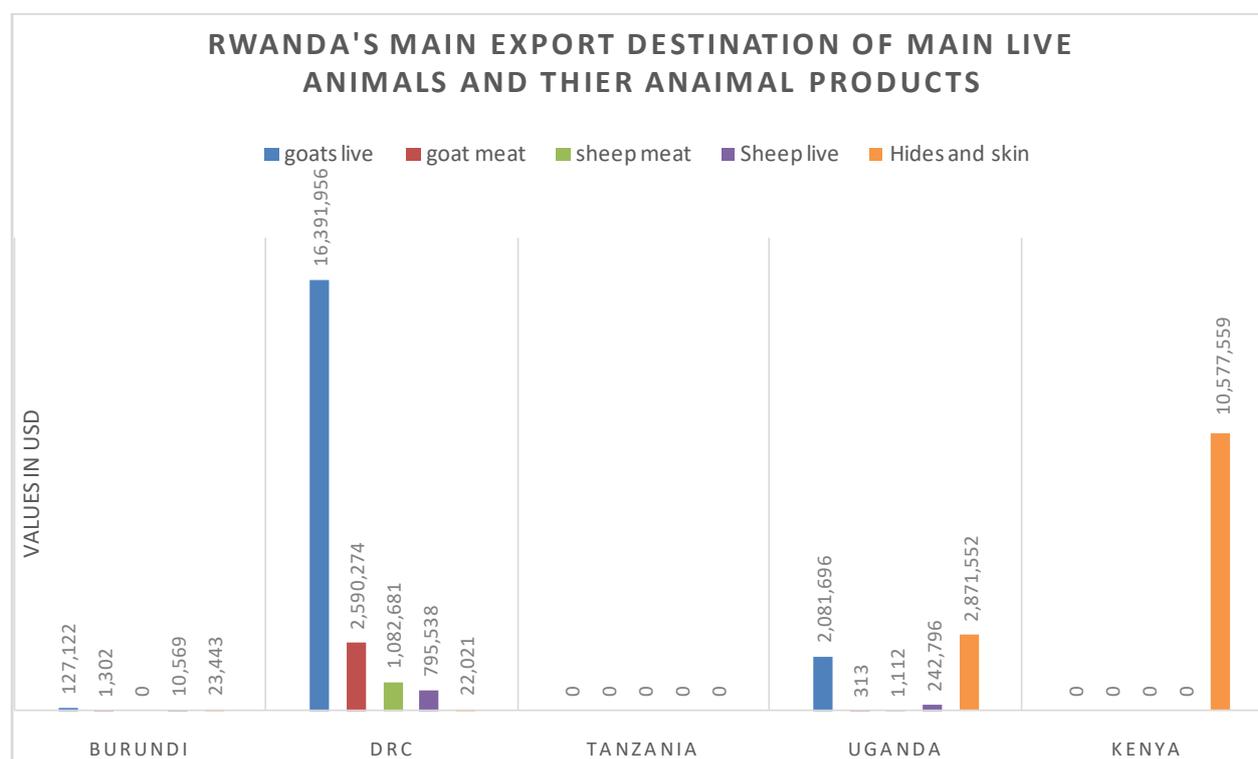
Table 7 : exports per product by country in 5 years (\$)

	Burundi	DRC	Tanzania	Uganda	kenya
Live goats	127,122	16,391,956	0	2,081,696	0
goat meat	1,302	2,590,274	0	313	0
Mutton	-	1,082,681	0	1,112	0
Live sheep	10,569	795,538	0	242,796	0
Hides and skin	23,443	22,021	0	2,871,552	10,577,559
Total	162,436	20,882,470	0	5,197,469	10,577,559

Source : BNR, 2022

DRC, KENYA, and UGANDA are the main Export Destination of Rwanda's Exported live animals and animal products in last 5 years (CUM 2017-2021). It was observed that, DRC is the main destination of Rwanda's exports of main live animal/s their animal products –

Mainly live goat, goat meat and Mutton, while Kenya and Uganda is the main destination for Hides and Skins.

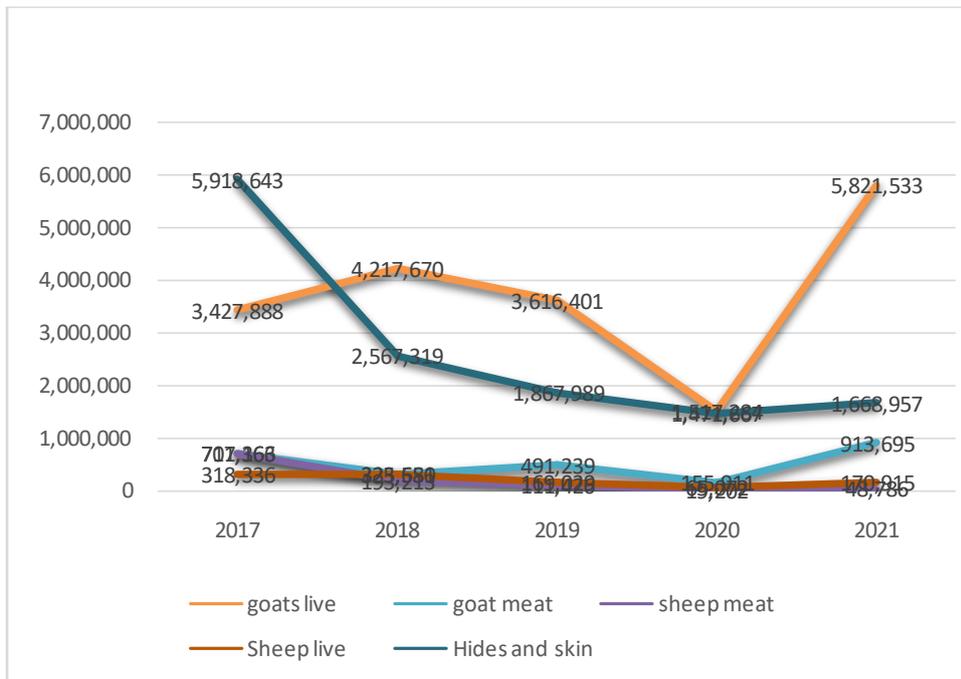


For the last five years, exports of live goats increased from USD 3,427,888 to USD 5,821,533 for the year 2022 which is the main product exported from small ruminants. Hides and skins reduced from USD 5,918,643 to USD 1,668,957 for the year 2022. Other important exports are those of goat meat which reached USD 913,695. Live and meat of sheep have been relatively low and reached USD 48,786 and 170,915 respectively.

Table 8 : Regional Exports per year(\$)

Products	2017	2018	2019	2020	2021
Live goats	3,427,888	4,217,670	3,616,401	1,517,284	5,821,533
Goat meat	707,363	323,681	491,239	155,911	913,695
Mutton	711,166	193,213	111,426	19,202	48,786
Live Sheep	318,336	325,550	169,029	65,072	170,915
Hides and skin	5,918,643	2,567,319	1,867,989	1,471,667	1,668,957
Total	11,083,396	7,627,433	6,256,084	3,229,136	8,623,886

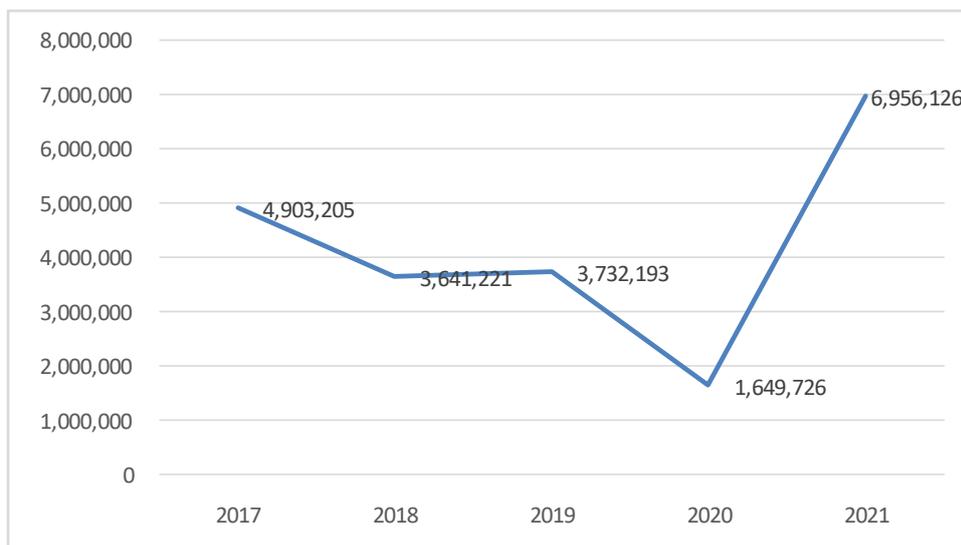
Source : BNR, 2022



DRC is the main export destination for small ruminants’ products occupying 89% of exports to neighboring countries and 56% when Kenya is considered. Note that hides and skins are the main products exported to Kenya. Exports to DRC have been growing as follows:

	2017	2018	2019	2020	2021	Total
goat meat	706,490	323,051	491,133	155,905	913,695	2,590,274
Live goats	3,196,001	2,919,147	3,032,218	1,423,057	5,821,533	16,391,956
Hides and skin	11,725	7,835	1,072	192	1,198	22,021
Live sheep	278,900	198,009	96,344	51,370	170,915	795,538
Mutton	710,089	193,178	111,426	19,202	48,786	1,082,681
Grand Total	4,903,205	3,641,221	3,732,193	1,649,726	6,956,126	20,882,471

The following graph indicates growth of exports to DRC :



DRC traders who import goats from Rwanda indicated that goats are used for consumption in Goma and Bukavu towns and some are taken to Kinshasa. As in DRC goats are also used for dowry, they are some which are bought for that ceremony.

Transport to Kinshasa is facilitated by local transport cargo planes inside DRC. However, there some other airlines which facilitate that business and negotiations are easy and sometimes informal which make costs difficult to determine.

Meat vendors in Rubavu and Rusizi Districts mentioned that some Congolese proposed to buy goat meat but offering lower prices compared to local Rwandan market.

6.2. Imports of small ruminants' products

Imports of small ruminants' products have been dominated in the last five years by live goats and hides and skins. For all the products, imports for small ruminants have been declining over the years till reaching close to nil for the year 2021:

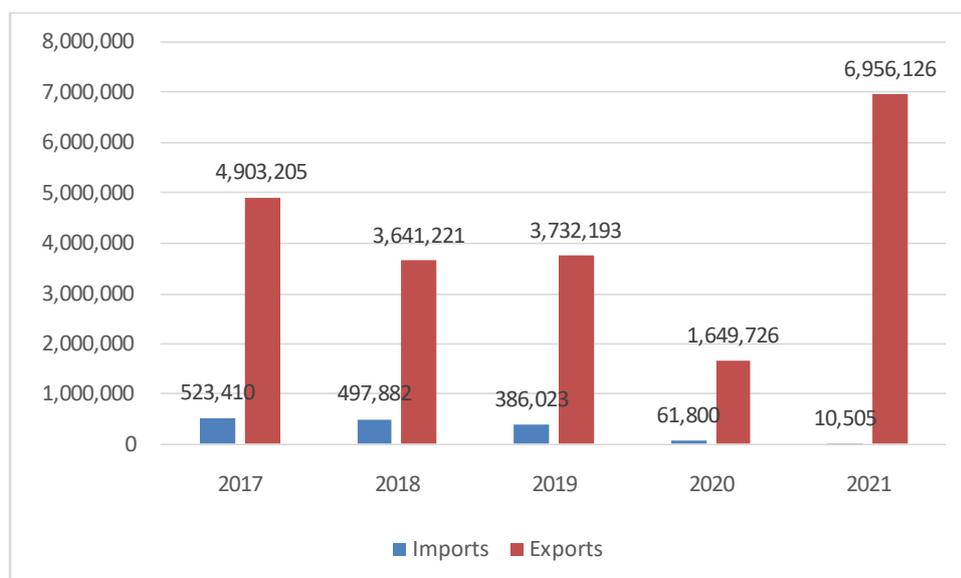
	2017	2018	2019	2020	2021	TOTAL
goat meat	289	747	1,136	33	1,574	3,779
Live goats	195,962	165,375	186,583	39,743	6,700	594,363
Hides and skin	307,777	309,885	187,868	19,707	210	825,447
Live sheep	17,196	19,821	8,254	297	0	45,568
Mutton	168	35	163	0	0	367
Grand Total	523,410	497,882	386,023	61,800	10,505	1,479,619

The imports were coming mainly from Burundi whereby in the last five years USD 1,091,054 small ruminants' products have been imported. However, they declined over years and became nil for the year 2021.

	2017	2018	2019	2020	2021	TOTAL
Burundi	427,191	320,563	295,401	47,899	0	1,091,054
DRC	60,637	92,840	65,783	10,920	10,505	240,685
UGANDA	203	8,631	0	0	0	8,833
UGANDA	35,379	75,848	24,838	2,981	0	139,046
TOTAL	523,410	497,882	386,023	61,800	10,505	1,479,619

6.3. Exports compared to imports

Comparison of imports and exports indicates that imports are very little compared to exports as indicated by the following chart:



For last 5 years, total exports for live goats were **\$16,391,956** while imports was **\$ 594,363**. Live goats is the main exported product, hides, and skins has the 2nd larger export values but with 1st large import value; the goat meat is the 3rd product that is exported, while the sheep meat is the 4th then live sheep is the last product with the small value.

Note: Live sheep and Mutton are contributing almost at the same proportionate rate in exports; however, there is a gap in exports of live goat and goat meat. The focus should be to increase the exports of goat meets that will bring higher value on exports.

Although the live goat is the main exported product, Rwanda is still exporting the goat meat at 15.6% compared to live goats. Therefore, there should be initiatives and mobilization of exporters to export more goat meat instead of live goats.

If the live goat exports reduced and increase goat meat exports, it can contribute to local industries like leather industry that normally require hides and skins as raw materials and can reduce the imports of hides and skins that has 56% of total small ruminants products imports in last 5 years.

6.4. Local consumption of goats and sheep products

Goats and sheep are also sold in high quantity locally. Local sales can be categorized in two categories, i.e. sales to other farmers for rearing and sales for consumption.

During the survey, different markets have been visited and found that there were between 30 and 320 goats and between 20 and 220 sheep on the day of the visit. Those markets are the following:

	District	Sector	Number of goats	Number of sheep
1	Gakenke	Janja	30	20
2	Rubavu	Nyakiriba	320	72
3	Musanze	Gataraga	40	125
4	Huye	Gishamvu	300	50
5	Rusizi	Gihundwe	350	80
6	Nyagatare	Rukomo	250	30
7	Bugesera	Ruhuha	270	46
8	Kayonza	Kayonza	200	20
9	Ngororero	Ngororero	250	150
10	Burera	Rugarama	130	220

Figure 15 :Gishamvu market





Goats and sheep are sold also to other farmers as illustrated by the following table:

Animal Type		Number of animals			
		Born	Purchased	Sold	Consumed by Hhs owners
Goats	Exotic	1,381	166	1,396	262
	Cross	12,333	1,941	4,212	1,323
	Local	773,747	309,764	324,346	36,758
	Subtotal	787,461	311,870	329,954	38,342
Sheep	Exotic	24,845	9,571	9,966	460
	Local	146,602	74,333	73,291	5,078
	Subtotal	171,447	83,904	83,257	5,538

Source: NISR, AHS 2020

That table shows that during the year 2020, 311,870 goats were purchased by HHS whereby 329,954 were sold. The same table indicates that 38,342 goats were consumed by farmers themselves.

For sheep, the number of sheep purchased is a bit higher than those sold as they are 83,904 and 83,257 respectively. Also 5,538 sheep were consumed by farmers.

Rwandans' households don't consume regularly goats as they do for other meat like beef and Chicken.

Goat meat is consumed at different occasions:

- Hotels, bars and restaurants: Hotels mostly sell chilled goat meat as brochettes.
- Families during festive seasons

The annex 1 shows consumptions by some Hotels. It shows that hotels and bars of all the angles of the country consume goats. A very few of them have confirmed using mutton.

According to MINAGRI, during the year 2021, 161,502 goats and 143,490 were slaughtered. They are slaughtered in mostly in small slaughterhouses located in different places in Rwanda. In the visited Districts, four big abattoirs were identified. Those are:

- Nyabugogo Abattoir
- GakenkeAbattoir
- RubavuAbattoir
- GakoAbattoir.

For instance in Nyabugogo, Abattoir, they indicated that every day at least 120 goats and 40 sheep are slaughtered. However other abattoirs receive very few small ruminants like Rubavu which can slaughter on average 15 goats and less than 2 sheep daily.

In other places like Musanze, Rusizi and Nyagatare there are small slaughterhouses with poor equipment and small space.

6.4.1. Prices

During the survey, it was observed that prices for live goats vary in different places whereby the lower price for a goat kid is RWF 15,000 and for a doe or a buck is RWF 25,000 and the highest price paid to a goat is RWF 100,000.

Table 9 : Prices for a live goat

	Kids	Medium Does or bucks	Big Deos or buck
Huye	15,000	25,000	50,000
Rubavu	50,000	60,000	100,000
Rusizi	50,000	60,000	100,000
Nyagatare	20,000	35,000	60,000
Bugesera	20,000	40,000	60,000
Kayonza	18,000	35,000	50,000
Ngororero	18,000	35,000	55,000
Gakenke	20,000	45,000	55,000
Burera	20,000	35,000	60,000
Musanze	30,000	40,000	65000

Table 10 : Prices for a live sheep

Live sheep	Ram lam	Small ram/ewe lamb	Big ram/ewe lamb
Huye	12,000	25,000	50,000
Rubavu	50,000	60,000	100,000
Rusizi	50,000	60,000	100,000
Nyagatare	15,000	30,000	55,000
Bugesera	17,000	35,000	60,000
Kayonza	12,000	30,000	45,000
Ngororero	15,000	30,000	50,000
Gakenke	15,000	40,000	50,000
Burera	15,000	30,000	50,000
Musanze	25,000	30,000	45000

Brochettes prices also vary and can reach RWF 3,000 :

Table 11 : Brochette prices

Place	Amount in RWF	Average number of brochettes	Expected turnover	
			Minimum price	Maximum price
Kigali	800 - 3000	120	96,000	360,000
Huye	800 - 1800	120	96,000	216,000
Kayonza	500 - 1200	120	60,000	144,000
Ngororero	500 - 1000	120	60,000	120,000
Rusizi	500 - 1500	120	60,000	180,000
Musanze	600 - 2000	120	72,000	240,000
Burera	500 - 700	120	60,000	84,000
Gakenke	500 - 700	120	60,000	84,000
Rubavu	600 - 2000	120	72,000	240,000
Nyagatare	600 - 1500	120	72,000	180,000
Bugesera	600 - 1500	120	72,000	180,000

That table indicates that one goat can generate at least RWF 60,000 and at most RWF 360,000 in turnover (before considering related expenses).

Furthermore, prices for goat meat vary from RWF 4,000 in rural District to RWF 5,500 in Kigali City. Those for sheep meat vary from RWF 3,500 to RWF 5,500 also. However small ruminants' meat sold per kilo is not found in many places.

6.5. Hides and skin

Hides and skin are an important by-product from goats and they are used to produce shoes, jackets, belts, etc. In Rwanda few companies add value to those products. During the survey, two companies were identified which are Nova Leather Ltd and Kigali Leather Ltd.

They process hides and skins and sell them to local shoes and other Leather products producers. So far, they mostly process cows' hides. The goats and sheep' skins are used to produce small items like jackets, purse, toys, handbags, etc and so far, their turnover is small locally as indicated by Nova Leather Ltd.

Hides and skins processors express concern about high competition from exporters who sell them as they are without value addition. The main reason is they pay more that what is paid by those processors.

Local processors should be able to pay more money to hides and skin if they get more equipment to produce quality products that could be sold at higher prices local and/or exported.

Another challenge expressed is lack of skills in hides and skin processing.

Note that some farmers and small consumers of goats' meat face difficulties in selling their hides as collectors focus on big slaughterhouses.

6.6. Wool

Figure 16 : wool after washing for being processed



source: Picture taken during the survey

Wool is defined as the: “soft wavy or curly usually thick undercoat of various hairy mammals and especially the sheep made up of a matrix of keratin fibbers and covered with minute scales”.(Wikipedia, June 02nd , 2022).

Particularly, the sheep wool is of great value as it serves to produce different garment products.

According to experts, one Morino sheep can produce up to 4 kg of wool per year.

Sheep wool was one of the original textiles. Clothing, shoes, carpets, and other items are made from sheepskins.

Wool serves in producing different fabrics and other clothing items such as pullovers, huts, toys, etc :

Figure 17 : Wool products by Umuzabibu, Musanze



Source :PRISM, 2022

Rwandans have not yet embraced breeds that produce enough wool, despite high income opportunities they offer. That makes the company that produce products from wool to import more than one tone of wool from Kenya every year to add up what they can produce from their 340 flocks. That is an opportunity to recapture those imports and also to increase production.

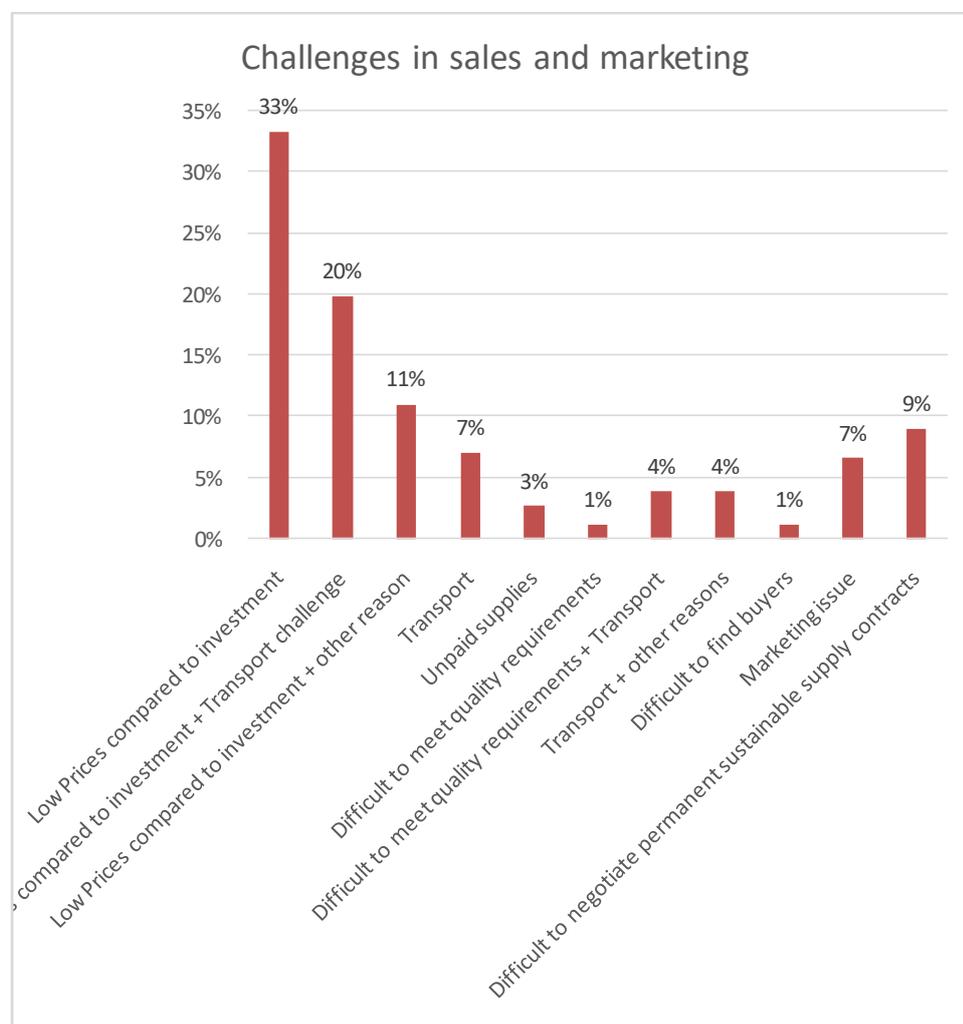
Benefits from wool are diverse:

- Exports increase: Wool products have the market abroad but also by tourists visiting Rwanda
- High income generation to Rwandans.
- Job creation: The wool industry creates jobs for farmers and also people working in processing it.
- Value addition to sheep products: It brings other products that can be got from sheep without slaughtering it.

Wool products are of good prices as for instance a hut can be sold at USD 40 and a pullover USD 210.

6.7. Challenges in marketing and sales

Farmers expressed concern in marketing and selling their animals. The reasons range from price to marketing as shown by the chart below:



6.7.1. Prices

Farmers expressed the issue of low prices received on their animals when they sell them to neighbors or other people buying goats. For instance a goat is bought RWF 15,000 in Nyagatare District. Farmers consider prices low taking into consideration the land cost, feeding, medicines, time used in caring to it and other indirect costs. Note that when a goat is taken to market the farmer pays RWF 500 generally countrywide.

6.7.2. Transport and the distance to market places

Farmers expressed a challenge in selling their small ruminants. The markets are far away from their farms. In most District, there is one or two markets which oblige farmers to sell

their animals at low price to their neighbors. The cost and time to travel to the near market seem very expensive to most farmers.

6.7.3. Low number of buyers

Farmers stressed that it is difficult for them to get a buyer for their animals. They don't have contract with potential buyers and no offer received for that.

6.7.4. Lack of appropriate infrastructure at cross – border markets

Cross-border traders expressed the poor market infrastructure at cross-border markets. Those markets are not covered and no places for animals to stay when they wait to be sold or not sold on the market day. Once constructed, those markets could even be gathered everyday instead of 2 or one day a week.

Figure 18: Nyakiriba, Rubavu District cross-border market



Source : Picture taken during Prism Survey, 2022

6.7.5. Transport

Small ruminants' traders expressed that they face some restrictions in transporting animals such as the hindrance to travel night yet they can't do all the transactions in only 12 hours. The time to wait the whole 12 hours and associated costs increase the business costs.

6.7.6. Other challenges expressed by experts and proposed solutions

Challenges	Interventions to address challenges
Feed	
<ul style="list-style-type: none"> ✓ Lack of sufficient grazing areas to meet the feed needs of the animals ✓ Poor quality grazing land resources ✓ Inadequate knowledge on the use of crop residues and by-products ✓ <input type="checkbox"/> Limited availability of concentrates and feed supplements, when needed 	<ul style="list-style-type: none"> ✓ Sensitization on management of grazing lands ✓ Rehabilitation of grazing land through over-sowing with improved grass and legumes; ✓ Training and capacity building and skill development to increase the use and conservation of crop residues and by products. ✓ Increase in the availability of cereals ✓ Increased and better use of agro-industrial by-products from the processing of cereals/grains as concentrates for animal feeding. ✓ Promotion of appropriate storage and marketing of concentrates and feed supplements ✓ Training of farmers on forage seed multiplication, proper feeding, and availing improved plant materials ✓ Thinking about hydroponic fodder for areas where land is small
Genetics	
<ul style="list-style-type: none"> ✓ Low genetic improvement extension coverage ✓ Poor farm genetics recording scheme and lack of harmonization ✓ Lack of proven adapted exotic breeds for beef production ✓ Sheep and goat parent stock lacking 	<ul style="list-style-type: none"> ✓ The challenges of improving the genetic potential of local animals could be overcome through selection within the local breeds; establishing community-based breeding programs, which include developing a farm recording scheme; as well as promoting an animal identification and traceability scheme. ✓ Use of cross breeding programs to improve production and productivity of Cattle, sheep,

	<p>and goats</p> <ul style="list-style-type: none"> ✓ Importation/acquisition of improved parent stocks to support breeders ✓ Harmonizing existing livestock data
Animal Health	
<ul style="list-style-type: none"> ✓ Poor animal health extension advice; ✓ Inefficient animal health services; ✓ Inadequate supplies and qualities of vaccines and drugs; and ✓ Poor quality control of drugs and supplies. 	<ul style="list-style-type: none"> ✓ Strengthening animal health regulatory capacity under the coordination of the Livestock Sector Ministry ✓ Promote private service providers ✓ Enforce RVF and CBPP vaccinations ✓ Increase efficiency in animal/animal products movement permits
Marketing and processing	
<ul style="list-style-type: none"> ✓ Poor market infrastructure; ✓ Poor technical knowledge of value chain actors, especially processing technicians; ✓ Inadequate market information; and ✓ Poor linkages between producers and processors and export abattoirs. ✓ Lack of reliable data on small ruminants' consumption ✓ Incomplete data on volume of small ruminants exported 	<ul style="list-style-type: none"> ✓ Strategic capacity building ✓ Building infrastructure ✓ Establishing slaughter houses and modern abattoirs

7. Strengths, Weaknesses, Opportunities and Threats (SWOT)

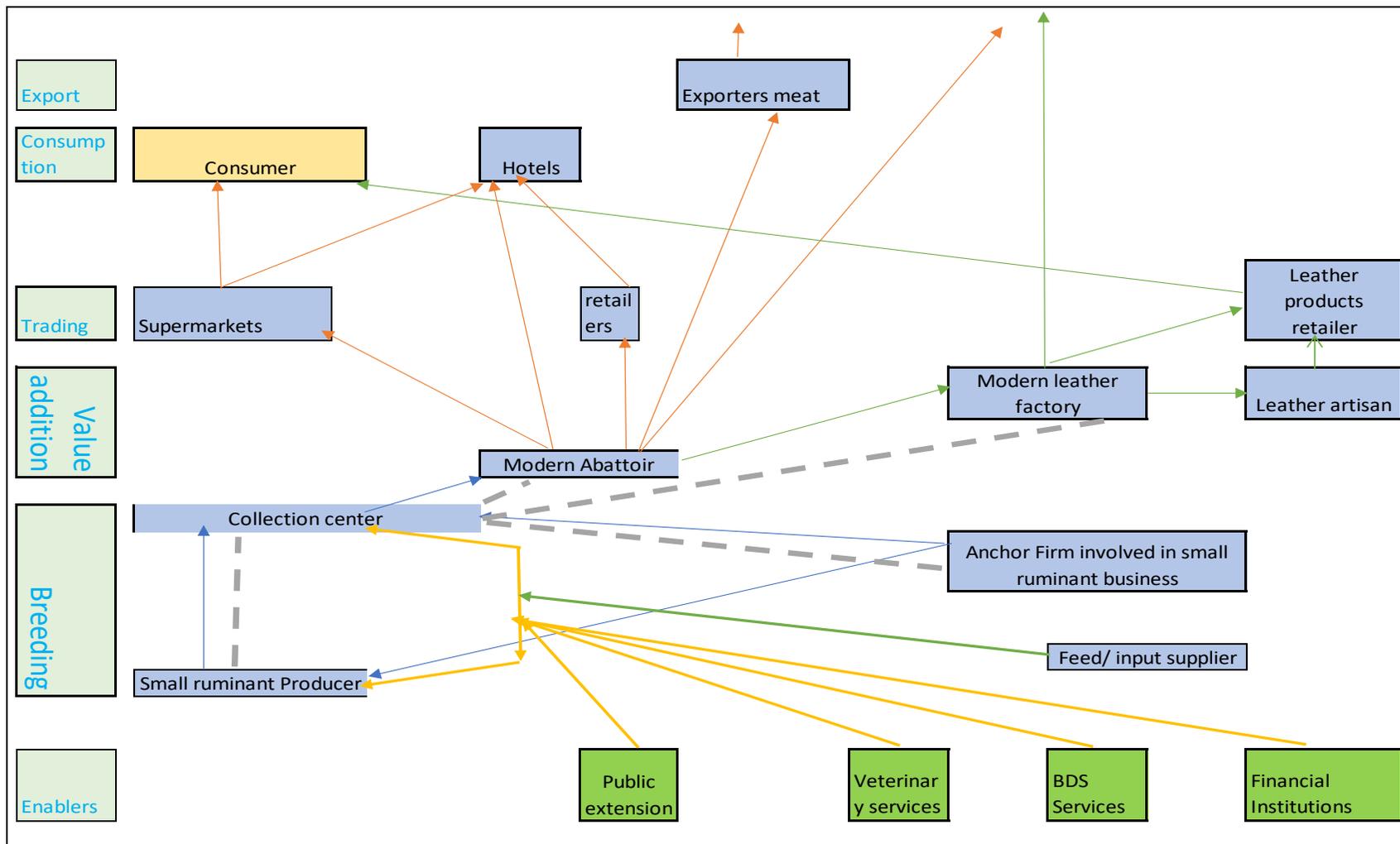
STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> - Small ruminants have a high economic value because the demand for red meat (chevon and mouton) is high. - Goat and sheep production requires small initial capital investment. - Small ruminants adapt easily to the diverse climatic conditions - Ability to thrive on low quality vegetation (shrubs, bushes, and tree leaves) - Small ruminants are less susceptible to infectious diseases and are therefore good for meat production. - Low diseases in small ruminants in Rwanda - Rwandans having experience in small ruminants breeding - A high percentage of Rwandans (37.6 percent for goats and 9.9 for sheep) of Rwandan households rearing small ruminants - RAB - Nyagatare station provides improved genetic materials (small ruminant/ Goats) and fodder seeds - Existence of some big farmers rearing small ruminants as a profession and having skills in that sector - Availability of some big farmers who can serve as model to other farmers 	<ul style="list-style-type: none"> - Lack of formal contracts for small ruminants' breeders - Export of live meat without any value addition - Lack of farmers' associative organization - More farmers lack enough grazing space - Predominance of local breeds with low yield - Low skills in hides and skins treatment - Slaughterhouses and abattoirs providing only service of slaughtering small ruminants without any value addition - Low quality consideration in small ruminants processing - Low access to improved genetic breeds - Lack of record-keeping by farmers - Lack of proximity collection centers for small ruminants' breeders to sell their animals - Goat milk not yet collected and added value - Inexistence of facilities to collect and process small ruminants' by-products like goat milk and wool - Lack of effective data collection and processing in small ruminants' industry - Lack of traceability in small ruminants' industry - Lack of planning tools in small ruminants' sector (like strategic plan) - Insufficient data on small ruminants in Rwanda - Low access to improved genetics in small ruminants' sector

	<ul style="list-style-type: none"> - Predominance of small farmers without business stance in small ruminants' industry - Low stake by farmers in small ruminants value chain - Lack of insurance scheme for small ruminants - Inadequate knowledge and skill in managing small ruminant production as a business - Low availability of clean water
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> - PRISM is ready to support small ruminants' sector - High consumption of goat meat by Rwandans, hotels and bars - Big market in the region, particularly Democratic Republic of Congo - Small ruminants can be a quick source of household incomes and food security - They have a high reproductive potential such as early maturity which enables quick build-up of a flock with low investment - Small ruminants have a high turnover due to their short generation intervals. - Possibility for small ruminants to be used in conservation grazing; they can clear unwanted shrubs without degrading the environment. - The Government of Rwanda is determined to support the Leather industry - The goat milk can be collected and produce products such as powder milk and cheese - The Government of Rwanda high commitment to promote small stock development 	<ul style="list-style-type: none"> - Low consumption of mouton by Rwandans - DRC which is a good export destination for Rwandan small ruminants is highly instable - Growing robbery targeting small ruminants - Low prices offered by DRC clients for goat meat - Low prices offered to farmers compared to their investment and time - Reducing grazing areas for small ruminants - High cost of concentrates - Lack of experience in some innovative animal feeding systems like hydroponics and dried grass - High cost of insemination for small ruminants - Water scarcity especially in dry season for Eastern zone - High cost to get clean water for goats - Lack of appropriate infrastructure at cross – border markets - Lack of appropriate transport equipment for small ruminants' meat - Lack of appropriate loan products for small ruminants' farmers

- | | |
|--|--|
| <ul style="list-style-type: none">- Government policies and strategies support small stock in general and small ruminant in particular- Possibility to recapture imports in wool- Wool sheep can generate regular income to farmers and increase export- Small ruminants contribute to job creation for youth- Small ruminants' business is easy to start for youth- Business opportunities through the whole value chain | |
|--|--|

8. Key Interventions needed

✓ **Renovate the value chain**



Source : Consultant design, 2022

Legend

-  : Movement of live animals
-  : Movement of meat
-  : Movement of skins and hides and their by-products
-  : Enabling services provision
-  : Stake in the company or other business unit

The proposed renovated value chain should be farmer dominated as having stake in the whole value chain. Farmers through their cooperatives are having some shares in the modern Abattoir and leather factories which are the main actors in small ruminants' products value addition and selling to retailers who are only do the business of distribution and selling to the last consumers.

This value chain is characterized by the following:

- All small ruminants to be sold through small ruminants' collection centers
- Modern Abattoirs to receive only small ruminants from cooperatives
- Modern Abattoirs to change from only the service of slaughtering but meat processing and quality assurance operators
- All hides and skins to be sold to the Modern Leather factory
- The introduction of “Anchor Firm” providing improved breeds and other extension services
- The role of “Anchor firm” can be played by the cooperative or another large-scale farmer.
- Veterinary, extension and other business development services to be provided to farmers through their cooperatives.
- Food supply and other supplements to be distributed through cooperatives.
- ✓ **Support the creation of organization structures of farmers at different level**

The farmers should be supported to associate. Organization platforms are a better channel for capacity building, inputs supply and marketing of products. Farmers should be supported to create an organization that represents them on national level. That Organization will have branches on District and sector level.

✓ **Facilitation of contract farming**

The project should liaise with buyers to initiate contracts with small ruminant's cooperative in order to guarantee them good prices and market for the production. That goes hand-in-hand with MINAGRI strategy which recommend: "To successfully reach farmers with credit guarantee schemes, it is a precondition to de-risk the investment by linking producers with other actors in agribusiness, like off-takers (MINAGRI, LPSS: 2020)".

✓ **Engagement of the Private sector**

The Government through PRISM project should emphasize partnership with the private sector in order to be more efficient and effective. "By leveraging the private sector investment and implementing capacity, the government can improve efficiency and effectiveness. Hence, public investment can be, to a larger extent, provided through formalized partnerships with the private sector (MINAGRI, LPSS: 2020).

By partnering with private actors, the Government can benefit their experience without having to support full costs. That also allows the Government to focus on policy making and those big infrastructures development that cannot be provided by Private actors.

It is also easy for educating farmers on payment of services received when provided by Private actors rather than a public Institution. Services such as Veterinary services, inputs supply, supply of improved genetic breeds and insemination services should be better delivered by Private actors on support of the Government at a certain extent.

✓ **Identification and promotion of "Anchor Firms" in small ruminants' industry**

Some services should be well provided through "Anchor firms". The project should identify existing companies that invested in small ruminants at large scale and partner with them to promote surrounding farmers. Note that well organized cooperatives can also play the role of "anchor firms". Anchor firm play the role of promoting services extension, providing improved breeds to farmers.

✓ **Investment promotion and education of farmers on entrepreneurship**

As mentioned above, the small ruminant's industry is dominated by small farmers who only do it for family income. That cannot make the industry thrive and contribute to the countries' economic aspirations. Attracting big investment players is paramount: "Overall, there is room for MINAGRI to take more ownership in facilitating investment promotion and aftercare with agribusinesses (MINAGRI, LPSS: 2020). The project should support investors in small ruminants' husbandry in various ways. There is a need to educate farmers also on entrepreneurship.

9. Recommendations

Recommendation	Responsible
Organization structures of small ruminants' farmers	
Support the development of farmer's Organization administrative documents	<ul style="list-style-type: none"> • RAB, PRISM
Facilitate the creation and registration of farmers Organization at National level	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment
Facilitate the creation of farmers Organization at District and sector level	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment
Support the development of the business plan of small ruminants' farmer's Organization	<ul style="list-style-type: none"> • MINAGRI • RAB, PRISM
Market linkage facilitation	
Creation of small ruminants collection centers at all sectors of the country	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment • Private Investors
Construction of modern markets for small ruminants	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment • Private Investors
Construction of modern markets on cross – border markets	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment

Recommendation	Responsible
	<ul style="list-style-type: none"> • Private Investors
Create small collection centers for small ruminants in different administrative sectors or cooperatives offices	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment • Private Investors
Facilitation of marketing channels between farmers and consumers	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment
Setting up an animal identification and traceability scheme.	<ul style="list-style-type: none"> • MINAGRI • RAB, PRISM • Local Government
Promotion of export of meat and value – added products instead of live small ruminants	<ul style="list-style-type: none"> • MINAGRI • RAB, PRISM • Local Government
Availing of facilities that ease transport and export of meat for cross -border markets	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment • Private Investors
Liaise with existing meat vendors to add small ruminants meet in their products	<ul style="list-style-type: none"> • RAB, PRISM • LocalGorvernment • Private Investors

Recommendation	Responsible
Linkage between buyers and interested investors in small ruminants husbandry through promotion of contract farming model	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives • Private Investors
Linkage of small ruminants cooperatives with e-commerce platforms	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives • Private Investors
Genetics improvement	
Creation and/or identification of national breeding centers of excellence to serve in availing high potential breeds of small ruminants	<ul style="list-style-type: none"> • MINAGRI • RAB, PRISM
Distribution of improved breeds to farmers' cooperatives to facilitate improvement of goats and sheep breeds	<ul style="list-style-type: none"> • MINAGRI • RAB, PRISM
Harmonizing existing livestock data	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives • Local Government
Avail insemination to anchor small ruminants farmers	
Feeding of small ruminants	
Introduction and promotion of improved grass for small ruminants	<ul style="list-style-type: none"> • MINAGRI • RAB, PRISM

Recommendation	Responsible
Rehabilitation of grazing land through over-sowing with improved grass and legumes;	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives and farmers • Local Government
Training and capacity building and skill development to increase the use and conservation of crop residues and by products.	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives and farmers • Local Government
Support the cooperatives/firms that engage in small ruminants' food production	
Identification of other feeding innovative models that are innovative	
Support the hydroponic feeding models for large scale farmers and cooperatives	
Veterinary services	
Avail veterinary services at grassroot level	<ul style="list-style-type: none"> • RAB, PRISM • RCVD • Local Government
Partener with private veterinary services providers in providing veterinary services at grassroot level	<ul style="list-style-type: none"> • RAB, PRISM • RCVD • Local Government

Recommendation	Responsible
Avail enough vaccines for small ruminants most affected diseases	<ul style="list-style-type: none"> • RAB, PRISM • RCVD • Local Government
Promote value addition products	
Support abattoirs to graduate from slaughter houses to production of other products (frozen meat, ..)	
Capacity building in wool collection	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives and farmers • Local Government
Support wool production centers of excellence	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives and farmers • Local Government
Linkage of wool value addition centers with farmers and facilitation of wool correction processes	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives and farmers • Local Government
Identification of other potential by-products	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives and farmers

Recommendation	Responsible
	<ul style="list-style-type: none"> • Local Government
Support small ruminants cooperatives and other private investors in value addition endeavors	<ul style="list-style-type: none"> • RAB, PRISM • NIRDA • Small Ruminants Cooperatives and farmers • Local Government
Promote hides and skin value addition instead of exporting them as raw material	<ul style="list-style-type: none"> • MINICOM • RDB • NIRDA • PSF • RAB, PRISM
Support hides and skin value addition companies in getting quality equipment and skilled staff	<ul style="list-style-type: none"> • MINICOM • RDB • NIRDA • PSF • RAB, PRISM
Access to finance	
Linkage of financial Institutions with interested investors in Small ruminants value chain for appropriate products development	<ul style="list-style-type: none"> • RAB, PRISM • Small Ruminants Cooperatives

Recommendation	Responsible
	and farmers • Local Government
Promotion of saving schemes among small ruminants farmers	• RAB, PRISM • Small Ruminants Cooperatives and farmers • Local Government
Negotiation with insurance companies to add small ruminants in their insurance products	
Investment promotion and educate farmers on entrepreneurship	
Attract investment in small ruminants' husbandry by offering some incentives to anchor firms	• MINAGRI • RAB, PRISM • PSF
Educate farmers on entrepreneurship	• MINAGRI • RAB, PRISM • PSF
Private sector engagement	
Engagement of private actors in small ruminants service provision	
Identification and partnership with anchor firms in small ruminants industry	• MINAGRI • RAB, PRISM • PSF

Recommendation	Responsible
Distribution of small ruminants	
Add/increase small ruminants' distribution to poor families in "Districts IMIHIGO"	<ul style="list-style-type: none"> • MINAGRI • MINALOC • Local Government
Youth and women engagement	MINAGRI <ul style="list-style-type: none"> • MINALOC • Local Government
Liaise with youth Organizations to mobilize youth to practice small ruminants production	MINAGRI <ul style="list-style-type: none"> • MINALOC • Local Government
Small ruminants' Sector planning	
Improve on data collection on consumption of small ruminants' products in Rwanda	<ul style="list-style-type: none"> • MINAGRI • MINALOC • Local Government
Drafting the strategic plan for small ruminants' development in Rwanda	<ul style="list-style-type: none"> • MINAGRI • MINALOC • Local Government

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Table 12 : Annex 1 consumption of goat meat and mutton by some hotels

Nyarugenge District

	Managers' name		Contacts	No of goats consumed per week	Price of Brochette
M HOTEL	HAPPY BUCYIBARUTA	Purchasing Manager	078-835 56 51	300 Kg	
ONOMO HOTEL	Deogratias	Purchasing Manager	078-325 03 86	30 kg	Lamb chop / 9600 per Kg Leg / 5500 per kg Whole 4500/kg For f=goat it is 5500 per kg
L'HACIEND GUEST HOUSE	M Josué NSENGIYUMVA	Manager	078-953 50 80	3	1500
CHEZ JULES BAR MOTEL	MURANGO TEDDY	CEO	788-992 15 23	2	1000
BEER GARDEN	NUMUGABO Vincent	CEO	078-864 96 79	7	1000
NEW PANO MOTEL	INGABIRE SOSTHENE	Manager	078-059 06 30	10	1000
TEN TO TWO CHEZ MUTABAZI	NIYONSENGA ADELIN	Manager	078-929 55 16	7	1500
GREEN CORNER	MURAGIJIMANA Rachel	CEO	078-822 51 38	4	1500
EVER GREEN DELUXE	NSENGIYUMVA JEAN DAMASCENE	Manager	078-966 43 63	2	1500
UBUMWE GRANDE HOTEL	EMMANUEL HAKIZIMANA	Procurement and Purchasing	078-252 84 31	50 kg lamb and 50 kg goats	
MARRIOT HOTEL	JOSEPH	Purchasing Manager	072-212 32 54		
SERENA HOTEL	FURAHA INNOCENT	Purchasing Manager	078-820 04 18		
PANORAMA TEN TO TWO	KAZUNGU ARIANE	Manager	078-829 55 53	3	1000
CONVIVE MOTEL	NZABAMWITA FRANCOIS	Manager	078-864 50 40	3	700
KAIZEN GUEST HOUSE	MUNYANEZA Modeste	Manager	078-572 86 84	3	700

Ngororero District

Owner name	Contacts	No of goats consumed per week	Price of Brochette
NZABAHIMANA Antoine	078-626 18 10	2	300-500
GAPFIZI Jean Claude	078-251 30 55	3	500-1000
NTAWUKIRUMWANZI Francois	078-779 92 24	2	500-1000
HABIMANA Theophile	078-782 72 36	1	300-400
YIRIRWAHANDI Jean	078-562 60 52	3	500-1200
HAKUZIMANA Isaac	078-530 94 52	2	500-1200
TUYIZERE Jean Paul	078-424 37 31	3	500-1000
NTIRENGANYA Girbelt	078-649 17 78	2	400-500

RUSIZI DISTRICT

Name of the Hotel/bar	Managers' name	Position	Contacts	No of goats	Price of Brochette
				per week	
TRUST BAR	UKOBAMBONA Anicet	Manager	078-822 67 69	6	1000-1500
MULINDI MOTEL	SINAYOBYE Felix	Manager	078-464 15 33	4	1000-1500
MUNINI MOTEL	SEZERANO Vedaste	Manager	078-869 58 67	2	1,500
MASHYUZA MOTEL	SEZERANO Vedaste	Accountant	078-869 58 67	1	100-1500
VIVE MOTEL	SEZERANO Vedaste	Accountant	078-869 58 67	2	1500 - 2000
CARREFOUR HOTEL	ETIENNE	Accountant	078-889 62 96	3	2,000
BAR LA SIERRA	JAPHET	Manager	078-874 30 89	6	1000 - 1500
LIGHT BAR	NGIZWENAYO J. DAMASCENE	Manager	078-842 54 44	7	800
KIVU VIEW HOTEL	BAZIRAKE IGNACE	Manager	078-830 75 76	1	1500 - 2000
MOTEL GLORIA	ERIC MUHIRWA	Accountant	078-431 25 96	5	1000 - 1500
MOTEL MAGNIFICAT	EVARISTE	Manager	078-830 26 70	2	1000
KIVU HOLIDAY MOTEL	HABYALIMANA MARTIN	Manager	078-821 24 70	2	1000

Musanze District

		Number of goats per week	Brochette price
1	GATARAGA Bar	3	500
2	URUMURI Hotel	5	800
3	KARIMA RESTO BAR	4	800
4	TOP CHIEF BAR & RESTO	3	600
5	TROITER RESTO	3	700
6	NEXT BAR & RESTO	3	700
7	THE BEST BAR	3	800
8	LA SIENDA BAR	2	500
9	LA VOISINA MOTEL	3	1,000
10	UBWIZA GARDEN	2	500
11	SKYLINE RESO BAR	5	1,000
12	TOWN HOTEL	2	1,500
13	SUSA GORILLA BAR LODGE	4	1,000
14	LA CORTINA BAR	3	1,000
15	MUKUNGWA RIVER SIDE NIGHT CLUB	4	1,200
16	SADEYA BAR	4	1,000
17	MUDAKAMA BAR	2	400

Huye District

	Number of goats per week	ZINGALO PRICE	Brochette price
HOTEL CASA	7	1500	1000
HOTEL GALLILEO	8	1500	1000
HOTEL LIGHT HOUSE	3.5	1500	1000
E-BIS RESTO BAR	5.5	1500	1000
KARIBU PEACE CENTER Ltd	4.5	1200	1000
CITY SNACK BAR	15	1500	1000
NOLAN HOTEL	8	1500	1000
144 BAR RESTO	4.5	1500	1000
CHINESE BAR RESTO	7	1500	1000
BAR CYUMA	19	1000	800
AGACIRO BAR	8	1200	1000

Gakenke District

	Number of goats per week	Brochette price
1. MUTABERA Deogratius 0785723243	2	500
2. UWIZEYIMANA Jean Chrisostome 0783423769	2	500
3. NIYONZIMA Eric 07869156	2	500
4. IRAKOZE Jolyse 0780456948	2	500
5. NIRAGIRE Olive 0783443146	2	500
6. MUGANGA Mubarack 0788253051	2	500
7. MUKANDAYISENGA Mutuyimana 0789835280	2	500
8. KUBWIMANA Fabrice 079085547	2	500
9. MUHAWENIMANA Jacqueline 0787428887	2	500
10. NIYIGENA Felix 0788831696	2	500
11. HAGENIMANA Cyprien 0786386471	2	500
12. NIYONSABA Jean Paul 0788349620	2	500
13. SIBOMANA Straton 0789210258	2	500
14. NTAMUKUNZI Gratien 0788748906	2	500
15. MUDAKEMWA Slivestre 0785476684	2	500

Bugesera

			Number of goats per week	Brochette price	
1	Chez Virgil	078-996 94 97	15	1,200	1,200
2	LUJO Motel	078-444 35 18	5		
3	BAR KU MUNARA		4	700	1,000
4	MONT KAYUMBA	078-720 65 01	3	700	700
5	BAR KU GITI		4	500	700
6	BAR GAHEMBE		30	1,000	1,000
7	BAR WHATSAP		5	700	1,000

Burera

			Number of goats per week	Brochette price
1	Freedom Bar	078-424 12 17	3	500
2	Ten to Ten Bar	078-834 93 39	3	500
3	SOWETO SPECIAL ACTIVITIES		2	400
4	CANTINE GATARAGA		2	500
5	VOLCANOES CENTER BAR	07-964 19 31	2	400
6	RESTAURANT BUTARO	078-926 05 19	7	600

KAYONZA DISTRICT

	No of goats consumed per week	Price of Brochette
JANEIRO BAR	7	900
MEGA STANDARD	3	800
ELEGANCIA HOTEL	2	1500
AFRICAN JACANA SERVICE	2	800
IHURIRO BAR	4	1000
EASTLAND HOTEL	2	1500
SILENT HILL HOTEL	3	1500
CLASSIC BAR 5/5	4	1000
DREAM VILLA	1	800
UMOJA BAR & RESTAURENT	1	800
SKOL PUB	2	600
MIDLAND MOTEL	7	1000
SAVANNA MOTEL	5	800

Nyagatare District

	No of goats consumed per week	Price of Brochette
WHITE BAR	4	500
GNA NEW ONLY BAR	3	800
UMUTARA CULTURAL CENTER	3	600
MBTC HOTEL	2	1500
PAPUA BAR	14	700
PAPUA TOP BAR	4	500
DEMI SHERATON	14	1000
DOMICO MOTEL	2	1000
NEW PARADISE BAR	3	500

Table 13 : Appendix 2 Goat and sheep big farmers

S/N	NAMES OF FARMERS	CONTACT
1	NSHOZABAHIZI Naphtal	0788777880
2	KARURANGA Innocent	0788522785
3	KANYEMERA Sam KAKA	0788302829
4	NAGABA William	0788758595
5	KARANGWA David	0788665605
6	KATABARWA ASABA Emmanuel	0788305906
7	KAGARAMA Eric	0788305929
8	MUTAKO Alphonsine	0788522893
9	GAFUNGIZA Robert	0788718282
10	RUKUNDO Emmy	0788309792
11	GAHAMANYI Vincent	0788404595
12	SAYINZOGA Appolinaire	0783235214
13	GASHUMBA Godfrey	0783467045
14	BIZIMUNGU Landry	0784050826
15	MBAYIHA MANZI Patrick	0788308169
16	ISHIMWE Arnauld	0788441161
17	MUKAMUSONERA Jacqueline	0788523043
18	MUGUME GAFARANGA James	0788539453
19	NDUSHABANDI Eugene	0788627034
20	BUTERA Vianney	0788769193
21	GAKWAYA Emmanuel	0788300262
22	GASHUMBA Willson	0788789230
23	RULISA Chrissy	0788574615
24	RUMANZI George	0784212001
25	NDAGIJIMANA Deogratias	0783893064

List of Respondents (Key Informant Interviews)

	Names	Institution	Position	Contacts
1	Evalde MULINDANKANKA	MINICOM	Acting Director General of Industries and Entrepreneurship	07 88 78 29 56
2	Agnes MUKAKIMENYI	Rwanda Development Board	Specialist SEZ & Export Facilitation Department	07 88 53 31 11
3	Albert BIHIBINDI	NOVA Leather ltd	Managing Director	07 88 50 29 18
4	François NGIRIMANA	Rwanda Revenue Authority	Dept Customs Boarder Manager (Rubavu Boarder)	07 85 46 37 87
5	HABIMANA Cyprien	Rwanda Agriculture Board	Border Rusizi Officer (former)	07 82 41 22 22
6	Jean Paul MUVUNYI	Rwanda Agriculture Board	Border Rubavu Officer (former)	07 88 54 12 88
7	KARURANGA Innocent	Small ruminants representative Committee	Chairperson	07 88 52 27 85
8	MUKAMUSONERA	Small ruminants representative Committee (sheep)	Chairperson	07 88 52 30 43
9	NSHOZABAHIZI Naphtal	Small ruminants representative Committee	Advisor	07 88 77 78 80
10	Maurice Hubert MUVUNYI	Green Harvest Ltd	Managing Director	07 83 26 53 53
11	DUFITUMUKIZA Simon	UMUZABIBU N.G.O.	Manager	07 88 66 96 77
12	IYAMUREMYE Faustin	UMUZABIBU N.G.O.	Animal production specialist	07 83 44 34 30
13	Jean Marie Vianney NKURUNZIZA	MINAGRI	Management Information System	07 85 11 81 18
14	NTAGISANIMANA Esdras	Rubavu Abattoir	Accountant	07 83 38 81 26
15	MUTANDORA Innocent	RUGARI Meat Processing Ltd	Manager Rubavu branch	07 88 75 43 79
16	UKWITEGETSE Alphonsine	COOPAKARWA (Nyabugogo)	Chairperson	07 88 22 60 95
17	HAKIZIMANA Abed	AGACIRO KACU Cooperative	Chairperson	07 88 43 54 42
18	NGABONZIZA Jean Pierre	AGACIRO KACU Cooperative	Dept. Chairperson	07 88 93 77 97
19	Leonard SHYIRAMBERE	Nyarugenge District	Veterinary of SABAN LTD Nyabogogo Abattoir	07 88 77 22 66

Congolese Counterparts

Names	Institution	Contacts
POLEPOLE Boniface	Cross - Border trader	24309 91 45 27 16
NSIMIRE Julienne	Cross - Border trader	24309 95 88 20 47
BAZIGA Annualite	Cross - Border trader	
NSHIMIYIMANA Mwami	Cross - Border trader	78 84 65 42 70
NGABO Saidi	Cross - Border trader	07 88 70 40 75
MUGABO Claude	Cross - Border trader	07 82 32 95 74

Table 14 : Small ruminants slaughtered 2019 - 2021

Period Organisation unit / Data	2019		2020		2021	
	Goats Slaughtered	Sheeps Slaughtered	Goats Slaughtered	Sheeps Slaughtered	Goats Slaughtered	Sheeps Slaughtered
Bugesera	13280	310	7300	153	14229	222
Burera	1924	3079	1874	3215	1886	3033
Gakenke	2759	1380	2370	12566	2306	1475
Gasabo	215		706	61	1170	78
Gatsibo	9846	275	5309	210	7712	113685
Gicumbi	9428	3825	6939	2544	4083	1501
Gisagara	19097	216	12956	7791	8272	365
Huye	9471	48	6332	33	7401	98
Kamonyi	9822	229	5462	4324	5758	202
Karongi	8572	295	4477	68	4576	62
Kayanza	7695	43	6126	32	6644	30
Kirehe	9531	364	6642	76	7100	75
Muhanga	1895	176	1790	179	1911	146
Musanze	1002	1349	730	540	464	450
Ngoma	6049	101	6268	140	4240	130
Ngororero	2881	1216	1769	1251	2099	1643
Nyabihu	2784	1927	2459	1409	2578	1772
Nyagatare	8726	497	10012	438	11829	470
Nyamagabe	4005	220	4488	285	6457	307
Nyamasheke	3855	35.5	2646	17	2912	41
Nyanza	20265	76	12025	11	12504	1665
Nyarugenge	2817	1400	9000	6560	9309	3375
Nyaruguru	10159	1466	6234	167	3631	26
Rubavu	14070	7122	5139	3197	6442	5747
Ruhango	6111	70	4257	42	3117	101
Rulindo	6050	1315	3733	795	5177	834
Rusizi	8304	2863	8542	4052	11443	3760
Rutsiro	1479	605	1474	832	1662	1770
Rwamagana	5959	1002	3785	617	4590	427
Total	208051	31504.5	150844	51605	161502	143490