



Rwanda Poultry Inclusive Growth Strategy

CASA Component A

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Acronyms

BDS	Business Development Services
BEE	Business Enabling Environment
BSF	Black Soldier Fly
CASA	Commercial Agriculture for Smallholders and Agribusiness
DOC	Day-Old-Chicks
DRC	Democratic Republic of Congo
ENABEL	Belgian Development Agency
FAO	Food and Agriculture Organization
FCDO	Foreign & Commonwealth Development Office (formerly DfID)
FDA	Food and Drugs Authority
GAP	Good Agriculture Practices
GESI	Gender and Social Inclusion
IFAD	International Fund for Agricultural Development
IGS	Inclusive Growth Strategy
ILAF	Intervention Logic Analysis Framework
MEL	Monitoring, Evaluation and Learning
MINAGRI	Ministry of Agriculture and Animal Resources
MINISANTE	Ministry of Health
MRM	Monitoring and Results Measurement
MSD	Market Systems Development
MT	Metric Tons
NISR	National Institute of Statistics of Rwanda
PFCI	Poultry Farmers' Cooperative Innovation
PSDAG	Private Sector Driven Agriculture Growth
RAB	Rwanda Agriculture Board
RCVD	Rwanda Council of Veterinary and Doctors
RICA	Rwanda Inspectorate, Competition and Consumer Protection Authority
RWF	Rwandan Francs
RSB	Rwanda Standard Board
SHF	Smallholder Farmer
SMEs	Small and Medium Enterprises
STTA	Short Term Technical Assistance
TA	Technical Assistance
TAF	Technical Assistance Facility (Component B of CASA)
ToR	Terms of Reference
ToT	Training of Trainers
UNICEF	United Nations International Children's Emergency Fund

Executive Summary

The primary focus of the Commercial Agriculture for Smallholders and Agribusinesses (CASA) programme is to make the commercial and development case for investing in agribusinesses that source produce from smallholder farmers (SHFs). CASA Component A, implemented by NIRAS and Swisscontact, supports this through implementing catalytic high-impact interventions by developing projects with agribusinesses and commercially minded producer organisations. CASA builds up the capacity and investment readiness of these organisations through the provision of technical assistance (TA) and conditional grants to bring more smallholders into commercial markets. It then promotes the scaling and replication in the market system of successful inclusive business models. CASA interventions aim to demonstrate 'proof of concept' to investors, ensuring agribusinesses are attractive investment propositions, which subsequently strengthens the market and improves smallholder incomes.

CASA selects 'anchor value chains', where several interventions can be implemented to demonstrate solutions to various constraints or barriers in the market, or capitalise on opportunities, and designed to address access to better and lucrative markets which results in higher incomes for participating SHFs, as well as improved food security.

In response to the global food security crisis caused by the Russian invasion of Ukraine, CASA Component A is now working towards expanding its work with agribusinesses on the ground in two new countries, Rwanda and Ethiopia. CASA is also conducting a market assessment in Kenya, the findings of which will be disseminated to actors looking to intervene and catalyse change in this space.

Using a market systems development approach, the CASA Rwanda team has undertaken a selection process to identify two key value chains (poultry and aquaculture) for intervention, followed by an in-depth systemic analysis of both value chains. This Inclusive Growth Strategy (IGS) document describes the market dynamics of the poultry sector in Rwanda. It maps the poultry system, including its core market (or value chain) functions and actors, key supporting services and actors; and enabling environment issues and actors focusing on poultry meat and poultry eggs for the purpose of this report.

It then provides a problem and root-cause analysis of key constraints and underperforming services in the system and puts forward a strategy and vision of change. It uses the Intervention Logic Analysis Framework (ILAF) as an analytical tool to identify systemic potential intervention areas and suggests partners and stakeholders for interaction. This strategy document forms the basis for project design with various players and concept note development for projects that will ultimately make up CASA Rwanda's opening portfolio.

Key findings

- Poultry is growing steadily in Rwanda with production rising from 24,087 Metric Tons (MT) of chicken meat in 2015 to 38,845 MT in 2020, and 6,973 MT eggs produced in 2015 to 8,272 MT in 2020. The increase in poultry production should contribute to national food security, nutrition security, income generation and job creation as supported by the country's five years Livestock Master Plan 2018 - 2022¹.
- The sector involves more than 5 million farmers of whom at least 60% are women. Furthermore, poultry production contributes to climate adaptation and resilience through the production of organic fertilizer from chicken manure contributing to soil protection.
- Although the per capita egg consumption has increased, consumption in Rwanda is still low. Rwandans ate on average about 13 eggs each in 2016, compared to the Food and Agriculture Organisation (FAO)'s recommended requirement of 90 eggs per person per year. Further, poultry meat consumption per capita was 1.50 kg in 2020, whereas the global average stood at 30 kg.

¹ <http://faolex.fao.org/docs/pdf/rwa172923.pdf>

- Poultry feed remains the main constraint for the growth of the value chain in Rwanda, as the price of raw materials is increasing drastically over time. As such, feed accounts for 70% of the total cost of production in poultry rearing, and therefore improved and affordable feed is fundamental for the growth of the sector. This provides an opportunity for CASA to investigate a potential third value chain related to feed in order to support the poultry sector, by introducing innovative ideas of alternative ingredients for feed instead of maize and soybean.
- Access to finance for assets and working capital is critical to actors in all the functions of the poultry value chain, yet there are several constraints on both the demand and supply side to leveraging investment for cooperatives and small and medium enterprises (SMEs).

Analysis

During the analysis CASA identified weaknesses in support services and the enabling environment that constrains the commercialisation of core value chain functions and the competitiveness of smallholder farmers and other agri-businesses. The key constraints in the system are:

- **High cost of production** due to: (1) Poor knowledge in poultry production techniques as a result of the limited knowledge and skills of the actors and the poor enforcement of regulations and standards for poultry production. The root causes relate to the weakness of the technical assistance supporting function and ad hoc compliance issues in the enabling environment. (2) High prices of imported raw materials for feed production and limited local feed production due to limited availability of materials and competition for human consumption. The root causes of this ultimately relate to poor productivity in the related maize and soy system due to poor seeds, inappropriate fertiliser use and poor agricultural practices. (3) Limited investment in assets, equipment and working capital due to the requirements of financial institutions and poor business management skills among SHFs and SMEs. The root causes relate to weakness of the business development services (BDS) and access to finance supporting functions.
- **Limited access to support services** that is caused by: (1) Lack of alignment of terms/conditions and supply-driven support services as well as high costs of services due to poor knowledge/research among service providers about the SHF and SME consumer segments (this includes poor knowledge on the specific needs of women as consumers of these services). The root causes relate to the weakness of the technical skills training, BDS training and finance supporting functions. (2) Limited knowledge among SHFs on the availability and benefits of services and lack of organisation of SHFs to access services. The root causes relate to the informality of the sector, and poor monitoring and weakness of the market information supporting function.
- **Restrained demand growth** due to cultural beliefs, preferences, and habits; combined with a poor understanding of the benefits of consuming poultry products due to a lack of relevant information and appropriate marketing strategies. The root causes relate to weakness in the information support services provided by both the public and private sector.

Based on the above constraints, this following strategy and possible intervention areas are proposed for CASA investment over the next two years.

Strategy focus areas

CASA's strategy for developing the poultry system aims to deepen the participation of key value chain actors in viable input and output markets, while enhancing resilience and food security outcomes. CASA will pursue this strategy by improving the capacity of emerging commercial producer groups and SMEs to access finance and leverage investments and benefit from key business support services such as inputs, technical extension and markets.

Poultry rearing and consumption in Rwanda is growing rapidly due to population growth, high urbanisation and increasing demand for animal protein. Continued year on year growth in the production and domestic consumption of meat and eggs can be expected. However, this can only be achieved by addressing the underlying causes of key blockages and taking advantage of the opportunities present in the sector to ensure inclusive growth. This includes promoting locally produced inputs; enhancing technical assistance and developing service provisions; improving processing; enhancing aggregation, transportation, and market access; supporting demand growth; supporting regulatory compliance and sector monitoring; and leveraging increased investments into the sector.

Although the market system is thin, there are several SMEs that could be supported to help grow the sector in a competitive manner. CASA has identified promising SMEs which could be supported to prepare for and access investment to venture into more lucrative downstream value chain functions and develop their smallholder supply chains.

The following six intervention areas have been identified to anchor projects that will drive poultry commercialisation and inclusive growth of the sector:

- **Enhance technical assistance via outgrower schemes** with private companies that support farmer organisation and SHFs access to inputs and markets; and improve SHF/MSE linkages to support services and markets.
- **Support regulatory compliance via training and information provision** on production and animal welfare standards with both public and private actors.
- **Promote locally produced inputs** via support to local day-old chick (DOC) production; and production of local alternative raw ingredients for feed production such as black soldier fly (BSF) with private companies.
- **Leverage increased investments** via development of demand-led financial products with financial institutions (FIs), alongside business planning, investment readiness support for companies and matchmaking.
- **Support demand growth** via campaigns and marketing activities with both public and private actors.
- **Enhance service provision** via support to service providers (research, tailored product development and marketing), linkages to SHF/SME clients, and standalone service provision to core market actors.

1. Background

1.1. CASA Programme Overview

The Commercial Agriculture for Smallholders and Agribusiness (CASA) programme makes the commercial and development case for investing in agribusinesses that source produce from smallholders. It aims to demonstrate how this can be done effectively by bridging evidence gaps and by ensuring investors and policymakers have access to the right information and people to make inclusive agribusiness models succeed.

In support of this approach, the Foreign, Commonwealth and Development Office (FCDO) has been funding the Commercial Agriculture for Smallholders and Agribusiness programme since 2019 with the aim of changing how investors, donors and governments view and invest in agribusinesses that work with smallholder supply chains. In doing so, CASA is increasing economic opportunities for thousands of smallholder producers by:

- a. Demonstrating the commercial viability of SME agribusinesses with significant smallholder supply chains and attracting more investment into these businesses.
- b. Deepening the smallholder impact of existing investments made by Development Finance Institutions and impact investors.
- c. Enabling poor smallholder farmers to engage with and trade in commercial markets; and,
- d. Researching and communicating the case for successful engagement with smallholder-linked agribusiness.
- e. Improving food production and security, and fertiliser production.

CASA's Components A and C are managed by NIRAS in partnership with Swisscontact and CABI. Component A is currently managing interventions on the ground in Malawi and Nepal, (and previously Uganda) with partner agri-businesses (including commercially minded producer groups), while Component C is a learning and knowledge-sharing component for upscaling and replication.

Having received additional funds from FCDO to combat against the global impact on food security caused by the Russian invasion of Ukraine, CASA is now looking to expand its work with agribusinesses on the ground into two new countries, Rwanda and Ethiopia.

1.2. Background and Process

In line with the agreed expansion plan, CASA began work in Rwanda in October 2022. The first six months were dedicated to inception phase activities. This involved carrying out an assessment to identify two focus sectors, conducting detailed market analyses of each sector, and developing inclusive growth strategies for each identified value chain. The country team concluded the value chain selection process in February 2023, using several parameters of consideration to rank potential value chains. Poultry ranked as one of the highest amongst most of the different parameters.

One of the primary selection criteria was the scope for the value chain to benefit a large number of smallholder farmers in terms of access to markets and increased incomes. According to the Ministry of Agriculture and Animal Resources (MINAGRI), the poultry sector involves about 5 million producers with around 550 commercial producers spanning three different categories: small, medium and large. It was agreed that CASA can impact many people by supporting the development of the poultry sector in Rwanda.

In addition, the value chain was assessed to align well with CASA's cross-cutting themes of: nutrition and food security; Gender and Social Inclusion (GESI); animal welfare; and climate change and environment. The sector presents opportunities to impact on women who are

found predominantly in the distribution and marketing function of the value chain as traders and offers good potential for the incorporation of positive climate-smart practices at the production level.

After selecting poultry as one of CASA's value chains of focus in Rwanda, CASA employed the Inclusive Market Systems Development approach to arrive at this Inclusive Growth Strategy document and the intervention areas and indicative project ideas within. Supported by the project's technical advisors, the CASA country teams completed the following steps of the approach:

- A desk review of existing material and analysis of production and market trends.
- Meetings with different stakeholders, specifically from MINAGRI and the Rwanda Agriculture Board (RAB) as the primary actors in the enabling environment space for the poultry market system.
- A preliminary system mapping and problem analysis (team-based) exercise to define existing knowledge and identify key information gaps in readiness for in-depth stakeholder consultations. This included an analysis of systemic constraints and underlying causes of rather slow investment uptake for commercialisation of the poultry sector in Rwanda.
- Based on the identified information gaps, the team selected the stakeholders to consult to fill these gaps; and implemented a field investigation stage which involved meetings with development agencies and international organisations such as the Belgian Development Agency (ENABEL), Orora Wihaze, HEIFER International, the World Bank (WB), and the International Fund for Agriculture Development (IFAD). This enabled the team to better understand current engagements, forge collaborations and avoid potential duplications with other entities that are supporting the development of the sector.
- Field investigations involving a range of visits to different market actors, such as poultry producers, veterinary service providers, feed millers, poultry associations, cold-room providers, and SHFs. During these visits, the country team gathered perspectives on the constraints affecting the development of the sector and the challenges faced as individuals or companies as well as their vision for the sector and possible solutions and opportunities.
- Participatory workshops with actors were also conducted to co-analyse the system and co-create solutions for change.
- Development of the Inclusive Growth Strategy (IGS) for the poultry sector in Rwanda.

This IGS document presents the detailed participatory assessment of the poultry market system and its key bottlenecks based on the findings of the country team. In addition, it defines the vision of change for the poultry sector based on the prevailing constraints and identified aspirations of the actors. It further presents the strategy for attaining this vision and identifies the possible intervention areas that CASA can support to achieve the vision.

2. Sector Overview

2.1. International Context

Poultry covers a wide range of birds, from indigenous and commercial breeds of chickens to ducks, turkeys, guinea fowl, geese, quail, pigeons, ostriches, and pheasants. Poultry and poultry products are a significant part of global protein source and global trade.

- Poultry meat accounted for about 40% of total global meat production in 2020, and the global poultry trade was worth US\$3.04 billion in 2020². In the same year, chickens accounted for some 94% of the world's poultry population, followed by ducks (3%), and turkeys (1%).
- At the international level, non-chicken poultry species lay 10% of eggs in Asia, 3% in Latin America) and 0.5% in Europe. Egg production from poultry other than chickens in Africa, however, is almost non-existent³.

333 million people, representing more than a quarter of Africa's population, are classified as severely food insecure, characterised by the lack of regular access to enough safe and nutritious food for normal growth and development and an active and healthy life. According to FAO, undernutrition (a person not able to acquire enough food to meet the daily minimum dietary energy requirements, over a period of one year) is a critical issue for many of the world's poorer countries, and more than a third of African and South Asian children are stunted.

The United Nations (UN) estimate that nearly 151 million children under five worldwide were still undersized in 2017⁴. Poultry is a value chain that has the potential to solve this problem since chicken meat and eggs provide not only high-quality protein, but also important vitamins and minerals. According to FAO, eating more poultry meat and eggs can substantially benefit poor people, especially pregnant women, children and the elderly. There is growing evidence that poultry meat can make a significant difference in fighting child malnutrition. FAO statistics show that the African region witnessed 2.19 billion heads of chicken in 2021.

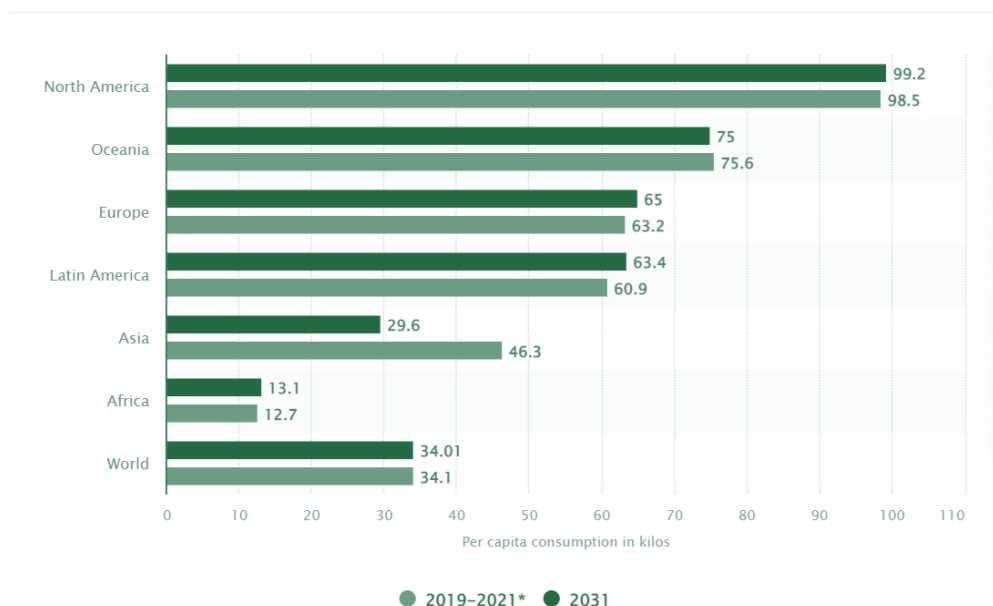


Figure 1. Per capita meat consumption

² FAO STAT

³ FAO, n.d.

⁴ <https://agrotop.co.il/chicken-meat-and-eggs-cheap-protein-source-for-fighting-global-hunger/>

According to industry research reports from Mordor Intelligence⁵, there is an increase in demand for livestock products which is not matched with the growth in domestic livestock production and has subsequently led to increased meat imports across the continent. The per capita consumption of meat was highest in North America, at roughly 98.5 kilos (Kg) per person in the period between 2019 and 2021. By comparison, the average person living in Africa consumed about 12.7 Kg per year during that period⁶. South Africa dominates in poultry production in Africa followed by Egypt, Uganda, Zambia and Morocco, In 2020, the consumption of chicken meat per capita in South Africa reached 39Kg which is more than double the beef consumption of 16Kg and more than four times the egg consumption which is 9Kg.

During the annual Poultry Africa Event that took place in 2022 in Rwanda, organized by VIV Worldwide (business network linking professionals from feed to food), it was revealed that the African economy offers huge potential for poultry production with Gross Domestic Product (GDP) growing above the global average (4%), and the population growth of up to 2 billion in 2050. By 2030 Africa's increasing demand for animal protein will be huge, with poultry being the most popular source of protein showing a 55% increase in demand in the next decade. This is due to the fact that poultry and eggs have a fast cash flow, low feed conversion rates and serve as an ideal model for industry and smallholders scale up⁷.

2.2. National Context

MINAGRI estimates that the agricultural sector contributes over 23% of national GDP and almost 37% of export earnings for Rwanda. Livestock, including poultry, contributes 6% of total GDP and about 30% of the agricultural GDP. The poultry sector in Rwanda is growing rapidly due to population growth and specifically high urbanisation leading to high demand for animal protein. According to MINAGRI, in 2018, chickens represented about 95% of the poultry species raised in Rwanda and the other 5% combines ducks and turkeys.

The findings from this research focus on chicken meat and chicken eggs as the predominant form of poultry in Rwanda.

Production

As stated, the country has seen increasing production volumes for chickens, which is the largest poultry type in the country, as illustrated in Table 1 below.

Table 1. Poultry population from 2015-2020

Year	2015	2016	2017	2018	2019	2020
Poultry (million heads)	4.838	5.238	5.273	5.442	5.306	5.442

⁵ <https://www.mordorintelligence.com/industry-reports/african-poultry-feed-market#:~:text=According%20to%20FAO%20statistics%2C%20the,increased%20dependence%20on%20meat%20imports.>

⁶ <https://www.statista.com/statistics/1290503/per-capita-consumption-of-meat-in-africa-by-type/#:~:text=One%20person%20consumed%20on%20average,per%20capita%20in%20the%20world.>

⁷ Poultry World, 2022

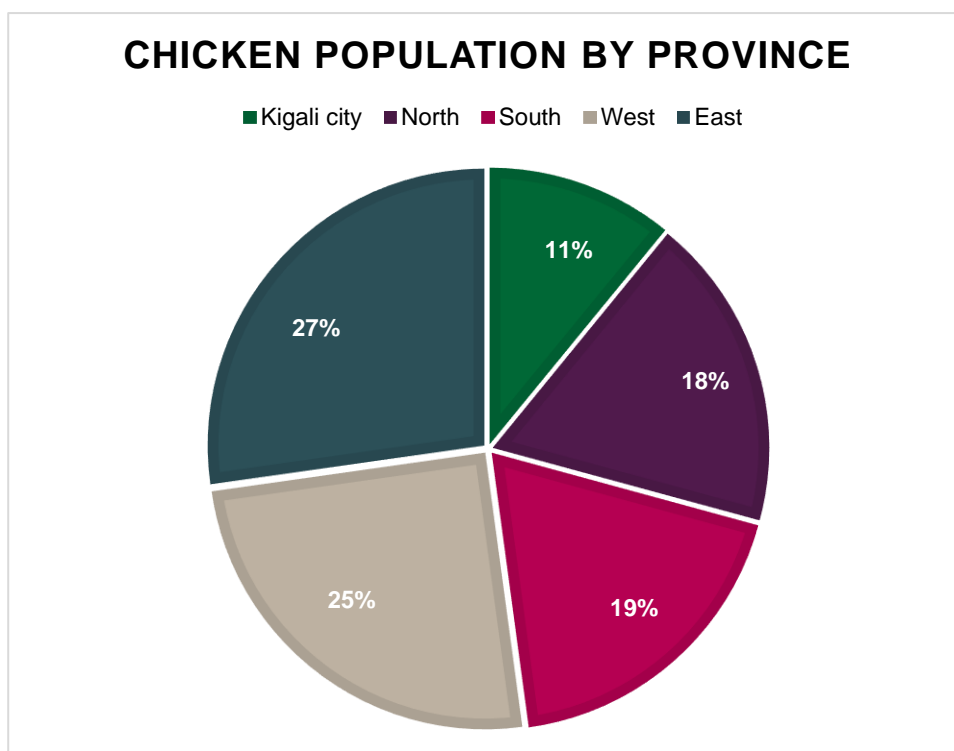


Figure 2. Population of chicken in different areas of the country

In 2020, about 581,900 households (i.e., 31.3% of the 1.86 million households keeping livestock) were rearing a total of 5,442,000 million chickens.⁸

During CASA field research it was reported that over 5 million producers are involved in the sector. However, the majority (about 68% of poultry producers) are categorised by the government as “small” and not “commercial”, keeping less than 1,000 hens each (the proportion of women producers in this category is currently not known). According to MINAGRI, the country has about 600 commercial poultry farms who keep between 1,000 and 60,000 chicken for either egg or meat production. Of the commercial producers, the Ministry further categorises them into large, medium, and small commercial producers. The number of these commercial producers has also been increasing over the years as poultry farming has proved to be an income generator for farmers. While increased income helps to ensure food security at the household level, the poultry sector can also ensure the physical availability of food and provide reliable access to enough affordable, nutritious food.

Figure 3 below illustrates this changing dynamic using MINAGRI’s data on commercial poultry farmers for 2019 and 2022.

⁸ <https://www.statistics.gov.rw/file/9703/download?token=4JqM-Qbz>

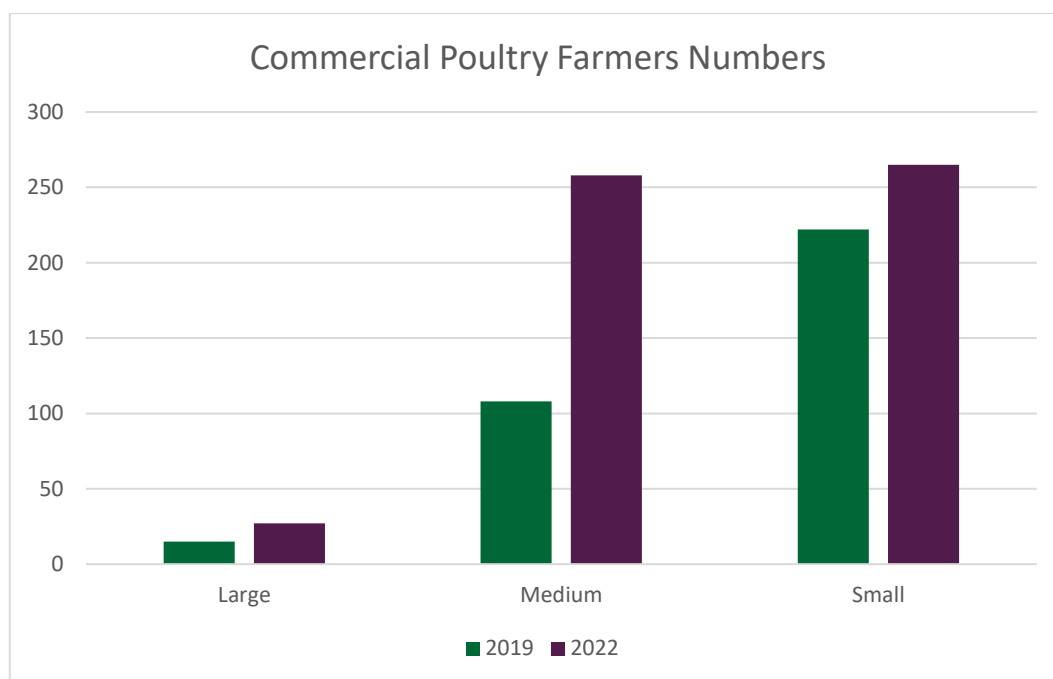


Figure 3. Commercial poultry farmers from 2019-2022

A large proportion of small commercial producers are women – of the 265 commercial producers categorised as ‘small’, 60% are women. Out of 27 large producers, 10% are women owned farms, and out of 258 medium producers, 30% are women owned farms.

The chicken population has stayed static in Rwanda from 2015 to 2020; however, the production of meat and eggs has been growing since 2015 suggesting that productivity has increased because of shifts from traditional breed and rearing techniques to specialized breed and advanced rearing techniques.

The tables below show the production level against the domestic market of chicken eggs and chicken meat.

Table 2. Chicken egg market.

Egg Market (Tons)						
Year	2015	2016	2017	2018	2019	2020
Production	6,973	7,347	7,475	7,936	7,972	8,272
Import	35	41	36	68	35	43
Export	1,135	659	461	958	1,246	1,061
Domestic market	5,873	6,729	7,050	7,046	6,762	7,255

The national egg production increased from 6,973 tons in 2015 to 8,272 tons in 2020, while the MINAGRI target is to reach 19,403 tons by 2024⁹. Currently, 89% of eggs produced in Rwanda primarily serve the domestic market, with the remaining 11% exported to the Democratic Republic of Congo (DRC) through informal cross border trade.

Domestic egg production reached a value of 11.6 billion Rwandan Francs (RWF) in 2020, and egg import-export exchanges generated an annual positive trade balance of 1.2 billion RWF. Despite their large number, small-scale farmers produced only 34% of the total eggs

⁹ <https://www.minagri.gov.rw/updates/news-details/rwanda-hosts-poultry-africa-2022#:~:text=The%20growth%20has%20translated%20into,eggs%20per%20year%20by%202024.>

produced. The other 66% came from specialised layers (large and medium), which account for 23% of the total chicken population¹⁰.

Table 3. Chicken meat market size

Chicken meat market (Ton)						
Year	2015	2016	2017	2018	2019	2020
Production	24,087	24,904	34,685	37,806	37,351	38,845
Import	98	134	67	59	46	-
Export	463	438	278	351	442	423
Domestic market	23,722	28,600	34,474	37,514	36,955	38,422

The domestic market for chicken meat has increased dramatically since 2015, substituting imported chicken meat completely by 2020, and limiting the export market for chicken meat to minimal cross-border trade with DRC. The slump in chicken product export in 2017 can be attributed to the introduction of new breeds as driven by Rwanda’s Strategic Plan for Agricultural Transformation.

The domestic production of chicken meat has been increasing steadily throughout recent years, increasing by 10% per year on average over the last six years. Chicken meat production has increased from 24,100 tons in 2015 to 38,800 in 2020 to cater for increasing demand.

Consumption

80% of the chicken population are layers, 10% broilers and 10% dual-purpose; therefore, the egg market is substantially larger than the meat market. Poultry consumption trends have been increasing over recent years due to increasing urbanisation which has driven demand for poultry protein. However, many Rwandans do not have a habit of eating eggs nor do they understand their nutritional value. According to the National Institute of Statistics of Rwanda (NISR): “Although the per capita egg consumption increases, a significant shortage continues to exist to meet the FAO recommended requirement, which is 90 eggs per person¹¹. On average, a Rwandan ate about 13 eggs in 2016”, which is low compared to the international standard of 250Kg of eggs¹². Rwanda produces over 130 million eggs per year, which is currently not enough to meet the growing local demand.

Most farmers produce layers for eggs, but for meat consumers prefer the dual-purpose breeds. According to FAOSTAT, poultry meat consumption per capita reached 1.50 kg in 2020 in Rwanda, while the global average stood at 30 kg. 99% of the chicken meat produced in Rwanda is locally consumed and the domestic chicken meat market reached 153.1 billion RWF in 2020.

Categorization

Based on consultations with authorities and stakeholders, there is no clear framework in place to track the production levels of producers with less than 1,000 chicken, nor is data about the involvement of these small (less than 1,000 chicken) producers up to date. The Rwanda Poultry Industry Association (RPIA) specifically collects data for commercial poultry farmers rearing more than 1,000 chicken. However, there is still a gap of establishing a system to track small producers and farmers from the time they register until they drop out of the sector. Without this system, there is little information regarding number of farmers operating semi-

¹⁰ MINAGRI, 2021

¹¹ Traide, Poultry Sector Analysis, 2019

¹² [https://www.researchgate.net/figure/Per-capita-egg-consumption-in-the-main-countries-of-the-world-in-2014_fig1_305252011#:~:text=The%20World%20Health%20Organization%20\(WHO,the%20world%20is%20250%20Kg.](https://www.researchgate.net/figure/Per-capita-egg-consumption-in-the-main-countries-of-the-world-in-2014_fig1_305252011#:~:text=The%20World%20Health%20Organization%20(WHO,the%20world%20is%20250%20Kg.)

commercially, production trends, cost of production, productivity levels and other information needed to track the development of the sector.

For layer producers, the Ministry similarly categorises poultry farms by stock volumes, as summarised in Table 4 below.

Table 4. Layer Farm categories

Size of farm	Layers per farm	Number of farms
Small	1000 – 5,000	165
Medium	5,000 – 30,000	208
Large	30,000 and plus	17
Total		390

For broiler producers, the Ministry uses the same categories, and producers are grouped depending on the number of chicken meat they can sell per week. In this case, there are 10 large broiler producers that slaughter more than 5,000 chickens per week, and 50 medium broiler producers that slaughter between 1000 and 5000 chicken per week. Finally, there are 100 small holder commercial broiler farmers that slaughter less than 1,000 chicken per week. Table 5 presents a summary of these categories.

Table 5. Broiler Farm Categories

Size of farm	Broilers Slaughtered per week	Number of farms
Small	<1,000	100
Medium	1,000 – 5,000	50
Large	>5,000	10
Total		160

Most of the broiler producers engage in traditional slaughtering except the two biggest producers. These include KIME who is the largest broiler producer, having a modern slaughterhouse, cold-chain equipment and a chicken meat supermarket; and Chief Chicks who produces broilers and imports and locally produces day old chicks.

In terms of chicken breeds produced, the country has different types for both broilers and layers. According to RAB, Rwanda has two types of broiler breeds, COB 500 and ROS 408. Both require intensive rearing and specialised farming techniques. As such, they must be kept in houses, fed with industrially produced feed, and provided with supplements, amongst other requirements. Similarly, there are three types of layers which are Easy Brown, Highline and Robman that also require an intensive rearing production system.

In addition to these two single-purpose breeds, the country has dual-purpose chicken breeds that include SASSO, Kroiler and traditional chickens that need a semi-intensive rearing farming system. This means that these types of chicken can be kept as free range and be provided with supplements to complement the food they pick from outside. These types of chicken can also be used as layers and broilers at the same time.

Farmers rear different types of breeds depending on their financial capacity, skills and knowledge, and target market. For layers, rearing specialised intensive breed is good because a farmer can maximize on egg production. The drawback is that it needs advanced rearing skills and knowledge as well as an enough capital to afford the cost of feeds. Large and medium broiler producers also prefer intensive specialized breeds due to their higher-end

consumer preferences. Many SHFs rear semi-intensive breeds as they can be both layers and broilers, require less input and allow access to local consumers.

Importantly for small holder farmers, poultry production requires a much smaller plot of land to rear poultry than to produce other commodities, allowing SHFs to operate with limited resources, and to scale further compared to other commodities¹³. The table 6 below describes the space requirement of chickens for floor and perch space¹⁴

Table 6. Space requirements for chickens

Chicken types	Floor Space (chicken/ m ²)	Floor Space (Ft ² /chicken)	Perch Space (per chicken)
Layer	3	3.6	25 cm (10 in)
Dual purpose	4	2.7	20 cm (8 in)
Meat	4-5	2.1-2.7	15-20 cm (6-8 in)

Political and environmental landscape

The Strategic Plan for Transformation of Agriculture 4 (PSTA 4) puts emphasis on climate change adaptation and mitigation as well as environmental protection through climate-resilient activities¹⁵. The PSTA 4 is designed to contribute directly to the Rwanda governance agenda to create the enabling conditions for becoming a green economy and reducing emission by 38% by 2030. This includes commitments to reforms, renewable energy, and sustainable agriculture¹⁶. Poultry production contributes to adaptation and resilience through the production of organic fertilizer from chicken manure contributing to soil protection; and the opportunity to expand alternative feed production and organic fertilizer production.

To support its vision, Rwanda has established a Green Growth Strategy as well as the Green Fund, an investment fund that supports the public and private projects that have the potential for transformative change. These drive a focus on sustainable agriculture, water resource management, renewable energy, green industry, climate-compatible mining, green transport, low carbon urban settlements, ecotourism, forestry, disaster management and others.

Poultry sector strategy and policies

Concluded poultry subsector strategy 2012 – 2017.

By the end of the strategy period, some investment was attracted to help meet growing domestic and regional demand, in a two-pronged approach focused on improving (1) the production and (2) the marketing of Rwandan poultry products. The investment was for developing and introducing specialized commercial breeds and training different actors on poultry rearing skills. On production, this strategy entailed five components: poultry nutrition, supply of day-old chicks, poultry health and biosecurity, village-level poultry farms and institutional frameworks. On marketing, the strategy focused on improving the marketing of poultry products through two components, each addressing a key marketing challenge faced by Rwanda's poultry industry: training in standards of sanitation and branding of Rwandan poultry products.

New Livestock Master Plan – under review

The countries recently concluded five-year Livestock Master Plan 2018 - 2022 identified poultry as one of the key avenues towards contributing to national food security, nutrition, income generation and job creation. This Livestock Master Plan has been updated and is currently awaiting the Prime Minister's approval. The policies under this strategy include:

¹³ As mentioned during the Poultry Africa event 2022,

¹⁴ <https://www.fao.org/3/y5169e/y5169e05.htm>

¹⁵ Minagri, Annual report 2021 - 2022

¹⁶ <https://rdb.rw/investment-opportunities/green-economy/>

Policies affecting demand for high-quality poultry feed

MINAGRI developed two strategy documents to promote the development of a professional feed industry, with a view to increasing the domestic supply of high-quality, competitively priced compound feeds. The first, a strategic plan for improving animal nutrition, was launched in 2009. This was supplemented in 2012 by the poultry strategy and investment plan, which provided technical guidelines to improve quality of animal feed. In addition, the Government of Rwanda (GoR) introduced VAT exemption on ready-made feed, and on inputs used for feed production. VAT exemption is currently applied to the major feed ingredients such as industrial food waste, crops' by-products, salt, minerals, and vitamin premixes. Despite the strategy, plan, and exemptions the domestic supply of high-quality feed is still low because of the competition for the raw materials (maize and soya) used in feed production.

Adequate nutrition is important to ensure poultry product quality, but supplements are expensive. MINAGRI strategies recognize the importance of developing farmers' knowledge and awareness of poultry nutrition. However, the cost of feed concentrates results in a farm-gate price for broilers above the minimum market price of imported meat. The high cost of feed concentrates such as vitamins and minerals are in turn largely dictated by the high cost of the major feed ingredients.

Policies affecting the poultry-seed market.

Poultry seeds include fertilized eggs, day-old chicks and pullets. The domestic supply of day-old chicks is increasing fast, supported by the GoR's poultry subsector strategy of providing technical guidelines to local producers and including training in the rearing of parent stock. The strategy also proposed privatization of the National Hatchery, and encouragement of investors to establish decentralized mini hatcheries.

Policies related to veterinary products and services

Rwanda's poultry farmers enjoy relatively easy access to veterinary pharmaceutical products, through a large agro-dealer network with more than 1,200 outlets. Veterinary pharmacies are regulated by the GoR, managed by a similarly large network of veterinary doctors, and supported by a statutory council, also regulated by law¹⁷.

Policies related to poultry health, standard, meat processing, handling and marketing

Rwanda Standard Board (RSB) oversees providing quality and affordable standardization, metrology, quality testing and certification services for sustainable socio-economic development (RSB, 2023). The Food and Drugs Authority (FDA) checks how farmers administer drugs, vaccines, and antibiotics to ensure the efficacy of the products and the quality of the produce. Rwanda Inspectorate Competition and Consumer Authority (RICA) monitors slaughtering practices to ensure farmers follow appropriate standards and hygiene factors.

The meat industry is a development priority for the Ministries of Agriculture and Trade, as reflected in the poultry sector strategy (2012–2017) and supportive policies and regulations implemented. This strategy aimed to increase the domestic consumption of quality meat, while increasing the competitiveness of Rwandan meat in East and Central African markets. The objective was to ramp up the current basic structure of Rwandan production to establish a meat industry of sufficient organization and scale as to have a significant impact on the country's social and economic development. As a result, the following components have been implemented through respective laws: animal transportation, processing, and meat trade. These have all support the development of the poultry industry to date.

¹⁷ Law n° 56/2013 of 09/08/2013 establishing Rwanda Council of Veterinary Doctors

Poultry sector subsidies and fiscal incentives

Several donor and government funded development projects (e.g., the One-Egg-per-Child program) offer subsidies, physical facilities or stimulate demand to encourage agricultural activities in Rwanda, including poultry farming.

The GoR has also implemented fiscal incentives to encourage farming enterprises. Agricultural inputs and unprocessed outputs are Value Added Taxes (VAT)-exempt, including day-old chicks, ready-made animal feed and ingredients used in the manufacture of feed (cereal brans, oilseed cakes, and salt, mineral and vitamin premixes). Veterinary pharmaceutical products and laboratory equipment are also exempt of VAT, as well as equipment used to prepare and process meat and poultry industry equipment (farm inputs, hatching machines, incubators, cold-room equipment and refrigerator systems, and chicken-feed equipment and feed-processing lines). In addition, agri-businesses with an annual turnover of less than Rwf12 million are exempt from income tax. As a result of these incentives, most smallholder poultry farmers are exempt of all major taxes.

Policies related to Animal Welfare

The transport of live animals is regulated with a view to protecting animal welfare. The law underlines the cultural importance of maintaining the health and welfare of animals, specifying, for example, that chickens are to be transported only in appropriate baskets in the presence of day light, between the hours of 6 am and 6 pm. However, this is still not happening as per the law because of transport and logistics constraints and poor awareness of appropriate actions.

Financial sector landscape

The financial sector is growing when it comes to agricultural lending and savings products especially from Micro Finance Institutions (MFIs) and saving groups to Micro and Small Enterprise (MSMEs). There are currently 16 commercial banks, one Development bank Banque Rwandaise de Development (BRD) as well as more than 500 microfinance institutions and rural savings and credit cooperatives in Rwanda. In addition, the sector is served with Village Savings and Lending Associations (VSLAs) as informal but well-structured lenders. Bilateral and Multilateral development finance and various international development financial institutions provide different instruments to support the agricultural sector. Most of the support provided is in the form of grants either administered through the government's budget or directly through projects they are implementing.

There are also development finance institutions that support specific sectors (exports) with a guarantee facility implemented by BRD. Finally, there are impact funds and social enterprises actors like One Acre Fund, AgDevCo and Inkomoko, that have entered the market to fill the gap around input provision and extension services respectively. One Acre Fund is a social enterprise that supplies smallholder farmers with asset-based financing and agriculture training services to reduce hunger and poverty. Inkomoko provides BDS services to SMEs through its incubation programme coupled with the provision of micro loans¹⁸.

¹⁸ Minagri, National Agriculture Financial Services Strategy, 2022

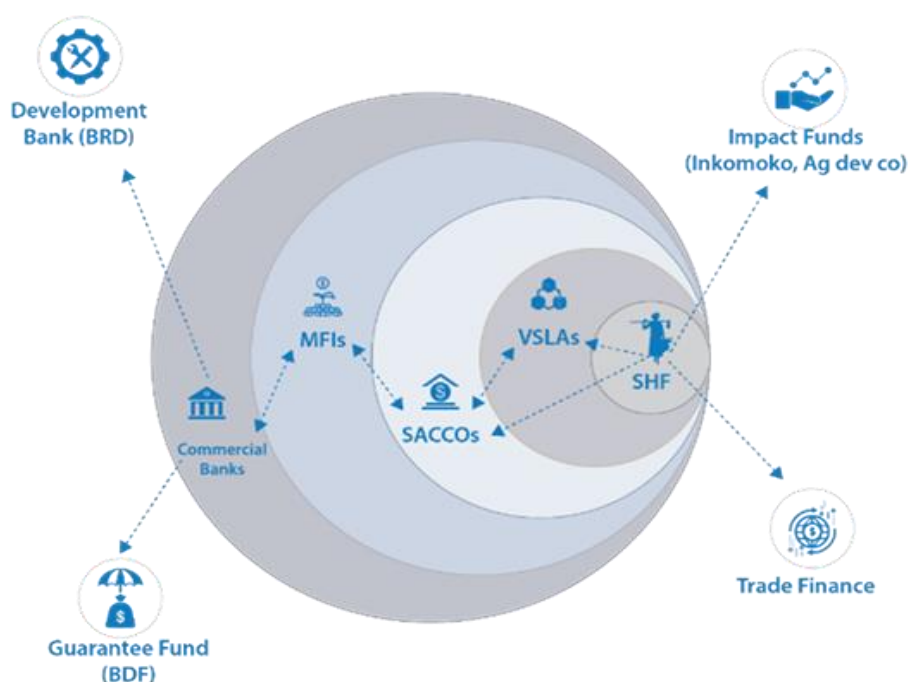


Figure 4, Agriculture Finance Supply Mapping

Nonetheless, credit extended to agriculture from the formal financial sector is extremely small compared to other sectors, with just 1.5% of new authorised loans in 2021 having gone to agricultural related activities¹⁹. This is low particularly considering the fact that agriculture contributes up to 25% to national GDP and employs an estimated 70% of the labour force in Rwanda. The financial sector is improving when it comes to agriculture lending since some commercial banks have invested in dedicated agricultural loans. Different suppliers offer different financial products to the whole agriculture value chain (see Annexes 5 and 6). These include inputs, farm production, post-harvest, agro-processing, and agriculture assets finance. However, poultry farmers reported that one of their main challenges is to access finance to improve their businesses. Loans are not easily obtained especially by small farmers. When this does happen, farmers face very high interest rates that can reach up to 25% (MFIs).

VLSAs are the most frequent source of agriculture credit. About 6% of farming households have borrowed from these for farming purposes, while only 0.35% of households have an agriculture loan from a commercial bank. As might be expected, the percentage of households that typically borrow from the formal financial sector (i.e., commercial banks, MFIs and SACCOs,) is substantially higher in urban areas than in the rural parts of the country and is more prevalent among economically well-off households.

Although BRD's loan portfolio to the agriculture sector still represents more or less 5% of its total outstanding loans, its contribution to the total agriculture loan portfolio, of all financial institutions, remains the largest (41% in 2017) - while the share of MFIs is growing every year (i.e., from 8% in 2012 to 20% in 2016)²⁰.

Access to feed

Feed accounts for 70% of the total cost of production in poultry rearing, and therefore availability of improved affordable feed is fundamental to growth of the sector.

¹⁹ BNR, Annual report, 2022

²⁰ AFR, Agriculture Finance Year Book, 2018

In Rwanda, feed producers are grouped into two categories by the government: those that make feed using modern techniques and those that produce using traditional methods. There are seven “modern” producers and 20 “traditional” producers who are solely commercially producing feed. Traditional feed producers use shovels to mix raw materials, do not package their products and price their feed cheaply as compared to the modern producers. Modern producers have feed miller machinery and plants, do mixing with mechanized equipment and properly package, seal and label their products. The quality that the modern producers achieve is considerably higher than the feed made by traditional producers. The only accredited feed production is made by feed plants who follow standards in production and packaging.

The modern producer produces specific feed for both layers and broilers. The feed is further differentiated by age of chicken. These tailored feed products are not available from the traditional producers. The modern producer’s feed is much more suitable to promote optimum chicken growth. Some feed producers, such as Zamura, offer extension services to ensure that the feeding regime is followed closely by the farmers for optimum effect.

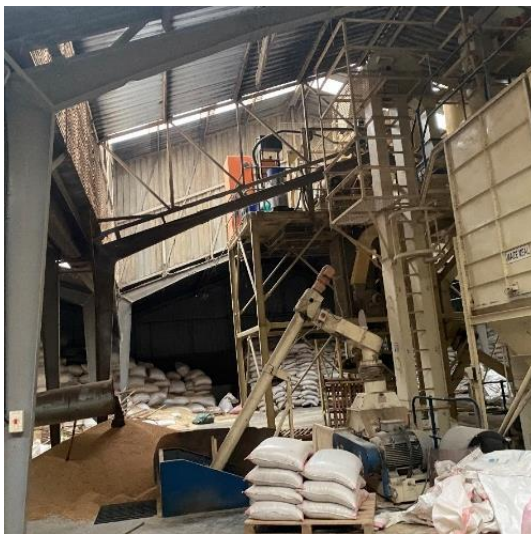


Figure 5. Modern way of making feed



Figure 6. Traditional ways of making feed

Modern feed millers employ both men and women; however, 60% of employees are men and none of the feed millers are owned or managed by a woman. There are many youths engaged in both traditional and modern feed production.

The price reflects seasonal changes of the price of maize as the main raw material. Sale prices differ from one company to another depending on the quality they are producing, and geographical locations.

Access to Veterinary Services and Suppliers

Poultry are susceptible to a variety of diseases even though chicken mortality rate has been declining due to improved medicines and rearing skills at the production level. Manufacturers of veterinary products are grouped into two categories – importers and distributors. There are 20 importers and about 100 distributors. In Rwanda, the largest importer and distributor company of veterinary product is a company called Agro-Tech. Most distributors are franchises of Agro-Tech that add additional products to the Agro-Tech range. Most products are imported from the Netherlands, Belgium, and France.

Table 7. Veterinary product and their prices

Name of the product	Price (RWF)
Chemical Products for Cleaning and disinfection	118,000
Vaccines needed during rearing	231,400
Drugs needed during diseases	260,500
Vitamins	280,000
Subtotal rearing	889,900
Vaccines needed during production	192,000
Drugs needed for diseases during production	536,500
Vitamins needed during production	420,000
Subtotal production	1,148,500
Total²¹	2,038,400

Every importer needs a license to import veterinary products. The products are generally affordable for smallholders as bulking happens at the agrovet level. The system allows a farmer to take the quantity needed according to their pocket and flock sizes. The table 8 below explains the veterinary products needed to rear and produce 1,000 chickens.

²¹ Detailed table in the Annexes.

3. Market System

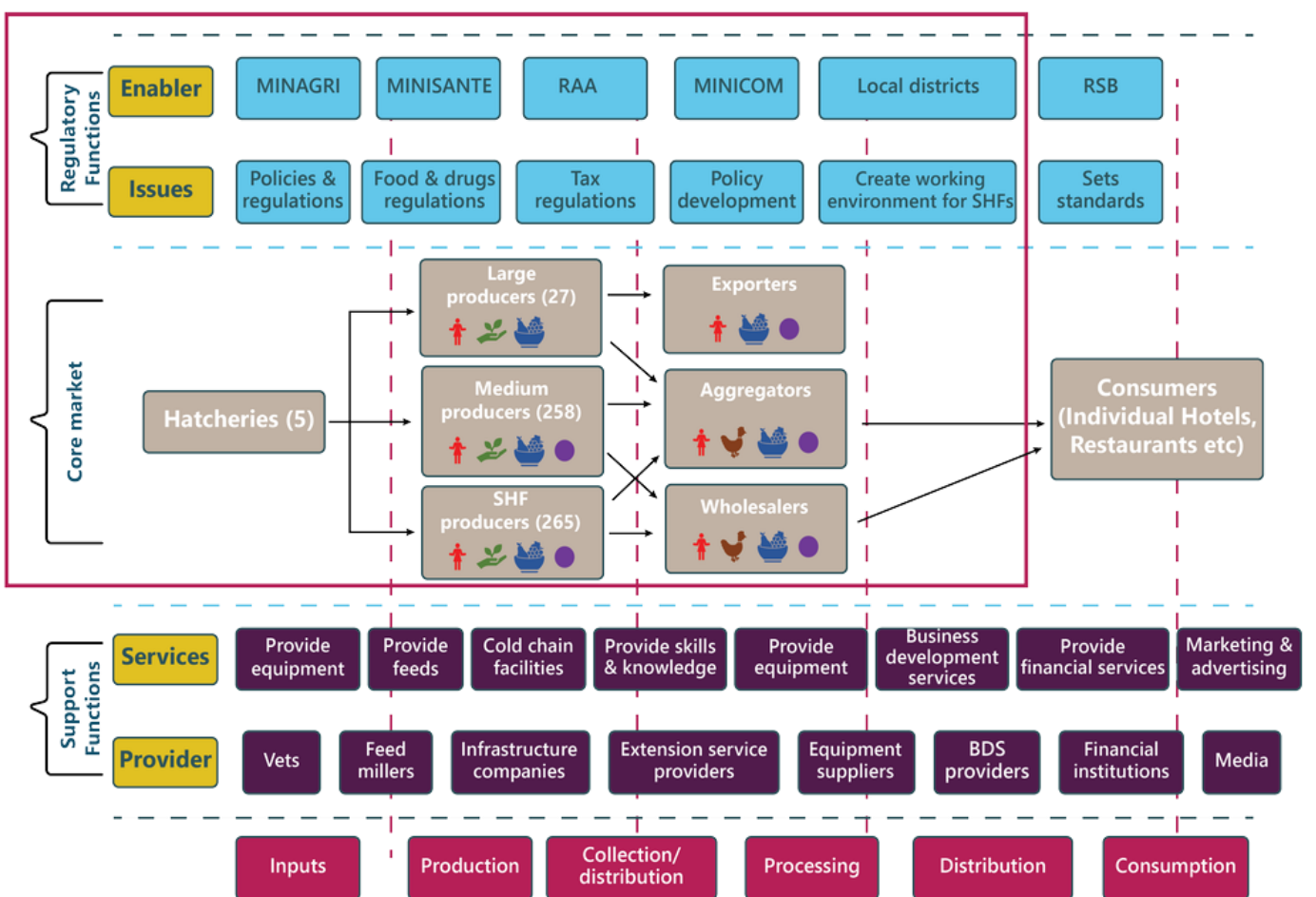
The purpose of analysing the poultry system is to define how smallholder farmers are currently engaging with (or buying and selling) core products or services, and how the supporting functions and regulatory environment influence this core exchange or transaction.

The sector map is the output of the system analysis process that starts to define the existing system and enables a better understanding of system actor relationships and dynamics including identification of key constraints, opportunities, and information gaps.

3.1. Sector Map

This sector map highlights the main actors in Rwanda's poultry system and how they interact with each other. The map is comprised of the core market in the centre, supporting functions below, and the formal and informal rules that govern the market above.

Figure 71. Poultry Map²²



- This icon represents gender and its presence on the map suggests that there is presence of women in that level. We have 10% of women in large producers, 30% in medium and 60% in SHFs. There is 20% of women in exporters, and 70% of women both in aggregators and wholesalers.
- This icon represents climate change and environment. On the production level, farmers make and process manure into organic feed which is beneficial for the soil hence has a positive impact on the environment.
- This icon represents animal welfare. On the collection and distribution level, animal welfare protocol is not followed as live birds are going for slaughtering.

- This icon represents food security, which is present at all stages.
- This icon represents nutrition which is present at all stages.

²² The number in brackets are those recognized by MINAGRI, and the red textboxes are the estimated percentage of women by type of actors

3.2. Core Market Functions and Actors

The core market encompasses all the key actors in the supply and demand interaction between producers and consumers in the poultry value chain. It depicts all the transactions and linkages through which the primary product moves from the producers to the final consumers. This broadly includes the hatcheries, producers (SHFs, cooperatives and private companies), processors, traders and aggregators, exporters, and final consumers (retailers, commercial buyers, individuals). The sections below provide specific details at each stage or function of the core value chain.

3.2.1 Hatcheries

Day-old-chicks (DOCs) available in Rwanda are produced in hatcheries, either imported or locally produced. Approximately half of the DOCs in Rwanda are imported and the remainder are hatched locally. There are 5 companies that import and distribute chicks. These all serve different market segments with different products, in different geographical locations and are not in direct competition with each other. Such companies require a minimum order of \$10,000 (approximately 7,200 chicks) worth of chicks to import, which prevents SHFs and most medium sized companies from regularly making orders for imported DOCs. There are also additional requirements such as authorisation to import live animals and health certificates of those animals (in this case, DOCs). Both of these requirements limit the ability of even the largest of poultry farmers to import chicks. Such Government controls regulates imported chicks to avoid diseases and other health issues and promotes locally produced day-old-chicks. DOC importers sell to producers from large to SHFs.



Figure 8. Egg heating stage



Figure 9. Hatching Stage

Amongst the local suppliers of DOCs, there are hatchery operators that buy eggs from other hatcheries, such as UZIMA and Diamond, to put into their incubators, hatch and supply the chicks to poultry producers on order with immediate payment.

Table 8. DOC Providers

Name of DOC Provider	Import	Locally Produce
UZIMA	Import DOC, and import chicks for parental stocks	Hatches eggs from the parental stock
Diamond	Import DOC	-
Chief Chicks	Import DOC and import chicks for parental stocks	Hatches eggs from the parental stock
Ndahimana Chicken Grower Ltd	Imports chicks for Parental Stock	Hatches locally eggs from the parental stocks

The table shows the four main hatcheries in Rwanda. However, there are poultry producers who also import DOCs for their own farm like Abusol, the largest poultry producer in Rwanda. The rest of the poultry producers give order to importers and pay half on ordering and the rest upon delivery. Local producers and suppliers of chicks sell mostly to medium and SHFs. Large farmers prefer using DOC importers as they believe that they can supply them the quantity and quality needed and breed requested.

Constraints at this level relate to the heavy requirements established by the government to limit the number of importers as well as the investment needed to establish a hatchery plant. An opportunity exists to support locally produced DOCs which will better ensure availability and help to manage disease prevalence and ensure the quality of the chicks.

3.2.2 Production

Poultry producers either raise layers or broilers or both. A layer takes on average 5 months before it starts producing eggs. During that period, they must be fed and looked after. Layers are kept alive for around 90 weeks, laying on average 400 eggs in this time. Depending on their feed and subsequent laying productivity, they can sometimes last up to 104 weeks. After 90 weeks, their production decreases to 65%, after which they are slaughtered. On the other hand, broilers grow to optimum size after a maximum of 45 days after which they are slaughtered.

The broiler business is more profitable than the layer business and the dual-purpose breed has a short production cycle. However, there is lack of demand for this product because the Rwandan population have a bias against broilers as they say that it is not healthy to eat a chicken that took 45 days to grow. According to Dr. Clare from RAB Rwandan population prefers SASSO meat because they tend to taste like traditional breeds. This leads to chicken meat producers, especially SHFs using the SASSO breed.

Large and medium farmers rear broilers. Rearing a broiler needs intense feeding to acquire the right weight. Buying a layer and rearing it needs 16,000 RWF per bird while a broiler requires 3,500 RWF per bird. On average, a broiler farm has a net profit of 1,000 RWF per bird. The profitability of a layer is calculated based on a variety of aspects including the eggs, fertilizer, and the lay-off bird that will be sold at the end. The average profit on each egg is 15 RWF and the bird is sold at 3,000 RWF.



Most broiler farmers are in Kigali and cities near Kigali whereas layer farmers are all over the country. This is because broilers are targeted at hotels, restaurant, and the Kigali consumers as they are the main buyers. Moreover, eggs are marketed all over the country as they also target the export market. Eggs are cheaper than meat which makes them more accessible.

Farmers mind the animal welfare on this level so that they can maximize the production. They try to treat the chicken in the best ways possible. Some farmers prefer using cages because it allows them to keep many chickens in a small space and others do not because it shortens the life cycle of a chicken and affects the production.

An opportunity exists to encourage more farmers to implement positive animal welfare methods to help improve the health and quality of the chicken.

Figure 10. Chick rearing



Figure 11. Rearing without cage



Figure 12. Rearing in cages (3 chicken/cage)

There is only one cooperative in the poultry sector. Poultry Farmers' Cooperative Innovation (PFCI) has 20 members and was set up to demonstrate the benefit of working in a cooperative. PFCI also acts as a collection centre and a feed miller. This enables farmers to sell their produce collectively to avoid middlemen and produce their own feed to cut production costs. Due to COVID-19, the cooperative has not been as effective as it should be and requires support to revive its operations.

The manufacture of chicken manure is also a source of income for poultry farmers. Chicken manure is processed or treated to become organic fertilizer. The manure is a good source of nutrients, as its nitrogen and phosphorus content are twice as high as other farm manures such as cow manure. In most cases, chicken manure contains everything that is swept up when cleaning a chicken coop, including urine, feathers and leftover feeds; although the nutrient content varies depending on the age and how the chicken is raised. The chicken manure that is transformed into organic fertilizer has numerous benefits. It is a complete fertilizer that contains nitrogen macronutrients, phosphorus, potassium, and other micronutrients such as calcium which are all beneficial for the health of plant growth. The fertiliser is either used by poultry farmers on their own farms or sold to other agricultural farmers.

This positively serves the environment as this fertilizer supports the soil and prevents erosion, which improves soil structure, moisture-holding, drainage capability and aeration. This helps the soil to be less prone to erosion and retain fertilizer better. The other benefit is that the

chicken manure feeds soil microbes allowing organic nutrients to break down faster hence making it available to plants more quickly.



Figure 13. Chicken manure that is being processed

The bagged or processed chicken manure is better than the fresh one because it can easily be decomposed and assimilated by the soil as it contains 76% water, and it is odour-free. Fresh manure has a strong smell and contains harmful pathogens such as *E. coli* or salmonella. It also needs to be aged before being applied or the high ammonia burns the plants²³.

The constraints at the production level relate to expensive feed, a lack of both business development and technical skills among producers, and access to finance and markets. All the categories of producers face the same basic constraints, but the severity differs depending on the size of their business. Large producers do not feel the constraints as heavily as they can mass produce, achieve economies of scale and meet the requirements of financial institutions. On the other hand, smaller producers having less than 1,000 chicken, struggle to breakeven and grow.

3.2.3 Processing

Producers who rear chicken for meat are also processors as they slaughter the chickens. Though SHFs prefer selling live chicken, medium and large producers prefer selling chicken meat. Currently, there is very little processing and value addition in the poultry sector in Rwanda because of a lack of standardised slaughterhouses. Only KIME (a large broiler company) is active in processing e.g., cutting chicken into small pieces, with its own modern certified slaughterhouse. In most cases, producers sell live chicken or sell the whole slaughtered chicken without further treatment. Processing egg yolk in powder is something that is also not done currently in Rwanda. There is an opportunity in general to develop processing activities and add value to poultry products.

3.2.4 Collection/Aggregation

In the poultry value chain, there are two types of aggregators: collectors and traders that buy and sell eggs and live chicken. Traders often have their own shops where they retail both eggs and broilers, while collectors aggregate and distribute depending on their market. Collectors have vehicles used for distribution while some traders also own or rent vehicles to distribute beyond their shops.

²³ <https://www.thespruce.com/chicken-manure-fertilizer-5189920>

Collectors can be considered as middlemen and there are about 20 recognized layer collectors and 20 broiler collectors. There is no known number of traders. It is difficult to categorise and count collectors and traders because most of them are selling more than just poultry products which are mixed with other food commodities. The government has no set policy limiting the number of people that can act as aggregators. According to RAB, the majority of these aggregators are women.



There are three collection centres in Gakenke, Ngororero and Kayonza. Aggregation began in Gakenke where three farmers decided to rent a building and collect eggs from local farmers in order to shorten the chain and increase returns to farmers. The collection centre oversees the marketing and sales of eggs.

Figure 14. Gakenke collection centre

The Gakenke farmers (GACOPROCO) obtained support from Orora Wihaze, a USAID funded activity, to acquire shelves and a van for collecting the eggs. Of the 200 poultry farmers in Gakenke district, 90 farmers are in agreements with GACOPROCO. They pay immediately as the farmer sells his/her eggs directly to the collection centre. The centre sells to other markets with a margin of 50 RWF that is used to cover expenses such as rent and paying drivers.



Figure 15. Collection van

Regarding the sale of meat, it mostly falls on the farmer to slaughter and take the meat to the customers. There is a very limited cold chain in place to enable the movement and broad marketing of fresh meat.

There is an opportunity to support aggregation models at this level because SHFs have trouble accessing markets as individuals.

3.3. Key Supporting Function Services and Actors

Supporting functions include key processes which lead to increased production and commercialisation of core value chain functions. Support functions usually influence several actors in the core market or value chain at the same time and are therefore of crucial importance. The key support services required by the poultry value chain functions include:

3.3.1 Feeds

Feed is a fundamental requirement of all poultry producers and is integral to poultry production to ensure growth and health of chicken and the quality of poultry products.

The 7 modern feed millers are Zamura Feed, Gorilla Feed, Tunga Feed, Huye Feed, Uzima Feed, PEAL and Abusol. These millers are larger players that are recognised by the Government. They produce high cost, reasonable quality products but most of these feed millers are operating on average at 50% capacity.

The data from a study done by the Private Sector Driven Agriculture Growth project (PSDAG) for MINAGRI in 2017 suggested that most farmers prefer to produce their own poultry feed because it is relatively cheaper. Farm produced feed reached 25,600 tons in 2015 or two-third of the total demand, estimated at 38,400 tons. Factories and other feed millers supplied the remaining 12,810 tons²⁴.

The raw materials required to produce feed include maize, soya, maize bland, rice bland, limestone, and premix (vitamins and minerals). The raw ingredients are the same for both modern and traditional feed production, but quantities vary. Currently, the price of broiler feed is 650 RWF per kg (including increased quantities of maize and soya) and the price of layer feed is 530 RWF per kg (including premix and soya).

The key constraints for both traditional and modern feed production are the limited availability and high cost of raw materials. This pushes up the price of machine-made feed, forcing farmers to buy traditionally made feed, which is cheaper but of poor quality, affecting the quality of the eggs and/or meat. In turn, this affects the prices that farmers can charge for eggs or meat, often resulting in income losses.

In addition, modern feed millers often negatively affect the environment due to a lack of waste management infrastructure. However, the Rwanda Government has established a waste management process as part of its greening initiative and is imposing fines for non-compliance.

There is an opportunity to pursue alternative animal protein sources for feed production for both modern and traditional production. This would help in the sustainable production of cheap and nutritious feed capable of increasing yields and maximizing profits²⁵. MINAGRI and RAB have supported work in the sector to promote Black Soldier Fly (BSF) meal as one of the best alternatives for partial or complete replacement of soybean meal in chicken diet.

Additional iterative analysis will be necessary to better understand the feed system and why the products and ingredients are not currently being supplied at an optimal level. This research will focus on establishing the linkage and explaining the causality of performance between the feed system and the core poultry production function. Such analysis will require a shift of focus from the poultry system to the feed system which constitutes one of the main constraints in the poultry sector.

3.3.2 Veterinary Services and Suppliers

These services are important for producers to ensure chicken health but there exists a limited number of skilled providers and the price of drugs and vaccines are high. The Rwanda Council

²⁴ PSDAG, Poultry Value Chain Cost-Benefit Analysis, 2017

²⁵ Minagri, Annual report 2021 - 2022

of Veterinary Doctors (RCVD) is the association of vets and doctors providing veterinary services to all livestock farmers. It has 4,000 registered and licensed members of which 1,200 are trained, meaning there is one vet for every 1,250 farmers. This is not enough for the number of farmers requiring veterinary services. Vets administer drugs and provide skills on animal welfare which contribute to poultry high production performance. Most vets are young people under 35; 55% are men and 45% women. This trend fits into the national statistics on tertiary education in Rwanda (stat yearbook 2021).

The distribution of products is done by the district vets, who sell directly to farmers. According to the Executive Secretary of RCVD, vets working at the district level are not close enough to farmers to provide adequate embedded support services such as drug administration and basic health checks for poultry. To increase the reach, RCVD has a plan to train and register more veterinary assistants and promote veterinary product shops at the sector level.

The vet business requires high investment to open and run a veterinary pharmacy. This leads to most veterinary pharmacists operating under the Agro-Tech franchise model. The owners of agrovets act as veterinary experts offering advice to farmers on how to administer the drugs. Agro-Tech is the main importer in the sector and maintains strong business connections with European drugs and vaccines suppliers. Often, some drugs are not available in the market due to volatile demand, which impacts directly on poultry health, resulting in unwarranted losses to farmers.

The constraint at this level is the limited number of trained vets, the lack of forecasting demand by suppliers as well as limited capital for drug procurement by veterinary pharmacists and Agro-Tech franchisees. This provides an opportunity to promote veterinary training, facilitate access to investment and support SMEs to procure stock and offer embedded services.

3.3.3. Access to Finance

Financial services, such as loans for assets and working capital are required by actors in all the functions of the value chain. However, on the demand side, there are several constraints limiting SHFs and SMEs from accessing finance. These include stringent requirements such as collateral and guarantees, lack of information on available financial products and providers, lack of financial and managerial skills as well as the high perceived risks of lending to MSMEs. These constraints limit availability and accessibility to finance for actors and hamper investment into more advanced and/or larger scale production and processing.

On the supply side, the key constraints relate to the ability and capacity to assess risk by staff within financial institutions, lack of diversified and tailored agri-financing products, and high cost of capital to serve risky sectors like agriculture. Women farmers have unique constraints due to cultural beliefs and a lack of agency to obtain financing. Access Bank is one of the few banks with a women tailored product with less stringent requirements.

An opportunity exists to support the financial institutions to tailor financial products to the needs of poultry farmers, as well as supporting farmers to obtain and benefit from financial services. This implies the provision of technical assistance in terms of capacity building to financial institutions in understanding the needs of the different poultry actors and designing relevant financial products. There is also a need to support SHFs and SMEs in business planning and legal assistance to be able to fulfil the financial institutions requirements to obtain financing or investments; and training in financial literacy and management to ensure appropriate financial efficient acquisition and deployment of both short- and long-term financial resources.

3.3.4. Transport and Logistics

Transportation services are required by all value chain actors to move the products to the consumers. Actors use airfreight to import parental stock and eggs ready to be hatched, with an exemption from RAB for duty taxes. Refrigerated vans are used to transport chicken meat

and normal vehicles used to transport eggs or live chicken. However, there are few refrigerated vans in place, and local farmers are forced to sell live chicken and cannot benefit from any primary processing activities, such as slaughtering.

On the logistics side, transporting DOCs requires boxes, and eggs require trays which are both locally made, available and affordable.



Figure 16. Transporting DOC in boxes

However, while transporting live chicken for slaughter, actors often do not follow the animal welfare protocol as it is described in the PSDAG report for MINAGRI that restricts overfilling cages and inappropriate transportation on a bike or motorcycle. Live chickens are taken to the local market on motorbikes or in cages to be sold to butcheries who slaughter them at the client's request. The law underlines the cultural importance of maintaining the health and welfare of animals, specifying, for example, that chickens are to be transported only in appropriate baskets in day light hours.

The key constraint in relation to transportation and logistics is the lack of refrigerated vans that are expensive leading to poor market access for many. As such the producers rely on collectors and traders and struggle to directly serve markets and achieve higher prices.

Access to cold chain transportation options for small producers could ensure both product quality and higher profits upstream; while support to enforcement of animal welfare protocols could also ensure product quality as well as compliance to the animal welfare protocol.

3.3.5. Infrastructure and Equipment

The different functions in the value chain require different kinds of equipment to operate.

For example, all producer farmers need feeding equipment, waste equipment in the chicken houses, and equipment to administer vaccines and drugs. Traders need cold chains such as fridges and refrigerated containers to ensure the quality of the chicken. All such equipment is found in the Rwandan market but not necessarily made or produced in Rwanda.

There is also a need for refrigerated rooms for producers to accommodate chickens at the required temperature and certified slaughterhouses. So far, KIME in Rwanda is the only company with a modern slaughterhouse and cold-rooms. In addition, there is a need for slaughtering equipment and packaging equipment at the processing level.

All physical marketplaces in Rwanda have a cold-chain container and butcheries with fridges to keep the chicken meat. Every farmer has access to these facilities with costs calculated depending on electricity usage. However, farmers do not generally use these facilities preferring to sell live chicken and saving the cost of using refrigerated rooms or containers.

The key constraints relating to infrastructure and equipment are the high cost of building refrigerated rooms, buying quality refrigerated containers, and establishing well-equipped

slaughterhouses. The need for cold-chain facilities is apparent to increase the longevity of the chicken product.

3.3.7 Extension Service Providers (BDS and Technical)

Many actors in the value require improved technical and business skills which is available but expensive. There are several providers who offers relevant skills training to companies and individuals such as INKOMOKO that offers BDS skills and RAB that offers technical skills. Hatcheries and producers need poultry rearing information and skills training such as controlling diseases and administering drugs techniques and business skills training such as financial accounting, marketing, and other farm management skills. Poultry rearing skills training is available but costly as it requires hiring an individual technician or private company. While RAB provides free one-day workshops on such issues, these happen only occasionally on an ad hoc basis, are not intensive or detailed enough to provide significant benefit to trainees, and do not adequately focus on the specific skills (e.g., administering drugs, proper feeding) that are needed. Currently, a farmer needs to pay 250,000 RWF per month for 6 months to an individual technician to provide technical assistance for farm management, technical skills, disease diagnosis and treatment, and linkages to potential markets²⁶. Currently, Abusol is the only private poultry rearing skills provider in the market. This results in farmers learning poultry rearing techniques from each other which are outdated and inadequate.

In the most cases, poultry farmers do not see the benefits of paying for such training as they consider it an expense and often wait for possible free services from RAB. Aggregators also need BDS skills training to operate professionally.

There is an opportunity to work with existing support service providers to develop tailored products, awareness campaigns and delivery mechanisms that encourage SHFs and SMEs to access, pay for and apply standalone and embedded technical and business support services.

3.4. Enabling Environment Issues and Actors

Formal and informal rules and regulations guide actors in the market and directly impact on the ability of the value chain and support system to develop. These are trade policies, agricultural policies, and laws as well as informal traditions and value sets that influence farmers' behaviour and functional relationships in the market. The key issues in the enabling environment that directly affect the poultry system, either enabling it to grow or hindering growth include:

3.4.1 Negative consumer mindset

Currently, the population do not see the benefit of consuming poultry products, based on cultural norms and traditions. There is poor awareness on the nutritional value of poultry products often based on misconceptions. This poor demand-pull inhibits growth of the sector. It is in the mandate of MINAGRI to oversee sensibilisation to change the mindset of consumers and support the development of the sector via awareness campaigns. However, they are reluctant to prioritise such activities despite available funding from Ministry of Trade and Industry (MINICOM). There is an opportunity to support public actors to develop relevant campaigns; and to also ensure that value chain actors develop and implement marketing activities that address misconceptions and boost consumer demand.

²⁶ More information is in the Annexes.

3.4.2 Positive importation controls on poultry seeds

The poultry chain is very sensitive to diseases and therefore the Rwanda Government restricts the number of importers of DOCs and eggs for hatching. This ensures that diseases are not being brought into the country and enables local quality production and growth in the sector.

3.4.3 Ad hoc compliance with standards and certification in production

Rwanda Standard Board (RSB) establishes standards and provides certification for poultry producers. Compliance is required in the areas of rearing, health, and processing. Inspection is undertaken by Food and Drugs Authority (FDA) and Rwanda Inspectorate Competition and Consumer Protection Authority (RICA). Abiding with the standards of rearing, production, and processing results in certification from RSB. Many large farmers comply as they target the export market or the government tenders but complain that it is expensive to abide with health policies. Most SHFs do not abide with health policies which is risky because it can lead to health risks for consumers. For example, it is not ideal to sell a chicken product (egg or meat) within a certain period after administering drugs or antibiotics. Farmers need to abide with the standard of production and rearing, and health policies to provide quality products on the market. Despite having standards, certification, and inspection processes in place the Government does not emphasize or enforce compliance of those standards because the sector is informal and is young and developing. This undermines consumer confidence and hinders growth.

An opportunity exists to support producers/processors to understand the commercial benefits of the standards and to comply via awareness raising and technical skills training.

3.4.5 Advancing Research and Development

Research and Development (R&D) is an important enabler for agricultural growth and a potential key driver. For example, work to promote BSF meal as an alternative ingredient for feed alongside research on animal diseases has the potential to transform the sector. RAB oversees the R&D on agriculture to support increased production due to research on improved feed, appropriate use of drugs and improved breeds. RAB Strategic Plan 2020-2024 states that to increase animal production, it will focus on animal feed production through Public Private Partnerships (known as PPPs) and animal health through enhanced access to veterinary services and vaccinations.

3.4.5 Lack of official data on poultry farmers

The Government does not have a system in place to monitor the poultry sector, unlike in other sectors such as dairy, which results in poor or unavailable data about poultry producers. A lack of data means that there is no oversight on where the SHF producers are and what kind of support is required. This inhibits support to producers at the district level, and results in a lack of producer and production information for downstream players. A robust monitoring system that delivers up to date information could ensure more focused support and investment from private players as well as from public actors such as government and development agencies.

4. Problem Analysis

4.1. Problems and Underlying Causes

There are numerous problems that smallholder farmers in Rwanda face when trying to improve and commercialise poultry production. They can be found in almost all areas of the market system of the core market functions, supporting services an enabling environment, as cited in the above analysis.

The problem analysis draws from the constraints identified and seeks to define and prioritise the issues which are currently affecting the performance of the poultry system. This has been done through an underlying cause analysis to understand the root cause of why each of the key problems are occurring - to ensure that subsequent actions address systemic causes rather than just responding to the symptoms. These are also presented in the Intervention Logic Analysis Framework (ILAF) table.

The three priority blockages in the system that need to be addressed are **high costs of production, limited access to technical assistance, and restrained demand growth**. It is important to note that some of these broad problem areas have the same underlying causes; and that common root causes suggest a possible area of intervention.

4.1.1 High cost of production:

Farmers face issues with the cost of production because the inputs needed to produce a quality product are expensive. Using low quality input and equipment results in poor productivity and directly affects the output in terms of quantity and quality. Inputs include feed, equipment, veterinary services, and skills training. Low-quality feed and a low-quality chick coupled with poor husbandry skills, will directly impact on the size of the chicken as well as length of time a chicken will lay for and how many eggs can be obtained.

The high cost of production is caused by:

(1) poor knowledge in poultry production techniques due to the limited knowledge and skills of the actors and poor enforcement of regulations and standards for poultry production. The root causes relate to the weakness of the technical assistance supporting function and ad hoc compliance issues in the enabling environment.

(2) high prices of imported raw materials for feed production and limited local feed production due to limited availability of materials and competition for human consumption. Ultimately, the root causes of this relate to poor productivity in the related maize and soy system due to poor seeds, inappropriate fertiliser use and poor agricultural practices.

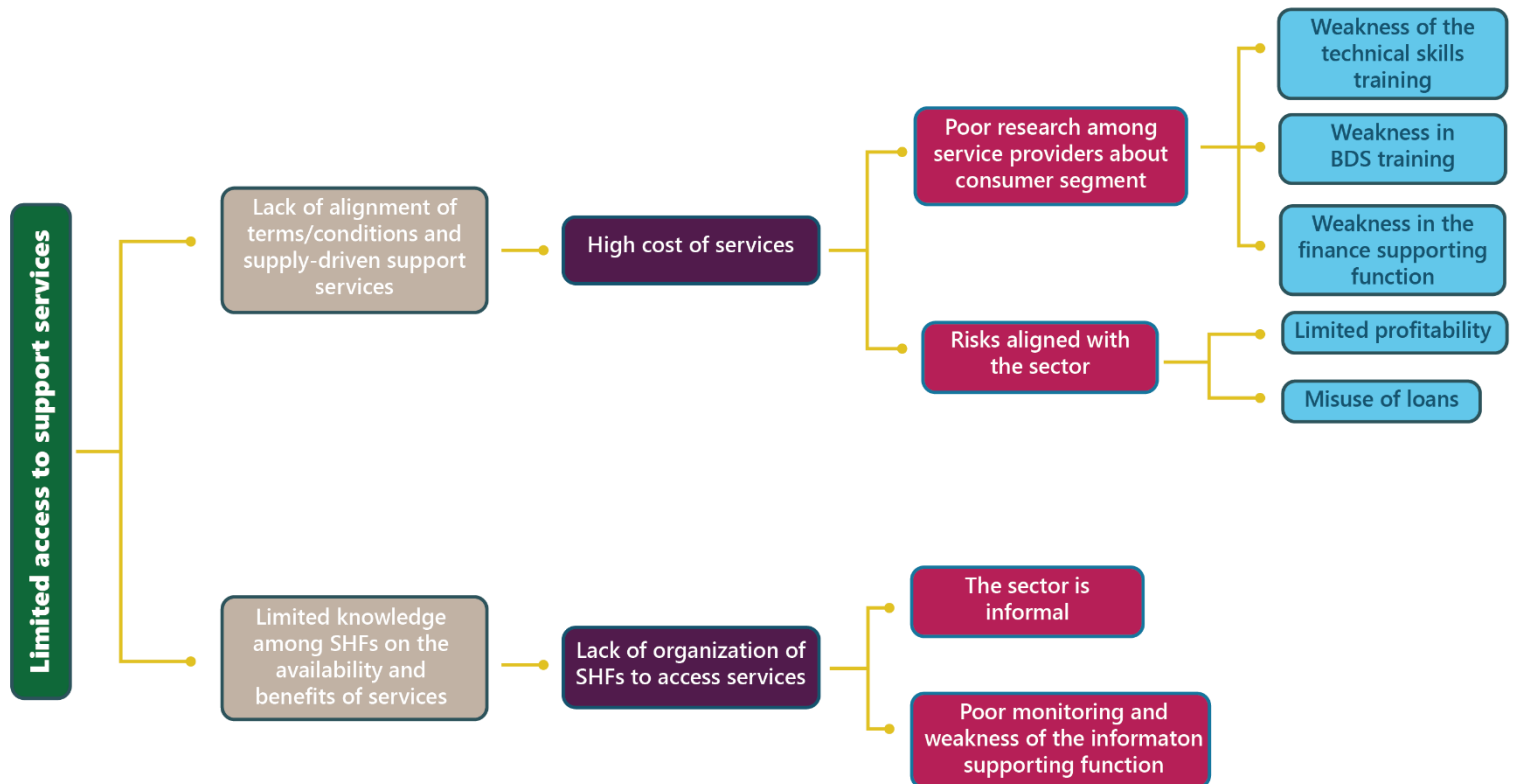
(3) limited investment in assets, equipment and working capital due to the requirements of financial institutions and poor business management skills among SHFs and SMEs. The root causes relate to weakness of the BDS and access to finance supporting functions.

Figure 17. High constraint analysis cost of production



4.1.2. Limited access to support services:

Figure 18. Technical assistance constraint



SHFs and SMEs need assistance such as the finance and business/technical skills capacity building to commercialise operations. They have limited knowledge and skills on poultry rearing techniques, veterinary issues, and business management which in turn affects their ability to access finance.

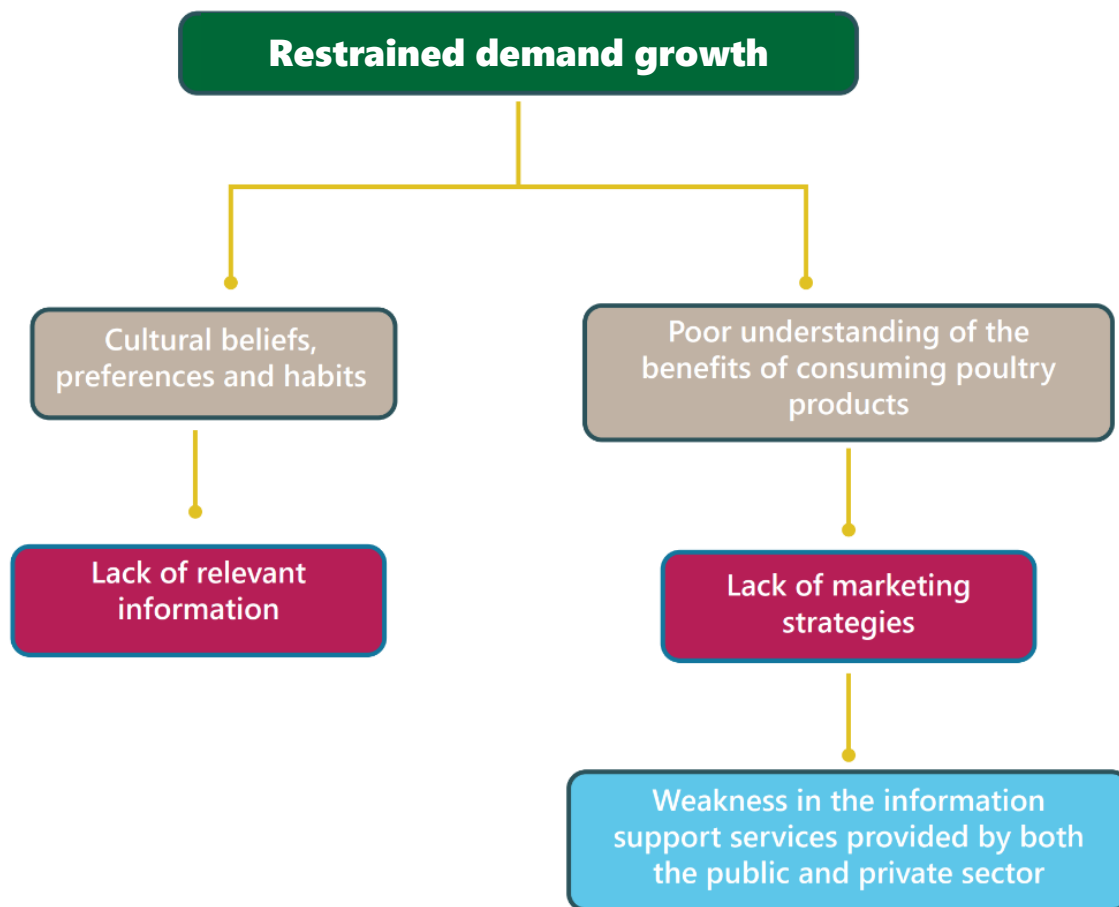
Limited access to support services is caused by:

(1) lack of alignment of terms/conditions and supply-driven support services as well as high costs of services due to poor knowledge/research among service providers about the SHF and SME consumer segments (this includes poor knowledge on the specific needs of women as consumers of these services). The root causes relate to the weakness of the technical skills advice/training, BDS training and finance supporting functions.

(2) limited knowledge among SHFs on the availability and benefits of services and lack of organisation of SHFs to access services. The root causes relate to the informality of the sector, poor monitoring and weakness of the information supporting function.

4.1.2 Restrained demand growth:

Figure 19. Restrained demand growth constraint analysis.



Although local demand for poultry products is growing steadily it is hindered by consumer mindsets and poor understating of the nutritional value of poultry products, and the role they can play in reducing malnutrition.

Restrained demand growth is caused by:

(1) cultural beliefs, preferences, and habits; combined with a poor understanding of the benefits of consuming poultry products due to a lack of relevant information and appropriate marketing strategies. The root causes relate to weakness the information support services provided by both the public and private sector.

5. Strategy for Change

The inclusive growth strategy is designed to respond to and strengthen the weaknesses in the current service provision and enabling environment in the market system. This takes the form of defining the growth potential and opportunities of the sector, developing the sector vision of change for an inclusive and competitive sector, and ultimately identifying opportunities to demonstrate smallholder and SME commercialisation.

5.1. The growth potential and opportunities of the sector

Poultry rearing and consumption in Rwanda is growing rapidly due to population growth, high urbanisation and increasing demand for animal protein. Continued year on year growth in the production and domestic of meat and eggs is expected. However, this can only be achieved by addressing the underlying causes of key blockages and taking advantage of the opportunities present in the sector to ensure inclusive growth.

Promoting locally produced inputs: including supporting locally production of DOCs to reduce monopolisation by vertically integrating producers; and addressing expensive feed for SHFs by pursuing the production of locally produced feed and local alternative raw ingredients (such as BSF) for feed production for both modern and traditional production.

Enhancing technical assistance and enhancing service provisions: including developing relevant and affordable technical assistance for SHFs to address constraints such as lack of BDS and poultry rearing techniques as well as promoting veterinary training. This includes supporting different kinds of providers (standalone providers and intermediaries such as agrovets) (1) to tailor financial products and services to the needs of poultry actors; (2) to develop awareness campaigns and deliver mechanisms that encourage SHFs and SMES to access, pay for and apply technical and BD services and (3) linking SHFs and SMEs to service providers.

Improving value addition and processing: including developing processing techniques and adding value upstream to poultry products via primary processing such as slaughtering and chilling and secondary processing such as cutting, deboning and portioning. This can also include establishing cold chain facilities to increase longevity of the chicken products. Value-added processing offers farmers the potential to capture a larger share of the product price.

Enhancing aggregation, transportation, and market access: including supporting aggregation models to (1) enable SHFs to better organise, access quality inputs, link to downstream players and access higher value markets; and (2) enable collectors/traders/processors players to easily access aggregated offtake. Increasing market access also includes developing cold chain transportation options to increase the life of the products. Even the subtle improvements in cold storage capabilities can significantly increase the trade, storage, distribution, and consumption of poultry products.

Supporting demand growth: including supporting actors to develop relevant campaigns and marketing activities that address misconceptions, raise awareness on the benefits of consuming poultry products and boost consumer confidence and demand. This demand-pull will incentivise increased production further.

Supporting regulatory compliance and sector monitoring: including support to SHFs and other producers to understand (1) the commercial benefit of the poultry rearing standards and to comply via awareness raising and technical skills training, and (2) public health issue related to food safety. This also includes establishing a monitoring system that delivers up to date information; and supporting enforcement of animal welfare protocols.

Leveraging increased investments into the sector: including working on the supply side to develop appropriate demand led financial products and services for all sizes of poultry businesses; and working on the demand side to raise awareness on the benefits of financial

services (especially to SHFs/SMEs) and supporting actors to identify, prepare for, and access financing.

5.2. Vision of Change

As discussed previously, the potential for inclusive growth in the poultry sector is tremendous and can positively contribute towards the income of farmers.

Vision of Change for the overall system:

- A commercial and compliant poultry sector with high production and productivity from SMEs and SHFs through access to investment, affordable inputs, appropriate technical and managerial support, and market linkages.

Vision of Change for the SHFs:

- Well organised smallholder farmers with enhanced income through growing sales and value addition to meet increasing demand for poultry products.

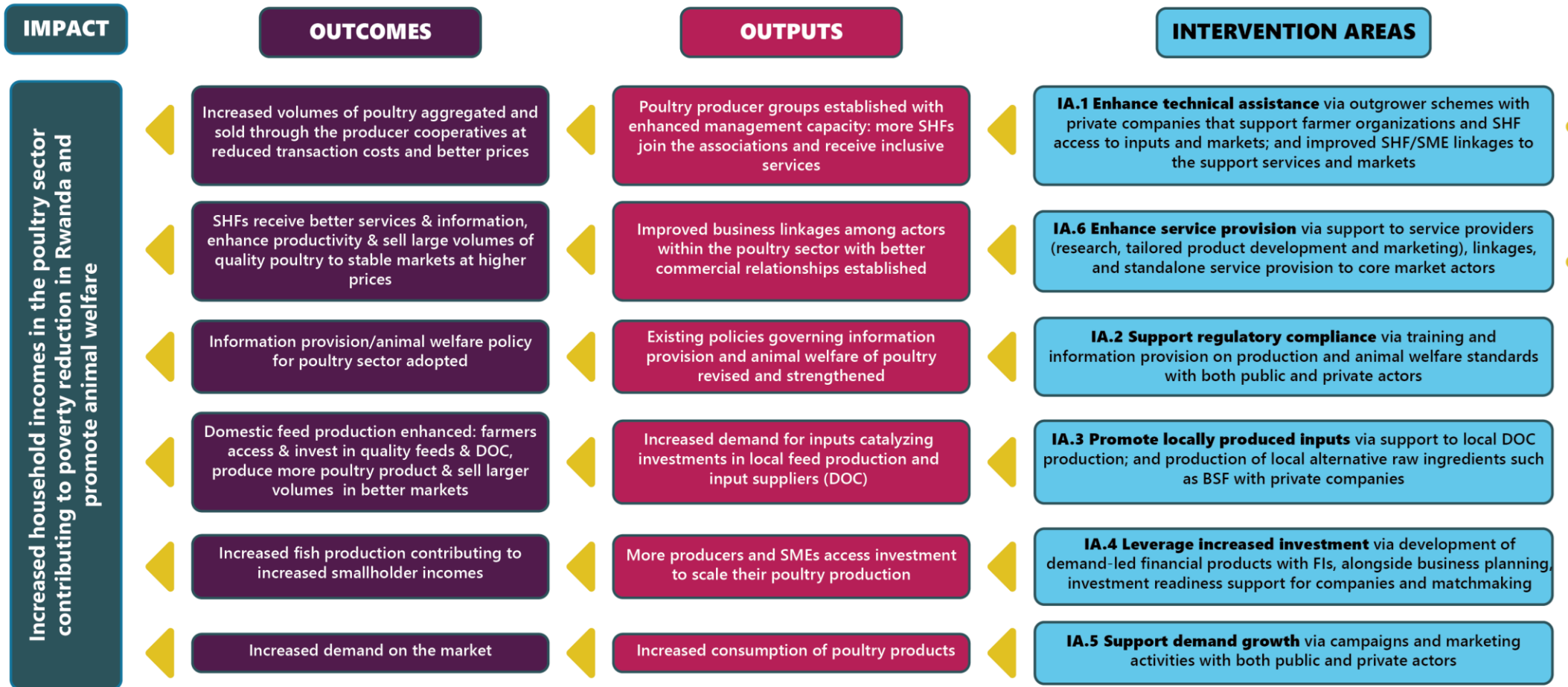
Vision of Change for support services:

- A vibrant support system that delivers relevant inputs, training, finance, and information.

The purpose of the Vision of Change is to envisage how the system would operate if identified constraints and underlying causes were to be resolved and the opportunities were realised

Theory of Change

Figure 20. Theory of change



The Vision of Change can be achieved through the identified intervention areas described in the subsequent chapter

6. Interventions

The strategy suggests which indicative interventions are possible and required to deliver sustainable changes in the system(s) to achieve the vision of systemic change. It identifies actions suitable to overcome the root causes of system failures that inhibit the growth of the poultry sector and or constrains smallholder farmers from benefitting from any growth.

6.1. Intervention Areas and Project Ideas

The following Intervention Logic Analysis Framework (ILAF) shows the connections between the problems and the possible priority actions that can be deployed to solve them by strengthening the system. It proposed changes that can be catalysed to strengthen competitiveness and increase the participation of small holder farmers

Problem/symptom	Underlying Cause	Support or Regulatory functions	Service Weaknesses / underlying causes	Intervention areas	Potential Partners
High cost of production	Limited knowledge and skills in production	Technical and business skills support	Expensive and supply led products and services.	IA.1 Enhance technical assistance via out growers' schemes with private companies that support farmer organisation and SHF access to inputs and markets; and improved SHF/MSE linkages to the support services and markets.	Ndahimana Chicken Grower Ltd (private producer) B5CD Ltd (private producer) IMKOMOKO (BDS providers) RAB (technical support)
	Poor business management skills among SHFs and SMEs		Poor linkages between SHFs and providers		
			No awareness raising on benefits of services		
	Poor enforcement of regulations and standards for poultry production and animal welfare	Information and enforcement	Lack of enforcement of production standards	IA.2 Support regulatory compliance via training and information provision on production and animal welfare standards with both public and private actors.	MINAGRI/RAB (technical support) RPIA (Rwanda Poultry Industry Association)
			No information to raise awareness on benefits of compliance and animal welfare		
	High prices of imported raw materials for feed production.	Input supply	Expensive raw material supply Minimal local production	IA.3 Promote locally produced inputs via support to local DOC production; and production of local alternative raw ingredients such as BSF with private companies	PFCI (poultry cooperative) Abusol (private feed and poultry producer) Maggot (private feed producer) Ndahimana Chicken Grower Ltd (Private producer) B5CD Ltd (private producer)

	Limited investment in assets, equipment and working capital	Financial services	Supply led products and services.	IA.4 Leverage increased investments via development of demand led financial products with FIs, alongside business planning, investment readiness support for companies and matchmaking.	BRD (Rwanda Development Bank)
			No awareness raising on benefits of services.		INKOMOKO (BDS providers)
			No support to identify, prepare for, and access financing		MFIs/ (Microfinance Institutions) SACCOs (Saving and Credit Cooperatives)
Restrained growth demand	<p>Cultural norms and a poor understanding of the benefits of consuming poultry products</p> <p>A lack of relevant information and appropriate marketing strategies</p>	Information and marketing functions	Poor awareness raising and marketing of benefits of poultry products	IA. 5 Support demand growth via campaigns and marketing activities with both public and private actors	<p>RAB (technical support)</p> <p>RPIA (Poultry Industry Association)</p> <p>Private producers</p>
Limited access to support services	<p>Supply-driven, expensive support services</p> <p>Poor knowledge/ research relating to SHF/ SME (and women) consumer segments</p>	<p>Finance service provision</p> <p>BDS and poultry rearing service provision.</p> <p>Information and organization</p>	<p>Lack of tailored financial product and stringent requirements</p> <p>No women focused products</p> <p>Limited access to BDS and technical support</p> <p>No women focused products</p>	IA. 6 Enhance service provision via support to service providers (research, tailored product development and marketing), linkages, and standalone service provision to core market actors.	<p>BRD (Rwanda Development Bank)</p> <p>MFI (Microfinance Institutions)</p> <p>SACCOs (Saving and Credit Cooperatives)</p> <p>INKOMOKO (BDS providers)</p>

	<p>Limited knowledge and understanding of services.</p> <p>Poor SHF organisation to access services.</p>		<p>Limited access to information</p>		<p>RAB (Technical support)</p> <p>RPIA (Rwanda Poultry Industry Association)</p>
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The listed intervention areas are not meant to be improvements or services conducted by CASA alone. They are based on the idea of an ineffective or inefficient market system which can be improved inherently so outcomes do not rely on CASA's continued support to be sustainable. It is crucial to act systemically for a sustained impact and intervene in the market as a facilitator for actions undertaken by the identified stakeholders themselves.

6.2. Sequencing and Prioritisation of Project Ideas

Project ideas can be sequenced to fulfil the systemic change described in the 'Vision of Change'. Some interventions require interim results for further actions to be viable. The following are the possible actions based on CASA objectives and project selection criteria along with their sequence for the next 2 years.



While CASA does not have regional preferences and sets out to work with any potential partners across the country, the potential for a specific region to generate more results for the programme will be considered in selecting partners. In this regard, it will be reasonable to pilot implementation of business models on smallholder sourcing and/or outgrower arrangements in geographic areas with high number of producers. Similarly, models that will require high existing capacity of partners will also be in areas where such actors are currently operating.

7. Stakeholder Assessment

The following Power-Interest Matrix is designed to help categorise relevant stakeholders who could be impactful in either a positive or negative manner on the suggested actions. The possible engagement strategies for the different groups are also suggested. See Section 8 for more information about each actor.

<i>High</i>	Gorilla Feed	Platinum	Abusol
	Tunga Feed Huye Feed	RAB MINAGRI	INKOMOKO KIME
Power	Uzima Maggot	Zamura Feed Orora Wihaze	SHF Ndahimana Chicken Grower
	PEAL	Chief chicks	BRD
<i>Low</i>		PFCI	B5CD ltd
		MFI SACCOs	Mothers' farm RPIA
	<i>Low</i>	← Interest →	<i>High</i>

CASA will adopt the following strategies for interacting with the different sector stakeholders:

- **Low power, low interest:** CASA will stay receptive towards these actors: although they do not seem important, nor very relevant at this stage, they may still prove to be as the programme continues to build understanding of the system. If they show an interest, CASA will provide them with information about the iterative investigation and intervention preparation process.
- **High power, low interest:** CASA will stay open minded about these actors: they are powerful, and they may turn out to be important drivers of change, despite them not seeming very relevant at this stage. If they show an interest, CASA will be quick to provide them with information about process and subsequently keep them informed.
- **Low power, high interest:** CASA will stay open minded about these actors: they are an important part of the market system. Ignoring them may have severe unintended consequences. CASA will keep them informed about the investigation and preparation process.
- **High power, high interest:** CASA will actively target these actors: they are both important parts of the system and the 'movers and shakers' that have lots of power to change things. CASA is now engaging them and will do so throughout the intervention preparation process.

8. Preliminary Assessment of Potential Partners

The Willingness and Capacity matrix is designed to identify which players to target or prioritise as partners and the broad type of support required to change their behaviour. **See Annex 6 for more information about each potential partner.**

Capacity	High		Abusol
	Low	RAB	BRD INKOMOKO
		MINAGRI	Ndahimana Chicken Grower Ltd
			B5CD
			Maggot
			MFI PFCI
			SACCOs
			RPIA
		← Willingness →	
		Low	High

9. Information Gaps

The following are key information gaps that have been elevated through this stage of the process for further iterative analysis:

- Involvement of women at each node of the market system and in the sector in general: One of the issues in the sector is that the government does not have a well-established system that can count the commercial actors in the sector and their gender. They are only estimations.
- Number of formal producers' companies: During the 2022 meeting, the Minister indicated that there are over 600 commercial producers however, actors stated that after that session, they were some dropouts and others joining the sector, which suggests that updated numbers are hard to determine.
- Whether and when the poultry sector will be going to be regulated officially (and not be regulated as part of the livestock sector as a whole), and whether any support is needed to make it happen. The livestock strategic plan has a section on poultry; however, there is still a gap in what should be done or followed by actors. There is a need to have a conversation with actors such as MINAGRI and RAB to understand what can be done.

Annexes

Annex 1. Next Steps

The next steps in the process are:

- a. scoping of project concept notes including mainstreaming of CASA crosscutting areas.
- b. design of project plans after approval of the concept notes, including mainstreaming of CASA crosscutting areas and monitoring and results measurement activities, as well as partner due-diligence exercises, negotiations and contracting.
- c. implementation, monitoring, results measurement, and evaluation.
- d. collaborating with Component C on preparing SME success stories and engaging with investment actors.

To be duly agreed with FCDO as relevant, it may be necessary to make some changes to the outline poultry projects portfolio during scoping of the project concept notes, and subsequently during business plan design and approval.

CASA employs the following criteria to select SME partners: -

- Annual turnover under \$2.0 million or less than 50 employees.
- Must want finance in the range \$100,000-1,000,000 either immediately or in the foreseeable future (some possible exceptions to the lower limit where a second round of finance meeting/exceeding the limit is expected during the life of CASA).
- Ideally has not received finance in the past (an exception may be an SME seeking finance within the above range for a new stage of expansion).
- Engages/potentially engages large numbers of smallholders in supply chain; and passes CASA's due diligence assessment.

Work on identifying a roster of potential BDS providers for engagement including assessment of any service/delivery capacity building needs will commence early in implementation. CASA expects to focus on a small number of the most relevant providers and capacity building may centre on services development, testing and service evaluations, and consumer and other research. Provider selection criteria is expected to include:

- Capacity to deliver services.
- Close to SHFs/SMEs in culture, operating environment, geography, etc.
- Low-cost structure.
- Commercial focus, business culture, and accounting and management systems.
- Organisational independence, especially from donor funds; and,
- Focus on services for SHFs and agri-business SMEs.

CASA has completed an initial mapping of the investment landscape in Rwanda (see separate report for list of active investors in Rwanda) with a similar exercise for finance landscape mapping being finalised. The lists of actors from these exercises will be updated periodically.

Annex 2. Existing Donor Initiatives

Donor	Intervention
USAID-Orora Wihaze	Promoting ready to lay poulet.
ENABEL	PRISM-ENABEL-Capacity Building and Access to Finance
FAO	TAP-AIS (closing this year)
Heifer	PRISM-HEIFER- Providing Free livestock to vulnerable families
IFAD	PRISM-IFAD- Infrastructure

Annex 3: Cost of Veterinary and Extension Services

Budget Cost for plan for veterinary products needed in rearing period (6 months), Case of 1000 chickens				
Chemical products for cleaning and disinfection				
S/N	Chemical product name	Quantity needed	Unit price,1000 hens	Total price (RWF)
1	Aquapure tablets for disinfection and water treatment	60	500	30,000
2	Kenossan(Liters)	5	2000	10,000
3	Disinfectants(D4)	6	13000	78,000
Subtotal				118,000
Vaccines needed during rearing				
S/N	Vaccine name	Doses needed	Unit price,1000 hens	Total price (RWFs)
1	New castle premium package (dose of 1000)	1	3,000	3,000
2	New castle lasota	5	3,000	15,000
3	Gumboro intermediaries	1	5,000	5,000
4	Gumboro intermediaries plus	2	18,000	36,000
5	Infectious bronchitis(mass)	2	3,200	6,400
6	Infectious bronchitis(variant)	2	13,000	26,000
7	Fowl pox	1	5,000	5,000
8	Corymune 7 k	1	110,000	110,000
9	Cevamunes tablets	10	2,500	25,000
Subtotal				231,400
Essential drugs which can be used in case there is a notice of diseases				
S/N	Drug name	Estimated Quantity	Unity price	Total price (RWFs)
1	Amprocox/Amprolium(kgs)	1	58,000	58,000
2	Sulfadimidin(kgs)	1.5	35,000	52,500
3	Oxytetracycline	1	37,000	37,000
4	Leva WS 200(kgs)	1	27,000	27,000
5	Enrosol(liters)	2	13,000	26,000
6	Disinfectant(D4 or Kupacide)	5	12,000	60,000
Subtotal				260,500
Vitamins which will be used				
S/N	Vitamin name	Quantity	Unity price	Total price (RWFs)

1	Volivit(liters) for vit supplementation	5	14000	70,000
2	Volimun(liters) for immunity boosting	5	14000	70,000
3	Volihepato for appetite boosting and body maintenance	5	14000	70,000
4	Vitamine C	5	14000	70,000
Subtotal				280,000
Vaccines needed during production				
S/N	Vaccine name	Doses needed	Unit price,1000 hens	Total price (RWFs)
1	New castle lasota	10	3,600	36,000
2	Infectious bronchitis(mass)	5	3,200	16,000
3	Infectious bronchitis(variant)	5	13,000	65,000
4	Cevamunes tablets	30	2,500	75,000
Subtotal				192,000
Essential drugs which can be used in case there is a notice of diseases				
S/N	Drug name	Estimated Quantity	Unity price	Total price (RWFs)
1	Sulfadimidin(kgs)	3	35,000	105,000
2	Oxytetracycline	1.5	37,000	55,500
3	Leva WS 200(kgs)	4	27,000	108,000
4	Enrosol(liters)	4	13,000	52,000
5	Desinfectant(D4 or Kupacide)	18	12,000	216,000
Subtotal				536,500
Vitamins which will be used				
S/N	Vitamin name	Quantity	Unity price	Total price (RWFs)
1	Volivit(liters) for vit supplementation	10	14000	140,000
2	Volimun(liters) for immunity boosting	5	14000	70,000
3	Volihepato for appetite boosting and body maintenance	10	14000	140,000
4	Vitamine C	5	14000	70,000
Subtotal				420,000
Technical support to the farmer				
S/N	Description of the technical support	Unit (Months)	Unit price per farm	Total price (RWFs)
1	Technical assistance in farm management, vaccination technics, disease diagnosis and treatment coaching, linkage to potential markets	6	250,000	1,500,000

Annex 4: Commercial Banks Landscape in Agriculture

Financial Institution	Dedicated Agri-finance unit	No. dedicated Agri-lending officers	Agric lending products offered	Agric lending as % of overall loan portfolio
Commercial Banks				
Bank of Kigali	Yes	1	Trader loans	Not known
I&M Bank	No	None	Coffee and tea processing	Not known
Compagnie Générale de Banque (Cogebanque)	No	N/A	Input/working capital credit	Not known
Kenya Commercial Bank (KCB) Rwanda	Yes	4	Input loans, inventory credit, cash cover loans to MFIs and Coops	3-5%
Ecobank Rwanda	No	-	Trader loans (WRS)	Not known
Banque Populaire du Rwanda SA (BPR)	No	None, though they had one in the past	Cooperative loans and trader loans, processing	Not known
Bank of Africa Rwanda	No	-	-	-
Equity Bank	Yes	5	Value chain financing	1.3%
Access Bank	No	-	-	-
Guaranty Trust Bank	No	-	Trader credit lines	Not known
Commercial Bank of Africa	No	-	-	-

Annex 5: Microfinance Institution Landscape in Agriculture

Financial Institution	Dedicated Agri-finance unit	# dedicated Agri-lending officers	Agri lending products offered	Agri lending as % of overall loan portfolio
Microfinance Banks				
AB Bank Rwanda	No	-	-	-
Unguka Bank	Yes	3	Value chain finance products	12%
Urwego Opportunity Bank	Yes	11	Value chain finance products	17%
Commercial Bank of Africa Rwanda	No	-	-	-
Microfinance Institutions				
RIM	Yes	3	Value chain finance products	31%
Duterimbere	No	None but Loan officers were trained on agricultural products	Micro leasing, savings, inventory credit, Solidarity group loans and investment loans, ag input and post-harvest loans for group and individuals	18%
Clecam	No	Dominantly in agriculture	Input loans, group loans and trader loans	75%
Umutanguha	Yes	3	Value chain finance loans	23%

Annex 6: List of Potential Partners

Partner	Profile	Location	Project Ideas
Abusol	The largest layer producer in Rwanda with above 60,000 chickens in the farm at a single point. The farm has a sister company called SAFE for HEALTH that produces BSF.	Bugesera	Potential partner for local alternative raw ingredients and enhancing technical assistance.
BRD	Rwanda Development Bank that supports other commercial banks in developing agriculture tailored product.	Kigali	Potential partner enhancing service provision via support to service providers (research product development and marketing) and linkages.
INKOMOKO	Business development service provider that provides training in business management skills such as marketing, financial management etc.	Kigali	Potential partner on enhancing technical assistance and leveraging investment.
Ndahimana Chicken Grower Ltd.	Hatchery company with the capacity of hatching 8,500 DOC per week.	Rwamagana	Potential partner for promoting locally produced input and outgrower schemes under enhancing technical assistance.
MINAGRI	Ministry of Agriculture that oversees and develops policy and regulation.	Kigali	Potential partner in supporting regulatory compliance.
RAB	Rwanda Agriculture Board that oversees the implementation of policies, standards, and regulations.	Kigali	Potential partner in supporting regulatory compliance, enhancing technical assistance and service provision as well as supporting demand growth.
B5CD	A small broiler hatchery producer with 3,000 chickens that also offers extension services such as training to farmers.	Bugesera	Potential partner for developing an outgrower scheme under technical assistance and service provision as well as leveraging investment.
Maggot	BSF producer that sells raw larvae to different farmers.	Kamonyi	Potential partner to promote locally produced input and leverage investment
MFI	Microfinance institution that are known for lending to farmers.	Kigali	Potential partner to enhancing service provision.
PFCI	Poultry cooperative with 20 members.	Rwamagana	Potential partner of producing alternative raw ingredients

			under promoting locally produced input, enhancing technical assistance and leveraging investment.
SACCOs	Saving and credit cooperatives that are located around the country. Known for giving small loans to farmers.	Kigali	Potential partner to leverage investment and enhance service provision.
RPIA	Poultry association that is there to provide information, oversee the implementation of different project in the poultry sector.	Kigali	Potential partner to enhancing service provision, improved SHF/SME linkages to support services and markets under enhancing technical assistance, as well as support demand growth and regulatory compliance.