



Ethiopian National Red Meat Development Strategy (2025-2031)

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October 2024, Addis Ababa, Ethiopia

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Editing, design and layout:

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- 1. Cattle: An Arsi-Bale beef cattle at Kangaro plast modjo dairy and fattening production farm. (Photo credit: Eyosias Gezahegn /Modjo Urban Agriculture Office).
- 2. Goat: A breeding buck actively utilized for breeding purposes in South Omo at the Lowland Livelihood Resilience Project community-based breeding program site. (Photo credit: Tesfaye Getachew/ICARDA)
- 3. Sheep: A Bonga breeding ram from Boqa Shuta community-based breeding program site. (Photo credit: Apolo Habtamu /ILRI)
- 4. Camel: Dromedary camel A Dromedary camel. google search results, accessed by Tezera Getahun on September 11, 2024.
- 5. Carcass of Zebu Cattle breed from Wolaita Sodo (Photo credit: Addissu Abera/LFSDP)

Citation:

MOA, 2024. Ethiopian National Red Meat Development Strategy: 2025-2031. Ministry of Agriculture, Federal Democratic Republic of Ethiopia. Addis Ababa, Ethiopia.

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Acknowledgments

This National Red Meat Sector Development Strategy of the Ministry of Agriculture (MoA) of the Federal Democratic Republic of Ethiopia has been realized through the collaboration of various institutions and professionals. Under the pivotal guidance of State Minister HE Dr Fikru Regassa, the MoA's Livestock Department led the strategy development process by providing direction on the government's development agenda and focus areas, directing the efforts of the technical task force involved in this collaborative initiative.

We extend our appreciation to the Livestock and Fishery Sector Development Project (LFSDP) for their technical and financial support, which played a key role in enabling the work of the task force. The Ministry is particularly grateful to the International Centre for Agricultural Research in the Dry Areas (ICARDA) through the CGIAR initiative on Sustainable Animal Productivity for Livelihoods, Nutrition and Gender Inclusion (SAPLING) for contributing both expertise and leadership throughout the strategy development process. ICARDA, working closely with experts from the MoA, provided essential technical and financial support, including the publication of the strategy document.

Special thanks and recognition go to the task force, composed of experts from the Ministry of Agriculture (MoA), national and international research institutions, the Livestock Development Institute, universities, the private sector, and the Agricultural Transformation Institute. The contributions of Dr. Solomon Abegaz, Dr. Tesfaye Alemu, Dr. Ulfina Gelmesa, Mr. Tesfaye Lema, Mr. Asmelash Berhe, Mr. Melake Asef, Mr. Kebeki Urga, Mr. Leta Fufa, Dr. Tesfaye Getachew, Dr. Aynalem Haile, Professor Birhanu Belay, Professor Adugna Tolera, Dr. Likawent Yeheyis, Dr. Berhanu Admassu, Professor Kasahun Asmare, Dr. Getachew Legesse, Dr. Asrat Terra, and Dr. Yoseph Mekasha were invaluable in drafting, preparing, and shaping this strategy. Their commitment, expertise, and professionalism were truly commendable and essential to the development of this comprehensive document.

We also extend our heartfelt gratitude to all stakeholders who participated in reviewing the strategy and provided invaluable feedback at various stages.

Tsigereda Fekadu

Lead Executive of Livestock and Fisheries Development Ministry of Agriculture

Foreword

The livestock sector is crucial to Ethiopia's economy, providing livelihoods for millions and significantly contributing to food security, nutrition, and export earnings. Among its products, red meat is a key driver for sustainable growth and development. In recognition of this potential, the Ministry of Agriculture (MoA) has developed the National Red Meat Development Strategy to transform this sub-sector. This strategy addresses the multifaceted challenges hindering red meat production and marketing, offering a comprehensive roadmap for improving productivity, enhancing meat quality, and strengthening market access both domestically and internationally. It also outlines essential interventions to tackle constraints related to genetics, animal health, feed, infrastructure, and market linkages.

The National Red Meat Development Strategy is the result of collaborative efforts led by the MoA and supported by stakeholders, including national research institutions, development partners, and international organizations such as ICARDA and the Livestock and Fisheries Sector Development Project (LFSDP).

I extend my deepest gratitude to the task force, which has been expertly led by Mrs. Tsigereda Fikadu, Lead Executive of Livestock and Fisheries Development. The dedication and expertise of the task force members from the MoA, research institutions, universities, the Agricultural Transformation Institute, and the private sector have been instrumental in making this strategy possible. I would also like to recognize the invaluable technical advice provided from the outset by Dr. Yohannes Girma, Advisor at the MoA, Dr. Getachew Animut, and Dr. Fekede Feyissa.

This strategy is not just a document, but a call to action, guiding us toward a thriving red meat sector capable of meeting the demands of our growing population while positioning Ethiopia competitively in global markets.

ICARDA is proud to collaborate with the Ethiopian MoA in developing this strategy. This partnership exemplifies the integration of global expertise with national priorities to address the unique challenges of Ethiopia's livestock sector. Together, we can unlock the full potential of the country's rich genetic resources, contributing to improved livelihoods and food security for millions. On behalf of ICARDA, I extend our appreciation to all partners involved in creating this strategy and look forward to its successful implementation.







HE Dr. Fikru Regassa State Minister, Livestock and Fisheries Resources Development Sector Ministry of Agriculture of the Federal Democratic Republic of Ethiopia

Aly Abousabaa Director General ICARDA

Acronyms and Abbreviations

AIR	Animal Identification Recording
AI	Artificial Insemination
AMR	Antimicrobial Resistance
ADG	Average daily Gain
BDS	Business Development Services
BHS	Black Head Somali Sheep
CHG	Central Highland Goats
COMESA	Common Market for Eastern and Southern Africa
CBBP	Community Based Breeding Program
CSA	Central Statistics Agency
CIG	Common Interest Groups
EIAR	Ethiopian Institute of Agriculture Research
ESA	Ethiopian Standard Authority
EAFIA	Ethiopian Animal Feed Industry Association
EMDIDI	Ethiopia Meat and Dairy Industry Development Institute
FAO	Food and Agriculture Organization
FTC	Farmer Training Center
FAOSTAT	Food Agriculture Origination Corporate Statistical Database
GDP	Growth Domestic Product
ICAR	International Committee for Animal Recording
ICARDA	International Center for Agricultural Research in the Dry Areas
ILRI	International Livestock Research Institute

LES	Long Eared Somali Goats
LITS	Livestock Identification and Traceability System
LDI	Livestock Development Institute
LMP	Livestock Master Plan
MAS	Marker Assisted Selection
MoA	Ministry of Agriculture
MOET	Multiple Ovulation and Embryo Transfer
NRMDS	National Red Meat Development Strategy
NGO	Nongovernmental Organization
NVI	National Veterinary Institute
NAGII	National Animal Genetic Improvement Institute
OIE	World Organization for Animal Health
RMB	Red Meat Board
TMR	Total Mixed Ration

Executive Summary

The National Red Meat Development Strategy (2025-2031) provides a comprehensive framework to enhance Ethiopia's red meat sector, which is vital for supporting livelihoods and driving economic growth. Cattle, sheep, goats, and camels are essential sources of red meat; however, current production and productivity levels are significantly below their potential. Ethiopia's average meat productivity and per capita consumption lag behind other Eastern African nations and the global average.

This strategy aims to transform the red meat sector by improving production, productivity, and commercialization to meet the increasing demands of domestic and export markets. A thorough assessment of the current landscape identifies opportunities, challenges, and strategic issues that require prioritized interventions. Key strategies will include improving animal husbandry practices, implementing genetic improvement programs, establishing, and enhancing market linkages, and facilitating comprehensive value chain transformations.

To effectively address these strategic issues, actionable points will include boosting red meat production by supporting smallholder finishing initiatives, developing commercial feedlots, improving rangeland productivity, and optimizing ranching practices. Improving meat quality and reducing meat wastage are also critical priority, with initiatives aimed at raising standards and practices to ensure that red meat produced meets the necessary hygiene and handling standards for both domestic consumption and export markets. Selective breeding is identified as the primary approach for breed improvement, with crossbreeding being strategically employed in delineated and suitable areas.

Community-based breeding approaches, successfully tested in small ruminants, are also considered as viable strategies. Strategically located collection centers will streamline product distribution and enhance market access. The strategy highlights strengthening producer cooperatives to foster collaboration and improve bargaining power among producers. Additionally, the strategy emphasizes the importance of animal identification, performance recording, traceability, and genetic evaluation as essential components for ensuring quality control, enhancing livestock management, and informing selection decisions.

Ethiopia's red meat sector presents significant growth potential, particularly in cattle, sheep, goats, and camels. Currently, the cattle slaughter rate stands at just 6%, with average carcass weights of 108 kg for cattle, 10 kg for sheep, 8.5 kg for goats, and 190 kg for camels, all trailing behind regional and global benchmarks. The seven-year framework thus aims to increase productivity and off-take rate in order to achieve a total red meat production of 1,759,000 tons by 2030, increase domestic meat consumption from ~7 to 10 kg per capita and diversify export destinations through implementation of the strategic interventions.

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1 Introduction

1.1 Background

Ethiopia is an agrarian country with a land area of 1.1 million square km. Agricultural development is one of the priorities of the Government of Ethiopia for stimulating the overall economic growth, reducing poverty, and achieving food security. The agricultural sector accounts for about 35% of the GDP (Statista, 2022), 80.9% of exports and 83% of employments, where livestock contributes about 46% of the total agricultural GDP (ILRI, 2021).

Due to its location, the country has served as a gateway to domestic animals from their centers of domestication to Africa and its diverse agro-ecology has favored diversification of these resources. As a result, the country is endowed with diverse animal genetic resources that play vital roles in the national economic development and the livelihoods of millions of Ethiopians. Livestock makes a significant contribution to food security, income and is believed to provide a robust opportunity for further development.

The livestock population of the country is estimated to be about 70 million cattle, 42.9 million sheep, 52.5 million goats and 8.1 million camels (CSA, 2021). This positions Ethiopia first in Africa and sixth in the world in livestock population. The availability of these vast and diverse resources indicates that Ethiopia has great potential for increased livestock production, both for domestic use and export. However, production is constrained by inadequate nutrition, disease, inadequate support services such as extension services, insufficient data/information base for planning improved services, and inadequate information on how to improve animal genetics, marketing, and processing. The high concentration of animals in the highlands which results in overstocking, together with the fact that livestock are often kept securing the power required for farming reduces the economic benefit of Ethiopian livestock particularly in terms of animal product supply.

Based on the 10-year average data (2013 to 2022) from FAOSTAT (2024), red meat production in Ethiopia primarily derives from four major species: cattle, sheep, goats, and camels, collectively accounting for about 90% of meat output and remaining 10% sourced from chicken. Out of the total 642.7 tons of red meat produced annually, cattle alone contribute about 62.1%, while small ruminants (sheep and goat) account for 32.8% and camels account for approximately 5.1%. However, average beef productivity is only 110 kg per head, which is 25-30% lower than that of other Eastern African countries and 50% below the global average of 212 kg per head. Ethiopia also has one of the lowest beef output volumes in the region, falling 27% and 7% below the East African and the overall African averages, respectively.

The proportion of slaughtered sheep and goats in Ethiopia stands at 31% and 33%m respectively of the total population, higher than the East African average but significantly lower compared to leading small ruminant producers like New Zealand, where rates exceed 80%. Additionally, the average carcass yield of approximately 9.25 kg per animal for both sheep and goats remains below regional and global standards, indicating the

potential for productivity improvements. Apart from poor productivity and lower offtake rate, postharvest losses in Ethiopia's red meat sector, including tissue shrinkage, spoilage, and insufficient value addition, hinder meat availability and marketing. Inefficient market links lead to high input costs and low farm returns, discouraging investment in sustainable meat systems. Reducing these losses could significantly boost supply and ease production pressures. Addressing postharvest issues is a key part of Ethiopia's red meat strategy, aligning with the country's policy focus on improving food safety and quality across the value chain.

The Meat, Hide and Skin Development Directorate of the Ministry of Agriculture (MoA) believes that enhancing overall production and productivity is attainable through biologically sound, economically viable, environmentally sustainable, and ethically acceptable strategic interventions across the red meat value chains.

1.2 Rationale for National Red Meat Development Strategy

Ethiopia's red meat sub-sector offers a critical opportunity to drive both economic growth and food security. Despite having one of the largest livestock populations in Africa, the sector remains underutilized in meeting both domestic and international demands. Per capita meat consumption in Ethiopia is alarmingly low, even when compared to other low-income, food-deficit countries. While these countries average 8 kg of meat per person annually (Birhanu, 2019), Ethiopia's consumption has fallen to just 6.7 kg per capita (FAO, 2021).

This gap highlights the urgent need for a comprehensive red meat development strategy, especially as Ethiopia faces rising domestic demand driven by population growth, urbanization, expanding agro-industrial parks, improved nutrition awareness, and rising incomes. Furthermore, the country's strategic geographic location provides significant opportunities for export, particularly to the Arab Gulf States and neighboring African markets, which could generate substantial foreign exchange from livestock products.

Despite the potential, Ethiopia's indigenous cattle breeds are traditionally multi-purpose, serving as sources of milk, meat, and draft power, with no specific breed optimized exclusively for red meat production.By improving indigenous breeds, modernizing processing and handling practices, and capitalizing on opportunities like dairy beef production, Ethiopia can develop a more efficient, sustainable, and competitive red meat industry capable of producing high-quality products for diverse markets. This strategic approach not only strengthens food security but also positions Ethiopia as a reliable supplier in the global red meat market.

A key constraint to progress has been the absence of an all-encompassing and sustainable red meat strategy, along with limited institutional support and commitment to advancing the sector. Developing a robust red meat strategy is crucial for intensifying both smallholder and commercial production systems. This can be achieved through the adoption of improved technologies, targeted policy and regulatory reforms, and institutional support. Such a strategy would not only increase productivity but also offer market-competitive products, leveraging Ethiopia's rich resources, indigenous knowledge, and innovations. In conclusion, a well-formulated red meat development strategy can significantly contribute to food security, poverty alleviation, job creation, women's economic empowerment, and environmental sustainability, all while improving the livelihoods of the Ethiopian people.

1.3 General Objective

To optimize the red meat sector by creating a supportive environment, offering comprehensive technical guidance, establishing a cohesive national framework with institutional linkages, and implementing a guiding document to enhance production, value addition, and marketing practices to satisfy both domestic and international market demands.

1.4 Specific Objectives

- Creating of enabling environment for red meat production, value addition and marketing
- Availing overall technical guidance to enhance red meat production, value addition and marketing
- Providing national framework and creation of institutional linkages for effective red meat production, value addition and marketing
- Availing a national guiding document for efficient red meat production, value addition and marketing
- Enabling development of climate-smart red meat technologies, innovations, and profitable business models for producing standardized animals to various market segments.

1.5 Vision

Ethiopia aspires to be among global leaders in sustainable red meat production, meeting diverse domestic and international market demands for enhanced economic growth and food security in 2031.

1.6 Mission

Ethiopia aspires to be among global leaders in sustainable red meat production, meeting diverse domestic and international market demands for enhanced economic growth and food security in 2031.

1.7 Goal

To achieve sustainable growth and excellence in red meat production, processing, and marketing, ensuring quality products that meet market demands while promoting industry resilience, environmental stewardship, and job creation and economic wellbeing of the community.

1.8 Scope

This strategy has been framed within the context of addressing the strategic issues for red meat development at the national level, encompassing cattle, sheep, goats, and camels. It emphasizes the promotion of production and productivity of red meat, incorporating institutional arrangements, capacity building, regulatory frameworks and marketing considerations across all production systems and red meat value chain. The strategy is designed for a seven -years period from 2025 to 2031, aiming to drive sustainable growth, excellence, and job creation within the red meat sector.

1.9 Guiding Principles

The governing principles for the development of the red meat strategy are as follows:

- Aligning with the general Home-Grown Economic Policy of the country
- Aligning with the Ten Years Perspective Plan of the livestock and fisheries sector development at MoA
- Aligning with the ten-in-ten priority agricultural commodities at MoA
- Collaborating closely and aligning operations with the national livestock data standard system
- Aligning with rural development policy
- Strengthening linkage with national and international partners working on red meat sub-sector
- Capitalizing on fundamental knowledge, experience and indigenous knowledge;
- Making good uses of standards, experiences and practices available at global and regional levels
- Integrating crosscutting issues (gender, climate, nutrition, etc.) to comply with the national agenda
- Ensuring accountability to clients and encouragement of a vibrant public private partnership in red meat development
- Creating favorable environment of stakeholders for long term engagement and shared responsibility
- Ensuring commitment and accountability at all levels.

2 Situation Analysis

This section presents an assessment of the overall situation of the Ethiopian dairy sector. The major issues covered include development goals of the dairy sector formulated in the country's ten-year perspective plan and associated documents, trends in the production and marketing of dairy products, the institutional capacity of the dairy sector and research focusing on breeding and genetics, feeds and feeding, plus animal health. It provides a comprehensive background for a SWOC analysis and identification of strategic issues and interventions.

2.1 Red Meat Production Systems in Ethiopia

Red meat production in Ethiopia is categorized into four primary systems: (1) Traditional pasture-based fattening, (2) Traditional semi-intensive and intensive fattening, (3) Modern feedlot operations, and (4) Mixed crop-livestock systems. Notably, these systems focus primarily on the finishing phase of production and do not encompass the entire production cycle or value chain, highlighting a critical area for intervention.

2.1.1 Traditional Pasture-Based Production and Fattening

This system is predominantly practiced in pastoral and agro-pastoral regions. Animals, including cattle (bulls, steers, and culled cows), small ruminants, and camels, are raised and conditioned directly on range forage. Traditional fattening in this system often takes over six months, and animals can be sold off-pasture or further conditioned in feedlots. Consequently, livestock from pastoral areas serve as a primary source for feedlots and export markets.

2.1.2 Traditional Semi-Intensive and Intensive Fattening (Backyard Fattening)

Small-scale backyard fattening typically involves raising 1 to 3 animals in residential areas, mainly draught oxen, sheep, and goats. Feed resources include grass, hay, straw, and agricultural by-products like sweet potato vines. Fattening lasts from six months to a year, focusing on niche markets during festive periods. Practices vary by region; for example, Hararghe utilizes crop thinning and cut-and-carry methods, while Jiru feeds high-value crops like cooked teff. Despite well-finished animals, high feed costs present challenges, although opportunities for modernization through training exist.

2.1.3 Commercial Feedlots

Modern feedlots employ intensive confinement with high input costs for infrastructure and feeding. They can be either outdoor or indoor, with indoor feedlots offering confined spaces where animals receive rations of industrial by-products and grains, achieving high-quality meat in 2 to 3 months. Located primarily in urban areas, these operations rely on purchased feeds and mix ingredients on-site. Target markets include live animal exports to the Middle East, with cattle and small ruminants sourced from pastoral areas and camels exclusively from these regions.

2.1.4 Mixed crop-livestock system

Mixed crop-livestock system combines livestock and crop production in a complementary way to optimize resources, increase productivity, and promote sustainability. This system, commonly used by smallholder farmers, allows for more efficient use of land, labor, and inputs by recycling nutrients between crops and livestock. For example, livestock manure fertilizes crops, while crop residues feed red meat animals. This mutual support enhances soil fertility, reduces dependency on external inputs, and boosts farm productivity. This system also improves food security by diversifying income sources. Livestock provide backup income if crops fail, while crop production supports animal feed. Additionally, these systems are more resilient to climate change, as they offer multiple production options in case of adverse weather. By integrating livestock and crops, farmers can reduce environmental impacts, enhance biodiversity, and increase farm sustainability. However, challenges such as access to land, resources, knowledge, and markets can hinder effective implementation.

2.2 Red Meat Production and Consumption in Ethiopia

Red meat production in Ethiopia holds significant potential to meet both domestic demands and access international export markets. Over the years, there have been fluctuations in total meat production figures. For instance, total meat production increased from 578,240 tons in 2004 to 749,430 tons in 2014 but then experienced a decline to 596,765 tons in 2017.

In 2022, out of a total meat production of 747,544 tons in Ethiopia, the majority—amounting to 698,189 tons was derived from red meat animals. Among these, 419,868 tons were contributed by cattle, 242,774 tons came from sheep and goats, and 35,545 tons from camels. Collectively, these red meat animals constituted 93% of the total meat production. In contrast, the remaining 7% of total meat production in 2022 was sourced from poultry (FAOSTAT, 2024). These figures highlight the dominance of red meat animals in Ethiopia's meat production landscape and underscore the importance of enhancing and stabilizing production levels to meet both local consumption needs and tap into lucrative export opportunities.

Despite having the sixth-largest livestock population globally (CSA, 2021), Ethiopia accounts for only 0.2 percent of global meat production, ranking 55th worldwide (Birhanu, 2019). Based on the 2022 data, the average annual per capita meat consumption in Ethiopia is about 7 kg, with meat production and consumption primarily (about 90%) sourced from bovine, mutton, goat meat, and camel. Annual per capita consumption is considerably lower compared to the East African average of approximately 10 kg per person. Globally, the average consumption is around 28 kg per person, with over half coming from poultry. Within the region, Sudan has a much higher consumption rate of about 27 kg per person, while Kenya's per capita intake is around 14 kg (FAOSTAT, 2024).

Meat consumption often serves as an indicator of a country's or individual's economic status, with higher social or economic classes typically demanding larger quantities of high-quality meat products (Alemayehu, 2011). The Livestock Master Plan (LMP) projections indicate a significant meat deficit of 42% (1,213 thousand tons) due to surging demand driven by rapid population growth, increasing incomes among the affluent, and urbanization (Shapiro et al., 2015). Additionally, many Ethiopians abstain from consuming pork due to religious beliefs, which further shapes the landscape of meat consumption.

Annual earnings from meat exports reach 92.65 million USD, primarily involving live animals and chilled carcasses exported to Djibouti, Somalia, Sudan, Egypt, Libya, and the Middle East (Dugassa, 2022). However, challenges such as the lack of an effective traceability system, underdeveloped infrastructure for quality

livestock production, and inefficient market systems hinder growth. Many animals are sold only when cash is needed or when they become too old for draft work. Moreover, droughts significantly impact livestock in pastoral regions. To mitigate these challenges, commercial destocking can be implemented through coordinated efforts among livestock traders, export abattoirs, local slaughterhouses, and butcheries.

2.3 Livestock Genetic Resources and Productivity

Over the past five decades, Ethiopia has focused on the genetic enhancement of beef cattle, sheep, and goats through breed identification, characterization, and crossbreeding. While phenotypic assessments have been completed for most of Ethiopia's 27 cattle breeds, molecular characterizations have only been conducted on eight: Boran, Fogera, Horro, Sheko, Abigar (Nuer), Gurage, Ambo, and Afar.

In the sheep and goat sector, Ethiopia hosts over 14 sheep and 11 goat breeds, adapted to diverse environments and valued in low-input smallholder systems. Despite their genetic diversity and export potential, productivity remains below capacity. The one-humped dromedary camel (Camelus dromedarius) accounts for about 90% of the world's camel population, with significant numbers in Ethiopia, supporting pastoral and agro-pastoral livelihoods.

2.3.1 Meat Production Performance of Cattle

Cattle improvement efforts began in the 1960s at Alemaya, where breeds like Hereford, Charolais, Brahman, Santa Gertrudis and Angus were crossbred with Boran cattle (Wagner et al. 1969), and selection was attempted at Abernosa Ranch. Research on fattening performance has shown promising results. Ogaden bulls gained well on a 50:50 concentrate and hay diet, while Horro bulls achieved an average daily gain of 530 grams on a diet of urea-treated teff straw and concentrate. Boran bulls can reach 300 kg from an initial 128 kg in 224 days, with dressing percentages of 58-62% (Mieso et al., 2013; Girma et al., 2015). Fogera bulls reached a similar market weight of 300 kg within 150 days using sugarcane tops and hay (Beyadglign et al., 2021). Kereyu bulls attained weights between 250 and 300 kg in 168-179 days, with lower dressing percentages (Ashebir et al., 2019; Tesfaye et al., 2018, 2019).

Dairy bulls can also be economically fattened between 12 and 24 months. Growth studies of Friesian-Boran crossbred bulls showed a daily gain one 1 kg on total mixed rations. An evaluation of local bulls over 98 days resulted in an average weight of 306 kg and dressing percentages of 58-60% (Zekarias et al., 2016). These findings indicate substantial potential for improving Ethiopia's red meat sector through indigenous breeds.

2.3.2 Meat Production Performance of Small Ruminants

Studies (Tesfaye, 2004; Sebsbie [U1] et al., 2007; Ayele & Urge, 2019; Tadesse, 2015) reveal significant productivity variations among breeds. For sheep, daily gains range from 16 to 126 g, with slaughter weights between 18 and 26 kg and hot carcass weights from 7 to 18 kg. Key reproductive metrics include age at first lambing (11 to 16 months), lambing intervals of 7 months, and twinning rates between 1.01 and 1.7. For goats, daily gains vary from 12 to 79 g, with carcass weights ranging from 6 to 8 kg for Arsi-Bale goats and 11 to 13 kg for Borana goats (Takele et al., 2006, Tatek et al., 2004).

Highly prolific sheep breeds include Washera, Horro, Bonga, Doyogena, and Arsi-Bale, while Menz, Afar, and Black Head Somali tend to be smaller. Genetic improvement initiatives have demonstrated potential gains; for instance, Menz sheep have achieved 30 kg at yearling age through enhanced breeding and feeding strategies (Gizaw et al., 2007). Community-based programs have also increased the weights of Horro and Bonga sheep to over 20 kg at six months (Areb et al., 2021; Habtegiorgis et al., 2022a, b; Alemayehu et al., 2022).

Crosses with Dorper sheep have yielded yearling weights of 25 to 30.6 kg, surpassing local sheep (Mesfin et al., 2014). However, challenges persist in maintaining pure and crossbred populations due to adaptation issues (Getachew, 2015). High mortality rates among imported breeds, such as 56% in Dorper sheep at the Debre Berhan Research Center, raise further concerns (Besufkad et al., 2024). Additionally, the yearling weight of Boer x Central Highland goats is lower than that of local breeds, suggesting limited viability for smallholder farming (Mustefa, 2022).

2.3.3 Meat Production Performance of Camel

In 2009, global camel meat production reached approximately 360,000 tons, primarily from Saudi Arabia, Sudan, Somalia, and Egypt. Camel meat is valued in arid regions where beef is scarce and is popular among Muslim communities in Africa, Australia, and China. Camel meat is nutritionally advantageous, with lower fat and cholesterol levels, and is rich in polyunsaturated fatty acids, making it a healthier option (Bekhit and Farouk, 2013). However, it lacks a structured market and faces limited consumer awareness regarding its nutritional benefits.

Mature dromedary camels typically have an average slaughter weight of 450 kg, with a dressing percentage of 56% of live weight and 64% of empty weight, yielding 56% meat, 19% bone, and 13.7% fat. Cultural taboos affect camel meat consumption in regions like Europe and North America, where it is rarely eaten. In some communities, such as among Ethiopian Christians and certain Indian tribes, camel meat is avoided and often reserved for special occasions (Hartley, 1979; Dahl and Hjört, 1979). Additionally, some tribes refrain from slaughtering camels regarded as part of their cultural identity (Gast *et al.*, 1969).

2.4 Genetic Improvement Approach for Red Meat Animals

Traditional breeding practices that dominate livestock production, result in low productivity and slow genetic progress. To address these issues, several initiatives have been introduced, including the establishment of ranches and breeding centers for cattle and sheep, genetic improvement in research farms for cattle, sheep, and goats, and later the community-based breeding programs (CBBP) introduced for sheep and goat. However, there has been little to no effort to improve the genetic potential of camel in Ethiopia.

2.5 Cattle and Sheep Ranches and Research Institutions

Ethiopia has established a range of cattle and sheep ranches, breeding, and multiplication centers, each with distinct objectives and varying levels of success. Notable cattle operations include the Abernosa Cattle Improvement and Multiplication Center, Dida Tiyura Boran Cattle Ranch, Gobe Cattle Multiplication Ranch, Horro Gudru Cattle Breeding Ranch, and several others.

While these establishments aim to enhance livestock quality and production, many have faced significant challenges, including privatization, closure, and damage during periods of civil unrest. For instance, the Abernosa Ranch, founded in 1962, focused on improving Boran cattle and introduced Holstein Friesian crossbreeding in 1972.

The Dida Tiyura Ranch, located in the Borana Plateau, specializes in the conservation and enhancement of Ethiopian Boran cattle. Despite suffering looting in 1991, it was re-established in 1993 and is currently managed by the Oromia Bureau of Agriculture. However, challenges such as limited resources, inadequate management practices, and insufficient government oversight hinder its potential.

The Gobe Ranch, initially dedicated to pure breeding, shifted focus to producing crossbred heifers to support local dairy farmers, particularly after undergoing rehabilitation following damage during political unrest in 1991. The Horro Gudru Ranch, originally a sheep multiplication center, has transformed into a cattle crossbreeding and multiplication operation, yet struggles to meet its production targets.

In sheep, the Debrebirhan and Amedguya Sheep Breeding Centers in the North Shewa zone play a vital role in enhancing ram multiplication and dissemination. These centers have successfully imported various sheep breeds, distributing over 4,000 crossbred rams—specifically Awassi, Corriedale, and Hampshire breeds, to smallholder farmers at subsidized rates. However, challenges such as high operational costs, disease outbreaks, and poor adaptation have significantly hindered crossbreeding initiatives, limiting the availability of improved sires. Consequently, crossbred sheep comprise only 0.35% of the total sheep population in Ethiopia (CSA, 2022).

To address challenges in ranches, the Ministry of Agriculture is actively working to convert public farms into profitable, market-oriented state-owned enterprises. Initiatives are underway to improve the operational efficiency of breeding centers, integrate community involvement, and enhance resource management, ultimately aiming to increase the contribution of improved sires to the overall small ruminant population in Ethiopia.

Several research institutions and universities, including Debre Berhan, Bako, Melka Were, Hawassa, Abergelle, Andassa, Jinka, Fafen, Adami Tulu, Sirinka, and universities including Hawassa and Hramaya have established farms focused on enhancing local sheep and goat breeds through selective breeding and crossbreeding techniques. These institutions are equipped with structured facilities and skilled personnel capable of implementing innovative practices in breed development, feeding, and animal health.

Ethiopia's genetic improvement programs face significant challenges, including budget constraints, disease outbreaks, limited government support, and inadequate management practices, which are further exacerbated by political instability that disrupts breeding programs through damage and looting. Additionally, the absence of structured breeding programs and inadequate record-keeping hampers the selection of high-performing animals, while underdeveloped infrastructure and capacity for artificial insemination and embryo transfer limit the dissemination of improved genetics.

2.6 Community-Based Breeding Approach as an Alternative Breed Improvement Approach for Small Ruminants

The Community-Based Breeding Program (CBBP) has emerged as a promising alternative to traditional ranching and genetic improvement strategies in Ethiopia since its inception in 2009. This approach emphasizes community engagement and local knowledge, integrating smallholder farmers into the breeding process to enhance the genetic quality of livestock, particularly small ruminants.

The CBBP focuses on utilizing indigenous breeds and improving them through selective breeding, which allows for better adaptation to local environmental conditions. Over the years, the CBBP has achieved notable successes, attracted significant stakeholder participation, and fostered enhanced community engagement (Haile et al., 2011, 2019a, b).

Currently, more than 296 villages are engaged in the breeding program, with 155 participating in Community-Based Breeding Programs (CBBPs) and 141 in production units. These initiatives hold great potential to supply both live animals and meat products to meet the needs of local and export consumers.

2.7 Animal Health and Feeding for Red Meat Production in Ethiopia

Animal health and feeding practices for red meat production in Ethiopia face significant challenges. The prevalence of endemic diseases such as foot-and-mouth disease (FMD), lumpy skin disease, and parasitic infections severely affects livestock productivity. Limited veterinary services, especially in remote pastoral areas, exacerbate these health issues, leading to high morbidity and mortality rates. Despite periodic vaccination campaigns, coverage remains low due to logistical barriers and limited resources, with only 30% to 50% of cattle receiving vaccinations in many regions (FAO, 2019).

Zoonotic diseases such as brucellosis and tuberculosis are also common, posing risks to both animal and human health, and restricting market access for live animals and meat products. The lack of effective disease surveillance and reporting systems further complicates the management of livestock health (CSA, 2021).

Feeding practices are equally constrained, with seasonal feed shortages significantly impacting livestock productivity. During the dry season, natural pastures, which is the primary feed resource, are severely depleted, leading to weight loss and poor animal condition. Improved forage and feed resources are underutilized due to high costs and low awareness among farmers. According to the Ethiopian Livestock Master Plan, the average daily weight gain of cattle is below the recommended 0.7 kg/day, primarily due to inadequate nutrition (Shapiro *et al.*, 2015).

Efforts to introduce improved forages and feed conservation techniques, such as silage and haymaking, showed promise but require more extensive adoption to make a substantial impact. Integrating these practices with better health management could significantly improve the productivity and profitability of Ethiopia's red meat sector.

2.8 Meat Animal Transportation and Marketing

In Ethiopia, the transportation and marketing of meat animals are critical components of the livestock value chain, directly impacting animal welfare and product quality. Regulations govern the transportation of live animals, including prohibitions on long-distance treks and transit through major urban areas to ensure welfare standards are met. However, the enforcement of these regulations remains inconsistent, highlighting a need for improved implementation to safeguard animal welfare and maintain product quality.

The red meat supply chain in Ethiopia encompasses input supply, production, marketing, processing, and consumption, primarily driven by smallholder farmers in rural areas. Cattle and sheep typically move from primary collection centers to secondary and terminal markets, often changing hands multiple times—at least six—before reaching consumers, which artificially inflates prices and makes meat less affordable for low-income groups.

While demand for red meat is rising, local and export abattoirs operate below capacity due to inadequate supplies, exacerbated by the disorganized nature of smallholder farming, which limits access to superior breeds, quality feed, and health services (Legese et al., 2014; Delelegne et al., 2023). Challenges at the trader level include high transportation costs, animal mortality during transit, and a lack of coordination among supply chain actors. Meat processors report escalating prices and a shortage of high-grade animals, often receiving undernourished livestock. Implementing short-term supplementary feeding could enhance marketability (Legese et al., 2014).

2.9 Red Meat Development Goals for the Coming Years

Ethiopia's livestock sector has substantial potential to contribute to the national economy; yet, red meat production remains below expectations relative to the country's livestock population. The current production system is largely traditional, relying on minimal inputs, which leads to low productivity levels. Prices for meat and live animals are higher than those in neighboring countries, including Kenya, driven by inflation and inefficiencies in production and marketing systems.

The draft roadmap for modernizing red meat development aims to align with international standards, particularly focusing on export quality for European markets. This initiative seeks to enhance productivity per unit of land and livestock, establishing a sustainable meat production system. The red meat development in Ethiopia focuses on four main species: cattle, sheep, goats, and camel. With respect to cattle, in addition to production from animals raised for meat, red meat from male calves produced at dairy farms (dairy beef) needs to be considered and the rapid growth of male calves and the fattening of such animals from dairy farms could make a considerable contribution.

The national development target envisages increasing total red meat production from 295,000 tons in 2012 E.C. (2019/20) to 1,759,000 tons by 2022 E.C. (2029/2030) (MoA 10 years perspective plan). This increase, which amounts to a six-fold, will primarily come from smallholder farmers and pastoralists. The carcass weight/productivity per cattle, sheep, goats, and camels is envisaged to grow from 110 kg, 10.5 kg, 8.4 kg, and 250 kg in 2012 E.C. to 121 kg, 12 kg, 10.1 kg, and 278 kg by 2022 E.C.

The '10 in 10' programs also envision that per capita red meat consumption will grow from about 7 kg to 10 kg, while overall production increases from 718,000 to 1,348,000 tons during 2013 to 2022 E.C. (2020/21 to 2029/30), slightly lower than the national development target envisions.

Another target is the reduction of post-harvest loss by strengthening the supply chain for consumers and processors from 0.5 to 0.25% for cattle, from 3 to 1.5% for sheep and goats, and from 8% to 4% for camels. In terms of quality, the envisaged change is to increase the market share of the quality and safe products from 51 to 64% for cattle/beef, from 42 to 63% for sheep, from 45 to 59% for goats, and from 49 to 78% for camel.

2.10 Strength, Weakness, Opportunities and Threat (SWOT) Analysis

The SWOT analysis of the Ethiopian red meat sector provides a comprehensive overview of the internal and external factors affecting its growth and competitiveness. By identifying the strengths, weaknesses, opportunities, and threats within the sector, key stakeholders—including the government, private sector, and development partners—can make informed decisions to address challenges and leverage potential opportunities.

This analysis serves as a strategic tool for enhancing productivity, improving value chains, and positioning Ethiopian red meat in both domestic and international markets. The SWOT framework outlined below highlights critical areas for improvement and actionable insights to foster sustainable development in the sector.

oia	External Environment	Threats		 Resource limitation, poor follow- up and commitment, poor coordination among partners hinder its wider application. Frequent restructuring of institutions, high staff turnover, and lack of integration among regional and national entities. Dependence of farming on oxen power. Inadequate and unreliable financial support. Demolition risk of the available ranches. Inadequate infrastructure, including poor roads, insufficient power supply, lack of market or collection centers, and limited access to water.
ent in Ethiopia		Opportunities	and Capacity Development	 Positive trend in terms of emerging institutions that serve the red meat industry. Emerging of new stakeholders/target groups (agribusinesses, investors, micro- finance, women and youth entrepreneurs, CBBPs). Presence of positive trend for increased skilled human power. Initiatives to establish livestock insurance scheme. Initiatives to privatize livestock quarantine infrastructures. New and existing laws, including animal welfare, movement control, food safety, and animal identification, create a strong foundation to assure quality, safety, and biosecurity for meat products, supporting both domestic and export market requirements.
is for Red Meat Developm€	vironment	vironment Weakness Institution, Infrastructure, and institutions involved in the red meat sector. Poor focus on red meat sector and research. Inadequate infrastructure, and limited facilities in cattle and sheep ranches. Lack of expertise in ranches and meat sub-sector. Lack of continuous training and capacity building for professionals. Ineffective regulatory system A complex network of multiple	 Poor coordination among institutions involved in the red meat sector. Poor focus on red meat sector and research. Inadequate infrastructure, and limited facilities in cattle and sheep ranches. Lack of expertise in ranches and meat sub-sector. Lack of continuous training and capacity building for professionals. Ineffective regulatory system A complex network of multiple actors (local collectors, small- and large-scale traders, feedlot operators) leads to fragmented market channels, making traneworks, gaps in modernized and sufficient abattoir facilities impede quality control challenging. Despite strong regulatory frameworks, gaps in modernized and sufficient abattoir facilities impede quality control and sufficient abattoir facilities impede quality control and sufficient abattoir facilities impede quality control and sufficient abattoir facilities impede quality control and the hygienic processing of meat products. 	
Table 1: SWOT Analys	Internal En	Strength		 A wide range of institutions, including research centers, extension services, and universities, is dedicated to advancing red meat development. Strong commitment from the government to enhance livestock infrastructure and capacity development. The presence of ranches for cattle and sheep. The presence of national and regional veterinary diagnostic lab. and national vaccine production (NVI). Ongoing research initiatives aimed at improving animal genetics, nutrition, and disease management. There is a strong pool of expertise in animal and meat exporters, slaughterhouses, animal fattening, and livestock traders.

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onment	Threats		
External Envi	Opportunities	nd Capacity Development	
Internal Environment	Weakness	Institution, Infrastructure,	
	Strength		 Ethiopia's Ministry of Agriculture (MoA) has significant authority through multiple proclamations (e.g., Meat Inspection Proclamation No. 274/1970, Meat Inspection Amendment No. 81/1976) to enforce regulations ensuring the safety, quality, and wholesomeness of meat in both domestic and international markets. Existing regulation S (e.g., Meat Inspection Regulation No. 428/1972, Commercial Registration and Licensing Council Regulation No. 13 of 1997) and guidelines provide a structured framework to control hygiene, inspection, and processing standards in abattoirs and commercial establishments. Draft regulations on meat hygiene and safety, animal identification, movement control, and traceability of guality meat.

onment	Threats	Breed and Genetic Improvement	 Lack of stakeholder engagement and coordination. Competition for resources with other sectors. Weak genetic resource conservation through sustainable utilization strategy. Limited integration of research into Practice. Breeder and producer cooperatives Sustainability. Limited genetic progress scaling. Vulnerability to climate change. Poor adaptation of exotic breeds.
External Envi	Opportunities		 High demand for improved animals. Presence of tropically adapted diverse red meat animals. Presence of exotic small ruminant breeds fitting the low input system in some areas and preferred by smallholder producers and investors. Relatively short production cycle of small ruminants (8-9 months between the lambing/kidding).
vironment	Weakness		 lack of effective integration and utilization of the available information on breed types and performance indicators for red meat animals, leading to missed opportunities for informed decision-making. Challenges in scaling up and replicating successful sheep and goat community-based breeding and other practices. Absence of structured crossbreeding plan. Absence of well-established and sustainable breeding programs for cattle and camel. Fragmented research efforts. With many cattle breeds being multi-purpose, productivity for meat-specific purposes is not optimized, resulting in lower efficiency compared to specialized breeding systems.
Internal Envi	Strength		 Availability of comprehensive information on breeds and performance indicators. Presence of ample information on tropically adapted potential breeds. Substantial potential in terms of genetic variability both among and within breeds of cattle, goats, sheep, and camels. Existence of active research initiatives dealing with camel, small ruminants, and cattle. Availability of Piloted and effective community-based breeding programs for sheep and goats are being managed by breeder and producer cooperatives. High responsiveness of animals genetic Selection.

ironment	Threats		 Limited infrastructure and connectivity in rural areas. Resistance to adoption. Resistance to adoption. Data integrity and security risks. Funding and sustainability challenges.
External Env	Opportunities	ce Evaluation, and Traceability	 Strong interest to develop national genetic evaluation system. Technology advancement and IT infrastructure. Encouraging private sector involvement in the production and marketing of identification tools. International Support and Collaboration. Regional and global trade agreements that encourage traceable products.
vironment	Weakness	Animal Identification, Performa	 Lack of animal identification and traceability system. Absence of national genetic evaluation system. Issues with the functionality and maintenance of the sheep and goat digital database system for genetic evaluation at national level.
Internal En	Strength		 The availability of an animal identification system and a digital database for sheep and goats, enabling the capture and storage of data for genetic evaluation, is a key strength. A strong commitment and existing initiatives for the implementation of a Livestock Identification and Traceability System (LITS) are already in place.

ronment	Threats	Improved Feed and Feeding	 Limited utilization of improved feeding. Poor grazing and rangeland management. Export of oil seeds and some byproducts. High cost of feed. Lack of grazing land.
External Env	Opportunities		 Emergence and expansion of Agro- processing plants and Agricultural industrial parks. Conducive climate and land for efficient finishing/ fattening potentials of cattle, sheep and goats. Availability of labor. Existence of commercial feedlots contributing to knowledge transfer. The presence of varied non- conventional feed resources and by-products.
ronment	Weakness		 Underutilization of potential feed resources like crop residues, brewery and sugar industry byproducts. Absence of feeding packages tailored to diverse consumer preferences and market demands. Underutilization of feed development and feeding technologies to promote production and productivity of meat animals. Variability in availability and quality of feed.
Internal En	Strength		 The presence of animal feed processing plants, modern feedlots, standard export abattoirs, and an expanding network of local slaughterhouses enhances the overall efficiency and quality of livestock production. Initiatives aimed at establishing comprehensive feed databases are emerging, which will improve feed formulation and optimize livestock nutrition. The presence of well-established good practices in cattle, sheep and good fattening, along with experience in stratified finishing schemes in various regions.

External Environment	Threats	Animal Health and Biosecurity	 Limited or lack of proper system for quality control of drug and vaccines. Poor prevention and control of emerging and re-emerging bovine, caprine and ovine diseases. Insufficient implementation of biosecurity protocols. The movement of animals across borders without adequate health checks. Climate change can lead to shifts in disease vectors and pathogens, creating new challenges for animal health and biosecurity. Inadequate access to veterinary care in rural areas. Inadequate data collection and surveillance systems.
	Opportunities		 The presence of vaccine quality assurance laboratory (PANVAC) in the country. The availability of digital tools for disease monitoring and reporting. Raising awareness among farmers and the public about the importance of biosecurity measures. Engagement of local communities and private sectors in disease monitoring, health service and biosecurity. Emerging interest in public. Promoting an integrated "One Health" approach that considers the interconnectedness of animal, human, and environmental health.
ironment	Weakness		 Weak animal health service organizational profile and poor implementation scheme. The preponderance of multiple infectious and non-infectious diseases. Lack of strong coverage of surveillance system for circulating strains of major cattle, small ruminant, and camel diseases. Weak response system for disease outbreak. Inability to meet international sanitary and phyto-sanitary standards. Lack of national diseases free zones. Low coverage of vaccination and weak cold-chain facility. Underutilization of animal health technologies to reduce morbidity and mortality of meat animals.
Internal En	Strength		 Existence of surveillance system for animal health. Existence of national vaccination program in different regions. Strong animal health service provision by government. Partnerships with international organizations and NGOS. The presence of national and regional veterinary diagnostic laboratories as well as vaccine production institutes. Presence of health clinics, veterinary drug importers, and veterinary drug importers, and veterinary services at village level.

onment	Threats	Market Strategies, Infrastructure and Commercialization	 Competitive global market Inadequate promotion of exportmarket Poor incentive for meat exporters that encourages informal livestock exports. Strict global market regulations on animal health and food safety. Illegal cross border livestock trade and interference of illegal brokers. Fluctuations in global meat prices and local economic conditions. environmental changes can affect livestock health and productivity. Political uncertainties and conflict.
External Envi	Opportunities		 Exploring new domestic and international markets, the emergence of potential markets within Africa (COMESA, AfCFTA). Opportunities exist for processing red meat products (e.g., sausages, dried meat). Growing domestic and global demand for red meat. Huge interest of private investors and communities to participate in red meat sector. Government support for export trade. Regional and continental free trade partnership and duty-free privilege.
ronment	Weakness		 Lack of proper market linkage between feed suppliers and red meat producers. Weak market for inputs like feed, vet supplies. Seasonal fluctuation in meat demand. Weak market information system. Inefficiency of the red meat value chain.
Internal En	Strength		 Increasing urbanization and rising incomes are driving demand for red meat market expansion. Existing markets for Ethiopian red meat in the Middle East and other regions. Supportive government policies aimed at enhancing the livestock sector.

ironment	Threats		 Outbreaks of food-borne illnesses linked to poor meat hygiene. Changes in domestic and international regulations related to meat hygiene and quality. Environmental factors such as droughts or floods can impact livestock health and hygiene, affecting meat quality. Rising costs for meat production inputs may hinder investment in technologies and infrastructure needed to reduce post-harvest losses.
External Envir	Opportunities	ds and Post-Harvest Meat Loss	 Development of certification programs for meat hygiene and quality that can enhance consumer trust and marketability. Meeting international hygiene and quality standards can open export opportunities for Ethiopian red meat products. Ongoing development of comprehensive policies focused on animal husbandry, meat quality, and marketing. Reducing pos-tharvest losses would boost the availability of quality meat for export, increasing Ethiopia's share in global markets. Training farmers and stakeholders on best practices in meat handling and quality standards can improve the supply chain. Strengthening and enforcing safety regulations can improve the quality and marketability of meat products.
ironment	Weakness	Meat Hygiene, Quality Standaı	 Limited information in meat quality and carcass characteristics. Insufficient monitoring and enforcement of existing hygiene regulations. Poor and substandard animals that fails to meet consumers expectation. Prevalence of backyard slaughtering in cities and rural areas. Underutilization of meat technologies. Inadequate transportation and cold storage facilities lead to spoilage and quality degradation. Farmers, traders, and consumers often lack knowledge about proper meat handling and quality bos-tharvest losses.
Internal En	Strength		 Presence of existing national and regional regulations and initiatives that provide a framework for meat quality and hygiene standards. Presence of meat Inspection schemes. Availability of modern meat processing facilities meeting export standard. Certification system for meat processing plants. The rising demand for red meat encourages improvements in the supply chain, presenting opportunities for better pos- tharvest management.

vironment	Threats		 Poor logistics support for extension service and incentive mechanisms. Political and social unrest can disrupt extension services. Competition for resource with crop and other livestock sector.
External Env	Opportunities	at Animal Production	 Utilizing mobile technology and digital platforms to deliver extension services. Collaborating with private sector stakeholders.
vironment	ironment Weakness Extension in Red Meat		 Absence of a specialized red meat value chain extension approach targeting commercial red meat producers. Poor linkage between research and extension. Lack of performance-based incentive to development agents and extension experts. Lack of context and production- system-specific extension approach.
Internal En	Strength		 Availability of farmer training centers (FTcs). Availability of dense extension staff at district and kebele level. Presence of livestock extension packages in feed, health, and animal husbandry.

3 Benchmark for National Red Meat Strategy

The benchmark setting for Ethiopian red meat livestock production performance indicators involved comparing them with top-performing countries globally and regionally. Benchmark countries included Brazil, Botswana, and Kenya for cattle; New Zealand, Kenya, Australia, and Sudan for sheep and goats; and Kenya and Sudan for camels (Table 2). To conduct this comparison, data extracted from the FAO statistical database (FAOSTAT, 2024) spanning a period of 10 years from 2013 to 2022 was utilized to assess and analyse the performance indicators in the Ethiopian red meat livestock sector.

3.1 Cattle Production and Performance

Ethiopia's cattle production and performance currently lag behind regional and global benchmarks such as Brazil, Botswana, and Kenya. Brazil, a leader in cattle production, slaughters 40 million cattle annually, achieving an 18.35% slaughter rate from its 218 million population. In comparison, Kenya slaughters 2.37 million cattle with an 11.9% slaughter rate, while Botswana maintains a 13% slaughter rate with a higher export value despite its smaller herd size. In contrast, Ethiopia's slaughter rate is just 6% from a population of 62 million, revealing significant opportunities for improvement in off-take and efficiency.

To address these challenges and reach the benchmarks set by these countries, Ethiopia must prioritize the red meat sector and enhance producers' capacity. Key interventions include the commercialization of the meat value chain, diversifying markets, and encouraging market-oriented initiatives to fill existing gaps.

Ethiopia's average carcass weight of 108 kg per animal is considerably lower than Brazil's 244 kg, Botswana's 199 kg, and Kenya's 131 kg, indicating that better breeding, health, and feeding practices could enhance production without requiring herd expansion. Furthermore, Brazil's high export value and Botswana's focus on premium exports highlight the potential for Ethiopia to tap into international markets by improving product quality and ensuring compliance with global standards.

Kenya's cattle production presents a more attainable medium-term benchmark for Ethiopia, with a slaughter rate of 11.9% and an average carcass yield of 131 kg. Focused efforts in supply chain efficiency, market access, and animal health could help Ethiopia close this gap. In the long term, achieving Brazil's 18.35% slaughter rate and 244 kg carcass yield, or Botswana's 13% slaughter rate with 199 kg yield and higher export value, will require sustained efforts aimed at enhancing productivity and export development.

3.2 Sheep and Goat Production and Performance

Ethiopia's sheep and goat production has room for improvement when compared to benchmarks like New Zealand, Australia, Kenya, and Sudan. For sheep, New Zealand's slaughter rate of 85% and carcass yield per animal of 19.74 kg, Australia's 43% slaughter rate and 23.46 kg yield, and Kenya's 16% slaughter rate and 12 kg yield, are all higher than Ethiopia's 31% slaughter rate and 10 kg carcass yield.

In goat production, New Zealand slaughters 148% of its goat population with a yield of 15.5 kg, while Kenya and Sudan achieve yields of 11.75 kg and 13 kg, respectively, compared to Ethiopia's 8.49 kg yield. To close these gaps, Ethiopia needs to enhance feeding, healthcare, and genetics, ultimately boosting production efficiency. To close these performance gaps, Ethiopia can leverage its existing genetic variability in sheep and goats, which has shown documented genetic progress through pilot Community Based Breeding Programs (CBBPs). Scaling of CBBPs by integrating innovations in breeding, feeding, healthcare, market strategies and community empowerment can yield substantial improvements in sheep and goat production.

3.3 Camel Production

Ethiopia's camel production has significant room for improvement when benchmarked against regional counterparts like Sudan, Somalia, and Kenya. Ethiopia slaughters 0.17 million camels annually, producing 32.7 thousand tons of meat, with an average carcass weight of 190 kg. In contrast, Sudan leads with 0.53 million camels slaughtered, yielding 145 thousand tons, and achieving a higher yield of 271 kg per animal. Kenya, with a slaughter of 0.18 million camels, excels with a yield of 300 kg per camel and a meat production of 55.10 thousand tons. In terms of export revenue, Ethiopia generates \$11.2 million from camel exports, which is lower than Sudan's significant export values, indicating the need for Ethiopia to enhance its market presence.

Row Labels	Australia	Botswana	Brazil	Eastern Africa	Ethiopia	Kenya	New Zealand	S Africa	Somalia	Sudan
Cattle										
Slaughtered An (M)	8.26	0.17	40.01	17.39	3.68	2.37	4.51	3.71	0.52	3.47
Meat production (1000 t)	2263	33.3	9783	2505	399	301	683	1110	56	378
Yield/carcass weight (kg/An)	276	199	244	144	108	131	151	299	109	109
Total population (M)	26	1.30	217	169	62	20	10	18	4.79	31.10
Meat export quantity (t)	108	1.00	11.53	2.00	0.72	0.83	59	11	0.03	4.77
Meat export value (M USD)	398	2.63	28.34	7.12	2.45	3.54	193	42	0.09	15.15
Export Quantity (An)	1.05	0.05	0.40	0.34	0.13	0.01	0.06	0.03	0.16	0.02
Animal export value (M USD)	1027	23.3	345	141	69.7	0.95	108	20.09	50.21	34.61

Table 2: Key Performance Indicators for Red Meat Livestock Production in Ethiopia Compared to Regional and Global Benchmarks

Row Labels	Australia	Botswana	Brazil	Eastern Africa	Ethiopia	Kenya	New Zealand	S Africa	Somalia	Sudan
Slaughtered animal/total	0.22	0 1 2	0.19	0.10	0.11	40.01	0.44	0.20	0.11	0.11
Meat production (1000 t)/total	0.32	0.13	0.18	0.10	0.11	40.01	0.44	0.20	0.11	0.11
population (M)	86.93	25.6	44.92	14.74	14.54	9783	67.43	61.09	11.87	12.17
Export value M USD/total population	54.73	19.9	1.72	0.88	0.22	244	29.75	3.42	10.50	1.60
Sheep			_							
Slaughtered An (M)	29.91	0.10	5.93	22.53	10.3	3.42	23.54	6.27	3.36	15.42
Meat production (1000 t)	699	1.37	94.86	268	103	41.52	464	176	43.09	261
Yield/carcass weight (kg/An)	23.46	14	16.00	11.93	10.0	12.00	19.74	28.24	12.82	16.95
Total population (M)	69.64	0.22	19.19	95.75	33.6	21.12	27.60	26.07	11.33	40.60
Meat export quantity (t)	443	0.02	0.03	4.80	0.84	1.85	397	1.55	0.23	3.61
Meat export value (M USD)	2456	0.04	0.29	21.49	4.65	8.00	2438	8.53	0.82	30.47
Export Quantity (An)	1.43	0.00	0.00	1.67	0.32	0.01	0.01	0.04	1.21	3.44
Animal export value (M USD)	135	0.02	0.07	137	22	0.33	1.13	5.12	105	355
Slaughtered animal/total population (M	0.43	0.44	0.31	0.24	0.31	0.16	0.85	0.24	0.30	0.38
Meat production (1000 t)/total population (M)	10.05	6.12	4.94	2.81	3.08	1.97	16.82	6.75	3.80	6.44
Export value M USD/total										
population	37.21	0.29	0.02	1.66	0.82	0.39	88.40	0.52	9.34	9.50
Goat			1	1			1			
Slaughtered An (M)	1.78	0.37	2.98	41.57	12.7	5.33	0.14	1.55	2.97	13.20
Meat production (1000 t)	27.55	4.42	34.28	470	108	59.91	1.59	21.21	38.64	117
Yield/carcass weight (kg/An)	15.50	11.9	11.50	11.40	8.49	11.75	11.10	13.68	13.00	8.91
Total population (M)	3.75	1.30	10.63	160.0	38.6	29.43	0.10	9.62	11.47	31.75
Meat export quantity (t)	25.96	0.00	0.00	21.55	14.1	6.15	1.14	0.02	0.52	0.47
Meat export value (M USD)	166	0.00	0.01	114	80.2	30.10	7.45	0.09	1.92	4.54
Export Quantity (An)	0.04	0.00	0.00	1.70	0.05	0.01	0.00	0.01	1.47	0.14
Animal export value (M USD)	5.39	0.00	0.00	144	2.62	0.33	1.36	1.45	133	14.13

Row Labels	Australia	Botswana	Brazil	Eastern Africa	Ethiopia	Kenya	New Zealand	S Africa	Somalia	Sudan
Slaughtered animal/total population (M	0.48	0.28	0.28	0.26	0.33	0.18	1.48	0.16	0.26	0.42
Meat production (1000 t)/total population (M)	7.35	3.39	3.23	2.94	2.79	2.04	16.46	2.20	3.37	3.71
Export value M USD/total population	45.91	0.00	0.00	1.62	2.14	1.03	91.09	0.16	11.8	0.59
Camel				_					_	
Slaughtered An (M)				0.66	0.17	0.18			0.28	0.53
Meat production (1000 t)				139	32.7	55.10			47.69	145
Yield/carcass weight (kg/An)				212	190	300			170.27	271
Total population (M)				12.94	1.46	3.70			7.33	4.86
Meat export quantity (t)				0.05					0.08	0.00
Meat export value (M USD)				0.07	0.00	0.01			0.11	0.01
Export Quantity (An)				0.10	0.01	0.00			0.06	0.04
Animal export value (M USD)				52.26	16.4	0.28			26.86	111
Slaughtered animal/total population (M				0.05	0.12	0.05			0.04	0.11
Meat production (1000 t)/total population (M)				10.77	22.4	14.88			6.51	29.82
Export value M USD/total population				4.04	11.2	0.08			3.68	22.90

4 Strategic Issues

4.1 Strategic Issues and Interventions

The strategic issues identified represent the most critical challenges faced by the red meat production subsector, arising from both its strengths and weaknesses, as well as opportunities and threats within the industry. These issues require immediate intervention to ensure sustainable growth. Key strategic considerations focus on the entire meat value chain, from producers to end-market consumers, aiming to address sector-wide challenges and delivering high-quality products to both domestic and export markets.

The strategy emphasizes improving the productivity of animals at the smallholder and pastoral levels through innovations in breeding, animal health, and feeding practices. Ensuring traceability and biosafety is a priority, requiring the engagement of well-trained actors in managing breeding programs, feedlots, and small-scale fattening units. Additionally, strengthening the biosafety, animal health delivery systems, and market efficiency will be essential for supporting both producers and ensuring high-quality meat supply for diverse market segments.

4.2 Description of Strategic Issues and Interventions

4.2.1 Institution and Capacity Development

Institutional and capacity development in the red meat sector is essential for addressing key challenges, including inadequate linkage and coordination among stakeholders, a lack of strong producers' associations, and inconsistent organizational structures across regions. Strengthening existing producer associations and forming new ones will strengthen producers via capacity-building programs and better access to financial resources. Enhancing the infrastructure and operational capabilities of ranches, breeding centers, and local slaughterhouses to comply with sanitary standards is essential for improving product quality. Enhancing the efficacy of research institutions by prioritizing market-oriented research and optimizing human resource utilization through training and improved working conditions will augment overall productivity in the industry.

Promoting the red meat sector and addressing infrastructural deficiencies, including the establishment of meat laboratories, experimental animal pens, and animal collection centers, would enhance production efficiency and align initiatives with market demands, ultimately benefiting both producers and consumers. Collection centers will serve as central locations for aggregating meat animals from several farmers, ensuring that animals are managed and transported effectively to the final market while complying with hygiene and welfare regulations. Collection centers will also enhance the organization of livestock supply, optimizing the supply chain, improving market access for producers, and maintaining a consistent supply of quality animals for processing.

A diversified strategy is vital for enhancing institutional and capability development. This encompasses stakeholder mapping to create a collaborative multi-stakeholder platform, enabling access to finance and markets via capacity-building initiatives, and improving communication and coordination among regions. Enhancing infrastructure and instituting local slaughterhouses, alongside the enforcement of sanitary regulations, will enhance meat quality. Furthermore, empowering animal genetic evaluation institutes is essential for advancing livestock genetic improvement.

These institutes help farmers in identifying beneficial traits using data-driven assessments and breeding methodologies, enhancing productivity and profitability. Research institutions ought to prioritize market-oriented research and develop economically viable feeding innovations. Enhancing regulatory agencies along the red meat value chain and advocating for small-scale forage harvesting equipment can augment efficiency within the red meat supply chain.

4.2.2 Breed and Genetic Improvement

Although the country possesses vast livestock genetic resources, most of the animals have limited growth and reproduction potential for meat production. The available breeds are primarily adapted for multipurpose uses rather than being specifically developed for meat production. Several efforts have been made to characterize sheep, goat, cattle, and camel breeds in Ethiopia, however, the red meat sector faces significant challenges related to the ineffective utilization of available genetic information. The absence of clear delineation for specific breeds and cross breeding strategies poses a significant challenge in optimizing the use of breeds and crossbreeding in the red meat sector. A comprehensive review of existing breed characterization efforts is essential to document and promote the potential of various breeds across different agro-ecological zones. This should include delineating areas for breed selection, crossbreeding, and restocking, which will help optimize genetic resources.

To improve the genetic enhancement strategies for beef cattle, sheep, goats, and camels, it is essential to develop tailored breeding strategies specific to various production systems such as mixed farming and pastoralism. Strengthening the current CBBPs for sheep and goats will improve the production of certified breeding animals, while exploring the feasibility of similar initiatives for beef cattle will broaden the reach of genetic improvements. Incorporating meat traits into existing dairy improvement efforts can create beneficial synergies across sectors. Additionally, evaluating selective breeding and crossbreeding strategies by importing and evaluating semen or exotic animal for beef cattle will further enhance genetic outcomes, with a focus on reinforcing crossbreeding initiatives for small ruminants using breeds like Dorper and Awassi in sheep.

A robust strategy for disseminating improved genetics from nucleus herds and CBBPs to commercial/production units through both natural and artificial insemination will also be crucial. To maximize the use of reproduction technology and genomic tools, assessing the potential for genomic selection and enhancing existing low-cost artificial insemination (AI) facilities for sheep and goats, as well as establishing new ones, is necessary. The absence of a national genetic evaluation system hampers progress; therefore, strengthening the relevant institution to develop and implement such a system is important.

Addressing poor husbandry and reproductive practices through capacity-building initiatives and strengthening feedback systems will provide producers with valuable insights into their animal performance. Finally, aligning genetic improvement efforts with strategies to maintain genetic diversity will ensure the conservation of indigenous genetic resources. Engaging local communities in these genetic improvement and conservation initiatives will foster a sense of ownership and sustainability, ultimately enhancing the resilience and productivity of the red meat sector.

4.2.3 Animal Identification for Traceability and Performance Evaluation

A weak national system for animal identification, genetic evaluation, and traceability undermines the red meat sector's efficiency and market competitiveness, highlighting the need to develop a standardized identification system that integrates performance and pedigree data collection, animal health and treatment records, and other relevant information to ensure both the selection of quality animals and the traceability of meat animals. The presence of a livestock identification and traceability system (LITS) at the national level represents a foundational step toward enhancing the red meat sector's efficiency and market competitiveness. While a system has already been identified, its implementation has not yet been fully realized on the ground.

To address this gap, the first step is to assess potential areas for piloting a robust animal identification system in practical settings, particularly in regions where breeding programs are already established, such as Community-Based Breeding Programs (CBBP) for small ruminants, ranches, and dairy systems for cattle. Implementing a standardized national livestock identification program in these targeted areas as a pilot initiative will allow for the unique identification of animals from birth to slaughter.

This will facilitate precise tracking of individual animals and their health status while integrating genetic evaluation and selection of breeding stock, linking them to market opportunities. Moreover, the effectiveness of this initiative will be significantly enhanced by integrating existing databases, such as the small ruminant digital database – DTREO, LITS database, Animal Disease Notification and Investigation System (ADNIS), <u>Global Burden of Animal Diseases</u> (GBAS), LITS database, Livestock market data base and Disease Occurrence and Vaccination (DOVAR). This initiative should be backed by creating a centralized database that securely records livestock identity, breed, ownership, and performance data.

The DTREO <u>https://dtreo.io</u> digital database in small ruminant can serve an initial software for this purpose, allowing for efficient data management. Digital platforms should also be developed or modified to allow real-time data sharing across the livestock value chain, from breeders to processors, thereby enhancing traceability and transparency. Additionally, a comprehensive genetic evaluation framework must be established to systematically collect and analyze performance data, providing insights for genetic improvement and enhancing productivity.

4.2.4 Feed Development and Improved Feeding

In the red meat sector, feed improvement faces significant challenges due to inadequate quantity, poor quality, and high costs of feed resources. To address these challenges, climate-smart forage production strategies, the introduction of improved forage seeds and their utilization, and the establishment of private-sector-led out-grower schemes are crucial. Developing efficient feed storage, management, and utilization systems is necessary to optimize feed resources. Advocating for removal of taxes on essential feed inputs and equipment can lower costs, making feed more accessible to producers. Additionally, developing low-cost feeding packages using locally available ingredients and improving coordination among feed producers, processors, distributors, and agro-dealers will enhance the overall feed supply chain.

Rangeland and grazing land management need improvement to ensure sustainable use and better pasture quality. Promoting the use of supplementary feeds like brewery spent grains, sugarcane byproducts, and introducing improved fattening technologies tailored to different animal classes and market segments will further enhance feed efficiency. The limited availability of water for livestock presents another challenge. Improving water utilization through the development of livestock water points will ensure a reliable water supply for both livestock and forage development. Furthermore, strengthening feed quality control regulations and encouraging collective action among red meat producers to access feed resources will ensure better feed quality and availability across production areas.

4.2.5 Animal Health and Biosecurity

Animal health and biosecurity are critical concerns in the red meat sector due to the high prevalence of both infectious and non-infectious diseases that impact livestock productivity. To address these issues, reviewing existing data and conducting comprehensive epidemiological studies are necessary to fill knowledge gaps regarding economically significant diseases in red meat animals. This will allow for the development of a strategic intervention plan tailored to each production system, which includes vaccination, deworming, tick and vector control, and disease management strategies.

A monitoring and evaluation system is crucial to ensure that interventions are safe, effective, and adhere to technical standards. Disease surveillance systems must be developed and enforced, with established protocols for outbreak notification and rapid response. Additionally, the establishment of an information system to enhance data collection, transfer, and epidemiological decision-making will improve the management of veterinary services and the training of professionals.

Weak organizational profiles and the implementation of veterinary services also pose challenges. Strengthening the link between federal, regional, and district veterinary services to meet World Organization for Animal Health (WOAH) standards, alongside enforcing rules for private veterinary businesses, will improve service delivery. Improving the capacity of veterinary infrastructure such as laboratories and vaccine storage facilities along with strengthening the public sector workforce and regulatory bodies, is necessary to support effective animal health interventions. Biosecurity is another area needing attention, as there is a lack of appropriate farm-level, regional, and national protocols.

Reviewing and updating biosecurity protocols, adopting WAHO guidelines, and establishing quarantine procedures for regulating livestock movement and export testing will enhance disease prevention and control. Creating awareness about biosecurity and developing systems to address zoonotic diseases will also enhance public health and environmental safety, while promoting the rational use of drugs to prevent antimicrobial resistance (AMR). Furthermore, capacitating regional veterinary laboratories to enhance disease diagnosis and surveillance, along with strengthening veterinary public health services, and increasing private sector involvement is essential for ensuring the overall health and biosecurity of red meat animals in the long term.

4.2.6 Market Strategies, Infrastructure and Commercialization

To tackle challenges in market strategies, infrastructure, and commercialization within the red meat sector, several key interventions can be implemented. The supply of poor-quality products that do not meet consumer demands can be addressed by creating awareness of the importance of quality, early marketing, and the implementation of clear grading and certification systems. Developing and piloting profitable business models to produce meat animals based on market needs is crucial. This can be at a small holder/pastoral setting, either as a group or individual effort, at feedlot points and ranch. Incentives should be created to encourage the sale of high-quality, younger animals, and rapid conditioning technology packages can be introduced to improve livestock readiness. Seasonal fluctuations in supply and demand can be tackled by assessing demand fluctuations and developing a year-round production calendar aimed at different markets.

Market segmentation, understanding the required standards for animals in each market, and improving market efficiency are aspects that should be considered. Flexible export strategies and contract farming can be established between producers and private traders to ensure consistent supply, while cooperatives and private actors should be encouraged to participate. Additionally, the weak marketing system for red meat inputs, including feed, veterinary drugs, and equipment, necessitates the development of business models, improved market access, capacity building for actors, and a certified system for red meat inputs.

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Poor market infrastructure, such as inadequate market centers and transport systems, can be improved by conducting an inventory of existing facilities, investing in modern market centers, and promoting better road infrastructure. Producers can be encouraged to collectively invest in market and transport facilities through cooperatives, and policies should focus on prioritizing infrastructure development. To enhance collective marketing, existing cooperatives should receive support, and new ones should be established.

An effective red meat business development service system is essential, with established standards and guidelines, supported by capacity-building programs. To boost commercialization, national red meat promotion campaigns and branding strategies should be created, alongside value-added market-oriented activities like trade shows and exhibitions. The absence of a reliable market information system and digital platform can be addressed by upgrading existing systems, developing real-time information sharing platforms, and establishing local information centers to assist stakeholders.

A user-friendly digital platform can be developed to track red meat inputs and outputs, covering production, distribution, and marketing processes. Finally, weak linkages among livestock value chain actors should be strengthened, including the potential for introducing livestock auctions. To encourage formal trade, financial incentives for meat exporters should be established, along with reduced regulatory burdens to deter informal exports. A review of the stringent regulatory environment is necessary, including tax reform and incentives to reduce market entry barriers and to encourage market participation.

4.2.7 Meat Hygiene, Quality Standards, and Post-Harvest Meat Loss

To address the challenges of meeting international export standards and local consumer needs, a comprehensive strategy for meat hygiene and quality standards is essential. Essential interventions include developing species-specific meat grading and certification systems, piloting them in select regions, and upgrading slaughterhouses to satisfy hygiene and grading requirements. Establishing dedicated export animal production zones that adhere to international standards, while strengthening meat inspection and monitoring capacities, is vital for ensuring product quality and market competitiveness. Additionally, implementing a digital system for tracking and certification aligned with export market requirements is crucial.

Improving pre-slaughter animal management, slaughter procedures, cold chain management, and butchery standards is necessary, and assisting exporters in obtaining essential certifications like Halal and Organic. Launching public campaigns to inform consumers about meat quality standards and implement clear labeling to indicate certification status will enhance consumer awareness. Strengthening enforcement through reviewing and updating national hygiene regulations, enhancing monitoring systems, and advocating for increased funding for regulatory agencies will ensure adherence to standards.

Post-harvest meat loss, which significantly affects both meat quality and availability, must be tackled through improvements in cold chain management, slaughter procedures, and transportation infrastructure. Poor handling during and after slaughter contributes to tissue shrinkage, spoilage, and overall meat loss. Enhancing preslaughter animal management, modernizing slaughterhouses, and adopting advanced cold chain systems will help reduce these losses.

4.2.8 Extension in Red Meat Animal Production

The extension and coordination system for red meat production encounters several challenges that hinder its effectiveness. A major issue is the lack of commitment from extension staff at the field level, which hampers outreach efforts. Additionally, there is a strong expectation for incentives, impacting motivation and productivity among personnel. The high staff turnover disrupts continuity and knowledge retention, further complicating the situation. Moreover, initiatives are frequently not fully embraced by leaders at various levels, resulting in insufficient strategic backing for extension activities. To address these challenges, an updated extension framework focused on key pillars is essential.

Firstly, governance and policy must be revised to promote leadership ownership of extension initiatives. This can be achieved by ensuring that higher-level officials actively participate in workshops and field visits. Secondly, it is crucial to develop human capacity by fostering a positive working environment that offers professional development opportunities, clear career paths, and performance-based incentives for development agents and experts. Thirdly, the content provided by the extension services should be context-specific.

This involves developing and implementing tailored production packages and integrated innovations that cater to various agro-ecological conditions and target groups. Additionally, diverse and applicable delivery modes should be introduced, such as Farmer Training Centers (FTCs) in mixed crop systems and digital platforms for pastoral areas. A mobile extension approach for pastoralists and systems targeting urban and peri-urban producers can also enhance outreach. Furthermore, establishing a platform for stakeholder engagement at different levels will facilitate joint monitoring, evaluation, and collaboration among all actors involved in red meat production. Finally, introducing private sector involvement in extension services can complement public efforts, ensuring a broader reach and increased support for commercial red meat animal producers.

Strategic Issues	Interventions							
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031						
Institution and C	Institution and Capacity Development							
Inadequate linkage and coordination among institutions/stakeho lders.	 Stakeholder mapping to identify relevant partners. Establish a multi-stakeholder platform with clear role and responsibility. Develop and implement joint initiatives focusing on red meat development. 	 Strengthen the stakeholder platform. Enhance implementation of the joint initiatives. 						
Inadequate capacity or non- existence of red meat producers' associations.	 Strengthen existing breeder/producer associations in small ruminants. Establish new breeder/producer association in beef cattle, camel, and small ruminant. Capacity-building and experience sharing program for producers. Facilitate access to finance and market for input and products. 	 Enhance the capacity of producers. Empower the producer association to become partly or fully self-sufficient. 						
Lack of uniformity in organizational structure among regions.	 Initiate dialogue and enhance communication among regions. Strengthen federal-regional coordination. 	 Standardize organizational structure across regions, if agreed. Strengthen coordination. 						
Weak capacity of existing ranches and breeding and multiplication centers.	 Upgrade infrastructure and facility. Enhance human capacity, management, and operational efficiency. Encourage commercialization of ranches. 	 Promote the development of regional and international market linkage. Enable ranches in achieving financial sustainability. Establish new based on the need. 						
Shortage of standard local slaughterhouses at municipalities.	 Strengthen existing local slaughterhouses and establish new ones. Enforce and implement basic slaughtering and hygiene regulations. Develop PPPs to expand slaughter and processing facilities in key livestock- producing regions, addressing infrastructure gaps and ensuring efficient distribution. 	 Upgrade selected slaughterhouses into modern slaughterhouse/abattoirs. Develop and strengthen PPPs to expand slaughter and processing facilities in key livestock-producing regions, addressing infrastructure gaps and ensuring efficient distribution. 						

Table 3: Strategic Issues and Interventions in the Red Meat Sector

Strategic Issues	Interventions						
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031					
Ineffective performance of research institutions in the red meat sector.	 Improve research infrastructure for red meat research. Empower researchers to focus on market-oriented research and the development of cost-effective and easy technologies. 	 Develop a long-term research agenda that prioritizes market needs and industry challenges. 					
Lack of human resources in transforming the red meat sub- sector.	 Improve working condition and job satisfaction. Implement short- and long-term training for experts in red-meat. Develop accessible and user-friendly training materials for development agents. Regular monitoring and evaluation. 	 Improve working condition and job satisfaction. Implement short- and long- term training for experts. Regular monitoring and evaluation 					
Insufficient attention for the red meat sector.	 Implement advocacy and awareness campaigns. Facilitate and organize discussion forums for administrators, producers, and other stakeholders at multiple levels. Encourage experience-sharing both nationally and internationally. 	• Continuous feedback, monitoring, and evaluation.					
Lack of required infrastructure and facilities for efficient red meat production.	 Conduct assessments in regions to identify gaps in infrastructure and facilities. Establish meat laboratories in strategically selected locations. Create animal collection centers equipped with the necessary facilities. Establish experimental pens and related facilities. Strengthen the capacity of the regulatory body. Develop, test, and popularize appropriate small-scale forage harvesting and processing machineries. 	 Strengthen functionality of laboratories, animal collection centers and experimental barns. Promote use of the established facilities. Upscale local production of appropriate small-scale forage harvesting and processing machineries. 					

Stratogic Tecuos	Interventions						
Strategic Issues	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031					
Breed and Ge	netic Improvement	·					
Inefficient use of genetic information and lack of clear delineation for specific breeds and crossbreeding.	 Conduct a thorough review of existing breed characterization efforts. Document and promote the potential of various breeds across different agroecological zones. Delineate areas for within breed selection, crossbreeding, and restocking information. 	 Document and promote the potential of various breeds across different agroecological zones. Delineate areas for within breed selection, crossbreeding, and restocking information. 					
Inefficient use of genetic information and lack of clear delineation for specific breeds and crossbreeding.	 Develop production system (mixed farming and pastoral) and species-specific breeding strategy. Launch breeding initiatives that focus on traits related to meat yield and quality, including feed efficiency, growth rates, and carcass quality. Strengthen existing sheep and goat community-based breeding villages to enhance the production of certified breeding animals. Assess the feasibility of implementing community-based breeding program for beef cattle and camel. Promote dairy beef initiatives, allowing dual-purpose dairy breeds to contribute to meat production as part of their lifecycle, adding value to the dairy sector and increasing meat supply. Evaluate the potential of selective and crossbreeding strategies in selected ranches and areas for beef cattle, goats and sheep. Strengthen the existing crossbreeding strategy in sheep using Dorper and Awassi sires. Develop a strategy for disseminating improved genetics from nucleus herds/community flocks to commercial units through both natural and artificial insemination in cattle, sheep, and goats. 	 Develop synthetic breeds in sheep through the Awassi x Wollo cross in the Wollo area. Strengthen breeding initiatives that focus on traits related to meat yield and quality, including feed efficiency, growth rates, and carcass quality. Initiate a community-based breeding program for beef cattle in selected areas. Import promising beef cattle genotypes and evaluate their performance in selected ranches and areas. Implement crossbreeding strategies for beef cattle in targeted areas. Enhance the connection between nucleus herds (community flocks) and commercial units. Promote dairy beef initiatives, allowing dual-purpose dairy breeds to contribute to meat production as part of their lifecycle, adding value to the dairy sector and increasing meat supply. 					

Strategic Issues	Interventions						
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031					
Absence of national genetic evaluation system.	 Capacitate institutions (LDI) to develop and implement national genetic evaluation system. 	• Strengthen genetic evaluation system in sheep, goat and cattle.					
Poor husbandry practices.	 Capacity building on husbandry practices and reproductive management across all levels. Strengthen feedback systems to offer producers with insights on their animal performance. 	 Capacity building on husbandry practices and reproductive management across all levels. Strengthen feedback systems to provide producers with insights on their animal performance. 					
Limited use of reproduction technology and genomic tools.	 Evaluate the potential of genomic selection. Enhance the use of existing low-cost sheep and goat AI facilities and establish new. 	• Implement AI in beef cattle and camel.					
Lack of conservation program for indigenous genetic resources.	 Align genetic improvement with genetic diversity maintenance strategies. Engage local communities in genetic improvement and conservation programs. Establish and implement genetic conservation strategy. 	 Strengthen genetic conservation strategy. 					
Animal Identif	ication for Traceability and Performance	Evaluation					
Weak system for national identification, recording, performance evaluation and traceability.	 Assess potential areas to start animal identification and traceability system. Implement a standardized national livestock identification program in selected areas as a pilot to uniquely identify individual animals from birth to slaughter. Create a centralized database for registering, ensuring accurate and secure record-keeping of animal identity, breed, and ownership. Upgrade and adopt existing apps/software to develop a National Animal Breeding and Performance Recording Software. Integrate digital platforms to allow realtime recording and sharing of livestock data across the value chain, from breeders to processors. Develop a comprehensive genetic evaluation framework that collects and analyzes data on animal performance. Develop guidelines for the implementation of LITS and train stakeholders. 	 Evaluate the LITS and make the necessary amendments as per the guidelines by International Committee for Animal Recording (ICAR). Expand livestock identification program. Strengthen the use of digital systems and software for genetic evaluation and traceability. 					

Strategic Issues	Interventions					
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031				
Feed Developm	nent and Improved Feeding					
Inadequate quantity and quality, as well as high cost of feed resources for red meat animals.	 Introduction and Promotion of climate-smart improved forage production using various strategies. Introduction of improved forage seed and planting materials. Establishment of a private-sector-led out-grower scheme for feed production. Development and implementation of feed storage, management, and resource utilization strategy. Advocacy for the removal of taxes on essential feed inputs and equipment. Development of low-cost feeding package using locally available ingredients. Improvement of coordination and linkage among feed producers, processors, distributors, agro-dealers, and red meat producers. Strengthening the enforcement of existing feed quality control regulations. Establishment of youth feed distributors in red meat production areas. Promotion of collective action among red meat producers to access feed. 	 Strengthening the out-grower scheme for feed production. Optimization of feed resources utilization. Capacity building for feed distributing agents to establish feed processing plants. Support red meat producers to establish their own feedprocessing plants collectively. Strengthening the existing feed quality control regulatory provision. 				
Poor grazing land and rangeland management practice.	 Improvement and utilization of grazing land (natural pasture). Development and strengthening rangeland management and improvement. 	 Strengthening grazing land improvement and utilization. Strengthening range land management and improvement. 				
Limited utilization of improved forage and supplement feeds.	 Introduction of brewery spent grain as supplement feed, and enhancement of its conservation and utilization. Promotion of compound feed, sugarcane top, molasses, and bagasse as livestock feed. Introduction of improved fattening technologies and feeding system for different class of animals and market segments (breeding female, pregnant animals, growers, fattening animals, calf/lamb/kids). 	 Strengthening the use of brewery spent grain as supplement feed, and enhancing its conservation and utilization. Strengthening the utilization of specific feeding and fattening packages. 				

Strategic Issues	Interventions						
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031					
Limited water availability for livestock.	 Improving the utilization efficiency of the existing water sources to have multipurpose function (for human, livestock, and forage development). Development of livestock water points. Introduction of solar-based water source for livestock production. 	 Strengthening the efficiency of the existing water sources for multipurpose functions (for human, livestock, and forage development) Strengthening livestock water point development. Strengthening the use of solar-based water source for livestock production. 					
Animal Health	Animal Health and Biosecurity						
The preponderance of multiple infectious and non- infectious diseases.	 Review existing data and conduct comprehensive epidemiological studies to identify and fill gaps in the documentation of major economically significant diseases affecting red meat animals. Develop comprehensive strategic intervention plan/ calendar (vaccination, deworming, tick, and tick born disease control, integrated vector control) for each production system. Establish a monitoring and evaluation system to check the safety, effectiveness, and technical standard of the interventions. Develop and enforce disease surveillance and notification of outbreaks, and rapid response systems. Create an information system for data collection, transfer, and epidemiological decision-support tools to facilitate the spread of information, professional training, and veterinary service management. 	 Strengthening the implementation of comprehensive strategic intervention plan/calendar for each production system. Promoting the research and development of comprehensive and integrated health service delivery. Strengthening the monitoring and evaluation system to check the safety, effectiveness, and technical standard of the interventions. Strengthening the animal health information system. Developing a health system with minimal antibiotic use. 					

Strategic Issues	Interventions					
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031				
Weak animal health service organizational profile and poor implementation schemes.	 Reorganizing and improving the link between federal, regional, and district veterinary service to comply with WOAH/OIE standards. Preparing and enforcing rules and regulations for establishment of private veterinary service delivery businesses. Building the necessary veterinary infrastructure (Laboratories, vaccine, and emergency drugs storage facilities), workforce and regulatory capacity of the public sector. Designing health service strategies based on production systems (urban and per-urban, mixed livestock crop and pastoral, and agro-pastoral). Establishing a flock/herd health management approach (vaccination, breeding, clinical service, feeding and housing) to reduce young stock mortality. 	 Strengthening and improving the link between federal, regional and district veterinary service to comply with WOAH/OIE standards. Enforcing rules and regulations for establishment of private veterinary service delivery businesses. Strengthening veterinary infrastructure. Strengthening flock/herd health management. 				
Lack of appropriate farm-level, regional and national biosecurity protocols.	 Reviewing existing regional and national biosecurity protocols. Initiating compartmentalization. Adopting and implementing relevant OIE guidelines and regulations. Establishing a quarantine procedure for regulatinglivestock movement within the country. Developing a quarantine and testing procedure foranimals to be exported. Creating a system to identify and report non-compliances. Raising awareness on promoting biosecurity. Developing biosecurity systems for known and emerging zoonotic diseases. Strengthening veterinary public health services to combat zoonotic diseases control, promote rational use of drugs to prevent AMR, ensure environmental safety (sanitary mandate, germplasm, semen import) and improve welfare issues. 	 Strengthening the implementation of compartmentalization unit. Initiating, developing, and implementing transboundarybiosecurity protocols. Developing a health care system where minimal antibioticuse. Delineating areas of wildlife and livestock production. 				

Strategic Issues	Interventions		
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031	
Inefficient regional veterinary laboratories on disease diagnosis and surveillance.	• Building the necessary veterinary infrastructure (Laboratories, vaccine, and emergency drugs storage facilities), workforce and regulatory capacity of the public sector.	 Building the necessary veterinary infrastructure (Laboratories, vaccine and emergency drugs storage facilities), workforce and regulatory capacity of the public sector. 	
Market Strateg	gies, Infrastructure and Commercializat	ion	
Supply of poor- quality products that do not meet consumers demands.	 Creating awareness about good quality and early marketing of animals. Developing clear grading and certification systems to ensure products meet both national and international standards. Encouraging livestock producers to produce based on market demands. Developing incentive mechanisms to encourage the sale of higher-quality animals at younger ages. Promoting technology packages aimed at rapid conditioning of livestock. Train smallholders on improved feeding and fattening practices, focusing on practices that enhance meat quality and market readiness. Creating incentives for meat exporters to boost competitiveness while ensuring benefits for producers are not compromised. 	 Establishing a robust sustainable grading and certification framework. Strengthening incentive mechanisms to encourage the sale of higher-quality animals at younger ages. Promoting technology packages on fast conditioning of animals. Implementing incentives for meat exporters. 	
Seasonal fluctuation of demand for red meat animals.	 Assessing seasonal variations in demand for red meat animal and products by buyer type, product type and quality parameters, and reasons behind the variations. Developing a production calendar for year- round production and marketing in different agro-ecologies targeting different buyers to reorient the production system. Implementing flexible export strategy. Establish incentives for year-round fattening operations to stabilize meat supply, encouraging farmers to prepare animals specifically for market demands. Developing training modalities with focus on entrepreneurship skills and production calendars. Training of trainers and cascading training at different levels, including meat animal producers and extension agents. Introducing contract farming system between producer and private traders, processors, and exporters. Encouraging the role of cooperatives and private sector actors. 	 Training of trainers and cascading training at different levels, including red meat animal producers and extension agents. Encouraging the role of cooperatives and private sector actors. Evaluating progress and revise the training modalities and contents. 	

Strategic Issues	Interventions	
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031
Weak marketing system for red meat inputs (feed, vet drug, vaccine, vet equipment's).	 Developing business models for red meat input marketing. Improving market access and distribution networks. Enhancing the entrepreneurship skills of actors in red meat input marketing. Building capacity of market actors on feed handling and various business models. Reducing barriers to entry into red meat input marketing business. Developing and enforcing a certification system for red meat inputs. Fostering partnerships between the public and private sectors to improve the input marketing and distribution. 	 Strengthening business for red meat input marketing. Encouraging private investment in rural areas. Promoting certified products through labeling and branding.
Poor market infrastructure (Market centers, road, livestock transport).	 Conducting an inventory of existing livestock market centers, transportation routes, and livestock transport facilities to assess the current situation and identify gaps. Raising awareness among government and non-government stakeholders about the importance of market infrastructures. Investing in the construction and upgrading of modern market centers equipped with essential facilities such as auction areas, storage, and processing units to enhance the marketing of livestock. Providing technical advice to livestock business operators on options for acquiring livestock transport trucks. Lobbying for the development of roads leading to livestock production areas to facilitate better access. Mobilizing community participation to construct at least dry-weather roads where feasible, enhancing accessibility for livestock transport. Encouraging the formation and strengthen existing producer cooperatives to collectively invest in transport and market facilities. Advocating for policies that prioritize infrastructure development in livestock sectors at local and national levels, ensuring that market needs are considered in planning and budget allocations. 	 Incorporating technology into market operations, such as digital platforms for real-time pricing and inventory management. Supporting local authorities in proposal development for funding from national and international donors aimed at improving market infrastructure and transportation. Strengthening partnership between local authorities and communities in managing market centers and infrastructures.

Strategic Issues	Interventions	
G	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031
Weak collective marketing culture.	 Strengthening existing and establishing new livestock producers and marketing cooperatives. Identifying and discouraging non-value adding market actors. 	 Enhance the role of livestock producers and marketing cooperatives (engaged in value addition activities such as processing, exporting). Dissolve non-value-adding market actors.
Poor animal business development service provision.	 Developing a diverse red meat business development service provision system. Developing a red meat business service provision package. Developing standards and guidelines for red meat business development service provision and regulatory framework. Designing a capacity-building program on red meat business development services. 	 Institutionalizing the red meat business development services provision system. Operationalizing red meat business development service and ensure sustainability.
Poor promotion of commercialization of red meat development in the country.	 Strengthening efforts on value addition and market-oriented activities. Facilitating connections between producers, processors, and markets through trade shows, exhibitions, and networking events to boost commercialization efforts. 	 Strengthening red meat commercialization through appropriate policy, regulatory provision and research supports.
Poor market information system and the lack of a digital platform for tracking red meat animal inputs and outputs.	 Assessing the status of the existing market information system, and existing digital applications in the red meat value chain/sector. Developing cost-effective proposals to upgrade the existing system and establish a broad-based livestock market information system with clear action plan. Securing funding for implementation of the proposed actions. Initiating upgrading of the existing system/establishment of the broad-based market information system. Facilitating real time information sharing. Establishing local information centers where stakeholders can access up-to-date market data and receive guidance on market conditions. Developing a consolidated, user friendly, comprehensive digital platform for the input and output production, distribution, bulking, transportation, processing, marketing and consumption of red meat inputs and outputs. 	 Piloting and full-fledged implementation of market information collection and dissemination at national level. Evaluating the performance of the revised market information system. Updating the system and enhance its coverage. Strengthening real-time information sharing. Strengthening local information centers where stakeholders can access up- to-date market data and receive guidance on market conditions.

Strategic Issues	Interventions		
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031	
Weak linkage among livestock value chain actors.	 Strengthen linkage among livestock value chain actors. Assess the possibility of introducing livestock auction market. 	 Establishing/introducing contract-based livestock production and marketing. Initiate a system of livestock auction market. 	
Lack of private organizations to promote investment and commercialization, combined with poor incentives for meat exporters, encourages informal livestock exports.	 Introducing and strengthening financial incentives such as tax breaks, subsidies, or reduced export fees for formal meat exporters to make formal trade more attractive. Offering performance-based rewards for private producers and exporters who meet certain export volume or quality targets. Strengthening linkages with international markets by organizing trade fairs, business-to-business meetings, and marketing campaigns to promote formal exports. Streamlining bureaucratic processes related to meat exports, reducing delays and administrative costs that drive exporters towards informal channels. Digitizing export processes to enhance efficiency and transparency, making it easier for exporters to comply with regulations. 	 Strengthening financial incentives such as tax breaks, subsidies, or reduced export fees for formal meat exporters to make formal trade more attractive. Strengthening reward mechanism for the best exporters. Strengthening linkages with international markets. Streamlining bureaucratic processes related to meat exports. Strengthening the digitization of export processes. 	
Extremely coercive regulatory environment that discourages market participation.	 Reviewing and reforming the regulatory environment and tax system. Providing tax incentives or exemptions for new and small-scale market participants to encourage formal entry into the market. Ensuring clear communication of tax and regulatory requirements. Reducing or eliminating redundant taxes. 	 Strengthening tax incentives or exemptions system ensure clear communication of tax and regulatory requirements. Eliminating redundant taxes. 	

Stratagic Issue	Interventions	
Strategie 13300	Short-Term – 2025 to 2026	dium-Long Term – 2027 to 2031
Meat Hygier	ne. Ouality Standards. and Post-Harvest Meat Loss	2027 10 2031
Challenges in meeting international export standards as well as local consumers need.	 Developing species-specific standard meat grading and certification system. Implementing pilot programs in selected regions to test and refine the meat grading and certification system. Strengthening capacity for meat inspection and monitoring. Establishing a digital system for certification and tracking and align certification with export market requirement. Promoting innovation in meat production, quality, and processing. Improving pre-slaughter animal management and slaughter procedures. Improving meat handling, cold chain management, packaging, fabrication hygienic meat transportation and distribution. Develop clear labelling systems to inform consumers of certified, high-quality meat products. Developing standards for butchery practices to maintain meat quality standards and enforce inspections. Assisting meat exporters in obtaining necessary certifications and work towards that (e.g., Halal, Organic, Grass-Fed). Implement proper handling practices at slaughterhouses, processing plants, and during transport. Strengthen enforcement of Meat Inspection Proclamations and implement the Animal Identification and Movement Control Regulation to improve product traceability, meet export standards, and build consumer confidence. Collaborate with marketing bodies to establish Ethiopian red meat branding that highlights traceability, quality, and environmental responsibility to appeal to international buyers. 	 Strengthening meat grading and certification system and implement global standard requirements. Strengthening utilization of digital system. Assisting meat exporters in obtaining necessary certifications and work towards that (e.g., Halal, Organic, Grass-Fed). Implementing butchery standards and exercise supermarket-based meat retailing.
Low consumer awareness of meat quality standards and post-harvest meat loss.	 Launching a public awareness campaign on grading and meat quality standards and post-harvest loss. Developing and introducing a clear labeling system that indicates the quality and certification status of meat products. Promote training on post-harvest handling and meat preservation for producers, processors, and retailers. 	 Strengthening public awareness creation campaign on grading and meat quality standards. Promoting the benefits of purchasing certified, high-quality meat.
Weak or uneven enforcement of national hygiene regulations in slaughtering and slaughterhouses.	 Reviewing and updating national hygiene regulations to ensure they are comprehensive, clear, and aligned with international standards. Improving existing meat quality monitoring and regulatory system. Advocating for increased funding for regulatory agencies responsible for enforcing hygiene standards in slaughterhouses. 	 Implementing global meat quality control and regulatory standards. Partnering with international organizations to share best practices.

Interventions Strategic Issues		
	Short-Term – 2025 to 2026	Medium-Long Term – 2027 to 2031
Lack of proper utilization of meat byproducts.	 Raising awareness about meat by-product utilization. Establishing processing facilities for by-products. Supporting research initiatives focused on innovative uses for meat by-products. Developing marketing strategies to promote meat by-products as valuable and safe products. 	 Raising awareness about meat by-products utilization. Strengthening processing facilities for by-products. Strengthening research initiatives focused on innovative uses for meat by-products. Strengthening marketing strategies to promote meat by- products as valuable and safe products.
Extension in Re	ed Meat Animal Production	
Weak extension service and lack of commitment from the extension staff at field level.	 Ensuring ownership by higher officials through workshop and field visit. Establishing a red meat production stakeholder's platform at different level. Developing and implementing context-specific production package and integrated innovations (agro-ecology, different target group, production system). Providing tailor-made training for farmers, experts, and development agents. Exploring and introducing applicable and suitable extension delivery modes (e.g. Digital extension, FFS/PFS, FTC). Implementing mobile extension approach to pastoralists. Revising the government organizational structure at different level to accommodate red meat animal extension (Establish regional bureau of Livestock Development). Introducing extension approach targeting commercial red meat animal producers including urban and peri-urban producers. 	 Strengthening the red meat production stakeholder's platform at different level. Enhancing the implementation of context specific production package and integrated innovations. Strengthening tailor-made trainings. Strengthening extension delivery modes. Enhancing mobile extension approach. Strengthening the implementation of extension system for urban and peri-urban producers.

5 Roles and Responsibilities of Key Partners

Table 4: Roles and Responsibilities of Key Stakeholders in Implementing Red Meat Strategies

	Stakeholders	Role and Responsibilities
1	Federal Ministry of Agriculture - Livestock and Fishery Resource Development sector	 Brand and promote the red meat strategy to create national awareness and recognition. Oversee and ensure implementation of the strategy across various livestock initiatives, programs, and projects. Allocate necessary budget, physical, and human resources. Cascade the red meat strategy to regional governments, research and development partners, and the private sector. Regularly update the strategy to address emerging issues. Attract and engage development partners, NGOs, and CGIAR centers.
2	Regional Livestock and Fishery Resource Development Agencies	 Customize, populate, and implement the strategy in their respective regions. Allocate necessary resources (finance, human, physical etc.) for implementation. Compile lessons learned towards further updating and implementation.
3	Livestock Development Institute (LDI)	 Develop and manage animal identification, pedigree and performance recording, national genetic evaluation system. Lead the production and dissemination of superior genetics.
4	Agricultural Research Institutes/ Federal and Regional	 Develop area and species specific selective and crossbreeding breeding program. Lead and coordinate the national research focused on advancing red meat sector. Conduct research and generate technologies across various thematic areas, such as genetics, nutrition, and animal health, to drive innovation in the red meat sub-sector. Source global innovations ("technology shopping") and adapt impactful technologies and knowledge.

	Stakeholders	Role and Responsibilities
5	Higher Learning Institutions	 Consider the strategy and reorient the curriculum to produce skilled human power and support the red meat sector, Produce research output and innovations that supports the implementation of the strategy. Consider and align community engagement and the strategy in providing community services and outreach activities. Engage the disciplines outside the livestock sector e.g., ICT to develop data base and ICT tools for data management and information generation for decision making. Provide customized and need based short courses to enhance the capacity of livestock keepers for quality product production.
6	CGIAR and NGO	 Collaborate with national partners to develop and implement innovations. Build the capacity of the national research system to develop demand-driven technologies. Solicit and secure research grants to support the development of innovative technologies and solutions.
7	National Veterinary Institute (NVI)	 Produce livestock vaccines and drugs and provide animal health service to livestock keepers.
8	Animal health Institute	 Produce atlas of the major diseases and parasites of Ethiopia to design and implement proper disease surveillance and diagnosis. Possess state-of-the-art animal health laboratories to prevent and control diseases and parasites. Produce Animal health innovations and services to livestock keepers.
9	Ethiopian Agricultural Authority	• Regulate and ensure the production and importation of quality and safety of feeds, drugs, vaccines to implement red meat strategy.
10	Ethiopian Standard Control and Accreditation Institute	 Develop necessary standards for the red meat sector including inputs, outputs, processes, tools, machines, etc. Evaluate and certify of the red meat products to be accessed by consumers.
11	Ministry of Labour and Skills	 Support the red meat sector Investment promotion and licensing for job creation and income generation. Engage and support the private sector investment in the red meat sector. Reorient and align the ATVET curriculum with the red meat strategy in producing middle level extension human power.

	Stakeholders	Role and Responsibilities
12	Financial Institutes and Insurances.	• Provide financial support and incentives for the red meat sector.
13	Ethiopian Ministry of Trade	 Designing and implementing effective trade rule, regulation decrees, policies, incentives to promote the red meat sector. Develop and solicit domestic and export marketing linkage and promotion for the market access of red meat products. Facilitate grade and liveweight based marketing of live animal sale in the domestic and external market.
14	Federal Cooperative Agency	• Organize breeder cooperatives and unions to ensure credit access and enhance inputs-outputs market linkage and bargaining power in the red meat market.
15	Ethiopian Ministry of Women and Social Affairs	 Empower women and youth to generate income in the red meat sector. Solicit incentives and support from development partners to engage women and youth in the red meat sector.
16	Ethiopian Live Animal Supply and Red Meat Processors Association	 Create a platform for market linkages and data sharing to facilitate the marketing of inputs and products. Lobby the government for policy change and incentives in the development of the red meat sector. Play advocacy and promotion role to enhance the red meat sector.
17	Ethiopian Standard Agency (ESA)	 Establish standards on production processes, products, inputs. Develop national standards for red meat products for making competitive in the domestic and international market.
18	Private Input Supply Enterprises	• Enhance private and public partnership in input and product supply for red meat sector.
19	Ethiopian Animal Feed Industry Association (EAFIA)	 Foster the private sector involvement in quality feed production and marketing for the red meat sector.
20	Ethiopian Ministry of Foreign Affairs	 Ensure effect diplomacy work to attract Foreign Direct Investment in the red meat sector. Ensure external market linkage and outlet for red meat.
21	Ministry of Transport and Logistics	• Provide product and input transportation and service and associated facilities to red meat market destinations.

	Stakeholders	Role and Responsibilities
22	Ethio-Djibouti Railway Corporation	 Provide product and input transportation service and associated facilities to red meat market destinations.
23	Ethiopian Custom Commission	• Facilitate rules and regulations to import and export goods and services.
24	Ethiopian Ministry of Revenue	• Facilitate rules and regulations on tax incentives to promote red meat sector.
25	Ministry of Industry	• Provide a conducive environment for investment in the red-meat sub- sector; follow up and support the implementation of the plan.
26	Mass Media Agencies	• Promotion of products and services through the domestic and global media channels.
27	Ministry of Defence	• Ensure efficient utilization, popularization, and contribution to enhanced red meat production.

6 Expected Outputs of the Red Meat Strategy

- Achieved a total red meat production of 1,759,000 tons by 2030.
- Raised domestic meat consumption to 10 kg per capita.
- Increased advocacy and awareness in the red meat sector.
- Diversified export destinations and increased export volumes.
- Developed and upgraded abattoirs, cold chains, and transportation networks.
- Established essential infrastructure like meat laboratories and animal collection centers.
- Strengthened institutional linkages and coordination.
- Enhanced capacity of ranches and breeding centers.
- Reduced staff turnover and increased retention of skilled personnel.
- Optimized human resource utilization.
- Enhanced capacity of subject matter specialists and technicians
- Improved genetic evaluation, breeding plans, and advanced techniques (CBBP, crossbreeding, database, MAS, MOET).
- Improved traceability and performance evaluation of livestock
- Enhanced forage production and feed quality control.
- Strengthened animal health and biosecurity (OIE guidelines, vaccination, zoonotic disease prevention).
- Improved accessibility and availability of quality inputs.
- Increased supply of high-quality red meat meeting consumer and export standards.
- Stabilized red meat supply throughout the year.
- Enhanced efficiency and safety in livestock marketing and transport.
- Increased bargaining power and market access for small-scale producers.
- Promoted and commercialized red meat sector.
- Improved access to real-time market information for stakeholders.
- Improved coordination and efficiency in the red meat value chain.
- Reduced informal exports and associated revenue losses.
- Enhanced meat hygiene and quality standards.
- Improved value addition for red meat by-products.
- · Gender considerations incorporated into key disciplines
- Climate change adaptation and mitigation strategies integrated.
- Job creation opportunities well-developed along the red meat value chain.

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