



Republic of Rwanda  
Ministry of Agriculture  
and Animal Resources

# ANNUAL REPORT 2024/25

P.O BOX: 621 KIGALI



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# FOREWORD

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*Dr Mark Cyubahiro Bagabe, PhD*  
THE MINISTER

## Message From The Minister

Rwanda's agricultural sector is the foundation of the country's economy and plays a critical role in promoting inclusive wealth creation, ensuring food security, and driving social transformation. In FY 2024/25, Rwanda advanced the implementation of PSTA5, solidifying a strategic shift toward a food-systems and climate-resilience approach to agricultural modernization. This policy direction strengthened alignment between productivity, sustainability, and inclusion objectives.

Key enablers—including expanded irrigation to 74,375 hectares, increased mechanization to 100,357 hectares, and the delivery of subsidized inputs to more than 3.5 million farmers through the Smart Nkunganire System—drove meaningful improvements in agricultural performance and service delivery. A total of 110,691.2 MT of fertilizers (92,520.2 MT for food crops, 18,171 MT for export/cash crops) were distributed at an average of approximately 73.2 Kg/Ha, along with 16,762.2 MT of lime and 6,068.1 MT of improved seeds. Notably, efforts to scale agricultural insurance—an increasingly critical component of climate-risk management—gained momentum, helping farmers better safeguard their investments and contribute to sector stability.

Sector outcomes demonstrated strong progress, with agricultural exports reaching 969,326 MT and generating USD 893.2 million, supported by continued diversification. National food security also improved, with 83% of households now food secure according to the 2024 CFSVA. MINAGRI and its agencies achieved a 92% budget execution rate, facilitated by stronger inter-agency coordination and effective partnerships that expanded climate-smart agriculture, reinforced seed and value-chain systems, and advanced innovations across crop, livestock, aquaculture, and fisheries subsectors.

As Rwanda builds on these achievements and accelerates progress toward PSTA5 and NST2 goals, the Ministry extends a warm welcome to all sector stakeholders—farmers and cooperatives, private sector actors, development partners, researchers, and civil society—to continue engaging actively in the sector's transformation. Your strengthened collaboration, investment in innovation, and commitment to inclusive and climate-resilient growth remain essential to sustaining progress, expanding opportunities for participants across the agrifood system, with particular emphasis on empowering youth and women, and ensuring the long-term transformation of Rwanda's agri-food system.

## Message From The Minister of State

Dear Esteemed Stakeholders,

As we reflect on the progress made in FY 2024/25, I extend my heartfelt appreciation to all partners across the agriculture sector. Your dedication, resilience, and spirit of collaboration have been the driving force behind Rwanda's continued advancement toward a more productive, inclusive, and climate-resilient agri-food system. Together, we have demonstrated what is possible when government, farmers, cooperatives, private sector actors, insurers, researchers, and development partners unite behind a shared vision.

Our collective achievements—strengthened food security, increased productivity, improved export performance, and expanding uptake of climate-smart practices—are a testament to the transformative power of partnership. I am particularly encouraged by the growing embrace of agricultural insurance, which is helping protect farmers' livelihoods and ensuring that our sector can better withstand climate-related shocks. Such investments in resilience are essential for safeguarding the gains we have made and for unlocking even greater opportunities for our youth, women, and rural communities.

As we look ahead, I call upon all of you to carry this momentum forward. Let us continue to innovate, to invest, and to champion inclusive growth that leaves no farmer behind. With your continued commitment and collaboration towards achieving the objectives and targets set in NST2 and PSTA5, I am confident that we will accelerate the transformation of Rwanda's agri-food system and build a future defined by sustainability, prosperity, and shared success. Together, we will achieve even more.



*Dr. Telesphore NDAYAUMEYE, PhD*

THE MINISTER OF STATE

# INTRODUCTION

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During 2024/2025, extensive work was carried out to advance the transformation of Agri-food systems by improving production, strengthening markets, and enhancing the supporting environment. This report presents the key activities implemented across three priority areas and the progress made toward achieving the planned targets and objectives outlined in the MINAGRI's annual plans, PSTA 5, and NST2.

**Chapter I** covers the work performed to modernize agriculture and animal resources production. Key activities included improving land productivity, promoting climate-smart practices, restoring land health, and addressing crop pests and diseases. Additional efforts focused on water resource development, expanding mechanization, and improving access to agricultural inputs. In animal resources, activities involved upgrading livestock infrastructure, improving feeding systems, advancing breeding programs, and enhancing animal health services—all aimed at raising productivity and resilience.

**Chapter II** details the work undertaken to strengthen inclusive markets and post-harvest management. Activities included improving post-harvest handling, expanding value addition, and reinforcing domestic and export market linkages. Efforts were made to enhance market access for farmers, support commercialization, and stimulate investments along the value chain, contributing to higher incomes and improved food security and nutrition.

**Chapter III** presents work performed to reinforce key Agrifood system enablers. This included promoting innovation and technology transfer, expanding agricultural financing and risk-mitigation mechanisms, and accelerating digitalization. Improvements in planning, coordination, and institutional capacity were also implemented to strengthen service delivery across the system.

Collectively, these activities reflect substantial progress made during the fiscal year toward building a more productive, resilient, and market-oriented Agri-food system.

# MINAGRI at glance: Key Achievements in FY 2024/2025

## Agriculture GDP

Agri-GDP (FY2024/2025)



Agri-GDP growth: 4%



Agri-GDP share: 21%

Off-farm jobs created in the agri-food systems transformation

Total jobs: 343,013



Women's Share of Employment: 40.07%



Men's Share of Employment: 40.00%



Youth Employment Share: 19.00%



PWD Employment Share: 0.03%

Country's Estimated total land area: 2.376 million hectares

Land used for Agricultural purposes (2025 SAS Reports)

2025 Season A: 1.399 M(Ha)  
--> 59% of total land



Seasonal crops: 1.019 M (Ha)



Permanent crops: 0.492 M (Ha)



Permanent pasture: 0.096 M (Ha)

2025 Season B: 1.423M(Ha)  
--> 60% of total land



Seasonal crops: 1.022 M (Ha)



Permanent crops: 0.524 M (Ha)



Permanent pasture: 0.1 M (Ha)

## Climate-smart agricultural interventions

Soil erosion control

Land terracing



Radical terraces: 146,846.6 Ha



Progressive terraces: 1,047,314.4 Ha

Irrigation: Area under irrigation

Total Irrigated area (Cumulative): 74,375 ha



Marshland: 37,273 Ha



Hillside: 9,439 Ha



SSIT: 27,663 Ha

Consolidated area for priority crops



Season 2025 A: 796,199 Ha



Season 2025 B: 609,692 Ha

Area under conservation agriculture: 225.3 hectares (demo plots)

## Crop productivity (Average Crop Yield/Ha - Season 2025 A & B)

2025 Season A



Maize: 2 MT/Ha



Irish Potatoes: 8.7 MT/Ha



Paddy Rice: 4.1 MT/Ha



Cooking Banana: 14.3 MT/Ha



Beans: 0.7 MT/Ha



Sweet Potatoes: 8.4 MT/Ha



Soybeans: 0.5 MT/Ha



Cassava: 13 MT/Ha



Wheat: 1.3 MT/Ha

2025 Season B



Maize: 1.3 MT/Ha



Irish Potatoes: 6.8 MT/Ha



Paddy Rice: 4.1 MT/Ha



Cooking Banana: 12.4 MT/Ha



Beans: 0.7 MT/Ha



Sweet Potatoes: 8.1 MT/Ha



Soybeans: 0.4 MT/Ha



Cassava: 14.4 MT/Ha



Wheat: 1.3 MT/Ha

## Crop productivity (yield: Tones/Ha) disaggregated by farmer category across Seasons A

Large-scale farmer



Maize  
A: 4.1 MT/Ha  
B: 1.3 MT/Ha



Cassava  
A: 17.9 MT/Ha  
B: 17.7 MT/Ha



Paddy Rice  
A: 4.1 MT/Ha  
B: 4.1 MT/Ha



Irish Potatoes  
A: 11.4 MT/Ha  
B: 14.2 MT/Ha



Beans  
A: 0.830 MT/Ha  
B: 4.2 MT/Ha



Cooking Banana  
A: 15.2 MT/Ha  
B: 19.1 MT/Ha

Small-scale farmer



Maize  
A: 1.9 MT/Ha  
B: 1.2 MT/Ha



Cassava  
A: 13.5 MT/Ha  
B: 14.4 MT/Ha



Paddy Rice  
A: 2 MT/Ha  
B: 2 MT/Ha



Irish Potatoes  
A: 8.7 MT/Ha  
B: 6.8 MT/Ha



Beans  
A: 0.704 MT/Ha  
B: 0.7 MT/Ha



Cooking Banana  
A: 4.1 MT/Ha  
B: 12.4 MT/Ha

## Food security and nutrition

- % of food-secured Households: **83%** (CFSVA-2024)
- Stunting rate: **29.7%** (NISR, CFSVA-2024) down from 37% in 2015
- Stunting prevalence: **27%** (NISR, RDHS7 - 2025), down from 33% in 2020.

## Post-Harvest Infrastructure

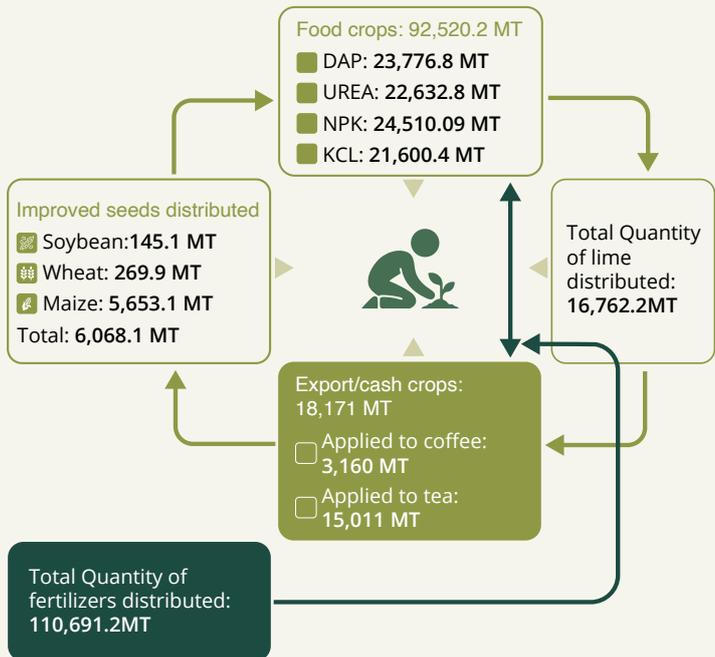
### Post-harvest facilities in place

- Maize drying shelters**  
Number of units: **951**  
Total capacity: **31,171 MT**
- Rice drying grounds**  
Number of units: **587**  
Total capacity: **14,764 MT**
- Grain dryer machines**  
Number of grain dryer machines: **56**  
Total capacity: **135,630 MT**
- Warehouses and silos**  
Number of warehouses: **518** with capacity of **240,150 MT**  
Number of Silos: **12** with capacity of **77,875 MT**  
Total number of storage units: **530** with a combined storage capacity: **318,025 MT**

### Agricultural produce supplied as raw materials to Agro-processing plants

- Agricultural produce supplied as raw materials to Agro-processing plants
- 100,733 MT** of maize supplied to Processing plants, up from 76,737 MT
- 14,520 MT** of cassava supplied to Processing plants, up from 12,109 MT

## Agricultural inputs distribution (fertilizers, seeds and lime)



### Coverage of Extension services

- % of agricultural households had at least one member who received extension services: **67.1%** (NISR, AHS 2024)
- Fertilizer application rate (Kg/Ha): **73.2**

### Percentage of farmers accessed improved inputs (source: NISR)

In season A of 2025	In season B of 2025
<b>37.3 %</b> of farmers used improved seeds	<b>18 %</b> of farmers used improved seeds
<b>63.2 %</b> of farmers applied inorganic fertilizer	<b>55.5 %</b> of farmers applied inorganic fertilizer
<b>88 %</b> of farmers applied organic fertilizer	<b>80.8 %</b> of farmers applied organic fertilizer

## Agricultural exports production and revenues generated

### Export production

- Green coffee produced: **21,295 MT**
- Made tea: **36,800 MT**
- Pyrethrum: **34.1 MT**
- Horticulture: **103,456 MT**

### Total Agri-export revenues (USD million): **893,168,308**

- Tea: **110,991,737 (12%)**
- Coffee: **116,181,240 (13%)**
- Pyrethrum: **7,445,846 (1%)**
- Diversified agri-products: **572,461,154 (64%)**
- Horticulture: **86,088,331 (10%)**

## Animal resources production

### Social protection interventions

Cows and Small livestock distributed to poor and vulnerable families:

-  Pigs distributed: 2,228
-  Chickens distributed: 44,620
-  Cows distributed to poor families: 17,264 Cows

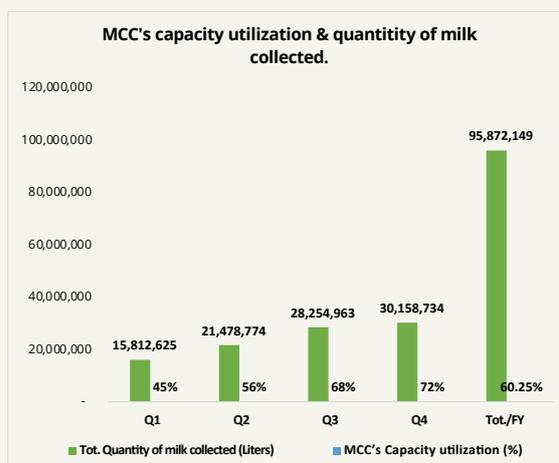
### Animal products

-  Quantity of Milk produced: 1,152,514 MT
-  Quantity of meat produced: 219,523 MT
- Fish production**
- Quantity of Table-size fish: 52,439 MT
- Number of Fingerlings: 71,661,465
-  Quantity of honey bees produced: 8,460 MT

### Forage production

-  **Planted area**
- 14,839.9 Ha (FY 2024/25)
- 47,1087 Ha (cumulative)
-  **Quantity of fodder produced**
- 45.7 MT

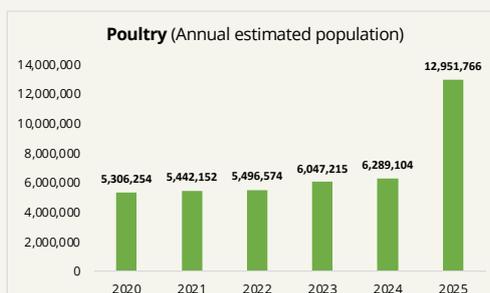
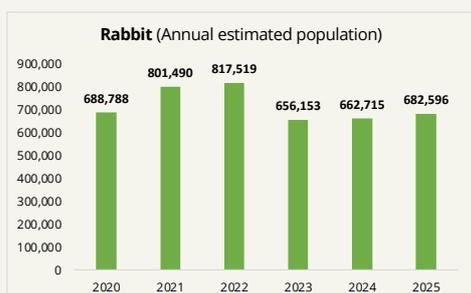
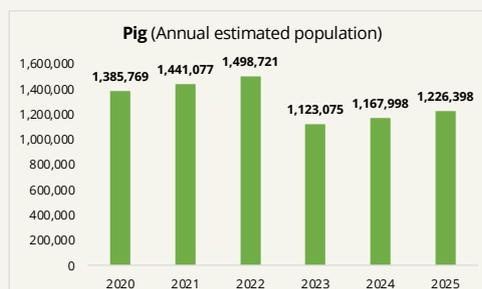
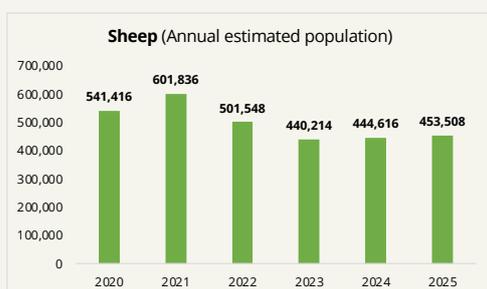
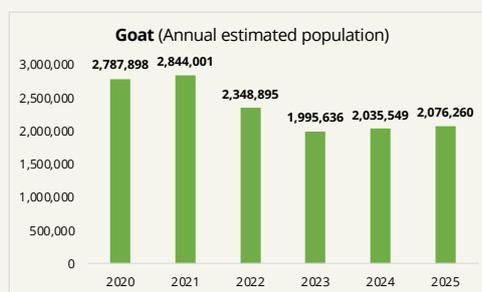
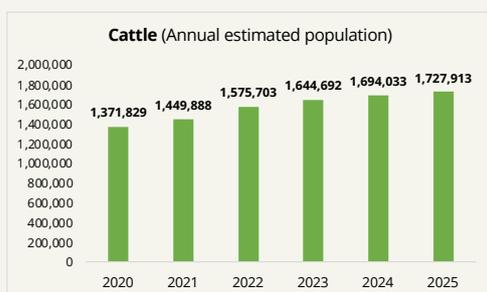
## Agro-processing (milk collected and supplied to agro-processing facilities)



## Milk supply to dairy processing plants

-  Milk supplied increased to 90,236,970 Litres, from 83,925,633 Litres in FY 2023/24
-  Milk supply increased by 6,311,337 Litres, a 7.5% year-on-year growth

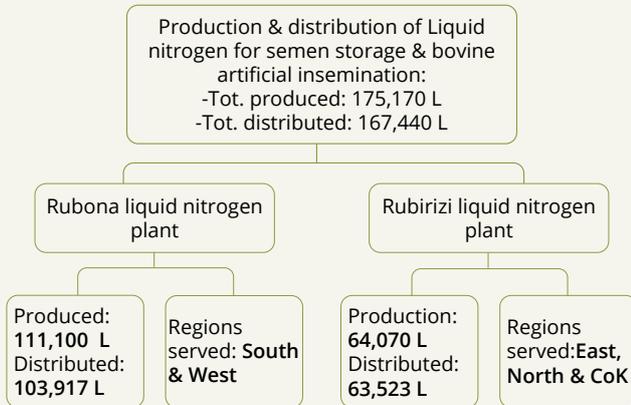
## Estimated livestock population by type - Chronological achievements (2020-2025)



## Animal breeding and genetics

Nitrogen production for bovine semen

Operationalization of liquid nitrogen plants supporting livestock Artificial Insemination services - storage of semen and carrying out bovine artificial insemination



## Agricultural insurance

Area of crops insured: 37,034 Ha

- Rice: 25,799 Ha
- Beans: 502 Ha
- Maize: 7,706 Ha
- Soybeans: 1,007 Ha
- Irish potatoes: 1,573 Ha
- Chili: 207 Ha
- French beans: 130 Ha
- Cassava: 110 Ha

Number of animals insured: 440,798

- Cattle insured: 53,125
- Pigs insured: 15,661
- Poultry (Chickens) insured: 372,012

## Animal health and Genetic improvement

Artificial insemination

- Number of Cows Artificially inseminated: **Cows: 117,105**
- Number of AI-born calves registered: **Calves: 44,543**

## Livestock and pets' vaccination interventions

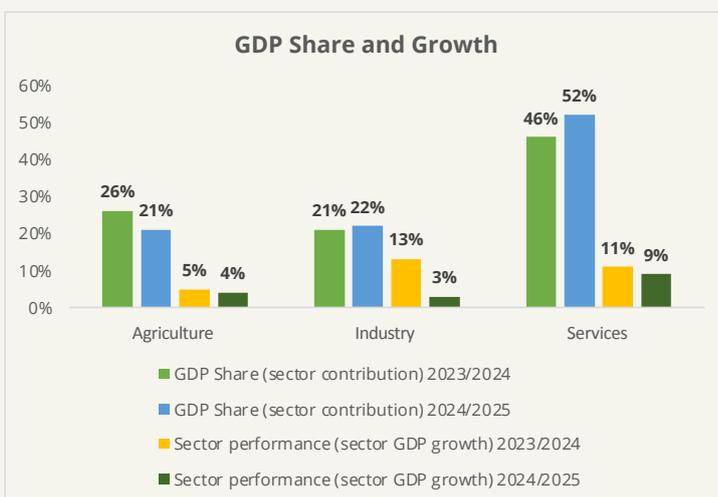
Number of Animals vaccinated against diseases & pests

- Lumpy Skin Disease (LSD)**  
Cows: 1,210,648
- Black Quarter (BQ)**  
Cows: 834,081
- Rift Valley Fever (RVF)**  
Cows: 1,051,857  
Goats: 368,847  
Sheep: 63,429
- Peste des Petits Ruminants (PPR)**  
Goats: 1,068,495  
Sheep: 312,453
- Brucellosis**  
Cows: 79,984
- Rabies**  
Dogs: 13,900
- Foot and Mouth Disease (FMD)**  
Cows: 197,455

## Agricultural financing

Credit to agriculture as % of total loans: 6%

## Agriculture growth and share to GDP



In the fiscal year 2024/2025, agriculture contributed 21% to the country's total GDP, down from 26% in 2023/2024, while its growth rate stood at 4%, compared to 5% in the previous fiscal year. This does not signal a decline in the sector's absolute performance; rather, it reflects faster expansion in other sectors, which has reduced agriculture's relative share of the economy. Despite the slowdown, agriculture continues to grow and remains a strategic pillar for economic stability, rural livelihoods, and national development. Nevertheless, the trend underscores the urgency of accelerating the high-impact interventions outlined under PSTA 5 to enhance productivity, strengthen value addition, and improve overall competitiveness.

# EXECUTIVE SUMMARY

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In FY 2024/25, Rwanda began implementing PSTA5, its first national strategy to embed a food systems approach and climate resilience at the core of agricultural modernization. This marked a strategic shift toward a more inclusive, sustainable, and integrated agri-food system, translating into measurable progress across priority areas and laying the groundwork for long-term transformation in food security, economic opportunity, and environmental sustainability.

Irrigation infrastructure was expanded, enabling 74,375 hectares of land to be irrigated, enhancing agricultural productivity, particularly in regions prone to water scarcity or in areas with insufficient rainfall. Mechanization operations expanded to 100,357 hectares in FY 2024/25, up from 89,606 hectares in 2023/24. In the 2025 A and B seasons, over 2.1 million and 1.4 million farmers, respectively, benefited from improved GoR-subsidized agricultural inputs, mainly seeds and fertilizers, distributed through the Smart Nkunganire System (SNS). This achievement underscores significant advancements in boosting agricultural productivity and strengthening service delivery across the sector.

Agricultural commodity exports for FY 2024/25 reached 969,326 MT and generated USD 893.2 million in revenue—a 6.43% increase from USD 839.2 million in FY 2023/24. Although slightly below the revenue target, this growth reflects strong year-on-year performance. Diversified agri-products led exports, contributing 64% of total revenue, while coffee, tea, and horticulture remained key contributors at 13%, 12%, and 10%, respectively. Pyrethrum accounted for 1% of agri-export earnings.

Building on previous efforts, Rwanda has made remarkable progress in strengthening food security, as evidenced by the 2024 Comprehensive Food Security and Vulnerability Analysis (CFSVA). The survey shows that 83% of households are now food secure, up from 79% in 2021, reflecting a notable reduction in food insecurity across the country. Agriculture remains the cornerstone of Rwanda's food security and economic transformation agenda, serving as a vital driver of livelihood improvement and resilience in the face of rising food demand driven by population growth and evolving consumption patterns.

As a strategic sector, agriculture continues to underpin national efforts toward inclusive growth, sustainable resource management, and the achievement of long-term development goals.

Regarding the use of available financial resources, MINAGRI and its affiliated agencies (RAB and NAEB) collectively achieved a 92% budget execution rate, supported by enhanced inter-agency coordination and timely fund disbursements. Robust collaboration with various stakeholders, such as farmers and farmer cooperatives, development partners, and private sector actors, catalyzed the effective delivery and use of agricultural inputs, the adoption of climate-smart agriculture (CSA) practices, the strengthening of seed systems, the development of crop and livestock value chains, and advancements in aquaculture and fisheries innovations.

Overall, the progress achieved in FY 2024/25 reflects Rwanda's continued commitment to transforming its agri-food system in line with PSTA5, NST2 objectives, and the global agenda.

Strategic and cost-effective investments in productivity, inclusion, and resilience—supported by advancements in technology use, digital innovation, and inclusive sector financing paired with targeted risk mitigation strategies—not only strengthened food and nutrition security, but also created productive job opportunities, particularly for youth and women, and enabled the agriculture and food systems sector to grow in a way that is both environmentally sustainable and resilient to climate change. These gains lay a strong foundation for continued transformation in the years ahead.

# Progress toward PSTA5 and NST2

Progress toward NST2 agricultural outcomes is moderately on track. Key gains include reduced food insecurity, expanded insurance coverage, improved input use, and higher export volumes of horticultural crops. Nonetheless, challenges persist in crop productivity, market infrastructure, and extension coverage, requiring strengthened coordination through the new shift to agrifood systems approach, climate adaptation, and investment in value chain support.

During FY2024/25, the agriculture sector under the Economic Transformation Pillar recorded 5% GDP growth, up from 2% in 2023/24, slightly below the 6% NST2 & PSTA 5 target, reflecting steady progress despite climate and input constraints.

Average national productivity improved for several priority crops, with maize yields rising to 2 MT/Ha (above the 1.87 target) and wheat reaching 1.3 MT/Ha, though beans (0.7 MT/Ha) and Irish potatoes (8.73 MT/Ha) underperformed. Fertilizer use increased to 73.2 Kg/Ha (above target), and irrigated land expanded to 74,375 Ha, while the area under radical and progressive terraces cumulatively exceeded targets, reaching 146,847 Ha and 1,047,314 Ha, respectively.

In the livestock, production reached 219,523 MT of meat, 1,152,514 MT of milk, 29,855 MT of eggs, 52,439 MT of fish, and 8,460 MT of honey, nearly meeting targets, while local feed output rose to 89,481 MT.

National storage capacity expanded to 318,025 MT though no new Milk Collection Centers were established. Significant progress was made in agricultural de-risking and financing, with 37,034 Ha of crops insured, 53,125 cattle and 372,012 poultry covered—exceeding targets.

Export growth was strong for vegetables (69,331 MT) and fruits (33,376 MT), though coffee (20,509 MT) and tea (37,749 MT) fell slightly short. A total of 969,326 MT of agricultural commodities were exported, earning USD 893.2 million, equivalent to 96% of the USD 931.5 million target.

Overall, the sector showed positive trends in productivity, resilience, and exports, leading to a reduction in food insecurity from 20.4% (2021) to 17% (2024), though challenges persist in crop output and market infrastructure.



# Chapter 1: Modernization of agriculture and animal resources

Rwanda's agriculture and animal resources sector is central to livelihoods, food security, and national development, but it faces increasing threats from climate change, land degradation, and low productivity. Unpredictable weather patterns, declining soil health, and growing food demand highlight the need to shift away from traditional practices. To meet these challenges, Rwanda must modernize its agrifood systems by scaling up climate-smart agriculture, improving animal resource management, and promoting sustainable land and water use, efficient irrigation.

The **Modernization of Agriculture and Animal Resources for Climate Resilient Agrifood Systems** initiative is fully aligned with Rwanda's **Strategic Plan for the Transformation of Agriculture - 5th edition (PSTA 5)**. It seeks to build a competitive, inclusive, and climate-resilient sector by increasing productivity, enhancing value chains, and expanding access to finance and markets—particularly for smallholders, women, and youth. Through this strategy, Rwanda aimed to accelerate its transition to a sustainable agrifood system that delivers economic growth, food security, and resilience in the face of climate change.

During 2024/2025, the Agriculture sector has made measurable progress in modernizing crop production despite climate-related challenges in some agroecological zones.

Root and tuber crops like cassava and Irish potato showed increased yields, while fruit production also rose due to favorable conditions and targeted interventions. Key achievements include expansion of irrigation and terracing (over 146,000 ha of radical and over 1 million ha of progressive terraces), improved access to quality seeds and fertilizers, and the promotion of climate-smart practices.

The Land Use Consolidation (LUC) program continued with mixed results, now enhanced by the operationalization of Food Basket Sites (FOBASI) and development of AgriHubs for commercial agriculture. Urban and peri-urban farming technologies such as hydroponics were piloted, and pest management was strengthened through Integrated Pest Management (IPM), plant clinics, and biocontrol trials. Capacity building for youth and women, expansion of mechanization, and digital advisory services have further supported productivity, resilience, and inclusivity across the sector.

Key approaches include scaling up climate-resilient technologies, improving animal health systems, promoting digital agriculture, strengthening value chains, and enhancing access to finance and markets.

## 1.1 Modernization of Crop Production & Productivity

### 1.1.1 Progress in boosting the Production and Productivity of priority food crops

Boosting the production and productivity of food crops is vital for ensuring a stable food supply, eradicating hunger, and improving nutrition. It enhances food availability, lowers dependence on imports, and supports diverse, nutrient-rich diets. This, in turn, strengthens livelihoods, increases income and builds resilience, contributing to overall food security and better health outcomes.

Based on survey results published by NISR for the key seasons (A and B), the following paragraphs highlight the main accomplishments, improvements, and/or declines in crop production

and yield observed when comparing Season A 2025 to Season A 2024, as well as Season B 2025 to Season B 2024.

#### Cereals

Maize, the leading cereal, experienced a 5.3% drop in production in Season A (from 507,985 MT to 481,246 MT) and 1.2% in Season B (119,101 MT to 117,711 MT), while average yields remained steady at around 2 MT/ha in Season A and 1.3 MT/ha in Season B.

Paddy rice showed slight increases in production of 0.8% in Season A (69,098 MT to 69,680 MT) and 0.2% in Season B (72,834 MT to 72,976 MT) with average yields stable at 4.1 MT/ha. Wheat production dropped notably by 6.7% in Season A (3,371 MT to 3,144 MT) and 10.6% in Season B (13,045 MT to 11,667 MT), although average yields remained constant at 1.3 MT/ha.

Cereals resilience can be strengthened by scaling up drought-tolerant maize and wheat varieties, improving water efficiency, and promoting sustainable intensification practices. Timely planting, crop rotation, and support for mechanization will also be vital for long-term productivity.

### **Pulses and oil crops**

This group faced serious setbacks. Beans saw a slight decline in production by 1.2% in Season A (233,142 MT to 230,456 MT) and 0.6% in Season B (242,239 MT to 240,721 MT) with yields steady at 0.7 MT/ha. Pea experienced a sharp production drop of 15% in Season A (7,042 MT to 5,984 MT) and a 14.3% yield decrease, but a marginal 0.9% production decline in Season B with stable yields. Groundnut production fell by 12.2% in Season A (5,328 MT to 4,678 MT) and 14.5% in Season B (9,062 MT to 7,747 MT), accompanied by a steep 33.3% yield drop in Season A but stable yields in Season B. Soybean also faced production decreases of 18.3% in Season A (19,171 MT to 15,657 MT) and 3.9% in Season B (17,051 MT to 16,388 MT), with yields declining 16.7% in Season A and remaining steady in Season B.

Recovery in this category requires urgent investment in resilient seed systems, improved crop irrigation technologies, integrated pest and disease management, and improved extension services. Ensuring timely planting and better access to inputs like fertilizer and crop protection products will be essential, alongside the introduction of crop insurance and risk-reduction mechanisms for smallholders.

### **Root and Tuber Crops**

The 2025 seasons were favorable for root and tuber crops overall. Roots and tubers performed strongly, with cassava production increasing by 4.8% in Season A (518,044 MT to 542,874 MT) and 8.8% in Season B (783,294 MT to 852,541 MT), alongside modest yield improvements of 1.5% and 0.7% respectively. Sweet potato production declined by 5.3% in Season A (692,945 MT to 656,320 MT) and 2.1% in Season B (666,814 MT to 652,515 MT) due to smaller cultivated areas, but yields improved significantly by 7.7% and 5.2%. Irish potato

production grew by 3.2% in Season A (460,830 MT to 475,785 MT) and 10% in Season B (285,596 MT to 314,093 MT), with yields increasing 2.4% in Season A and holding steady in Season B. This suggests that while productivity per hectare improved, total output dropped due to reduced investment or land allocation.

To strengthen the sector, efforts should focus on promoting high-yielding, drought-tolerant varieties across all root /tubers crops, while addressing constraints leading to area reductions—especially for potatoes. Expanding access to inputs, improving extension services, and investing in value chains and market linkages will help improve resilience and support both food security and farmer profitability.

### **Fruits and Vegetables**

In fruits and vegetables, cooking banana production rose slightly by 0.4% in Season A (587,981 MT to 590,252 MT) and 2.2% in Season B (515,798 MT to 527,109 MT), with yields decreasing 2.1% in Season A but increasing 1.2% in Season B. Vegetables saw production increases of 2.7% in Season A (145,933 MT to 149,806 MT) and 2.1% in Season B (177,549 MT to 181,272 MT), while yields fell 5% in Season A but rose 3.4% in Season B. Fruits showed the strongest gains with production up by 12.6% in Season A (25,250 MT to 28,440 MT) and 9.5% in Season B (27,219 MT to 29,798 MT), accompanied by yield improvements of 6.4% and 3.9%, reflecting improvement in horticultural crops management and expansion.

To maintain momentum in fruits and improve vegetable efficiency, it is essential to invest in irrigation systems, promote integrated pest management, and increase access to quality seeds and fertilizers. Additionally, post-harvest handling and cold chain development will reduce losses and increase returns.

**Table 1: 2025 Season A Cultivated area, harvested area, production, and yield by crop as compared to 2024 Season A**

Food crop Name	Cultivated Crop area (Ha)		Harvested Crop area (Ha)		Production (MT)		Yield (MT/ha)		Changes in Production (MT)	Changes in Yield (MT/Ha)
	2025 A	2024 A	2025 A	2024 A	2025 A	2024 A	2025 A	2024 A	2025 A vs. 2024 A	2025 A vs. 2024 A
Maize	244,095	249,435	242,439	249,276	481,246	507,985	2	2	- 5.3%	0.0%
Paddy rice	17,312	17,173	17,078	16,973	69,680	69,098	4.1	4.1	+ 0.8%	0.0%
Wheat	2,391	2,618	2,384	2,617	3,144	3,371	1.3	1.3	- 6.7%	0.0%
Cassava	247,839	251,019	40,090	38,833	542,874	518,044	13.5	13.3	+ 4.8%	+ 1.5%
Sweet potato	82,458	95,683	78,583	88,708	656,320	692,945	8.4	7.8	- 5.3%	+ 7.7%
Irish potato	54,485	54,048	54,465	53,957	475,785	460,830	8.7	8.5	+ 3.2%	+2.4%
Cooking banana	104,232	102,458	41,198	40,365	590,252	587,981	14.3	14.6	+ 0.4%	- 2.1%
Beans (Bush & Climbing)	327,147	329,001	327,090	328,961	230,456	233,142	0.7	0.7	- 1.2%	0.0%
Pea	9,882	10,245	9,880	10,244	5,984	7,042	0.6	0.7	- 15.0%	- 14.3%
Groundnut	10,832	9,563	10,832	9,563	4,678	5,328	0.4	0.6	- 12.2%	- 33.3%
Soybean	29,361	31,515	29,361	31,513	15,657	19,171	0.5	0.6	- 18.3%	- 16.7%
Vegetables	20,780	19,142	19,815	18,322	149,806	145,933	7.6	8	+ 2.7%	- 5.0%
Fruits	14,021	10,332	5,705	5,378	28,440	25,250	5	4.7	+ 12.6%	+ 6.4%

Source: NISR, SAS 2025, with inclusion of deeper insights (changes in production and yield on available data report).

**Table 2: 2025 Season B Cultivated area, harvested area, production, and yield by crop as compared to 2024 Season B**

Food crop Name	Cultivated Crop area (Ha)		Harvested Crop area (Ha)		Production (MT)		Yield (MT/ha)		Changes in Production (MT)	Changes in Yield (MT/Ha)
	2025 A	2024 A	2025 A	2024 A	2025 A	2024 A	2025 A	2024 A	2025 A vs. 2024 A	2025 A vs. 2024 A
Maize	93,005	92,944	92,979	92,749	117,711	119,101	1.3	1.3	- 1.2%	0.0%
Paddy rice	17,970	17,994	17,970	17,578	72,976	72,834	4.1	4.1	+ 0.2%	0.0%
Wheat	9,298	10,294	9,298	10,294	11,667	13,045	1.3	1.3	- 10.6%	0.0%
Cassava	196,881	172,596	59,053	54,679	852,541	783,294	14.4	14.3	+ 8.8%	+ 0.7%
Sweet potato	89,679	97,289	81,045	86,580	652,515	666,814	8.1	7.7	- 2.1%	+ 5.2%
Irish potato	45,940	41,836	45,928	41,716	314,093	285,596	6.8	6.8	+ 10.0%	0.0%
Cooking banana	85,221	90,123	30,604	30,323	527,109	515,798	17.2	17	+ 2.2%	+ 1.2%
Beans (Bush & Climbing)	335,052	329,112	334,988	328,858	240,721	242,239	0.7	0.7	- 0.6%	0.0%
Pea	8,089	8,248	8,087	8,245	4,586	4,628	0.6	0.6	- 0.9%	0.0%
Groundnut	17,803	21,085	17,804	21,086	7,747	9,062	0.4	0.4	- 14.5%	0.0%
Soybean	38,152	40,059	38,151	39,999	16,388	17,051	0.4	0.4	- 3.9%	0.0%
Vegetables	20,699	20,161	19,674	19,842	181,272	177,549	9.2	8.9	+ 2.1%	+ 3.4%
Fruits	11,945	10,463	5,572	5,346	29,798	27,219	5.3	5.1	+ 9.5%	+ 3.9%

Source: NISR, SAS 2025, with inclusion of deeper insights (changes in production and yield on available data report).

## 1.1.2 Agricultural land use management and production models

### 1.1.2.1 Agriculture Land-use consolidation

Rwanda’s agricultural land-use consolidation (LUC) efforts in 2024/25 delivered mixed outcomes across priority crops and seasons, with a slight reduction in total consolidated area compared to 2023/24—down by **1.0% in Season A** and **1.3% in Season B**. While **maize in Season B** registered a substantial increase of **35.6%**, notable declines were observed in **wheat ( v 18.9%)** and **vegetables ( v 19.9%)** in Season A. These variations underscore the urgent need for seasonally differentiated strategies that better align with agro-ecological potential, input supply systems, and market dynamics.

Positive gains were also recorded for **rice ( ^ 4.7%)** in Season A, **Irish potatoes ( ^ 6.4%)**, **soybean ( ^ 8.1%)**, and **vegetables ( ^ 10.0%)** in Season B, highlighting scalable best practices. However, the **39.7% decrease in cassava** area in Season B and **14.0% drop in soybean** in Season A raise concerns about crop vulnerability to climate stress, pest and disease outbreaks, and weakening

farmer incentives. These disparities emphasize the need to refine LUC implementation through responsive land-use planning, better-targeted input distribution, and season-specific extension services.

To enhance the LUC program’s impact on agri-food systems transformation, Rwanda should intensify investment in irrigation infrastructure, mechanization, and agro-climatic zoning. Strengthening crop-specific value chains—particularly for underperforming crops like **cassava, wheat, and beans**—through optimized food basket sites and agri-hubs will be critical. A data-driven approach incorporating spatial monitoring, seasonal analytics, and farmer feedback mechanisms will be essential to drive productivity, improve climate resilience, and ensure equitable outcomes for smallholder farmers.

**Table 3:** Hectares of land consolidated per priority crop

Food crop Name	Baseline 2023/24		Target 2024/25		Achievement 2024/25		Changes in Consolidated land vs. Baseline (%)	
	2025 A	2024 A	2025 A	2024 A	2025 A	2024 A	2025 A	2024 A
Maize	273,821.0	71,225.0	267,645.5	92,560.0	269,112.4	96,605.0	- 1.7%	+ 35.6%
Rice	15,095.0	15,060.0	15,156.5	14,693.0	15,801.0	14,948.0	+ 4.7%	- 0.7%
Beans	370,215.0	383,683.0	376,571.3	363,634.0	371,929.7	366,323.0	+ 0.5%	- 4.5%
Irish potato	62,111.0	56,009.0	64,615.0	62,288.0	62,021.1	59,595.0	- 0.1%	+ 6.4%
Wheat	7,393.0	38,465.0	5,635.0	38,409.0	5,994.5	35,234.0	- 18.9%	- 8.4%
Soybean	6,660.0	5,482.0	5,430.1	5,895.0	5,730.7	5,925.0	- 14.0%	+ 8.1%
Cassava	61,316.0	43,798.0	57,727.0	27,351.0	59,370.8	26,399.0	- 3.2%	- 39.7%
Vegetables	7,789.0	4,238.0	6,708.8	5,146.0	6,239.0	4,663.0	- 19.9%	+ 10.0%
<b>Total</b>	<b>804,400.0</b>	<b>617,960.0</b>	<b>799,489.2</b>	<b>609,976.0</b>	<b>796,199.2</b>	<b>609,692.0</b>	<b>- 1.0%</b>	<b>- 1.3%</b>

Source: NISR, SAS 2025, with inclusion of deeper insights (changes in production and yield on available data report).

### 1.1.2.2 Operationalization of Food Basket Sites (FOBASI)

Under PSTA5, the Food Basket Site (FOBASI) concept has been introduced as an innovative land management model designed to enhance agricultural productivity and commercialization. FOBASI builds on existing Land Use Consolidation (LUC) sites—each covering at least five hectares—by bringing them under unified management for coordinated production, aggregation, and marketing. These are not newly designated areas but upgraded LUC sites targeted for improved management and intensified production. To date, a total of 495,155 hectares of crop production land (across 13,379 sites) and 92,334 hectares of zero-grazing land (across 6,169 sites) have been mapped nationwide as FOBASI for enhanced management and crop intensification efforts.

PSTA5 sets an ambitious target to achieve a minimum of 45,458 hectares as fully developed (graduated) FOBASI by the end of the 2025/26 fiscal year. The full FOBASI development package will, however, be deployed across all identified sites, with progress monitored and reported through the PSTA5 Monitoring, Evaluation, and Learning (MEL) framework. An operationalization plan has been developed to guide implementation, and key agronomic and management performance indicators (KPIs) have been defined to track progress and ensure impact, as outlined below:

#### 1.1.2.3 Agri-Hubs establishment

AgriHubs, as envisioned in the PSTA 5 strategy, are market-driven agricultural production sites operating on large land parcels with at least 200 hectares and often featuring irrigation systems. AgriHubs are expected to target both domestic and export markets. They are mainly operated by large-scale farmers and/or investors and equipped with advanced modern infrastructure, including irrigation systems, production and post-harvest machinery.

### 1.1.3 Urban & peri-urban farming technologies promotion

#### 1.1.3.1 Vertical farming (kitchen gardens, aquaponics, hydroponics)

In a collaborative effort with a private professional farmer, the Horticulture Centre of Excellence (HCoE) successfully conducted a showcase on hydroponic technology. We cultivated six types of vegetables on 40 towers, with each tower holding

#### Agronomic KPIs

1. Full Season implementation calendar
2. Land preparation and Planting: 100%
3. Farmers using inputs (improved seeds, mineral fertilizers and lime): at least 70%
4. Pest and disease control: 100%
5. Compost Production on Site, or Mechanism to Acquire Manure/Compost
6. Increased uptake of Agriculture Insurance
7. Post-harvest Management and Marketing Plan

#### Managerial KPIs

1. Mapped site, with known geo-coordinates
2. Allocated field officer (extensionist)
3. Organizational structure with mission and vision
4. Operational Manual (Internal Rules, Regulations, and Sanctions)
5. Clear Business Plan and Record Keeping
6. One governance system (Site managed as one farm, under Farming as a Business)

By the end of the 2024/2025 fiscal year, a total of 1,180 hectares had been developed under the AgriHub initiative, exceeding the planned target of 1,008 hectares. This progress, achieved within the Gabiro Agribusiness Hub, demonstrates effective implementation of the AgriHub development framework and contributes directly to PSTA5 objectives of promoting modern, large-scale, and market-oriented agricultural production.

44 plants, within a tunnel. The initiative successfully demonstrated the effectiveness of high-density vegetable production, providing a valuable case study for promoting innovative urban vertical farming practices.

## 1.1.4 Climate-smart agriculture practices

### 1.1.4.1 Conservation agriculture

Training of lead farmers was done across the country whereby 3,581 lead farmers were trained on Conservation Agriculture (CA) and among them, 2,323 were males and 1,258 were females. All these lead farmers were assigned to put up demo plots and train their fellow farmers and 118,103 farmers were trained by these lead farmers. They established different demo plots of different crops (Maize, Beans and Irish potatoes) on 225.3 hectares across the country. On visiting these farmers, they witnessed the importance of CA in farming practice to increase productivity, control soil erosion among other benefits with a challenge of lack of enough mulching materials.



*Pictures of beans, maize and Irish potatoes in the fields of CA*

### 1.1.4.2 Soil erosion control

Substantial advancements in soil erosion control have been realized through the strategic implementation of sustainable land management (SLM) practices, the integration of context-specific technological innovations, and the mobilization of local community-driven conservation efforts. Core interventions contributing to these outcomes include agroforestry, land terracing for farming activities, and intercropping systems, each tailored to enhance soil stability and fertility restitution, optimize land productivity, and build climate resilience.

#### **a. Agroforestry**

During season 2025A, RAB in partnership with One Acre Fund, conducted a Tree Campaign that marked a transformative milestone for Rwandan agriculture by reaching over one million farmers and distributing 25 million agro-forestry trees across the country covering a total area of 90,252.7 ha considering 277 plants per hectare while RAB SPIU planted 226,244 long term fruit trees on 943.5 ha. This landmark initiative underscores our deep commitment to building climate resilience and maximizing the wide-ranging benefits of trees, which bring improvements to farming systems—enhancing soil health, providing shade, and

increasing productivity. This activity was achieved at more than 100 % of the targeted area that was 17,640 ha. (Ref; OAF report q1 2023/25)

#### **b. Radical terraces development**

Soil erosion is one of the key challenges facing agriculture development of the country, especially in the highland areas characterized by steep slopes and high rainfall. The continuous land cultivation without sufficient inputs for soil restoration and maintenance leads to soil degradation with a depleted soil organic matter and poor soil structure which contribute to exacerbate the process of soil erosion. The development of radical terraces is one of the government initiatives that aim to address this challenge. Implementation of radical terraces is done on a year basis through earmarked transfers and partnership with projects and other initiatives. The technical implementation of this activity was done by agronomists of the districts and sectors who played a vital role of identifying the sites, mobilizing the beneficiaries, supervising and following up the execution of the work and reporting the progress on achievement. At the end of the fiscal year (2024-2025), achievement of 146,846.6 ha was recorded versus an annual target of 146,518 ha, equivalent to 100.2% of achievement.

### c. Progressive terraces development

The technical implementation of progressive terraces was done by agronomists of the districts and sectors who played a vital role in identifying the sites, mobilizing the beneficiaries, supervising and following up the execution of the work, and reporting the progress on achievement. During this fiscal year (2024-2025), achievement of 1,047,314.4 ha was recorded versus annual target of 1,044,283 ha equivalent to 100.3 % of achievement.

### d. Banana-coffee multi-planting

Banana-coffee-multi planting in Huye/ Rubona  
Banana – coffee multi-planting was done in the 4 provinces of the country, (North-Gakenke, West-Rusizi, East-Ngoma and South-Huye) by establishing 4 farmer learning demo plots. These demonstration plots acted as learning sites where farmers did field visits to learn this practice and had to go back to their places and start practicing the gained knowledge.

The practice provides multiple agronomic and economic benefits. It enables farmers to diversify and increase income from the same plot, as banana and coffee complement each other agronomically.

Banana leaves provide mulch and shade that enhance soil moisture retention and improve coffee productivity, while residual fertilizer applied to coffee contributes to banana growth. This integrated system therefore promotes higher yields, improved resource use efficiency, and greater farm resilience.



*Banana-coffee-multi planting in Huye/ Rubona*

## 1.1.5 Irrigation & water resource management

### 1.1.5.1 Development and rehabilitation of irrigation schemes (Marshland, Hillside)

Rwanda has made notable progress in enhancing agricultural productivity through the development and rehabilitation of both marshland and hillside irrigation schemes. Given the country's predominantly hilly terrain and limited arable land, irrigation has become a strategic priority to address challenges related to climate variability and land scarcity. Marshland irrigation efforts focus on converting unprotected wetlands into productive agricultural areas, particularly for rice cultivation and horticulture. In contrast, hillside irrigation utilizes technologies such as pressurized piping systems, sprinklers, and terracing to support farming on sloped landscapes.

In terms of marshland rehabilitation for the fiscal year 2024/2025, a total of 594 ha have been rehabilitated. This includes 560 ha of Bugarama Marshland and 34 ha of Rutenderi Marshland. For the Muvumba perimeter (650 ha), the Ngoma Weir has been fully rehabilitated, and the Karungeri Canal has entered the implementation phase after the completion of technical studies. Additionally, feasibility studies for the rehabilitation of the Mukunguli, Rusuri-Rwaniro, and Akagera marshlands were completed and validated on 27

#### June 2025.

In addition, efficient operation, management, and maintenance activities have been sustained across a total of 3,541 hectares of existing hillside irrigation schemes. These efforts ensure that the irrigation systems continue to function effectively and support agricultural productivity. Key areas under management include Mpanga, covering 659 ha, and the combined Kagitumba-Matimba and Musheru schemes, which together span 900 ha. Gako, one of the larger schemes, covers 1,303.51 ha, while Nasho accounts for 600 ha. Smaller but significant areas such as Ngoma 22, Rurambi, and Gashora cover 300 ha, 1,000 ha, and 750 ha respectively.



### 1.1.5.2 Adoption of water-saving technologies on Small-scale schemes (SSIT)

Rwanda is advancing water-efficient technologies in small-scale irrigation to boost agricultural productivity and sustainability. Innovations such as drip irrigation, solar-powered pumps, and rainwater harvesting minimize water loss, lower costs, and enhance crop yields. The government, in collaboration with development partners, supports adoption through farmer training, awareness campaigns, and subsidized equipment. Since the launch of the SSIT program in **July 2014**, approximately **925 hectares** have been equipped with solar-powered irrigation systems, although high initial costs continue to limit broader uptake.

In recent years, there has been notable progress in the adoption of Small-Scale Irrigation Technologies (SSIT), reflecting a growing shift toward sustainable agricultural practices. During the current fiscal year, a total of **1,078.5 ha** have been covered under the SAIP project. Of this, 591.4 ha (55%) are irrigated using Solar Powered Irrigation Systems (SPIS), while 487.1 ha (45%) still rely on petrol or diesel-powered pumps. This growing preference for solar energy highlights a transition toward more environmentally friendly irrigation methods. In total, 1,029 farmers have adopted SSIT over the last fiscal year, including 435 women and 594 men.



*Water pond fed by SPIS in Gatsibo District*



*Installed solar panels in Kirehe District*

### 1.1.5.3. Progress on irrigated crop area expansion

As part of its national agricultural strategy, Rwanda is progressively expanding its irrigated crop area to improve agricultural productivity and reduce dependence on rain-fed farming. The country aims to increase its total irrigated land from 71,851 ha (as of the end of 2023) to reach 132,171 ha by 2029. The focus is on high-value crops such as fruits, vegetables, maize, rice, and beans. This expansion is being supported through public investment, private sector participation, and community-led initiatives.

The development of new irrigation infrastructure are expected to boost agricultural yields, enhance food security, and raise rural incomes particularly in drought-prone regions. Under PSTA 5 targets, by the end of the 2028/2029 fiscal year, Rwanda plans to add approximately 60,320 ha of new irrigated land (across marshland, hillside, and SSIT schemes) and to rehabilitate around 1,500 ha of existing irrigation areas. As highlighted in the previous MINAGRI's annual reports, from the fiscal year 2016/17 to 2024/25, the total irrigated area steadily increased. Starting at 48,508 ha in 2016/17, the area grew to 52,198 ha in 2017/18, then to 55,063 ha in 2018/19. It reached 63,742 ha by the end of 2019/20, 66,840.5 ha in 2020/21, and 68,126 ha in 2021/22. The upward trend continued with 70,926 ha recorded by the end of 2022/23, 72,926 ha in 2023/24, and finally 74,375 ha by the close of the 2024/25 fiscal year. Hence, by end of the fiscal year 2024/25 fiscal year, **1,462.39 ha** of new irrigation land were developed through Small-Scale Irrigation Technologies (SSIT), facilitated by a partnership between government funding and the Sustainable Agricultural Intensification Project (SAIP).



*Mpanga irrigation scheme that has a command area estimated at 659 ha.*

The details are provided in the following chart:

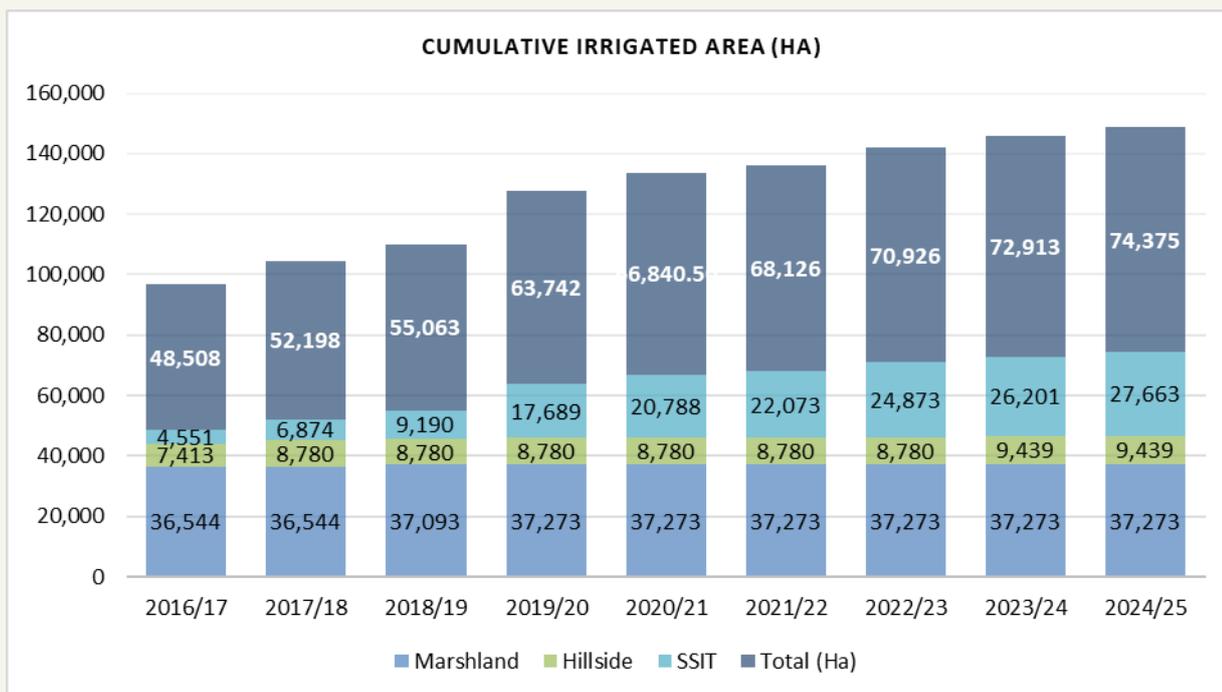


Illustration of the continued growth of the irrigated area for consecutive nine fiscal years.

Despite the overall growth in irrigated area, there was no new development in marshland irrigation from fiscal year 2019/20 onwards. Similarly, no new hillside irrigation areas were developed between 2017/18 and 2022/23. The only notable exception during this period was the development of 659 ha of command area under the Mpanga Irrigation Scheme, completed by the end of fiscal year 2023/24.

Significant progress also has been achieved in hillside irrigation developments. In Mahama Lot 1 (1,220 ha), construction has reached 73% completion, while Mahama Lot 2 (1,960 ha) has reached 69% completion. These projects contribute to the broader goals of expanding irrigated agriculture and improving water resource management in hillside especially in drought prone areas of the country.



Command Area of Mpanga Irrigation Scheme



### 1.1.5.2 Adoption of water-saving technologies on Small-scale schemes (SSIT)

A key pillar of sustainable irrigation development in Rwanda is the formation and strengthening of Irrigation Water User Organizations (IWUOs). These community-based organizations are instrumental in managing irrigation infrastructure, resolving water-related conflicts, and promoting equitable access to water resources. To support their effectiveness, capacity-building programs have been implemented, focusing on governance, financial management, system maintenance, and climate-smart agricultural practices.

Through these efforts, the government aims to enhance local ownership, ensure sustainability, and improve accountability in irrigation scheme management.

In the fiscal year 2024/25, significant steps have been made in training IWUO members to improve their capacity in irrigation scheme management. A total of 1,341 individuals received training, with efforts led by various stakeholders. Among them, 836 were trained through the CDAT Project, comprising 225 women and 581 men while 106 were trained through SAIP project, comprising 73 men and 23 women. Additionally, HoReCo trained 301 schemes farmers promoters comprising 198 men and 103 women, while YEAN provided training to 98 members. These initiatives reflect a concerted effort to build local expertise and leadership within irrigation communities.

Beyond IWUOs, a wide range of stakeholders also benefited from structured and practical field-based training sessions designed to improve governance,

management, and technical operations within Water Users Associations (WUAs) and other related institutions.

These sessions addressed topics such as legal frameworks, governance structures, and stakeholder roles in managing irrigation schemes. A total of 1,529 individuals, 360 women and 1,169 men, were trained on these aspects, promoting a deeper understanding of institutional responsibilities and collaboration.

Further coaching targeted farmers directly, helping them understand the roles and responsibilities of WUA members in management of irrigation schemes. A total of 7,182 farmers, 2,455 women and 4,728 men, received this coaching. In addition, intensive field coaching on the operation and maintenance of irrigation schemes was provided to 11,469 individuals, including 5,044 women and 6,425 men. These hands-on trainings are critical for building technical capacity at the grassroots level and ensuring the long-term functionality and efficiency of Rwanda's irrigation systems.

### 1.1.6 Farmers' Access to agricultural inputs for climate resilience

In the fiscal year 2024/25, farmers were actively mobilized to increase the use of improved agricultural inputs. The adoption of fertilizers and improved seeds continues to play a critical role in transforming Rwanda's agriculture, contributing to higher yields and improved food security. According to the Seasonal Agricultural Survey (NSR, 2025A), 63.2% of farmers applied inorganic fertilizers including 62.4% of small-scale farmers (SSF) and 91.9% of large-scale farmers (LSF) covering a total of 1,171,000 hectares of arable land.

In the course of the 2025 Season A and Season B, over 2.1 million and 1.4 million farmers, respectively, accessed improved, GoR-subsidized agricultural inputs—primarily seeds and inorganic fertilizers—through the Smart Nkunganire System (SNS), a digital input subsidy management platform aimed at enhancing input accessibility, efficiency, and traceability across the value chain.

#### 1.1.6.1 Fertilizer use

The country's total land area is estimated at 2.376 million hectares, with about 59–60% used for agriculture. Agricultural land covered 1.399 million hectares in Season A and increased slightly to 1.423 million hectares in Season B. According to the 2025 NISR SAS Report, during the 2025 agricultural Season A, a total of **1.019 million hectares** were allocated to seasonal crops, while **0.492 million hectares** were under permanent crops, bringing the total cultivated area to **1.511 million hectares**.

intensified efforts to boost national agricultural productivity. This total comprised 22,632.8 MT of Urea, 23,776.7 MT of DAP, 24,510.09 MT of NPK, and 21,600.4 MT of KCL and blended formulations, supplemented by 16,762.2 MT of lime to improve soil health and sustain long-term fertility.

Furthermore, an additional 18,171 MT of fertilizers were applied to strategic export crops—3,160 MT for coffee and 15,011 MT for tea—across Seasons 2025A and 2025B, contributing to enhanced yields, quality improvement, and increased export competitiveness.

In the 2024/2025 fiscal year, fertilizer application for food crops<sup>1</sup> reached 92,520.2 metric tons (MT), exceeding planned targets and underscoring

1 Source: NISR, SAS 2025

Therefore, for food and export crops, a total of **110,691.2 MT of fertilizers** were distributed, resulting in an estimated **average fertilizer application rate of 73.2 kilograms per hectare (kg/ha)**.

This rate signifies a moderate input intensity consistent with sustainable crop nutrition practices, suggesting an optimized balance between nutrient supply and cultivated area. The distribution pattern further reflects a strategic alignment of fertilizer use with crop-specific nutrient demands and soil aspects, enhancing productivity potential while supporting long-term soil fertility management objectives.

### 1.1.6.2 Use of Improved Seeds

Farmers used **6,068.5 MT of improved seed** in 2024/2025, including **maize (5,653.1 MT)**, **soybean (145.1 MT)**, and **wheat (269.9 MT)**.

### 1.1.6.3 Promoting local seed production (pre-basic, basic, certified, QDS)

Promoting local seed production is a cornerstone of Rwanda’s agrifood system transformation strategy. By ensuring the availability of high-quality seeds, farmers are empowered to increase productivity, improve household incomes, and strengthen national food security. The Rwanda Agriculture and Animal Resources Development Board (RAB), through its Seed and Fertilizer Division, spearheads seed system development by:

- Producing Early Generation Seed (EGS) at its 12 stations;
- Coordinating with partners for higher-level multiplication;
- Mobilizing private sector actors in pre-basic and basic seed production for crops such as Irish potato and maize; and
- Supporting private seed multipliers, cooperatives, and farmer associations in certified and Quality Declared Seed (QDS) production.

- During Season 2025A&B, significant progress was made in seed production across various crops and seed categories. RAB and its partners focused on a wide range of crops including maize, beans, soybean, wheat, rice, and Irish potato.

Overall, the production targets were achieved as planned. However, some sites and seed multipliers, depending on their location, faced considerable challenges linked to climate-related natural disasters. The combination of prolonged dry spells and intense rainfall during the 2025A and 2025B seasons affected certain parts of the country, leading to increased incidence of crop diseases and physical damage to seed fields.

No	CROP	Annual Production		Achievement 2024/25	
		Basic Seeds		Certified Seeds	
		Total targets	Achievements	Total Targets certified	Achievements
1	Maize	62,000	64,935	5,400,000	6,370,993
2	Beans	46,000	44,677	350,000	388,295
3	Soybeans	32,000	32,098	450,000	267,639
4	Wheat	40,000	42,522	700,000	628,442
5	Potato	3,500,000	4,654,850	5,600,000	8,812,903
6	Rice	15,000	16,408	700,000	717,958

*Seed Production Achievements – Season 2025A&B*



**Pic.1:** potato plantlets growing in screen house to produce potato mini-tubers for potato pre basic seeds.



**Pic.2:** field visit of Rab's seed technician for technical backstopping to the private seed multipliers.

#### 1.1.6.4 Enhancing Infrastructure for Seed Production

RAB strengthened seed production capacity through extensive maintenance of processing equipment—such as shellers, threshers, and cleaners—by supplying and installing key spare parts and servicing motors. This improved processing efficiency, reduced labor costs, and ensured timely availability of quality seed for Seasons 2025A and 2025B.

RAB also rehabilitated critical seed production infrastructure across Nyamagabe, Gakuta, Rubilizi, and Musanze stations. Works included the rehabilitation of 16 seed stores, 6 screen houses, and 2 aeroponic units, along with improvements to sorting rooms and drying grounds. These combined interventions significantly enhanced Rwanda's storage, processing, and seed preservation capacity, contributing to a more resilient and efficient national seed production system.



*Maintenance of Seed Cleaner machine*



*Seed Store Rehabilitation at Nyamagabe seed production site*



*Seed Drying area Rehabilitation at Musenyi seed production site.*

#### 1.1.7 Plant health management

##### 1.1.7.1 Training, mobilization campaigns, plant clinics and distribution of strategic stocks of pesticides

The activities were implemented nationwide through field visits and mobilization campaigns aimed at identifying various phytosanitary issues affecting crops and advising farmers on the most effective management practices. The target crops included beans, maize, rice, cassava, Irish potatoes, vegetables, tomatoes, and tea.

National training sessions on Integrated Pest Management (IPM) covered a broad range of key topics and reached a total of **5,994 participants**, including farmers, frontline extension agents, and sector agronomists. The training focused on the identification and effective management of major pests and diseases. Additionally, 3,200 liters of plant protection products were distributed to farmers for the control of selected insect pests and diseases.



*Training on good agricultural practices and the safe use of pesticides (Busogwe and Burera sites)*

### 1.1.7.2. Dissemination and extension services

Extension services were strengthened to provide timely advice and support to farmers. This was achieved through radio, online media, digital newspapers, and the development or updating of extension materials and guidelines for managing major insect pests and diseases. A total of 10 live radio programs on Integrated Pest Management

(IPM) were broadcast on RC Musanze Radio, Radio Maria Rwanda, RC Huye, Ishingiro Radio, and RBA. In addition, more than 10,000 extension materials, including factsheets, leaflets, and posters, were updated, printed, and distributed during field visits, mobilization campaigns, and the 2025 National Agriculture Show.

### 1.1.7.3. Development of Integrated Pest Management

The advancement of Integrated Pest Management (IPM) strategies in Rwanda is crucial. During the 2024–2025 fiscal year, the following activities were carried out:

- **Mass rearing of Entomopathogenic nematodes and development of biocontrol solutions**

The collaboration between the Chinese Academy of Agricultural Sciences (IPPC-CAAS) and the Rwanda Agriculture and Animal Resources Development Board (RAB) has successfully established a robust system for the mass rearing of entomopathogenic nematodes (EPNs) using *Galleria mellonella* as a host insect.



*Symbiotic bacteria isolated from Rwandan EPN (First photo) and culture flasks of *Steinernema carpocapsae* All and *Heterorhabditis beicheriana* H06 (second photo)*

- **Evaluation of Push-pull and formulated biopesticides for the management of FAW**

The trials evaluated the push-pull strategy against Fall Armyworm (FAW), as well as the effectiveness of biopesticides such as MAZAO Achieve and MAZAO Detain, produced by ICIPE, for FAW management. Results demonstrated that the push-pull system can reduce FAW infestations by up to 70% when established one month before maize planting.



*Push-pull strategy (Desmodium with maize and Napier grass as border crop) for the management FAW*

- **Efficacy trials of new pesticides (molecules) for the management of major pests**

New insecticides and herbicides that were evaluated are:

- Agropy 5EW and Agropy EWC produced by AgroPy were evaluated against aphids, Thrips and Red spider mites
- TOPSHOT 60 OD for weed management in rice fields in Rwanda.
- New herbicide i.e. LEFURON PLUS (Nicosulfuron 40 OD) on maize to control annual grass weeds
- Nordox 75WG (Alternative of MANCOZEB) for the control of late blight in potatoes

### 1.1.8 Mechanization & labor and time-saving technologies promotion

The government has taken significant steps to promote agricultural mechanization by offering financial incentives, including VAT exemptions and subsidies. These measures have primarily targeted private sector actors such as importers, distributors, and service providers, effectively encouraging their active participation in the mechanization drive. As a result, there has been a noticeable increase in the number of private mechanization service providers who are now playing a crucial role in supporting farmers particularly smallholders by improving their access to modern farming technologies.

Simultaneously, there has been a deliberate focus on promoting labour-saving and energy-efficient technologies tailored to the specific needs of rural and remote areas. Key interventions include the introduction of off-grid and solar-powered equipment like solar pumps and refrigerators, which address the persistent energy challenges faced by farming communities.

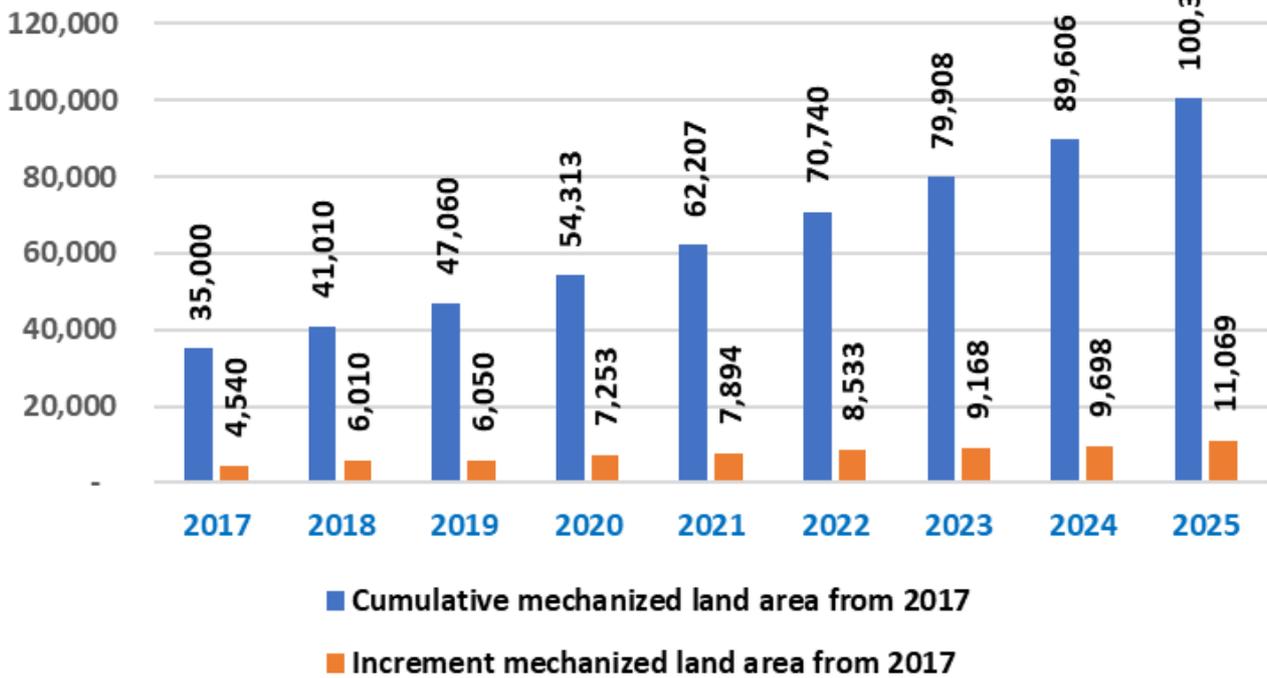
International collaborations have further strengthened the government's efforts. Strategic partnerships with development organizations and NGOs have brought valuable expertise and resources to the local context. One notable example is the Mechanization for Africa Initiative, under which Heifer International has partnered with Hello Tractor to bring advanced solutions to Rwanda especially eastern province. These partnerships have not only introduced new technologies but

have also supported local capacity building and innovation in mechanization services.

The cumulative impact of these combined initiatives has been significant. Farmers, especially those operating on difficult terrains, have increasingly adopted power tillers and other equipment due to reduced costs and wider availability. Additionally, there is growing awareness of the importance of post-harvest mechanization and value addition in enhancing productivity and ensuring food security. Based on the MINAGRI's previous reports, the progress is evident in the steady increase in mechanized land area over the years. Starting from 4,540 ha in 2017, the figures have grown annually, reaching 6,010 ha in 2018, 6,050 ha in 2019, and continuing upward through 7,253 ha in 2020 and 7,894 ha in 2021.

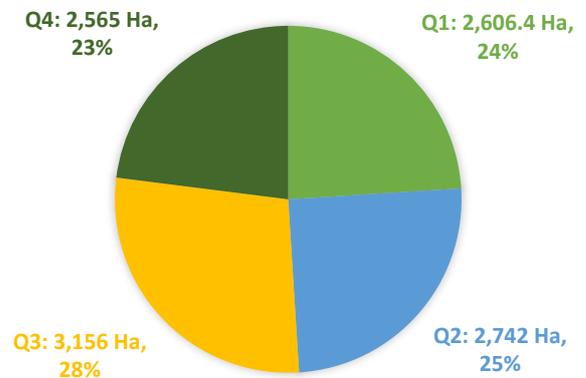
The trend persisted with 8,533 ha in 2022, 9,168 ha in 2023, and 9,698 ha in 2024. By 2025, the mechanized land area had reached 10,751.2 ha, demonstrating the tangible results of sustained efforts to modernize agriculture through mechanization.

## Trend of mechanized land area (Ha) from 2017



For the fiscal year 2024/25, a total of 11,069.4 ha were mechanized, contributing to a cumulative mechanized area of 100,375 ha. This progress reflects continued efforts to expand mechanization in agriculture across the country. The achievement was made possible through the collaboration of various stakeholders, including individual farmers, cooperatives, private companies, and the Rwanda Agriculture and Animal Resources Development Board (RAB). Their combined contributions played a key role in reaching this significant milestone in agricultural development.

### Mechanized land area



Heifer Rwanda, Hello Tractor, and the Ministry of Agriculture and Animal Resources (MINAGRI) during official launch of the Rwanda's first-ever Mechanisation Hub in Kayonza District.

## 1.2. Modernization of Animal Resources Production & Productivity

Within the agriculture sector, **livestock and fisheries** play a vital role, accounting for about **15.2% of agricultural GDP** and around **4% of the national GDP**<sup>2</sup>. During FY2024/2025, significant strides were made in modernizing the animal resources sector, resulting in measurable improvements in both production and productivity.

Key achievements include the widespread adoption of improved livestock breeds, which led to noticeable increases in milk and meat yields. Efforts to enhance animal nutrition and feeding systems were scaled up through expanded silage production, forage seed distribution, and farmer training, resulting in improved livestock health and productivity. The artificial insemination program was strengthened, accelerating genetic improvement across livestock. Veterinary services and disease control measures

were enhanced, leading to a significant decline in disease outbreaks and broader animal health coverage. In addition, aquaculture and fisheries experienced substantial growth, driven by the formation of new cooperatives and increased access to quality inputs, contributing to improved food security and livelihoods.

These results reflect the positive impact of government policies focused on **intensification, innovation, and farmer capacity building**. Continued investment in infrastructure, extension services, and private sector engagement is expected to further boost the performance of Rwanda's animal resources sector in the next years of implementing NST2 and PSTA 5.

### 1.2.1 Animal husbandry improvement and development of related facilities

#### 1.2.1.1 Construction of cowshed

Seven hundred fifty (750) cowsheds were constructed for Girinka beneficiaries in Kamonyi, Muhanga, Ngororero, Bugesera, Gatsibo, Gakenke, and Rulindo. These structures are key enablers of animal productivity and farmer prosperity. The cowshed construction across these seven districts represents important infrastructure

development that directly supports the Girinka program's objectives by providing proper housing for livestock, which is indeed essential for animal health, productivity, and ultimately farmer economic success.

#### 1.2.1.2 Construction of small-scale water harvesting systems in zero-grazing systems

During the fiscal year 2024/2025, 750 water tanks were procured and installed for Girinka beneficiaries, located in Kamonyi, Muhanga, Ngororero, Bugesera, Gatsibo, Gakenke, and Rulindo districts. Beneficiary farmers contributed to constructing the water tank bases, which is an activity designed to promote ownership and sustainability.

All 750 project participants have completed the construction of their tank bases using locally sourced materials, like sand, stones, and cement. In addition, 3,000 rainwater harvesting facilities at the household level were supplied and installed under the PRISM project.

#### 1.2.1.3. Inspection of hatcheries and Artificial Insemination (AI) pig breeding centers

##### Inspection of chicken hatcheries

During the period under review, 5 hatcheries were inspected for compliance with international-standard hatchery requirements. The inspection was mainly on the fulfillment of the required standards for the production of good-quality day-old chicks (DOC). Inspection focused on the product flow, building, equipment, workers, and procedure manual for the production of DOC.



Photo: Inspection of hatchery at Rwamagana & A manager of hatchery explaining how the incubation machine works



Photo: Manager explains how the candling machine works

### Inspection of Pig Breeding Center

During the period under review, 5 hatcheries were inspected for compliance with international-standard hatchery requirements. The inspection was mainly on the fulfillment of the required standards for the production of good-quality day-old chicks (DOC). Inspection focused on the product flow, building, equipment, workers, and procedure manual for the production of DOC.



Photo: Inspection of pig breeding AI centers

## 1.2.2. Capacity building in Animal Resources development

### 1.2.2.1 Training of ruminant farmers

During the fiscal year 2024-2025, a total of 4,016 livestock farmers were trained through Farmer Field Schools (LFFS) and Milk Collection Centers (MCCs), significantly surpassing the initial target of 3,000 farmers, representing 134% of achievement. These trainings were conducted across 23 districts in Rwanda, including Nyagatare, Gatsibo, Kayonza, Rwamagana, Kamonyi, Ruhango, Muhanga, Burera, Gakenke, Musanze, Rulindo, Gicumbi, Bugesera,

Ngoma, Kirehe, Rutsiro, Karongi, Nyamasheke, Rusizi, Gisagara, Nyaruguru, and Nyamagabe (Figure; Figure; Figure and Figure). The core training areas included forage production techniques, forage conservation (silage and hay making), treatment and utilization of crop residues, and proper feeding practices for ruminant livestock.



Photo: Training of farmers on forage production and germplasm maintenance/Karama



Photo: Training of farmers on forage conservation- Hay and silage making/Karama



Photo: Training of farmers on crop residue treatment for conservation



Photo: Training of farmers in ruminant feeds and feeding practices

The comprehensive training efforts implemented across multiple districts and through diverse institutional collaborations have significantly enhanced the capacity of livestock farmers and facilitators in Rwanda. These initiatives are instrumental in promoting sustainable, climate-smart livestock production systems and improving the overall productivity and resilience of the dairy value chain.

### 1.2.2.2 Training of small stock farmers

A Total of 174 pig and poultry farmer facilitators were trained, including 67 (42 males and 25 females) piggery L-FFS facilitators & 137 (69 Males and 68 females) poultry farmers were trained on different topics, including L-FFS methodology and technical skills.

### 1.2.2.3 Training in artificial insemination

This is to address the challenges of the low success rate of AI and the low coverage, which are known in cattle AI. In this fiscal year, 322 animal sciences technicians have been trained on bovine artificial insemination technique, 42 trained on pregnancy

diagnosis in cattle, and 32 trained in ultrasound as a highly accurate method for detecting pregnancy, especially in early stages, and can be performed as early as 28 days after breeding.



Photo: Practices of Artificial Insemination in Livestock

### 1.2.2.4 Training on aquaculture and fisheries

1,737 fish farmers (57 trained as facilitators and 1,680 as members of cooperatives in clusters) were trained on aquaculture good practices. In addition, 26 farmers were trained on the utilization of Black soldier flies and their utilization in fish feed formulation.

### 1.2.2.5 Training of beekeepers

A total of 200 master beekeepers were trained on beekeeping production and management. Then, modern beekeeping equipment was provided to 10 cooperatives across Rwanda, including bee suits and gloves, bee venom collecting machines,

electronic honey extractors, honey presses, honey sieves, honey tanks, mating nucs, air blowing aspirators, pollen traps, plastic propolis collectors, queen rearing kits, solar wax melters, smokers, advanced bee hives, refractometers ...

### 1.2.2.6 Training in animal diseases control

Training of field technicians and animal health workers has been organized in order to strengthen their capacity in disease surveillance and monitoring. A total of 44 vet technicians from VSM companies have been trained on One Health insisting on zoonotic diseases control; 54 from proximity clinics trained on sampling and laboratory techniques; 157

SAROs and DAROs trained on the use of e-IDSR system (electronic Integrated Disease Surveillance and Response) and 230 community animal health workers trained on EBS (Event-based surveillance)/ Impuruza system helping in immediate reporting of health event/disease observed on the field.

### 1.2.3. Animal Resources population and products

The livestock population is on an increasing trend. Between 2020 and 2025, cattle numbers grew steadily by 26%, while goats and pigs experienced significant mid-period declines before recovering. The most dramatic change was poultry production, which more than doubled in 2025 to nearly 13 million birds, suggesting a major shift toward

intensive, lower-cost protein production. Overall, the trends indicate a shift away from traditional livestock farming toward more economically efficient poultry farming. The table below shows livestock data for a sector in transition from 2020 to 2025.

**Table 5:** Estimated livestock population by category (2020-2025)

Category	2020	2021	2022	2023	2024	2025
<b>Cattle</b>	1,371,829	1,449,888	1,575,703	1,644,692	1,694,033	1,727,913
<b>Goats</b>	2,787,898	2,844,001	2,348,895	1,995,636	2,035,549	2,076,260
<b>Sheep</b>	541,416	601,836	501,548	440,214	444,616	453,508
<b>Pigs</b>	1,385,769	1,441,077	1,498,721	1,123,075	1,167,998	1,226,398
<b>Rabbits</b>	688,788	801,490	817,519	656,153	662,715	682,596
<b>Poultry</b>	5,306,254	5,442,152	5,496,574	6,047,215	6,289,104	12,951,766

The trend of animal products aligns with the livestock population changes, particularly reflecting the dramatic expansion in poultry numbers that corresponds with the surge in egg production. The table below presents the annual production volumes of key animal-derived products over six years.

**Table 6:** Trend of animal products 2019-2025 in MT

Product	2020	2021	2022	2023	2024	2,025
<b>Milk</b>	864,252	891,326	999,976	1,061,301	1,092,430	1,152,514
<b>Meat</b>	168,687	174,904	183,649	197,778	207,097	219,523
<b>Fish</b>	32,756	36,047	43,560	46,495	48,133	52,439
<b>Eggs</b>	7,972	8,272	8,665	17,344	20,211	29,855
<b>Honey</b>	5,500	5,800	6,135	7,240	7,621	8,460
<b>Poultry</b>	5,306,254	5,442,152	5,496,574	6,047,215	6,289,104	12,951,766

The data shows consistent growth across all categories, with particularly notable increases in egg production (which nearly quadrupled from 2020 to 2025) and steady expansion in milk production, which represents the largest output by volume. Meat production maintained steady growth throughout the period, while fish and honey showed more modest but consistent increases.

### 1.2.4. Sustainable animal breeding and genetics

#### 1.2.4.1. Operationalization of liquid nitrogen plants supporting livestock Artificial Insemination services

There are two plants in place to ensure the production of liquid nitrogen, which is essential for the storage of bovine semen used in artificial insemination.

In the 2024-2025 Fiscal Year, the Rubona Liquid Nitrogen Plant produced a total of 111,100 liters of liquid nitrogen and 103,917 liters distributed especially in Southern and Western Province. The Rubirizi liquid nitrogen plant produced 64,070 liters and distributed around 63,523 liters, especially in Northern Eastern and the City of Kigali, for the storage of semen and carrying out bovine artificial insemination.



Photo: Maintenance and production of Liquid Nitrogen

#### 1.2.4.2. Cows inseminated and calves AI-born calves

##### Bovine Artificial Insemination (AI)

During the 2024/2025 fiscal year, the national Artificial Insemination (AI) program for cattle was implemented across 30 districts, yielding results that exceeded expectations. The program initially targeted 115,277 cows for insemination. By the end of the period, a total of 117,105 cows had been successfully inseminated, achieving 102% of the national target. This indicates a strong uptake and effective implementation of the AI services.

##### Registration of AI Calves born

In parallel, the program aimed to record 41,885 calves born through artificial insemination. The actual number of **AI-born** calves identified was **44,543**, surpassing the target by 6%. This outcome highlights the program's success not only in insemination coverage but also in follow-up and tracking of calf births, contributing positively to national livestock development efforts.

Most districts met or exceeded their targets, with **Kicukiro** and **Ngoma** standing out at **119%**, while **Rusizi** and **Nyanza** fell short at **80%** and **95%**, respectively.

SN	District	Targets of Cows to be inseminated	District Total achievement	% Achievements per District	Targets of AI calves recorded	District Total achievements	% Achievements per District
1	Bugesera	2,500	2,519	101%	1,050	1,069	102%
2	Burera	5,500	5,520	100%	2,800	2,856	102%
3	Gakenke	5,500	5,671	103%	2,684	2,700	101%
4	Gasabo	3,000	3,133	104%	900	984	109%
5	Gatsibo	3,493	3,622	104%	1,235	1,247	101%
6	Gicumbi	8,000	8,397	105%	2,800	2,824	101%
7	Gisagara	5,100	5,154	101%	2,000	2,346	117%
8	Huye	4,832	4,897	101%	2,030	2,048	101%
9	Kamonyi	4,057	4,076	100%	1,213	1,247	103%
10	Karongi	2,229	2,258	101%	922	932	101%
11	Kayonza	3,268	3,308	101%	1,050	1,059	101%
12	Kicukiro	1,250	1,491	119%	450	534	119%
13	Kirehe	2,500	2,590	104%	1,056	1,078	102%
14	Muhanga	4,158	4,193	101%	1,336	1,373	103%
15	Musanze	3,900	3,966	102%	900	987	110%

16	Ngoma	2,000	2,387	119%	500	925	185%
17	Ngororero	1,950	1,978	101%	850	869	102%
18	Nyabihu	2,700	2,726	101%	1,150	1,154	100%
19	Nyagatare	4,500	4,524	101%	1,250	1,405	112%
20	Nyamagabe	4,000	4,002	100%	1,400	1,406	100%
21	Nyamasheke	1,500	1,532	102%	391	453	116%
22	Nyanza	8,000	7,620	95%	2,354	2,399	102%
23	Nyarugenge	600	613	102%	150	162	108%
24	Nyaruguru	3,800	3,826	101%	940	991	105%
25	Rubavu	2,640	2,736	104%	900	902	100%
26	Ruhango	6,000	6,003	100%	2,224	2,227	100%
27	Rulindo	4,500	4,591	102%	1,800	1,863	104%
28	Rusizi	2,500	2,001	80%	600	661	110%
29	Rutsiro	2,800	2,891	103%	1,230	1,708	139%
30	Rwamagana	8,500	8,880	104%	3,720	4,134	111%
<b>Total</b>		<b>115,277</b>	<b>117,105</b>	<b>102%</b>	<b>41,885</b>	<b>44,543</b>	<b>106%</b>

Regarding calves, districts like Ngoma (185%), Rutsiro (139%), and Gisagara (117%) significantly surpassed their targets, indicating strong follow-up and identification processes.

Overall, the program showed excellent national performance, reflecting successful AI

implementation and calf tracking efforts. The data also highlights areas requiring further attention, particularly in underperforming districts, to ensure consistent results nationwide in the cattle breeding practices.

#### 1.2.4.3. Availability of semen

To ensure the consistent availability of high-quality semen for artificial insemination in cows, the Rwanda Agriculture and Animal Resources Development Board (RAB), through the National Genetic Improvement Center (NAGIC), sets annual production targets. For the 2024–2025 fiscal year, the target is 180,000 doses

In the 2024-2025 Fiscal Year, a total of 148,624 semen doses were produced, processed, stored, and made accessible to all farmers. The semen was collected from the following breeds: Friesians, Jersey, Flechview and our local breed Inkungu.

Some of the bulls used in semen processing: Figure 1, Friesian and Figure 2: Flechview bull

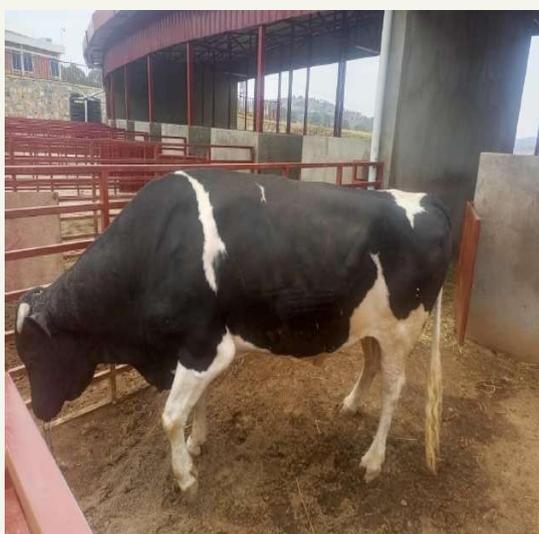


Photo: Friesian bull



Photo: Flechview bull

## 1.2.5 Optimizing Animal feed and forage resources

### 1.2.5.1. Forage seed multiplication

The forage seed production program demonstrated exceptional performance in the reporting period. A total of 45.7 tons of forage seeds and vegetative planting materials were produced at Nyagatare and Musanze RAB stations. This surpasses the annual production target of 35 tons, representing 130% of the achievement (Table 8).

**Table 8:** Forage seed produced in the 2024-2025 FY

Forage Type	Quantity produced
Chloris gayana (Kg)	24,338
Mucuna pruriens (Kg)	3,600
Leucaena diversifolia (Kg)	654
Cratylia argentea (Kg)	257
Lablab purpureus (Kg)	703
Desmodium intortum (Kg)	278
Panicum spp. (Kg)	39
Urochloa (Brachiaria)- Rooted tillers	3,990,000 (~6.68 tons)
Napier grass - cuttings	5,460,000 (~ 9.15 tons)
<b>Total (Tons)</b>	<b>45.7</b>

Part of this production was distributed and planted during the 2025B season, while the remainder is reserved for the 2026A season distribution.

### 1.2.5.2. Forage production

During the FY20224/2025, a total of 14,839.9 hectares of land were planted with improved forage varieties across all covered districts (Figure X, Figure Y, Figure Z). This achievement exceeded the initial target of 12,500 hectares for fiscal year 2024-2025, representing 119% of the target.

The expansion marks significant progress in improving livestock feed availability and building agricultural resilience. Combined with previous efforts, this has brought the cumulative area under improved forage to 47,108.7 hectares nationwide (Figure 3).

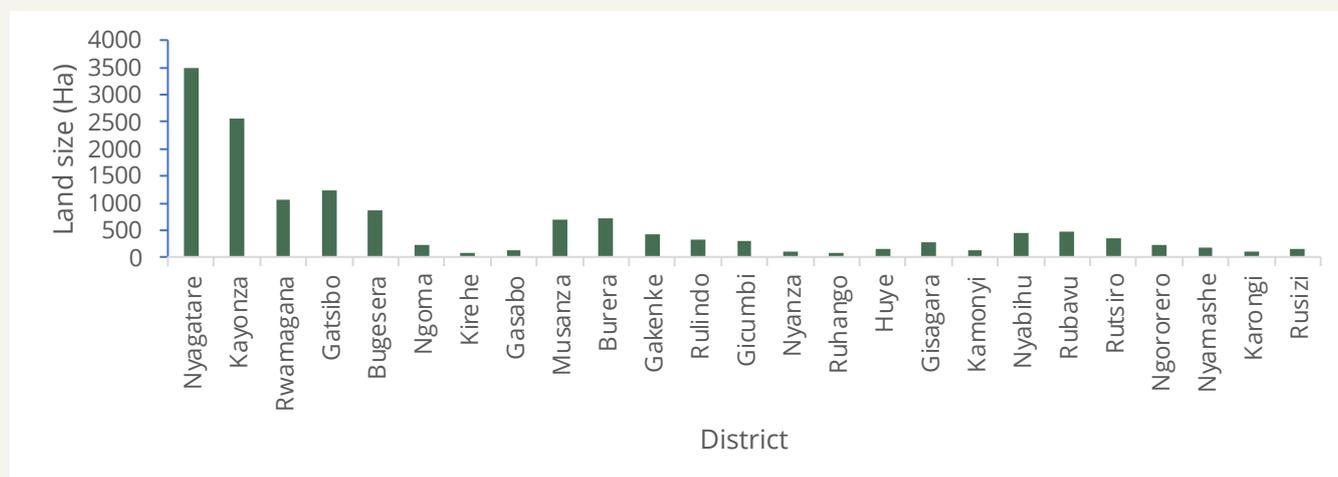


Figure 3: District under improved forages for the fiscal year 2024-2025

To facilitate farmers' learning and promote best practices in forage production, 12 on-farm forage demonstration plots were established. These demonstration plots serve as hands-on learning sites for farmers, extension agents, and cooperative leaders, ultimately contributing to sustainable improvements in livestock productivity.

To achieve this, during the 2025A & 2025B seasons, an awareness campaign was conducted among farmers in Nyagatare and Gatsibo Districts to increase forage production at the farm level through MCCs and radio talks at RC Nyagatare. Also, there were seasonal launches for forage cultivation (Figure 3).

## 1.2.6 Animal health systems strengthening and Disease Control

### 1.2.6.1 Implementation of Veterinary Sanitary Mandate (VSM Model)

Veterinary Sanitary Mandate (VSM) is a public and private partnership where the private professionals execute some services on behalf of public sector. A contract is subsequently signed between two parties indicating how provided services should be executed, supervised and paid.

VSM operates through Companies which sign contract with the district. The table No indicates VSM companies available in the country.

**Table 9:** Current status of VSM companies

SN	District	VSM Cie Name	Number of members
1	Kamonyi	Livestock Solutions CC	37
2	Muhanga	Quick Agro Vet Services	31
3	Huye	Twisungane Vet Karama	27
4	Huye	Kinazi Vet Services	7
5	Nyamagabe	Every Where Agroveter Cie Ltd	58
6	Rwamagana	Rwamagana Private Vet Cie	21
7	Gatsibo	Farmers Care Vet Services Umunezero	16
8	Ngoma	Ngoma Service Cie Ltd	36
9	Ngoma	Mirenge Vet Cies	18
10	Kirehe	Kirehe Private Cie	38
11	Rusizi	Rusizi Vet Cie Ltd	3
12	Nyamasheke	Nyamasheke Veteriarian Cie LTD	7
13	Karongi	Karongi Private Cie Ltd	10
14	Rutsiro	Quick Agro Vet Services	8
15	Rutsiro	VSTICO	8
16	Ngororero	Ngororero Vet Limited	10
17	Nyagatare	Africa Agrivet Services Ltd	14
18	Nyabihu	Fila Best Innovation and Vet Services Cie	5
19	Nyaruguru	Aguka Mworozu Nyaruguru Ltd	17
20	Rulindo	Quick Agro Vet Services	9
21	Burera	Burera Vet Care COMPANY Ltd	8
22	Kayonza	Farmers Extension and supply Ltd	68
23	Bugesera	Bugesera Veterinary Services Provider	7
24	Ruhango	Quality Veterinary Services Ltd	22
25	Gakenke	Rumovets Rwanda Ltd	3
26	Gisagara	Giasagara Vet Services Cie	15

27	Gicumbi	Gasabo Veterinary Supporters and Consulting Services	18
30	Rubavu	RAHCO Limited	11
31	Nyanza	Agrovvet Business Services	52
32	Gasabo	Best Veterinary Services	20
33	Kicukiro	Gasabo Veterinary Supporters and Consulting Services	5
34	Nyarugenge	Utrasco Ltd	5
35	Musanze	Healthy Life Biotechnology Ltd	18

The VSM companies cover different areas such as vaccination, insemination, disease treatment etc...

### 1.2.6.2 Epidemic surveillance

Epidemic surveillance aims to enable the early detection of outbreaks, guide timely response measures, and support effective control and prevention of epidemic events. During the FY 2024/2025, epidemic surveillance activities were strengthened to ensure early detection and rapid response to potential pests and disease outbreaks. This included the systematic and continuous collection, analysis, and interpretation of data on disease or pest occurrences within domestic animal populations. The enhanced surveillance framework contributed to improved outbreak preparedness, timely interventions, and effective control measures, thereby safeguarding animal and public health and supporting overall sector resilience.

#### a) Laboratory analysis

During the reporting year, the Veterinary Laboratory Unit continued to strengthen diagnostic capacity across the national laboratory network.

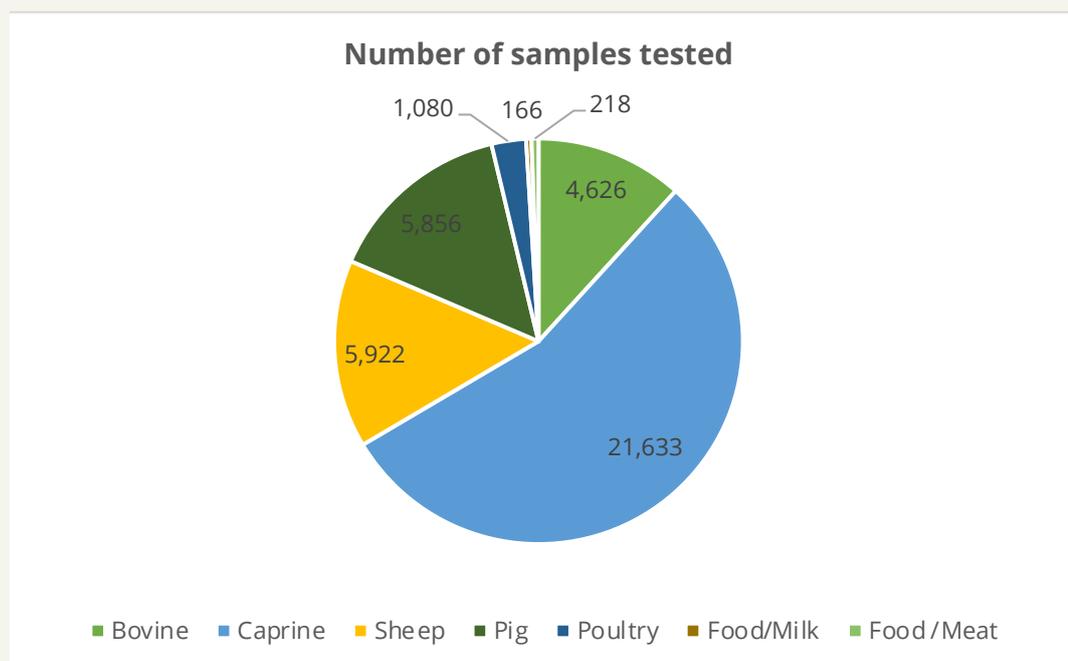
The Unit consists of the Central Veterinary Laboratory located in Rubirizi and four satellite laboratories situated in Ngoma, Nyagatare, Huye, and Rubavu districts. In addition, the operationalization of 15 proximity laboratories was initiated, enhancing collaboration with farmers and significantly improving access to community-level diagnostic services through decentralized veterinary clinics established across 15 districts.

Disease diagnosis was carried out across multiple specialized sections, including Virology, Bacteriology, Serology, Protozoology-Entomology, Helminthology, and Pathology. Throughout the year, a total of 39,501 samples were received and tested across the Central Veterinary Laboratory and its four satellite laboratories (RNVL and its 4 satellite labs), contributing to improved animal health monitoring and evidence-based disease control.

**Photo:** Sampling process



The Figure 4 shows the distribution of samples according to animal species.



Tests are performed for disease diagnostic, food safety and antimicrobial resistance surveillance (AMR). The table No shows the prevalence of some animal diseases.

**Table 10:** Prevalence of animal diseases

Disease	Affected animal	Number of samples tested	Positive	Prevalence (%)
FMD (Food and Mouth Disease)	Bovine	925	16	1.7
FMD	Caprine	810	2	0.2
FMD	Ovine	148	0	0.0
RVF (Rift Valley Fever)	Bovine	508	20	3.9
RVF	Caprine	55	3	5.5
RVF	Ovine	31	1	3.2
Brucellosis	Bovine	3365	21	0.6
Brucellosis	Caprine	18313	9	0.0
Brucellosis	Ovine	7794	0	0.0
Brucellosis	Pig	6760	0	0.0
Mastitis	Bovine	353	262	74.2
TBD (Tick-born disease)	Bovine	426	190	44.6
PPR (Peste des petits ruminants)	Caprine	9890	278	2.8
PPR	Ovine	3442	266	7.7
ASF (African Swine Fever)	Pig	358	4	1.1
Swine Erysipelas	Pig	420	19	4.5
NCD (New Castle Disease)	Poultry	185	75	40.5
Gumboro	Poultry	108	0	0.0

Note that high prevalence is observed in Mastitis, Tick Born Diseases and New Castle disease.

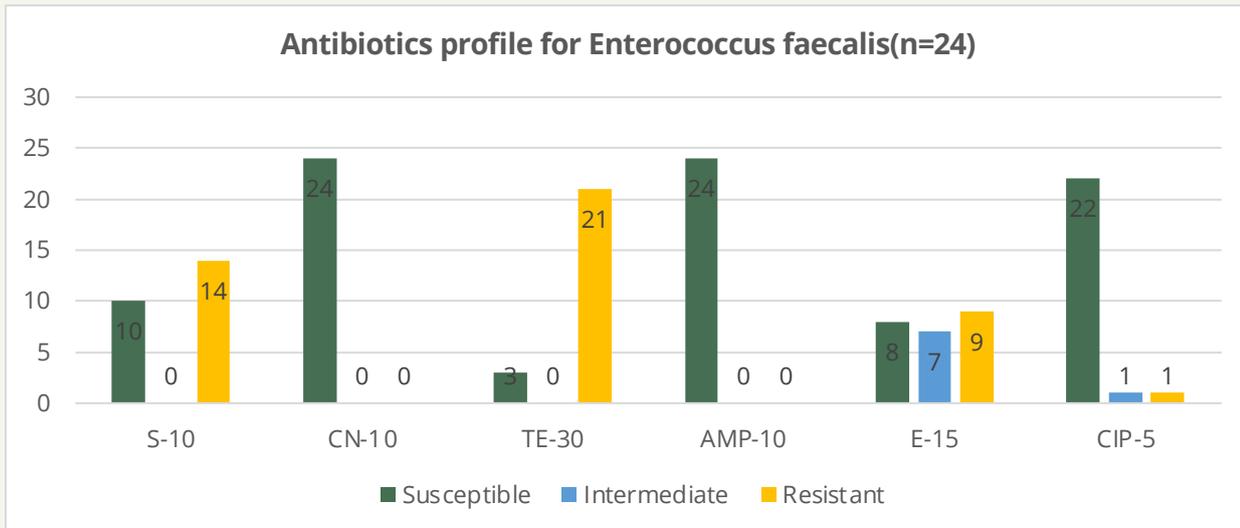
Regarding food safety, we focused on *Staphylococcus aureus*, *Escherichia coli* and *Enterococcus* sp as recommended by AMR Surveillance National Operational Plan (2023-2028)

We analyzed 1,225 samples for bacteria identification and antimicrobial sensitivity testing (AST) and detected 646 isolates in meat and milk. Main isolates identified are *Staphylococcus* spp (coagulase-negative), *Staphylococcus aureus*, *Escherichia coli*, *Bacillus*, *Serratia odorifera*,

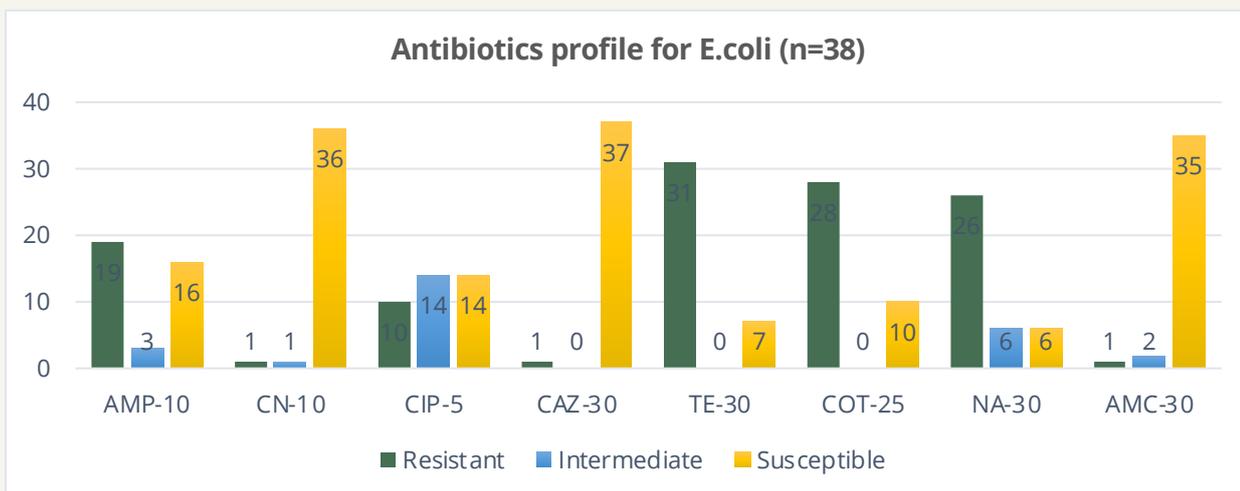
*Pantoea*, *Chromobacterium*, *Citrobacter*, *Serratia rubidoea*, *Enterococcus* species.

Testing the sensitivity to antibiotics in poultry using **Ampicillin (AMP)**, **Gentamicin (CN)**, **Ciprofloxacin (CIP)**, **Ceftazidime (CAZ)**, **Tetracycline (TE)**, **Cotrimoxazole (COT)**, **Nalidixic acid (NA)**, **Amoxycillin clavulanic acid (AMC)**, we found the variability of sensitivity of micro-organisms to antibiotics as started on the graphs below:

**The Figure 5:** Antibiotics profile for *Enterococcus faecalis*



**The Figure 6:** Antibiotics profile for *E.coli*



Note that high resistance of micro-organisms on Tetracycline, Amoxycillin (Penicillin) and Streptomycin while these molecules are the most used in animal treatment.

**b) Outbreak management**

During the reporting year, the Veterinary Laboratory During the reporting period, the Animal Resources Development teams conducted timely investigations and implemented response measures for reported disease incidents. The following outbreaks were identified and addressed:

- **FMD outbreak in Tabagwe/Nyagatare**

The outbreak started in May and ended in July 2024 in Tabagwe Sector, Gitengure cell, Kayigiro village. In total 124 cattle from 11 farms presented clinical signs and were lifted to abattoir. Other mitigation measures were taken including quarantine in affected area and 23178 cows were vaccinated in Tabagwe and Rwempasha sectors.

- **RVF in Ngoma**

On 19/8/2024 Rift Valley Fever (RVF) case was observed on cow in Kazo Sector, Ngoma and immediate prevention measures were launched. In total 27 cases were observed, 1 cow died, 26 others recovered. Mitigation measures included mass spraying with Permapy and vaccination which covered 35,089 cows; 75,795 goats and 2,286 sheep in the whole district.

### c) Awareness campaigns

Awareness campaign was conducted against Rabies. This was done on the celebration of World Rabies Day held at Kiramuruzi/Gatsibo District but also with experts team from FAVI / Canada in Kigali City and Rwinkwavu. Activities conducted included among others vaccination, dog sterilization and dog registration. In total 616 dogs and 28 cats were vaccinated while 161 dogs and 13 cats were sterilized. Various stakeholders like FAO, RAB, VSF, RBC, WAG, RCVD, FAVI, VETLINKS, RAWO, OASIS and WVVH participated on awareness campaigns.

**Photo:** Awareness campaign on vaccination and sterilization of dogs for rabies contro



### d) Disease Surveillance

Disease surveillance is an ongoing collection of data that are analyzed and help to take actions aimed at disease control.

This year, we started the implementation of disease surveillance using an electronic system called e-IDSR (electronic Integrated Disease Surveillance and Response).

In collaboration with RBC, we trained all SAROs and DAROs on e-IDSR system and distributed 257 tablets to trained field vet technicians to help them data entry. On community level, 157 community animal health workers have been identified and trained on EBS/ Impuruza system and got mobile phone to facilitate them in reporting.

### 1.2.6.3 Livestock vaccination program

Vaccination is one of the major activities aiming at preventing epidemics and transboundary diseases. We conducted vaccination activities against Lumpy Skin Disease (LSD), Black quarter and Anthrax (BQ), Foot and Mouth Disease (FMD), Rift Valley Fever (RVF), Peste des Petits Ruminants (PPR), Rabies and

Brucellosis according to the national vaccination calendar. Additionally, to these major epidemics, we started vaccination of Swine Erysipelas in pigs, East Coast Fever and Anaplasmosis in Cattle. The table No shows achievement of vaccination by District.

**Table 11: Vaccination Achievements**

SN	District	LSD	BQ	FMD	RVF cow	RVF Goat	RVF sheep	Brucellosis	Rabies	PPR Goat	PPR Sheep
1	Gisagara	54000	36800	-	37800	-	-	0	100	42350	2674
1	Huye	40173	40179	-	40151	43246	4700	3302	813	28800	3200
3	Nyanza	41037	20923	-	41156	43249	1246	0	0	50673	1947
4	Kamonyi	32283	26166	-	32093	42857	2745	2497	406	42857	2749
5	Muhanga	49463	26357	-	49463			3750	550	28214	9742
6	Ruhango	52001	16003	-	42007	42005	3002	2505	376	42001	3001
7	Nyamagabe	58916	18434	-	58916	-	-	1781	259	60312	10281
8	Nyaruguru	41930	26179	-	42500	-	-	3049	621	38505	5100
9	Karongi	45055	34722	-	38223	-	-	4268	715	28447	2823
10	Rutsiro	43950	41230	-	28903	-	-	5081	503	6982	8637
11	Nyabihu	29039	28238	-	21823	-	-	3846	0	8153	37988
12	Ngororero	50048	23780	-	44123	-	-	2761	513	13284	10206
13	Rubavu	23400	19937	-	23400	-	-	3758	720	15322	29178
14	Nyamasheke	26719	26719	-	26719	-	-	1650	300	31598	4907
15	Rusizi	21568	17395	-	18862	-	-	2557	315	15705	2148
16	Musanze	33385	39048	-	33385	-	-	4070	781	20658	26417
17	Rulindo	46792	34000	-	46500	-	-	3345	694	12040	15579
18	Gakenke	53267	30938	-		-	-	4070	615	26537	13363
19	Burera	47951	38066	-	47951	21382	44612	3980	459	21382	44612
20	Gicumbi	86581	43308	-	86589	-	-	6651	0	55275	27055
21	Nyagatare	59106	52032	90487	43212	-	-	1053	298	119550	14745
22	Gatsibo	70030	20123	33051	59814	-	-	474	665	51845	4261
23	Kayonza	49006	49006	49000	45281	-	-	53400	315	42182	15693
24	Rwamagana	30976	27772	-	30496	-	-	4618	883	39350	4063
25	Ngoma	31927	14691	-	34639	72098	2192	1904	122	41915	2354
26	Bugesera	28366	28397	-	29735	100504	4551	0	524	100332	4533
27	Kirehe	42223	34866	24917	26752	-	-	1631	253	66428	4632
28	Nyarugenge	3150	3150	-	3250	-	-	400	532	3000	100
29	Gasabo	14800	12250	-	14750	-	-	1225	1000	11800	200
30	Kicukiro	3506	3372	-	3364	3506	381	418	568	2998	265
	<b>TOTAL</b>	<b>1210648</b>	<b>834081</b>	<b>197455</b>	<b>1051857</b>	<b>368847</b>	<b>63429</b>	<b>79984</b>	<b>13900</b>	<b>1068495</b>	<b>312453</b>
	TARGET	1318569	768891	210102	1255472	1078194	261194	85415	15262	1078194	261194
	%	91.82	108.48	93.98	83.78	34.21	24.28	93.6	91.08	99.10	119.62

We note FMD is vaccinated in high-risk zone on the eastern border of the country in Kirehe, Kayonza, Gatsibo and Nyagatare. In addition, RVF was not vaccinated systematically in goats and sheep but in some districts where RVF cases were suspected.

#### 1.2.6.4 Newly established/upgraded Veterinary facilities and status of existing ones

We launched the use of Proximity Veterinary posts constructed in 15 Districts under PRISM project support. Districts served are Gakenke, Gicumbi, Burera, Musanze, Nyabihu, Ngororero, Rutsiro, Karongi, Nyamasheke, Nyamagabe, Nyaruguru, Huye, Gisagara, Ruhango.

All these premises received equipment (microscopes, sampling materials, clinic materials and fridges) and their operators were trained in sampling and laboratory testing.

#### 1.2.7 Fisheries and aquaculture development

The 2024/2025 fiscal year marked a strong performance for Rwanda's aquaculture sector, with over **71,661,465 fish fingerlings** (baby fish) produced and **52,439.3 MT** of table-size fish harvested. The data reflects effective hatchery operations and a maturing value chain, but also points to seasonal vulnerabilities and room for

improvement in survival and conversion rates. Strengthening support in lower-performing districts and addressing the Q4 production dip could further boost sub-sector resilience and output in future cycles.

##### 1.2.7.1. Fish fingerlings production (hatcheries)

In the fiscal year 2024/2025, Rwanda's hatcheries collectively produced 71,661,465 kg of fish fingerlings. The production was generally stable across quarters, with a notable increase in Q4 reaching 21,859,470 kg, up from 9,999,998 kg in Q1, more than doubling in volume.

Among the hatcheries, Kivu Choice hatchery located in Gisagara District was the top performer, contributing 37,550,390 kg, equivalent to 52.4% of the national total production of fish fingerlings. Its quarterly production shows a consistent upward trend, with the highest output recorded in Q4 (13,230,390 Kgs). The Kivu Choice hatchery was followed by Fine Fish and Fresh Fish, both located in Rwamagana District, with 11,887,750 kg (16.6%), and 9,629,895 kg (13.4%), respectively. Smaller but significant contributions came from Kivu Tilapia in Rusizi district (5,272,100 Kg), Lake Side in Bugesera district (4,002,730 Kg), and Gishanda in Kayonza (3,318,600 Kg).

Overall, production trends show a clear peak in Q4 (April-June 2025) across most hatcheries, likely due to environmental conditions favorable for breeding or strategic timing for market demand. The top three hatcheries, namely Kivu Choice, Fine Fish, and Fresh Fish, together account for over 82% of total output, underscoring a concentration of production in a few regions.

To further strengthen the sub-sector, stakeholders should consider studying the operational model of Kivu Choice to identify replicable strategies that could boost production in other hatcheries. Additionally, understanding the drivers behind the Q4 surge may help optimize production planning throughout the year. With strategic support, Rwanda's fish farming sector has room to grow both in volume and distribution equity.

The following table provides detailed information on the locations of hatcheries and their respective production volumes throughout the year:

**Table 12:** Fingerlings production in 2024/202

District	Hatchery name	Fish fingerlings (Kgs)				Total (Number)	%
		Q1	Q2	Q3	Q4		
Rwamagana	Fine Fish	1,938,700	3,877,400	2,977,400	3,094,250	11,887,750	16.6%
Rwamagana	Fresh Fish	1,710,998	3,423,107	2,821,990	1,673,800	9,629,895	13.4%
Kayonza	Gishanda	432,300	864,600	664,800	1,356,900	3,318,600	4.6%
Bugesera	Lake side	578,000	1,156,000	1,456,000	812,730	4,002,730	5.6%
Gisagara	Kivu Choice	4,664,000	9,328,000	10,328,000	13,230,390	37,550,390	52.4%
Rusizi	Kivu Tilapia	676,000	1,352,000	1,552,700	1,691,400	5,272,100	7.4%
<b>Total</b>		<b>9,999,998</b>	<b>20,001,107</b>	<b>19,800,890</b>	<b>21,859,470</b>	<b>71,661,465</b>	<b>100.0%</b>

### 1.2.7.2 Table-Size Fish Production (Marketable Fish)

The total national production of marketable (table-size) fish for FY 2024/2025 amounted to 52,439,227 kg. Production peaked in Q3 at 14,999,895 kg, with a consistent upward trend from Q1 (13,458,312 kg) and Q2 (14,003,728 kg). However, Q4 saw a drop to 9,977,292 kg, likely due to seasonal or operational factors affecting harvest volumes. This annual production was sourced from aquaculture and

fisheries systems including cages, ponds, water dams, as well as from natural water bodies such as lakes and rivers across the country.

The following table provides a breakdown of fish harvests by quarter, as well as the cumulative annual production:

**Table 12:** Fish production in 2024/2025

Fish Production in the 2024/2025	Q1	Q2	Q3	Q4	Total (Kg)	Tot. (MT)
<b>Total production volume from Aquaculture and Fisheries</b>	13,458,312	14,003,728	14,999,895	9,977,292	52,439,227	52,439.3

### 1.2.7.3 Capacity building in aquaculture and fisheries program

During the FY 2024/2025, aquaculture and fisheries program has prioritized training related to good aquaculture practices by using the methodology facilitating the knowledge dissemination to more farmers in short period. RAB trained 19 master trainers who serve as technicians for the Rwanda Animal Resources Improvement Cooperative (RARICO), providing daily field support and working directly with farmers. Those technicians trained 57 facilitators from various cluster farms, who then went on to train 190 fish farmers operating fish ponds, benefiting all members of the cooperative. The training was focusing on fish feeding and management, fish handling and protection against diseases, important data to be recorded in fish farming and marketing fish production among other aquaculture practices.





Photo: Training of master trainer

### 1.2.8 Beekeeping development, honey production, and productivity

#### Key strategic interventions

According to the honey residue assessment report conducted by MINAGRI and RICA, it was noted that beekeepers face challenges including limited knowledge and skills, insufficient equipment and materials, market and financial constraints, and apiary security and management. To address these issues, the following recommendations have been proposed;

- Capacity Building and Training Programs for Beekeepers on Pesticide Awareness and Mitigation: Implement nationwide, standardized training modules.
- Promote Integrated Agriculture and Apiculture;
- Establish and strictly enforce minimum distance requirements (buffer zones) between pesticide-treated agricultural fields and nearby apiaries.
- Strengthen Pesticide Regulation and Enforcement: Review and strengthen existing pesticide regulations to explicitly include provisions for bee protection.

#### General Recommendations for Honey Value Chain Strengthening

- Improve Traceability and Quality Control

**Systems:** This would enable rapid identification of contamination sources and efficient batch recall in case of non-compliance. Mandating regular and comprehensive quality testing for all export batches is also essential.

- **Support Modern Beekeeping Practices and Equipment Adoption:** Provide targeted technical assistance to encourage beekeepers to transition to modern hives and acquire essential modern equipment. This directly addresses the issue of “insufficient materials” and improves efficiency and hygiene throughout the harvesting and initial processing stages.

In conclusion, a strong and coordinated effort is needed—one that combines farming and beekeeping, improves monitoring systems, builds technical skills, and enforces better regulations.

To build capacity in beekeeping and promote market linkages for high-value international markets and processing. A group of 32 men and women involved in the beekeeping sector was sent to China for a training course on beekeeping and honey processing for Rwanda from July 8th to 21st, 2025.

## 1.3 Food security, nutrition and social protection interventions

### 1.3.1 Support for poor households through provision of productive assets

#### 1.3.1.1 Girinka program: cows' distribution to poor families

The Girinka Program (“One Cow per Poor Family”), launched in Rwanda in 2006 under the leadership of H.E. President Paul Kagame, is a government-led initiative aimed at eradicating poverty and malnutrition among Rwandan populations through livestock ownership.

The program’s approach centers on providing one dairy cow to each selected poor household. Beneficiaries are typically identified through a community-based selection process, ensuring that the most vulnerable, the poorest households—especially families without livestock or with malnourished children—are prioritized. Before receiving a cow, households are required to build a cowshed and demonstrate the ability to care for the cow. Once the cow is delivered, beneficiaries receive training in animal husbandry, basic veterinary care, and farming practices to ensure the cow’s health and productivity. One of the key features of the program is the “pass-on-the-gift” model, locally known as “KWITURA”: when the cow produces its first female calf, the family must give it to another poor household, thereby extending the program’s reach and fostering a sense of community responsibility and a culture of solidarity.

Since its inception, the program has distributed hundreds of thousands of cows, significantly improving economic, social, and nutritional outcomes across the country. In the 2024–2025 fiscal year, 17,264 cows were distributed, surpassing the national target of 14,840 cows by 116.4%. This underscores the program’s robust implementation and continued relevance.

The Southern Province led with the highest distribution (5,743 cows, 33.3%), followed by the Western Province (3,920 cows, 22.7%), Northern Province (3,684 cows, 21.3%), and Eastern Province (3,499 cows, 20.3%). The City of Kigali recorded the lowest distribution (418 cows, 2.4%), reflecting its urban nature and limited space for livestock farming.

District-level performance varied, with Gicumbi (North) and Kamonyi (South) leading the way, distributing 1,102 and 1,026 cows respectively. Rutsiro (West) also stood out with 947 cows, while Kicukiro and Nyarugenge in Kigali recorded the lowest numbers, with only 90 and 101 cows distributed respectively.



**Photo:** Leaders from Northern Province, MINALOC and Gicumbi District are taking part in an official ceremony where cows are being distributed to people who were selected to benefit from the Girinka program.



**Photo:** A selected beneficiary of the Girinka program is in the process of receiving a cow at the same time that the official handover event is taking place in Kaniga Sector, Gicumbi District.



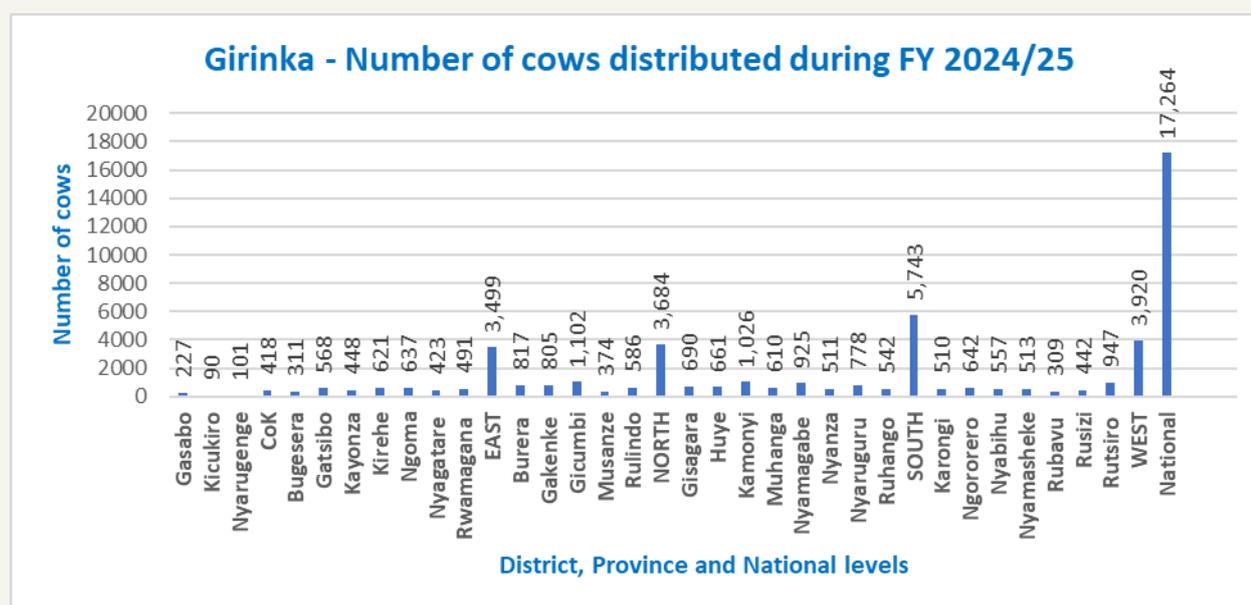
**Photo:** Selected beneficiaries are given cows and reminded how they could take care for them to ensure cow’s healthy life and productivity.

*Source: Districts administrative reports-FY2024/2025*



**Photo:** Cows distributed to eligible poor families have been reproducing and significantly transforming their livelihoods.

**Table:** Number of cows distributed to poor families: Girinka program achievements – FY 2024/2025



Source: Districts administrative reports-FY2024/2025

### 1.3.1.2 Small stock Distribution

The fifth edition of the Agriculture Sector Strategic Plan prioritizes the fight against malnutrition and poverty. To support this goal, small livestock are distributed to poor and vulnerable families as a practical means of boosting household income and improving nutrition. By raising these animals, families can earn money and enhance their quality of life. The program places particular focus on unemployed youth and women, helping them build self-reliant and sustainable sources of income.

passing-on-the-gift to other community members in need, fostering long-term community resilience. Additionally, 44,620 poultry were distributed through the PoG scheme to 2,700 households, improving access to protein-rich foods and enhancing food security and nutrition. These interventions contributed directly to improving rural livelihoods by generating income, diversifying household diets, and strengthening community-based livestock production systems.

During the 2024/25 period, a total of 2,228 pigs were distributed through the Pass-On-Gift (PoG) program to low-income families. This initiative not only provided families with a sustainable source of income through the sale of original-born pigs (offsprings) but also promoted the practice of



PoG farmer beneficiaries in Rangiro Sector, Nyamasheke District, received SASSO chickens along with a startup package that included 25 kg of chicken feed, in January 2025.



*Distribution of piglets to farmers through PoG in Gisagara District, January 2025*

### 1.3.1.3. Distribution of Fruit and vegetable seed

**18 kilograms (18,000 grams) of vegetable seeds** were given to 2,000 households to help them start kitchen gardens, increasing their access to nutritious vegetables. The project also set up 370 model kitchen gardens at Early Childhood Development (ECD) centers to serve as learning and demonstration sites for the wider community.

### 1.3.1.4. Support beneficiaries with biofortified crops & Mushrooms

To ensure the availability of nutritious products from plant origin through biofortification; **600,000 Orange Fleshed Sweet Potato** cuttings were distributed to **300 households** in Ngororero District. Additionally, **113,620 mushroom tubes** were distributed to **7,129 households** to support sustainable mushroom farming.

### 1.3.2. Capacity building of Community on nutrition

#### Awareness campaign on nutritious food preparation and quality preservation

Rwanda Agriculture and Animal Resources Development Board (RAB), in partnership with the Global Alliance for Improved Nutrition (GAIN), conducted an awareness campaign on nutritious food preparation and quality preservation in

six districts of Western Province namely Rusizi, Nyamasheke, Karongi, Rutsiro, Nyabihu and Ngororero. The campaign targeted 194 participants, including health workers and mothers with children under two years old, aiming to improve knowledge on nutrition, cooking methods that preserve nutrients, and the use of locally available nutrient-rich foods.

Training combined theoretical sessions with practical cooking demonstrations featuring balanced recipes using local crops like fortified beans (15 kg), 50 kg of orange fleshed sweet potatoes, vegetables, 300 eggs, 5 kg of small fish and fruits used to make balanced diet.



**Photo:** Training of Trainers on nutrient-dense food preparation

CRS conducted a training of trainers (ToT) for 13 Districts namely Ngoma, Kayanza, Rwamagana, Rulindo, Burera, Nyabihu, Nyamasheke, Musanze, Rubavu, Ngororero, Rutsiro, Karongi and Rusizi. The training targeted 259 participants, including health workers, District health officer, Nutritionists. The training focused on processing, conservation, and recipes of nutrient dense food being promoted by the AID-I GLR project. The training sessions also included demonstrations of Purdue Improved Crop Storage (PICS) bags and jerry cans for effective long-term grain storage.

156 MCCs & MCPs leaders from Southern and

### 1.3.3 School feeding Program

To strengthen the effectiveness of school food procurement and distribution, the Government of Rwanda adopted a centralized model for the School Feeding Programme. Through this approach, MINAGRI ensures that grain quality meets aggregation standards, thereby promoting active farmer participation in the supply chain.

To minimize post-harvest losses, training sessions on maize handling were conducted for farmers in Eastern Province with support from the World Food Programme (WFP). The sessions reached 604 participants and focused on meeting market quality standards while ensuring the safety and marketability of the produce.

A total of 14,333.91 MT of paddy rice was collected and purchased from 48 cooperatives during the pilot of Centralized School Feeding Procurement Model. The rice was milled by local millers and distributed through the School Feeding Programme. Additionally, 5,400 MT of maize from the National

Eastern Provinces, and 182 L-FFS Facilitators from Western Province were trained on human nutrition who are mandated to roll-out the trainings to the project beneficiaries.

A total number of 8,296 farmers have been received human nutrition training and kitchen garden establishment skills and techniques, including 4,672 females (56%) and 3,624 males (44%). Among the trained farmers, 1589 are female-headed households. The youth segment comprises 1456 individuals, with 643 males and 813 females.

Strategic Grain Reserve were allocated to the programme, milled, and distributed to schools as part of the pilot. The model was successfully implemented and will be scaled up in the next school year to cover all commodities used in the School Feeding Programme, including rice, maize flour, and beans. This initiative aims to increase farmer participation in the program and strengthen market linkages.

To improve school nutrition, a one-month campaign held during World Food Day 2024 distributed 68,190 eggs and 2,700 liters of milk to 3,317 pre-primary children, while 8,958 fruit trees—including avocado and mango—were planted in primary and secondary schools to combat malnutrition and promote access to nutritious food.

Increasing food fortification in processing offers a cost-effective way to improve nutrition in schools. Unlike refined maize flour, Fortified Whole Grain (FWG) flour retains the natural nutrients of the maize kernel and is enriched with essential micronutrients, making it far more nutritious. Progress toward this initiative includes collaboration with millers and regulatory bodies to comply with

processing standards, preparation of silos for quality grain storage, and farmer training on good agriculture practices. The next step is to pilot FWG flour in schools located in areas most affected by malnutrition and food insecurity starting next academic year.

### 1.3.4 National Strategic Grain Reserve

The National Strategic Grain Reserve (NSGR) is a key initiative designed to ensure national food security, mitigate the impacts of potential shocks to the food supply, stabilize the year-round availability of essential foods, and reduce malnutrition and hunger among the population, while avoiding market distortions. By strategically managing grain reserves, the government can support emergency food distribution and stabilize prices, contributing to both household- and national-level food security.

- **Food stability and mitigating related shock ensured.**

In FY 2024/2025, the National Strategic Grain Reserve (NSGR) targeted the storage of **9,626 MT of maize** and **5,903 MT of beans**. Based on the budget allocation, a total of **8,467.764 MT of maize (88%)** was procured and stored through the Eastern Africa Exchange (EAX), while **4,407.910 MT of beans (75%)** were purchased and stored from various suppliers, including KY, EAX, TSC, and FAITH companies. In addition, 603.635 MT of rice and 390.61 MT of maize flour were received and stored from MINEMA as part of the strategic reserve.

At the beginning of FY 2024/2025 (end of June 2024), the NSGR held **32,262.493 MT of maize**, **11,105.652 MT of beans**, and **78.305 MT of rice**. By the end of June 2025, the stock levels stood at **28,342.425 MT of maize**, **13,557.221 MT of beans**, and **28.660 MT of maize flour**, demonstrating the Government's continued commitment to safeguarding citizens against food supply shocks and enhancing national resilience in line with Rwanda's broader food security and social protection agenda and emergency preparedness.

### Government support initiatives

Furthermore, we encountered the disaster & price fluctuation that affected different districts across the country which resulted in food shortages in some households. As a response, the Government of Rwanda through the Ministry of Agriculture and Animal Resources decided to intervene as follow:

- 1,166.108 MT of maize, **466.399 MT of beans** & 129.625 MT of maize flour have been dispatched to National Rehabilitation Services
- **100.125 MT** of beans, 89.05 MT of rice, 5 MT of maize & 76.475 MT of maize flour have been dispatched to MINEMA for the families affected by disaster.
- 1,405.193 MT of maize & 688.077 MT of beans have been distributed to Kayonza, Kirehe, Ngoma districts to support the families affected by disaster.
- 586.553 MT of rice & 94.55 MT of maize flour have been dispatched to EAX for school feeding.
- Through EAX, 4,907.194 MT of maize have been dispatched to Rwanda Correctional Services for stabilizing food price on local market and 4,043.80 MT of maize dispatched to MAHWI for school feeding Program.
- 48.3 MT of maize flour have been delivered to MINUBUMWE

# Chapter 2: Inclusive markets & post harvest management

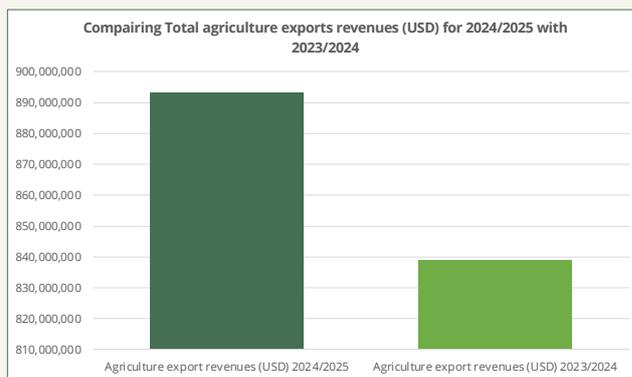
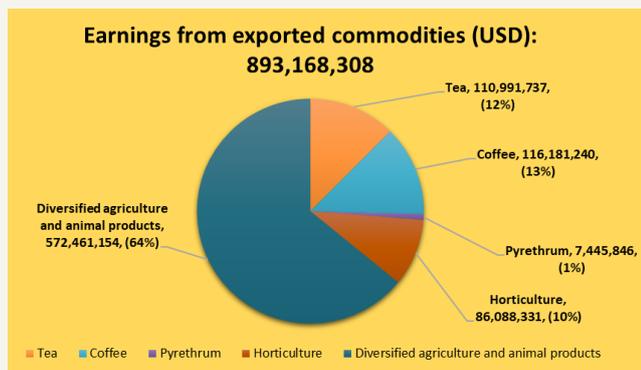
## 2.1 Agriculture Exports

### 2.1.1 Expansion of agri-export production and revenues

Produced and exported Agricultural commodities included Tea, Coffee, Pyrethrum, Horticulture (Vegetables, Fruits and flowers) and Diversified Agricultural and Animal Products in line with NST2/ PSTA5 targets with mandate of boosting agriculture exports.

Agricultural commodities exported were **969,326 MT** and generated revenues equal to **USD 893,168,308**.

Compared to the target of **USD 931,522,508** Revenues achievement was **96%**. Comparing with previous year FY 2023/2024, where the Revenues achievement was **USD 839,212,099**, it implies there was an increase in revenues generated in FY 2024/2025 by **6.43%**.



- **Made Tea Produced, Exported and Revenues generated.**

The planned made tea production was 43,941 MT and realization was 36,800 MT equal to 84% and exported was 37,749 MT equal to 86%. This is greater than produced made tea because of additional made tea left not exported in the previous year 2023/2024 but exported in 2024/2025. Made Tea produced compared to previous year Made tea exported generated USD 110,991,737 compared to planned USD 130,445,548 thus making achievement of 85% and comparing with FY 2023/2024 of USD 114,888,757 achievement was 97% making a decrease of 3%. The decrease was due to prolonged sunshine in from July to October 2024 which greatly reduces green leaf production thus making made tea produced for export also greatly reduced. Besides, there was a decrease in unit cost of tea per kg from USD 2.99 to USD 2.94.

- **Green coffee Produced, Exported and Revenues generated.**

The planned green coffee production was 25,061 MT and realization was 21,295 MT equal to 85% and exported was 20,509 MT equal to 96%. Revenues planned were USD 122,000,000 and realization was USD 116,181,240 equal to 95% while compared to previous year where revenues were USD 78,712,092 implying realization was equal to 147% making an increase of 47%. The reason for increased coffee revenues was due to increased coffee exported together with increased coffee price from USD 4.78 per Kg to USD 5.66 per Kg.

- **Refined Pyrethrum exported and Revenues generated.**

The planned Refined pyrethrum exported was 34.1 MT compared to 38 MT planned equal to 90%. Compared to fiscal year 2023/2024, where realization was 35 MT equal to 91%. Revenues planned from exported refined pyrethrum was USD 8,547,574 and realization from its exports was USD 7,445,846 which is equal to 87% and compared to previous realization of USD 8,063,749 achievement was 92% making a decrease of 8%. The reasons for decrease were due to land shortage as a result of being substituted for tourism industry especially in Musanze District that is the biggest pyrethrum producer in relation to production to other pyrethrum producing Districts like Burera, Nyabihu and Rubavu. Further, there was price fall of price of refined pyrethrum per Kg on international markets where it decreased from USD 233 to USD 218.

- **Horticulture exported and Revenues generated.**

Horticulture Planned for export was MT 104,675MT and realized was 103,456 MT equal to 99%. Revenues planned from exported horticulture was USD 62,028,000 and realization was USD 86,088,331 equal to 139%. Compared to previous year, revenues generated was USD 75,122,955 equal to 115% making an increase of 15%. In terms of horticulture components (Vegetables, Fruits and Flowers), exports in FY2024/2025 were as follows: Vegetables exported were 69,331 MT and compared to targeted 66,635 MT realization was 104% compared to the previous year vegetables exported were 61,999 MT making an increase of 11.83%. On the revenues generated, vegetables exported generated USD 53,851,447 compared to target of USD 50,806,285 which makes a realization

of 106%. Comparing with the previous year where USD 42,337,738 was generated thus making an increase of 27.19%. The increase in revenues was due to increased exported vegetables compared to previous year as indicated above.

Fruits exported were 33,376 MT compared to target of 37,532 MT making a realization of 89%. Comparing to the previous year where realization was 34,753 MT (96%) thus making a decrease of 4%, the decrease was due to prolonged drought which affect fruits compared to vegetables. On the revenues generated, fruits exported generated USD 27,633,309 compared to target of USD 36,746,596 which makes a realization of 75%. Comparing with the previous year where USD 30,622,163 was generated therefore making a decrease of 9.76%. The decrease in revenues was due to the decrease of exported fruits as indicated above.

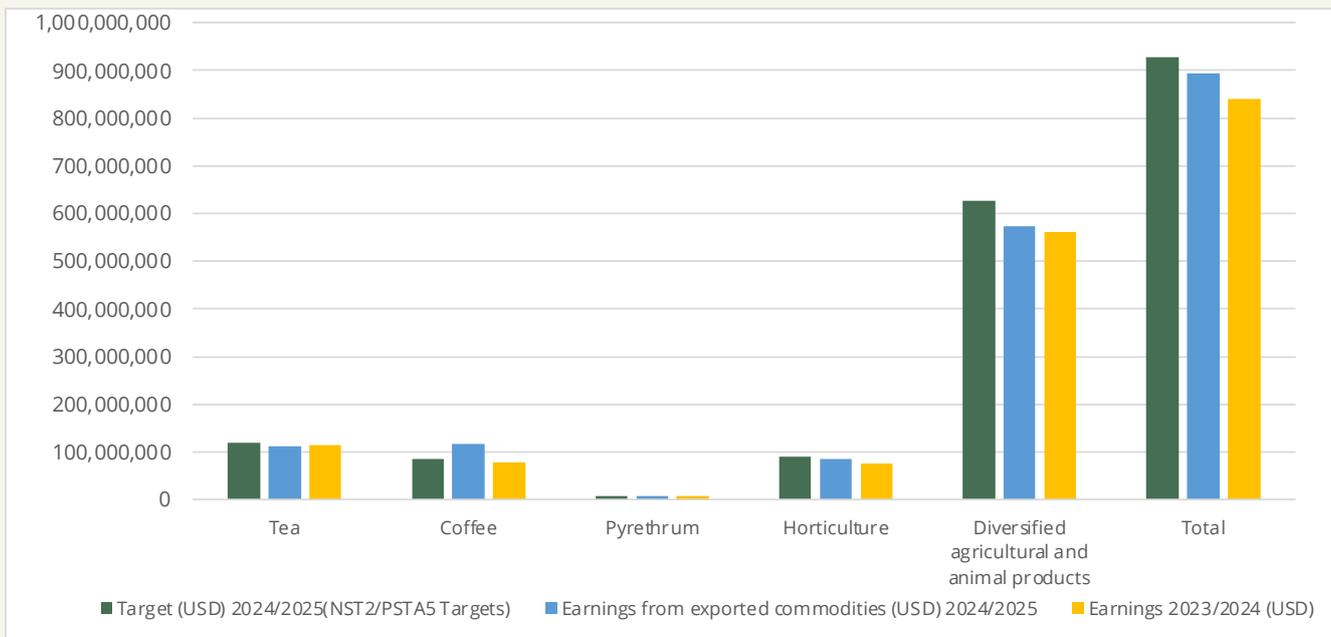
Flowers exported were 748 MT compared to target of 508 MT making a realization of 147%. Comparing to the previous year flowers exported were 413 MT making an increase of 81%, the increase was due to increased demand on the market. On the revenues, flowers exported generated revenues equal to USD 4,603,575 compared to the target of USD 2,594,666 making a realization of 177%. This was due to increased demand of flowers on the international markets especially Netherlands and United Kingdom. While on comparison with the previous year where revenues were USD 2,163,055 making an increase of 113%.

- **Diversified Agricultural and Animal products exported**

Exported diversified Agricultural and animal products were 813MT and revenues generated were USD 572,461,154 with Target of USD 625,674,235 (91%) and revenues for previous year 2023/2024 were USD 562,424,546 implying 2% increase.

**Table 13: Agriculture Exports Earnings of 2024/2025 compared with Earnings of 2023/2024**

Commodity	Target (USD) 2024/2025(NST2/ PSTA5 Targets)	Earnings from exported commodities (USD) 2024/2025	% Achievement 2024/2025	Earnings 2023/2024 (USD)	% Change Vs 2023/2024
Tea	119,106,935	110,991,737	93%	114,888,757	-3%
Coffee	85,009,059	116,181,240	137%	78,712,092	48%
Pyrethrum	8,547,574	7,445,846	87%	8,063,749	-8%
Horticulture	90,147,547	86,088,331	95%	75,122,955	15%
Diversified agricultural and animal products	625,674,235	572,461,154	91%	562,424,546	2%
<b>Total</b>	<b>928,485,350</b>	<b>893,168,308</b>	<b>96%</b>	<b>839,212,099</b>	<b>6.43%</b>



**Table 14:** Horticulture Exports FY2024/2025

Commodities	FY 2024/2025 Achievements	Quantity (MT)
<b>Vegetables</b>	Exports (MT)	69,331
	Value of Exports (USD)	53,851,447
<b>Fruits</b>	Exports (MT)	33,376
	Value of Exports (USD)	27,633,309
<b>Flowers</b>	Exports (MT)	748
	Value of Exports (USD)	4,603,575
<b>Total Value USD</b>		86,088,331

### 2.1.2 Expansion of cash crops Areas

The targeted area for tea expansion was 1,667 Ha and area expanded was 1,153 Ha thus making a realization of 69%. Area targeted for pyrethrum farming was 155 Ha and 267Ha were planted with high yielding pyrethrum seedlings. Area targeted for Essential oils was 322 Ha and realization was 9 Ha in the Districts of Nyabihu (3.5 Ha), Nyaruguru (1 Ha) and Rusizi (4.5 Ha). Avocado targeted area was 23 Ha and planted was 97.5 Ha.

## 2.2 Strengthening Market Linkages & Post-Harvest Handling and storage Infrastructure

During FY 2024/25, Rwanda made significant strides in strengthening market linkages and upgrading post-harvest handling and storage infrastructure. The Ministry of Agriculture and Animal Resources (MINAGRI), together with sister government institutions, development partners, farmer cooperatives, and key agricultural value

chain actors, implemented targeted initiatives to reduce post-harvest losses, expand storage and drying capacity, and enhance export readiness. These efforts aim to boost farmer incomes, improve food security, and increase the competitiveness of Rwandan agricultural products in both domestic and international markets.

## 2.2.1 Post harvest management (Crop-focused postharvest strategies for value optimization)

Despite broader implementation challenges, post-harvest losses have been reduced through the development and upgrading of infrastructure such as dryers, storage units, cooling systems, and agro-processing centers. These facilities, often equipped with innovative technologies, help maintain the quality of crops and animal products by minimizing spoilage, moisture damage, pests, and poor handling.

By improving the efficiency of storage, handling, processing, and transportation, these post-harvest facilities enhance farmers' market access, extend agricultural produce shelf life, and increase incomes. They also support food security by reducing losses, preserving nutritional quality (maintaining the quality of agricultural produce from the time of harvest until it reaches the consumer), and ensuring a more stable, year-round food supply—ultimately contributing to more sustainable and resilient agri-food systems.

Post-harvest losses, particularly for maize and rice, remain a critical constraint, with maize losses estimated at 13.22% of total production, slightly lower than the 13.80% baseline in 2023. Most losses occur during harvesting (8.59%), storage (2.87%), transportation (0.79%), processing (0.67%), and sales (0.29%). To mitigate these losses, in collaboration with Catholic Relief Services (CRS), 13,638 hermetic bags (PICs) were distributed to 7153 farmer promoters and farmers.



**Photo:** Distribution of hermetic bags (PICs) to farmer promoters and farmers at Rutsiro district

In addition, 7 new maize drying shelters and 2 new rice drying grounds were constructed, while 54 post-harvest infrastructures including storage units, drying shelters, and drying grounds were rehabilitated. To further improve drying capacity, 8 mobile drying machines with a total daily capacity of 405 MT were procured, 10,728 temporary shelters were constructed and 5,000 sheets/tarpaulins were acquired to protect crops produce during drying activities. Farmers across Kirehe, Ngoma, Nyagatare, and Rutsiro districts were trained on post-harvest management through CRS initiatives and the School Feeding Program



**Photo:** Tarpaulin dispatching to the farmers and cooperatives



**Photo:** Construction of temporary shelters



**Photo:** New procured mobile dryers: assembly and testing the new dryers at masoor site



**Photo:** Training on post harvest management with FAO at Nyagatare



**Photo:** Farmer Training on Post-Harvest Handling and Product Quality (Kirehe District)



**Photo:** Reception of new mobile dryers



**Photo:** Training on postharvest at Ngoma district



**Photo:** Women from Burera district following a training session on maize post-harvest handling

Currently, country has 1,538 drying facilities (951 maize drying shelters and 587 rice drying grounds) that collectively dried 45,935 MT of crops. Additionally, 530 storage facilities (12 silos and 518 warehouses) with a total capacity of 318,025 MT support grains, roots, and tubers, while 56 mobile drying machines dried 135,630 MT. 90 cold rooms for horticultural produce are also established to reduce post-harvest losses and maintain quality.

**Table 15:** National Summary of crop-focused Post-Harvest Infrastructure and Equipment

Type of infrastructure & Equipment	Existing		New		Total	
	Number	Capacity (MT)	Number	Capacity (MT)	Number	Capacity (MT)
Maize drying shelters constructed	944	30,961	7	210	951	31,171
Rice drying ground established	585	14,714	2	50	587	14,764
Silos constructed	12	77,875	0	0	12	77,875
Warehouse	518	240,150	0	0	518	240,150
Grain Dryer machines	48	99,180	8	36,450	56	135,630

### 2.2.2 Ongoing construction of Post-Harvest Storage Facilities

By encouraging investment in modern storage facilities, the Government of Rwanda aims to reduce post-harvest losses and ensure the efficient storage of food grains. Adequate storage and processing facilities are needed to increase and stabilize farmers’ incomes, and to preserve the quality of agricultural products.

During 2024/2025, priority actions focused on improving post-harvest handling, management, and storage. Key interventions included expanding the Strategic Grain Reserve and strengthening the capacity and efficiency of existing storage infrastructure.

To support these efforts, MINAGRI has begun constructing a computerized sheet-silo plant on its parcel located in Munini Village, Masoro Cell, Ndera Sector, Gasabo District, within the Kigali Special Economic Zone. The photo below illustrates the progress of civil works for the construction of this facility.



**Photo:** The progress of civil works for the extension of a computerized sheet silos Plant in Kigali Special Economic zone (Civil works general progress is 45%).

The project is divided into two main components of **Civil works and Electromechanical and Silos Installation**.

The phase I composed with preliminary works/ preparatory works, site installation, administration block, warehouse and weighbridge foundation have been executed at 100% and have been provisionally received thus the snags are being corrected within the liability period of 12 months from the date of Provisional Handover.

The phase II composed of Civil and MEP (Mechanical, Electrical and Plumbing) works for completion of Administration Block and Warehouse, levelling works, Machinery house, Intake house, Silos foundations, Rain water harvesting tank & Retaining walls. The progress of Phase II is at 27%. Therefore, the Civil works general progress is 45%.



**Photo:** Nyagatare silos plant with storage capacity of 20,000 MT

### 2.3. Export-oriented infrastructure (Dryers, cold chain, traceability systems, certification)

Rwanda has continued to invest in export-oriented infrastructure to support the production and marketing of high-value crops such as tea, coffee, pyrethrum, patchouli, and various horticultural products. These investments aim to strengthen the agricultural value chain, improve product quality, and enhance Rwanda's competitiveness in international markets.

To improve drying capacity for specialty crops, the government set up pyrethrum solar dryers in Ngando and Gihogwe Cells in Nyabihu District, as well as patchouli dryers in Nyakabuye, Karenge, and Muhehwe in Rusizi District. These facilities were built in collaboration with NAEB/PSAC, the Rwanda Housing Authority, and districts. Their strategic placement near farming communities helps reduce transportation costs and prevents post-harvest losses by maintaining crop quality.



**Photo:** Pyrethrum S dryers constructed at Ngando site, Nyabihu district



**Photo:** The 3 Patchouli dryers constructed at Muhehwe site in Rusizi Districts

Significant progress was also made in coffee and horticulture handling infrastructure. A **coffee sorting warehouse**—currently 65% rehabilitated—now supports climate-controlled storage, grading, and quality inspections using color sorter machines. During FY 2024/25, the facility processed 1,312 MT of coffee. Meanwhile, the NAEB packhouse in Kigali handled 3,922 MT of fresh produce, with 66% exported, 27% sold locally, and 7% discarded as waste. This generated Frw 251,533,184 in revenue. Additionally, A new cold truck with 12MT capacity was acquired to increase the transport capacity and also improve the transport services from the packhouse to the Airport. All packhouse operations comply with ISO 9001:2015, HACCP, and BRC standards, ensuring high levels of food safety and product quality.



**Photo:** Packhouse and cold rooms being upgraded

Rwanda's Specialized Export Quality Infrastructure (SEQI) continued to deliver critical quality assurance services, including soil and water analysis as well as certification for export products. SEQI generated Frw 46,945,122—representing 99.88% of the targeted revenue of Frw 47,000,000. These services are essential in ensuring that Rwandan agricultural exports meet the stringent requirements of global markets.

In addition, five national post-harvest centers were under construction to support onion and chili processing for export. The National Post-Harvest

Center in Kicukiro District reached 37% completion, while Local Post-Harvest Centers recorded the following progress: Nyagatare at 41%, Rubavu at 36%, Rulindo at 17%, and Bugesera at 16.5%. Delays in Rulindo and Bugesera were mainly due to late delivery of construction materials. Mitigation measures have been introduced, and contract extensions are being implemented to ensure timely completion.

## 2.4 Diversification through export market intelligence and market penetration

Rwanda's export development agenda in FY 2024/2025 demonstrated a bold and future-focused approach to strengthening global presence, deepening market intelligence, and accelerating penetration into high-value export markets. Across coffee, horticulture, and organic product segments, the country used global platforms to position itself as a competitive and sustainable origin for premium agricultural commodities.

### 2.4.1 Global Coffee Events and Auctions

Rwanda's participation in the **World of Coffee Dubai (10–12 February 2025)** marked a strategic milestone in expanding influence within the Middle East's rapidly growing specialty coffee market. With **eight Rwandan exporters** present, the Rwanda booth remained consistently active, attracting buyers who made **immediate purchases**—a direct indicator of rising demand for Rwandan specialty coffee. A high-engagement cupping session on **10 February** enabled buyers to appreciate Rwanda's diverse flavor profiles.

Strategic partnerships emerged, including interest from **Nesil Coffee** to begin direct sourcing through **G-Step Coffee Company**, and **ROR Coffee**

**Solution's** reaffirmation of its partnership with **Farm Nyampinga**. Rwanda also operated an extended **exhibition and cupping booth from 10–15 February 2025**, showcasing premium coffees from leading cooperatives and reinforcing Rwanda's identity as a quality-driven origin.

Such engagements form the foundation for a future where Rwanda aims to secure a stronger foothold in buyer-driven markets through superior traceability, storytelling, and high-quality processing.



Photo: Conducted Rwandan Booth for exhibition and cupping session in Dubai 10-15 February 2025

## 2.4.2 Market Linkages for Horticulture (backward and forward)

Rwanda's horticulture sector advanced its global integration through participation in **Fruit Logistica, Berlin (5–7 February 2025)**—the world's leading fresh produce trade fair. A delegation of **16 exporters** showcased the "Rwanda Fresh" brand, which earned impressive visibility and reception. Productive B2B meetings created new and renewed partnerships, placing Rwanda on a clear path toward sustainable participation in Europe's fresh produce supply chains.

## 2.4.3 Essential Oils and Organic Products Expansion

NAEB supported participation in **Biofach & Vivanes** (Nuremberg, 10–13 February 2025), enabling **six Rwandan organic exporters**—including four first-time participants—to present organic foods and essential oils. Rwanda's organic products value gained visibility, leading to immediate commercial impact: **Essoil Ltd** secured a supply agreement with **Sunflag Agrotech (India)**, while several others-initiated follow-up negotiations.

A critical learning emerged: Rwanda's organic sector carries significant potential that warrants increased investment in branding, certification frameworks, and sector-wide quality assurance in order to compete in high-value natural products markets.



**Photo:** Rwandan products being exhibited at the Nuremberg Exhibition Centre in Germany 10-13 Feb.2025

## 2.5. De-commoditization of Rwandan agri exports

Rwanda's strategic shift toward de-commoditization focuses on elevating its agricultural products beyond bulk-commodity status by improving branding, strengthening buyer relationships, and positioning products within premium global markets. Strengthening marketing, branding, and value addition, as well as creating alternative selling options, will increase the market power of Rwandan producers and boost their incomes. Participation in multiple international exhibitions has created unprecedented visibility and accelerated Rwanda's presence across regions.

## 2.5.1 Trade promotion, exhibitions, supply agreements, branding campaigns



In FY2024/2025, Rwanda significantly strengthened its global agro-export presence through strategic participation in major international trade fairs. At the Salon International de l'Agriculture (SIA 2025) in Paris (22–28 February), the country was represented by 15 exporters from the coffee, horticulture, chili processing, and honey sectors. With more than 700,000 annual visitors, SIA served as a crucial gateway into European Union markets. Rwandan exhibitors promoted their high-quality products, connected with potential buyers, and demonstrated the nation's growing capacity to supply consistent and premium agricultural goods.

Earlier in the year, Rwanda took part in Fruit Logistica 2025 in Berlin (5–7 February), one of the world's largest fresh-produce exhibitions. With 2,700 exhibitors from 91 countries and 66,000 visitors from 145 nations, the event offered unparalleled access to global markets. Rwanda hosted a 60 m<sup>2</sup> booth in Hall 26, featuring 16 co-exhibitors, thereby strengthening the country's visibility and role in international fresh-produce trade.

At the International Food & Drink Event (IFE) 2025 in London (17–19 March), the UK's largest sourcing platform, Rwanda showcased 15 agro-export firms specializing in coffee, tea, horticulture, and specialty goods. Engagement with more than 30,000 buyers helped expand Rwanda's market visibility, supported impactful B2B discussions, and provided valuable market intelligence to inform future product development and innovation.



Rwanda also participated in Biofach/Vivaness 2025 in Germany (11–14 February), reflecting the country's growing involvement in global natural and organic value chains. The strongest interest centered on Rwandan organic coffee and essential oils, reaffirming the increasing international demand for the country's natural products.



The **Specialty Coffee Expo** in Houston (25-27 April) provided another key platform, enabling Rwanda to deepen its presence in the North American market. As the leading coffee event on the continent, it facilitated important interactions with roasters, importers, and retailers, reinforcing Rwanda’s reputation for exceptional specialty coffees and opening pathways for new partnerships.



Photo: NAEB Activities at the Specialty Coffee Expo FY 2024/2025 in TEXAS 25-27 April 2025

In Switzerland, a critical market that receives roughly 25% of Rwanda’s coffee exports, Rwanda’s participation in **World of Coffee Europe** in Geneva (25-28 June) proved strategically important. The delegation benefited from ITC workshops on the EU Corporate Due Diligence Regulation, met with Geneva-based roasters, presented coffees in cupping sessions on the first day of the exhibition, and collaborated with the Rwandan Embassy to refine strategies for expanding exports across Switzerland and Europe.





Finally, Rwanda's role as Partner Country at the **PTAK Warsaw Coffee Expo 2025** (27–29 May) made it the only African nation represented at the event. Exhibitors—including BAHU Coffee, RIXU Coffee, Stafford Coffee Brewers, and Rwanda Mountain Coffee—showcased the country's premium coffee and tea offerings to a broad European audience. This high-profile involvement strengthened Rwanda's footprint in the European coffee market and established momentum for future trade missions.

## 2.5.2 Strengthening local markets for export goods

### 1. Kigali International Trade Fair (27th Edition)

At the 27th edition of the Kigali International Trade Fair, held between 25th July and 15th August 2024, NAEB engaged with over 500 exhibitors from 16 countries. The focus this year shifted towards service provision rather than displaying products, allowing NAEB to connect visitors with relevant technical divisions, provide export licensing guidance, market information, and investment facilitation. This approach strengthened NAEB's visibility as a key driver of Rwanda's agri-exports while supporting investors and exporters to navigate production, value addition, and marketing processes more efficiently.

### 2. RDB One Stop Center – Agriculture Desk

NAEB's presence at the RDB One Stop Center further strengthened export facilitation services. Between October 2024 and March 2025, 87 investors and exporters visited the agriculture desk to access services such as new export licenses, license renewals, cross-border trade facilitation, and agricultural investment information. During this period, 68 export licenses were successfully issued across coffee, tea, horticulture, and cross-border sectors. Field visits were conducted to selected exporters to assess challenges, support operational improvements, and provide guidance for sustainable business growth. These interventions improved accessibility, trust, and collaboration between the government and private sector actors.

### 3. Mombasa Tea Market Performance

Rwanda's tea sector maintained strong performance in the Mombasa Tea Auction despite global economic challenges and regional disruptions. During Q4 2024/2025, Rwanda sold 8,268,438 kilos at an average price of USD 2.64, with high absorption rates of 85.7% in April, 87.2% in May, and 83.8% in June. Pakistan continued to lead as the major buyer, followed by the UK, Egypt, Kazakhstan, Ireland, Russia, UAE, and India. Premium teas, particularly well-sorted bright liquors, continued to command higher prices, reflecting strong market preference for quality Rwandan teas and the effectiveness of value addition strategies.

### 4. Expansion of Tea and Coffee Export Destinations

Rwanda achieved significant diversification of its export markets during the year. Tea exports reached 38 international destinations, up from 28 in the previous quarter, with Pakistan, UK, and Egypt as leading buyers. Rwanda Arabica coffee exports also increased both in volume and market reach, with Belgium, Switzerland, and the Netherlands as the main destinations. These expansions demonstrate Rwanda's growing international presence and strengthened market penetration for high-value agricultural products, reducing reliance on a few traditional markets.

# Chapter 3: Strengthening agri food system enablers

## 3.1 Agricultural Research and technology Transfer Systems

Agricultural Research and Technology Transfer Systems remain central to enhancing agricultural productivity, strengthening rural livelihoods, and improving national food security. During the reporting period, the agricultural research program continued to implement demand-driven research and innovation processes in which

priorities were shaped by the expressed needs of farmers, livestock keepers, and value-chain actors in general. This approach ensured that research activities, technology development, and extension interventions remained relevant, context-specific, and responsive to on-the-ground challenges.

### 3.1.1 Demand driven agricultural and animal research activities

The integration of formal scientific research with indigenous knowledge, alongside participatory technology validation and structured feedback mechanisms, guided the development and refinement of technologies aimed at improving crop and livestock performance, resource-use efficiency, and system resilience. This performance

report presents the key achievements, progress, and lessons learned from these efforts, providing evidence to inform policy decisions, guide investments, and strengthen institutional capacities for sustainable, farmer-centered agricultural development.

#### 3.1.1.1 Development of climate-resilient, high-yielding, pest and disease-resistant crop varieties

During FY 2024/2025, MINAGRI, through RAB and partners, made significant progress in developing and evaluating climate-resilient, high-yielding, and pest- and disease-resistant crop varieties. These efforts will directly contribute to food security, nutrition, and income generation, while supporting the transformation of Rwanda's agri-food systems. Key achievements include:

- **Maize:** Thirteen mid-altitude hybrids and thirty-seven high-altitude hybrids were evaluated, resulting in the identification of seven superior candidates combining drought tolerance, early maturity, and resistance to Maize Lethal Necrosis (MLN) and foliar diseases. An additional 46 new hybrids were formed for future evaluation, ensuring a strong pipeline of improved maize varieties.
- **Rice:** Eleven new long-grain varieties were tested, with six yielding over 6 t/ha compared to 3.9 t/ha from the local check. These lines also showed strong tillering and adaptability, offering prospects for productivity growth in irrigated ecologies.

- **Wheat:** Multi-location trials of 118 breeding entries advanced several lines for the next evaluation cycle, reinforcing Rwanda's strategy to strengthen wheat self-sufficiency.
- **Cassava:** Five promising clones were tested, with Mkumba/3 showing the highest yields and Eyope×Ndamira/7/2 demonstrating broad disease resistance, providing solutions against devastating Cassava Mosaic and Brown Streak diseases.
- **Irish Potato:** Collaborative breeding with CIP identified late blight-tolerant clones and biofortified clones rich in iron and zinc, simultaneously addressing productivity constraints and micronutrient deficiencies. Transgenic potato lines incorporating resistance genes from wild relatives showed near-complete resistance to late blight, pointing to game-changing potential for smallholders.
- **Beans:** Nine common bean lines (climbing and bush types) outperformed existing varieties in yield and nutritional content, particularly in iron and zinc concentration, strengthening both food and nutrition security.

- **Coffee:** National performance trials confirmed at least four new varieties with yields above 5 kg cherry/tree and cupping scores above 85, qualifying as “specialty.” These will be promoted through demo plots as part of coffee sector rejuvenation. Establishment of true-to-type coffee seed stocks with DNA fingerprinting secured the genetic integrity of planting materials.
- **Hot pepper:** Eleven introduced genotypes were tested, with HP0816 emerging as the top performer (33.3 t/ha), significantly outperforming the local control (14 t/ha).

These advances mark a major step toward delivering farmer-preferred, market-responsive varieties that enhance resilience to climate change, reduce losses from pests and diseases, and contribute to Rwanda’s strategic priorities on food security, nutrition, and export competitiveness. Details are provided in this section.

## A. Maize-focused research

### (i) Evaluation of 13 new maize hybrid varieties for mid altitudes in the seasons 2025A and 2025B

Thirteen new maize hybrids, developed from CIMMYT and RAB inbred lines, were tested alongside two commercial checks (RHM1407, RHM1409) and two released varieties (RHMM1702, RHMM1823) during the 2025A and 2025B seasons at four sites in Rwanda. The hybrids targeted drought tolerance, MLN resistance, and extra-early maturity traits. Analysis revealed significant varietal differences for silking, plant height, and grain yield ( $P < 0.001$ ). Several hybrids (e.g., RHMM2309, RHMM2313, RHMM2320) flowered (silking) earlier than checks, while RHMM2309 and RHMM2318 had the shortest anthesis-silking intervals. In terms of yield, RHMM2325, RHMM1702, and RHMM2318 outperformed the best check.

Based on earliness, disease tolerance, and yield stability across environments, three hybrids (RHMM2313, RHMM2318, RHMM2325) were selected to undergo the official release procedures.

**Table 16:** Performance of maize varieties across four mid-altitude sites in 2025A and B

No	Names	SIL	ASI	PHT	TLB	HC	ER	GY
1	RHMM1702	66.8	1.7	2.06	1.9	2.2	2.4	8.29 a+
2	RHMM1823	69.6	1.3	2.12	2.1	2.3	2.5	7.71 ab
3	RHMM2302	66.4	1.5	2.04	2.1	2.3	2.1	7.02 bc
4	RHMM2305	66.0	1.0	1.99	2.0	2.3	2.4	7.33 bc
5	RHMM2309	64.2	0.5	2.02	2.1	2.0	2.3	7.46 ab
6	RHMM2313	64.8	0.8	2.11	2.1	2.0	2.0	7.69 ab
7	RHMM2315	71.2	1.1	2.10	2.1	2.2	2.4	6.59 cd
8	RHMM2318	68.4	0.6	2.12	2.1	2.2	2.4	7.90 ab
9	RHMM2319	69.9	1.1	2.11	2.1	2.1	2.2	7.63 ab
10	RHMM2320	65.8	0.9	2.04	2.1	2.2	1.8	7.08 bc
11	RHMM2324	74.1	1.0	2.06	2.2	2.2	2.6	5.89 d
12	RHMM2325	71.0	1.1	2.24	2.1	1.8	2.1	8.78 a
13	RHMM2328	71.5	1.5	2.14	2.1	2.1	2.2	7.54 bc
14	RHM1407	68.0	1.4	2.13	2.2	2.3	2.4	7.38 bc
15	RHM1409	67.2	1.5	2.02	2.1	2.1	2.4	7.72 ab
<b>Means</b>	68.3	1.1	2.09	2.1	2.2	2.3	7.47	
<b>C.V. (%)</b>	2.4	74.8	5.1	17.5	16.3	24.8	17.4	
<b>F</b>	59.71	3.49	7.23	0.86	2.14	2.63	5.73	
<b>P</b>	<0.001	<0.001	<0.001	0.603	0.011	0.002	<0.001	

SIL: Silking (d)

PHT: Plant height (m)

HC: Husk cover (1-5)

GY: Grain yield (at 15% grain H20)

ASI: Anthesis-Silking Interval (d)

LB: (Turicum Leaf Blight (TLB) disease

ER: Ear rot (1-5)

+: Pairwise comparison using Student-Newman-Keuls Test. Values followed by the same letters are not different

## (ii) Evaluation of 37 new maize hybrid varieties for high altitudes in 2025A and 2025 B seasons

Thirty-seven new high-altitude maize hybrids, developed from CIMMYT and RAB inbred lines, were evaluated in the 2025A and 2025B seasons against three commercial checks (RHHM1520, RHHM1601, RHHM1611) at Rubona, Rwerere, Kinigi, and Tamira (2025A Season). The hybrids targeted MLN tolerance and early maturity to overcome the long growth cycle constraint in highland maize production. Combined analysis of variance revealed significant differences among varieties ( $P < 0.001$ ). Silking ranged from 96.0 days (RHHM2307) to 107.4 days (RHHM1611), with an average of 101.4 days. Twelve hybrids, including RHHM2307, RHHM2322, RHHM2305, and RHHM2326, flowered in under 100 days, confirming their earliness in high-altitude environments.

**Table 17:** Performance of maize varieties across 7 environments of high altitudes sites in 2025A

No	Names	Silking	ASI	Plant height	TLB	Husk cover	Ear rot	Grain yield
1	RHHM2301	100.9	2.8	2.11	2.3	2.2	1.8	6.182 ab+
2	RHHM2304	97.6	3.5	1.89	2.5	2.2	1.4	5.684 abcd
3	RHHM2305	96.2	2.9	1.85	2.1	2.7	1.4	6.470 a
4	RHHM2306	98.6	3.6	1.85	2.9	2.3	1.6	5.695 abcd
5	RHHM2307	96.0	3.6	1.85	2.5	1.8	1.3	6.012 abc
6	RHHM2308	101.7	3.6	1.74	1.9	2.7	1.6	6.260 ab
7	RHHM2309	106.5	3.5	1.86	2.3	1.6	1.4	5.739 abcd
8	RHHM2310	102.5	2.1	1.75	2.2	1.8	1.6	5.462 abcd
9	RHHM2311	101.2	2.5	1.69	2.3	1.8	1.6	5.940 abcd
10	RHHM2312	101.0	2.7	1.77	3.2	2.1	1.6	4.893 d
11	RHHM2313	103.7	3.9	2.01	2.5	1.8	1.3	5.882 abcd
12	RHHM2314	105.1	2.9	1.74	2.0	1.6	1.4	6.209 ab
13	RHHM2315	103.7	3.1	1.82	2.3	1.6	1.3	6.487 a
14	RHHM2316	101.0	3.9	1.77	2.8	1.7	1.2	5.022 cd
15	RHHM2317	102.6	2.9	1.97	2.0	2.0	1.4	6.138 ab
16	RHHM2318	102.2	2.3	2.02	2.3	2.3	1.7	6.532 a
17	RHHM2319	101.4	3.1	2.01	2.6	1.9	1.3	6.285 ab
18	RHHM2320	106.0	3.8	1.99	2.4	2.0	1.5	5.995 abc
19	RHHM2321	97.4	2.4	1.72	2.6	2.3	1.6	5.823 abcd
20	RHHM2322	96.1	1.8	1.78	2.2	2.3	1.4	5.963 abc
21	RHHM2323	100.1	3.0	1.81	3.0	2.9	1.9	5.650 abcd
22	RHHM2324	97.0	3.2	1.75	2.7	1.9	1.7	5.303 bcd
23	RHHM2325	96.8	2.8	1.78	2.8	1.8	1.5	4.978 cd
24	RHHM2326	96.7	2.4	1.62	2.6	1.7	1.6	5.269 bcd
25	RHHM2327	103.1	3.0	1.69	1.9	2.7	1.5	5.895 abcd
26	RHHM2328	106.9	3.3	1.76	2.2	1.5	1.6	5.725 abcd
27	RHHM2329	101.8	2.3	1.75	2.4	1.6	1.4	5.556 abcd
28	RHHM2330	100.6	2.8	1.76	2.4	2.2	1.5	5.651 abcd
29	RHHM2331	99.1	2.2	1.69	3.1	2.1	1.5	4.881 d
30	RHHM2332	101.3	2.5	1.92	2.5	1.7	1.5	5.535 abcd
31	RHHM2333	105.9	2.6	1.64	2.4	1.6	1.6	6.106 ab

32	RHMH2334	104.3	2.7	1.69	2.2	1.7	1.4	5.836 abcd
33	RHMH2335	100.6	3.4	1.78	2.5	1.6	1.2	5.488 abcd
34	RHMH2336	102.0	2.6	1.88	2.2	2.2	1.5	6.240 ab
35	RHMH2337	98.3	3.0	1.94	2.3	2.2	1.4	6.564 a
36	RHMH2338	98.5	3.3	2.04	2.4	2.1	1.4	6.057 abc
37	RHMH2339	101.2	3.0	2.03	1.7	2.2	1.5	6.386 a
38	RHMH1520	107.2	3.7	1.91	2.2	2.1	1.4	5.697 abcd
39	RHMH1601	104.6	3.1	1.90	2.2	1.8	1.3	6.397 a
40	RHMH1611	107.4	3.5	1.88	2.6	1.9	1.4	5.603 abcd
Means	101.4	3.0	1.84	2.4	2.0	1.5	5.837	
C.V. (%)	2.4	35.4	8.0	15.2	22.3	30.0	16.3	
F	37.40	5.19	14.41	13.27	13.03	2.43	4.77	
P	<.001	<.001	<.001	<.001	<.001	<.001	<.001	

ASI: Anthesis-Silking Interval

TLB: Turicum Leaf Blight disease

+: Pairwise comparison using Student-Newman-Keuls test. Values followed by the same letters are not different

ASI ranged from 1.8 to 3.9 days (average 3.0), with seven varieties (e.g., RHMH2322, RHMH2310) showing desirable ASI <2.5 days. High ASIs superior to 3.5 days are not desirable because the pollen will not meet the silks for fecundation. Plant height varied from 1.62 m to 2.11 m (average 1.84 m), with several hybrids exceeding 1.90 m. TLB severity scores ranged between 1.7 and 3.2 (average 2.4), with six varieties, including RHMH2339 and RHMH2305, showing low susceptibility (<2.2). Grain yields spanned 4.88–6.56 MT/ha (average 5.84), with RHMH2337, RHMH2318, RHMH2315, and RHMH2305 outperforming the best check (RHMH1601). Based on earliness and superior yield, four varieties (RHMH2305, RHMH2318, RHMH2337, RHMH2339) were selected to undergo the official release.

### (iii) Formation of 13 new maize hybrid varieties for mid altitudes and their subsequent evaluation in 2025A and 2025B seasons

Thirteen new maize hybrid varieties were generated using CIMMYT and RAB inbred lines. The targeted traits were extra-early maturity, Maize Lethal Necrosis (MLN) disease tolerance, drought tolerance and maize foliar diseases resistant with emphasis on Turicum Leaf Blight (TLB), Maize Streak Virus (MSV) and Grey Leaf Spot (GLS) diseases (Table 3). These new varieties will be evaluated in 2026 A and 2026 B seasons.

**Table 18:** Thirteen new maize hybrid varieties for mid altitudes generated using CIMMYT and RAB inbred lines

No	Names	P1	P2	P3	Specific trait
1	RHMM2306	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, foliar disease resistant
2	RHMM2323	CIMMYT	CIMMYT	CIMMYT	Extra-early maturity, MLN tolerant, drought tolerant, maize foliar diseases resistant
3	RHMM2327	CIMMYT	CIMMYT	CIMMYT	Extra-early maturity, MLN tolerant, foliar disease resistant
4	RHMM 2402	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, foliar disease resistant
5	RHMM2405	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, drought tolerant, maize foliar diseases resistant
6	RHMM2407	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, drought tolerant, maize foliar diseases resistant

7	RHMM2411	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, foliar disease resistant
8	RHMM2413	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, foliar disease resistant
9	RHMM2415	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, foliar disease resistant
10	RMMM2326	CIMMYT	CIMMYT	RAB	Extra-early, MLN tolerant, drought tolerant
11	RMMM2305	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, foliar disease resistant
12	RMMM2310	CIMMYT	CIMMYT	RAB	Extra-early maturity, MLN tolerant, foliar disease resistant
13	RMMM2331	CIMMYT	CIMMYT	RAB	TLB and MSV resistance, drought tolerant

#### (iv) Formation of thirty-three new maize hybrid varieties for high altitudes

Thirty-three new maize hybrid varieties for high altitudes were generated using CIMMYT and RAB inbred lines. The targeted traits were MLN tolerance, extra-early maturity and early maturity. These new maize hybrid varieties will be evaluated in 2026 A and 2026 B seasons.

#### B. Rice-focused research (Evaluation of eleven long grain rice varieties)

The evaluation in adaptability trials of eleven new long grain rice varieties was conducted in Cyili (Gisagara District) and Cyimpima (Rwamagana

District) sites in comparison with one check: Kigoli 89-2. The results showed that six varieties: KF220016, KF220042, KF 220059, KF220070, KF220130 were highly yielding with a yield superior to 6 t/ha whereas six other varieties KF220058, KF220155, KF220141, KF220156, KF220030 and KF20131 had a yield superior to 5 t/ha. Furthermore, these lines were characterized by a high tillering ability superior to 15 panicles per plant. The maturity of the tested lines was quite good for a high elevation ecology with a duration ranging between 135-150 days. All lines were long grain type except KF220156 which was recorded as short grain.

**Table 19:** Evaluation of eleven new long grain rice varieties in adaptability trials

No	Name	Grain yield (paddy) (t/ha)	Plant height (cm)	Panicle length (cm)	Number of panicles per plants	Maturity (day)	Grain shape
1	KF220059	7.94	102.6	21.2	15.2	143	Long
2	KF220058	5.95	100.8	17.2	16.4	143	Long
3	KF220155	5.95	117.3	22.6	19.4 0	137	Long
4	KF220042	7.94	108.8	22.4	17.6	137	Long
5	KF220141	5.95	103.7	19.4	16.2	137	Long
6	KF220156	5.95	111.4	18.8	15.8	135	Short
7	KF220016	6.94	102.2	21.3	21.0	137	Long
8	KF220130	6.94	110.6	21.0	23.2	137	Long
9	KF220030	5.95	108.4	20.2	19.2	137	Long
10	KF220070	6.94	100.8	20.8	16.5	137	Long
11	KF220131	5.95	116.5	21.6	20.6	137	Long
12	KIGOLI 89-2	3.97	102.3	18.8	18.6	137	Short

### C-Wheat-focused research (New wheat populations in multi-location trials)

Multi-location trials were conducted on the populations and lines selected from previous nurseries and trails introduced from CIMMYT-Mexico. The trials were conducted in Rwerere, Kiningi and Musanze sites. In each type of nursery, the variety Gihundo was used as check. After data analysis, very few entries in each population will be selected to undergo the next cycle of evaluation.

**Table 20:** Number of wheat entries from nurseries and trials introduced from CIMMYT and evaluated in Rwanda

No	Nursery name	Entries evaluated
1	SAWYT (23rd, 24th, 26th, 27th)	9
2	IBWSN (50th, 51st, 52nd)	8
3	STEMRRSN (11th, 13th, 14th)	13
4	ESWYT (36th, 37th, 39th)	12
5	ESWYT (40th, 41st, 42nd)	11
6	HRWYT (25th, 27th)	8
7	HRWYT (29th)	6
8	SAWSN & HRWSN	7
9	IDYN (51st & 53rd)	6
10	11th HPYT, 9th HPYT, 10th HPAN & 12th HZWYT	7
11	16th STEMRRSN	6
12	12th HPAN	7
13	43rd ESWYT	14
14	Advanced breeding populations	4
<b>Total</b>	118	

### D. Cassava-focused research

Cassava is vital for food security and rural livelihoods in Rwanda but faces major yield losses (20–70%) from Cassava Mosaic and Brown Streak diseases. To address this, RAB advanced breeding efforts in FY 24/25, evaluating five promising clones (Mkumba/2, NASE14/1, NAM130, Eyope×Ndamira/7/2, Mkumba/3) across key cassava-growing regions. Trials showed strong genotype × environment interactions, with NAM130 (25.6 t/ha) as the performance benchmark. Mkumba/3 demonstrated

the highest yield potential, surpassing the control by 17–150% at Rubona and Mututu but with variable stability. Eyope×Ndamira/7/2 consistently yielded 90–96% of the control while showing superior resistance to CMD and CBD. In contrast, Mkumba/2 and NASE14/1 underperformed with lower yields and higher disease susceptibility. Findings suggest Mkumba/3 is suitable for site-specific deployment where yield maximization is prioritized, while Eyope×Ndamira/7/2 is recommended for broad cultivation in disease-prone areas.

**Table 21:** Genotype × Environment (G×E) interaction analysis for cassava future candidate varieties

Clones (future candidates)	Sites	CMDi	CMDs	CBSDi	CBSDs	# Harv	# Roots	Yld (t/ha)
<b>Mkumba/2</b>	Rubona	0	1	2	3	10	102	26.4
	Nemba	0	1	0	1	10	57	11
	Mututu	0	1	5.6	3	10	81	28.1
<b>NASE14/1</b>	Rubona	0	1	5.7	3.5	10	106	26.3
	Nemba	0	1	0	1	10	87	19.6
	Mututu	0	1	9.1	3.1	10	35	11.8

NAM130	Rubona	3.2	3	4	3	10	95	37.9
	Nemba	1	3	0	1	10	66	21.5
	Mututu	1	3	2.7	3	10	54	17.3
EyopexNdamira/7/2	Rubona	0	1	0	1	10	76	36.2
	Nemba	0	1	0	1	10	57	16.5
	Mututu	0	1	0	1	10	70	20.9
Mkumba/3	Rubona	1	2.5	0	1	10	91	44.2
	Nemba	0	1	0	1	10	84	18.2
	Mututu	0	1	6.2	3	10	63	43.3

CMDi: Cassava Mosaic Disease incidence, CMDs: Cassava Mosaic Disease Severity, CBSDi: Cassava Brown Streak Diseases Incidence, CBSDs: Cassava Brown Streak Diseases Severity

### E. Irish potato-focused research

Cassava is vital for food security and rural livelihoods Irish potato is a vital food security and income crop in Rwanda, particularly in highland regions where it is a staple for smallholder farmers. Production is, however, constrained by late blight disease, which can cause yield losses of up to 60%, undermining food security and farmer livelihoods. At the same time, micronutrient deficiencies such as iron and zinc deficiency remain widespread in the population, creating an opportunity to use biofortified potato varieties to address both nutritional and food security needs.

In FY 24/25, RAB, in collaboration with the International Potato Center (CIP), advanced breeding efforts to develop potato varieties that combine late blight resistance with enhanced nutritional quality. Resistance breeding incorporated genes from wild potato relatives to reduce dependence on fungicides, while biofortification targeted improved

iron and zinc content to combat micronutrient malnutrition. These initiatives reflect a dual strategy to sustainably improve productivity and contribute to public health outcomes in Rwanda.

National trials evaluated three groups of materials: conventional late blight-tolerant clones, biofortified tetraploid clones, and transgenic late blight-resistant lines. Results confirmed strong potential for late blight-resistant clones (CIP392617.54, CIP396031.119, CIP393371.164) and biofortified clones (CIP312721.169, CIP312621.069, CIP312735.253, CIP312682.042, CIP312721.286), which demonstrated both agronomic and nutritional advantages. These candidate varieties are recommended for advancement to seed bulking and variety registration, offering Rwanda's smallholder farmers sustainable tools to boost yields, reduce disease vulnerability, and improve household nutrition.

**Table 22:** Late Blight Tolerant Potato Clones

No	Clone Name	Yield (t/ha)	Advantages	Additional Info
1	CIP392617.54	46.81	Suitable for home cooking	Tolerant to late blight
2	CIP396031.119	30.45	Suitable for home cooking	Tolerant to late blight
3	CIP393371.164	29.54	Processing and home cooking	Tolerant to late blight
4	CIP398208.704	-	Processing and home cooking	Tolerant to late blight
5	CIP38876.1	-	Processing and home cooking	Tolerant to late blight

This table presents five clones with known tolerance to late blight, a major disease affecting potato crops. CIP392617.54 stands out with the highest yield (46.81 t/haa), making it ideal for household consumption. CIP393371.164 offers dual utility for both home and industrial processing. Two clones (CIP398208.704 and CIP38876.1) lack current yield data, indicating they are still under evaluation.

**Table 23:** Biofortified Tetraploid Potato Clones

No	Clone ID	TTYA (t/ha)	Fe (mg/kg)	Zn (mg/kg)	Dry Matter (%)
1	CIP312721.169	18.46	18.0	30.4	22.3
2	CIP312621.069	17.72	21.6	32.1	23.05
3	CIP312735.253	18.79	18.9	36.7	25.33
4	CIP312682.042	18.54	21.2	32.9	20.77
5	CIP312721.286	15.49	18.5	30.2	23.81

This table highlights five clones bred for enhanced micronutrient content (iron and zinc) and dry matter. CIP312735.253 has the highest zinc content (36.7 mg/kg), which is critical for addressing micronutrient deficiencies. CIP312621.069 leads in iron content (21.6 mg/kg), making it a strong candidate for nutritional interventions. All clones have dry matter content above 20%, suitable for consumer preference and processing.

Biotech late blight-resistant potatoes. Late blight (*Phytophthora infestans*) remains a major constraint, causing up to 60% yield loss in severe outbreaks. Current fungicide-based control is costly, variable in effectiveness, and environmentally risky. Scientists from Michigan State University and

the International Potato Center (CIP) developed potatoes with three late blight resistance (R) genes from wild relatives, incorporated into varieties including Shanghi (Ndamira) and Victoria, which are widely grown in Rwanda. The transgenic lines demonstrated near-complete resistance, with Vic.185 showing 0% infection and Sha.105 only minimal infection ( $\leq 4.67\%$ ), compared to high disease incidence in conventional checks, where Victoria suffered up to 76.67% foliage damage. Agronomic performance also favored the biotech lines: Sha.105 produced the highest tubers per plant, while Vic.185 yielded the largest proportion of large tubers and the highest economic return per hectare, making both strong candidates for deployment in Rwanda.

**Table 24:** Late Blight Resistance

Rank	Genotype	Resistance score	AUDPC	Avg, Lb incidence (%)	Avg.disease foliage (%)	Max. LB Incidence	Max. disease foliage (%)
1	Vic.185	0.00	0.00	0.00	0.00	0.00	0.00
2	Sha.105	1.18	4.67	0.7	0.24	4.67	1.67
3	Cruza	30.28	233.28	35.1	1.90	65.67	3.33
4	Shanghi	57.56	386.90	56.3	6.05	88.70	16.00
5	Victoria	173.34	508.47	80.5	39.14	100.00	76.67

Note: Resistance Score: Weighted composite of LB incidence and diseased foliage (the lower the score, the better is the resistance), AUDPC: Area Under Disease Progress Curve - measures cumulative disease over time (the Lower the score, the better is the resistance).

## F. Bean-focused research

National Performance Trials (NPTs) of 5 climber lines (RWVR 6920, RWVR 6034, RWVR 6536, RWVR 6538 and RWVR 6541) and 4 bush lines (RWR 6061, RWR 6063, RWR 6065, and RWR 6069) were established in different agro-ecological zones of the country. Those lines were compared to RAB improved common bean varieties (MBC23, RWV1129 and NUA 566) and a local variety as checks and were evaluated in RAB research stations and in On-farm sites covering the major common bean growing

areas. All the 9 lines showed significant differences ( $p \leq 0.05$ ) on the major traits evaluated (grain yield, plant heights, days to 50% flowering, number of pods per plant, number of seeds per pod, days to maturity and disease score). Across the sites, the 9 common bean lines outperformed the RAB improved common bean varieties as well as the local check for most of the traits evaluated. The 9 tested common bean lines are adapted to major common bean growing areas in Rwanda, and the results from the trials provide enough information to recommend them for release.

**Table 23:** Mean Yield (kg/ha) of tested bush genotypes

Environment	Local check	RAB check	RWR 6061	RWR 6063	RWR 6065	RWR 6069	Max. disease foliage (%)
Nyagatare	1178.2	2356.3	2356.3	2356.3	2356.3	2356.3	0.00
Rubona	1642.4	2732.2	3691.2	2366.9	2212.6	2184.3	1.67
Rubungo	3203.8	2640.5	2184.0	3218.4	3526.2	3555.1	3.33
Min Yield	1178.2	2356.3	2184.0	2356.3	2212.6	2184.3	16.00
Max Yield	3203.8	2732.2	3691.2	3218.4	3526.2	3555.1	76.67
Mean Yield	2008.1	2576.3	2743.8	2647.2	2698.4	2698.6	

**Table 24:** Mean Yield (kg/ha) of tested Climbing bean genotypes

Environment	Local check	RAB check	RWR 6020	RWR 6034	RWR 6536	RWR 6538	RWVR 6541
Burera/Cyanika	1826.1	2120.7	4241.4	3063.2	3298.9	3652.3	3534.5
Gahunga site	1708.3	2120.7	4241.4	3063.2	3298.9	3652.3	3534.5
Gakenke/Gakenke Sector	2827.6	2002.9	3416.7	2650.9	2297.4	2297.4	2415.2
Kagamba /Gicumbi	1885.1	2179.6	2827.6	2945.4	2945.4	3416.7	3534.5
Karongi/Rubengera Sector	2898.3	2073.6	3416.7	2721.6	2368.1	2368.1	2485.9
Karongi/Twumba Sector	2827.6	3181.0	3628.7	3593.4	3475.6	3416.7	3357.8
Musanze/Cyuve Sector	2945.4	3298.9	4123.6	3946.8	2415.2	2415.2	2533.0
Musanze/Kinig Sector	2827.6	3181.0	3298.9	2945.4	3770.1	3817.2	2709.8
Musanze/Muhoza Sector	3181.0	3298.9	3416.7	3004.3	3829.0	3829.0	2768.7
Ngororero/Ngororero Sector	3157.5	2332.8	2073.6	2980.7	2627.3	2627.3	2745.1
Nyabihu/Rugera Sector	3039.7	2214.9	2097.1	2862.9	2509.5	2509.5	2627.3
Nyagatare	5183.9	6833.3	4594.8	6362.1	7069.0	6362.1	6715.5
Rubavu/Rubavu	1531.6	3534.5	3416.7	3239.9	3063.2	3534.5	3416.7
Rubavu/Rubavu Sector	3039.7	2214.9	2097.1	2862.9	2509.5	2509.5	2627.3
Rubavu/Rugerero Sector	3122.1	2356.3	2238.5	2945.4	2650.9	2639.1	2768.7
Rubona/Huye	3387.2	3681.8	2503.6	6185.3	3976.3	5301.7	4712.6
Rubungo	2557.4	3522.7	2102.7	3471.9	2673.2	3060.5	3741.8
Rulindo/Rusiga Sector	3004.3	2179.6	2061.8	2827.6	2474.1	2474.1	2592.0
Rutsiro/Gihango Sector	3063.2	2238.5	2120.7	2886.5	2533.0	2533.0	2650.9
Rutsiro/Rufungo Sector	2933.6	3287.1	3063.2	2756.9	2403.4	2403.4	2521.3
Rwerere	6597.7	4182.5	6892.2	6421.0	6362.1	5890.8	5301.7
Min Yield	1531.6	2002.9	2061.8	2650.9	2297.4	2297.4	2415.2
Max Yield	6597.7	6833.3	6892.2	6421.0	7069.0	6362.1	6715.5
Mean Yield	3025.9	2954.1	3232.1	3511.3	3264.3	3367.2	3299.7

The best climbing bean variety was **RWVR 6536** which recorded a high Fe content of 107ppm with an overall mean of 96ppm, while the RAB check recorded a potential of 71ppm and a mean of 62.9ppm. For bush bean, the variety, **RWR6061** had a potential Fe content of 66.5ppm and a mean of 65.3ppm while the RAB check recorded a potential of 62.6ppm and a mean of 60.8ppm.

**Table 25:** Mean Fe and Zn content (ppm) of tested Bush genotypes

Location	Local check		RAB check		RWR 6061		RWR 6063		RWR 6065		RWR 6069	
	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn
Ngoma	55.4	25.6	59.9	25	66.5	28.0	58.3	27.0	61.3	31.8	65.1	29.0
Nyagatare	55.4	25.6	59.9	25	66.5	28.0	58.3	27.0	61.3	31.8	65.1	29.0
Rubona	54.8	27.3	62.6	22.8	63.0	28.6	55.8	26.5	59.0	31.8	64.3	28.8
Min	54.8	25.6	59.9	22.8	63	28	55.8	26.5	59	31.8	64.3	28.8
Max	55.4	27.3	62.6	25	66.5	28.6	58.3	27	61.3	31.8	65.1	29
Mean	55.2	26.2	60.8	24.3	65.3	28.2	57.5	26.8	60.5	31.8	64.8	28.9

**Table 26:** Mean Fe and Zn content of tested Climbing genotypes

Location	Local check		RAB check		RWV 6920		RWVR 6034		RWVR 6536		RWVR 6538		RWVR 6541	
	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn
Musanze	58.4	28.1	61.4	29.2	80.5	32.0	98.7	35	95.2	36.7	90.4	32.5	92.4	32.1
Ngoma	58.6	28.4	64.6	30.1	71.1	31.8	84.0	32	92.4	35.0	79.5	30.6	77.6	31.5
Nyagatare	55.0	28.3	61.3	27.4	75.9	30.1	79.2	30.6	80.6	34.6	89.2	32.1	80.2	35.5
Rubona	53.4	30.3	56.2	28.6	66.6	33.5	95.2	35	104.2	46.7	90.4	34.7	89.3	35.5
Rwerere	61.4	28.7	71.2	31.5	72.4	26.7	86.2	32	107.6	35.0	98.2	32.0	90.2	31.6
Min	53.4	28.1	56.2	27.4	66.6	26.7	79.2	30.6	80.6	34.6	79.5	30.6	77.6	31.5
Max	61.4	30.3	71.2	31.5	80.5	33.5	98.7	35	107.6	46.7	98.2	34.7	92.4	35.5
Mean Fe	57.36	28.76	62.94	29.36	73.3	30.82	88.66	32.92	96	37.6	89.54	32.38	85.94	33.24

## H. Coffee-focused research

### (i) Promotion of new coffee varieties through demo-plots

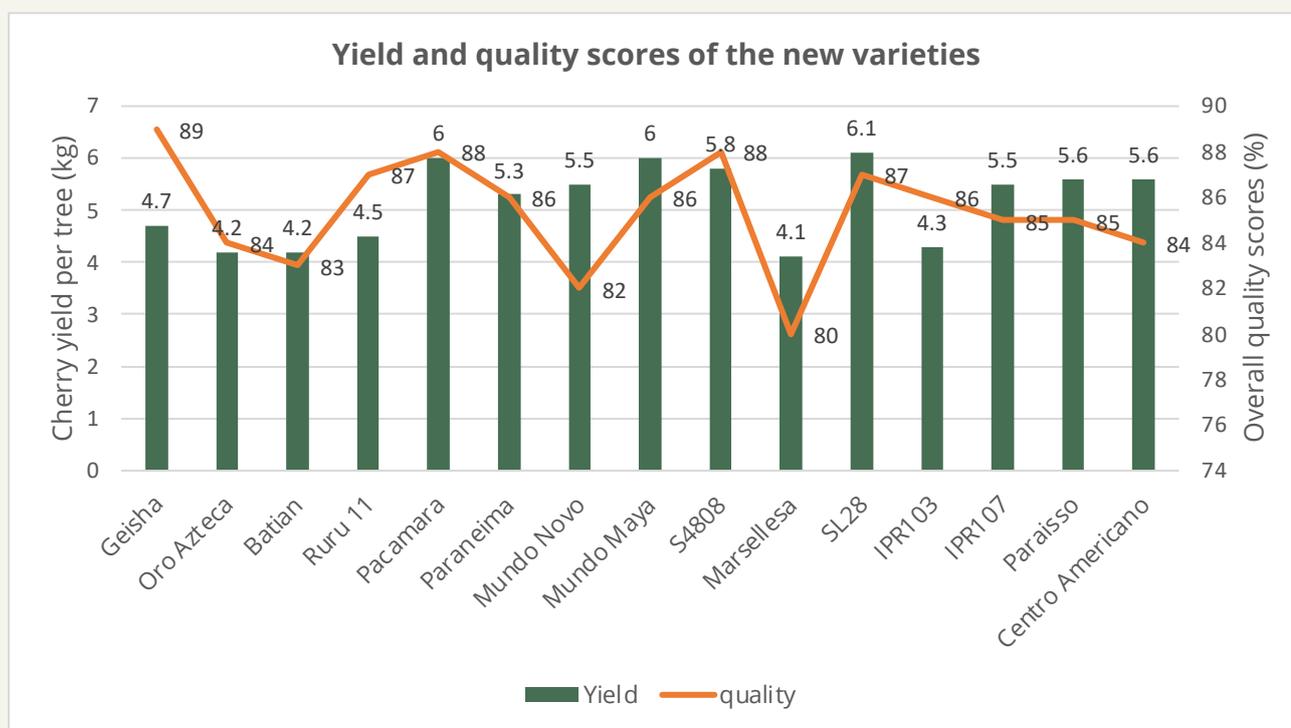
Over the past five years, several improved coffee varieties have been evaluated in Rwanda for yield potential, quality attributes, and tolerance to multiple stresses across diverse agro-ecological zones. Despite these efforts, the majority of farmers continue to grow older, less productive varieties, which limit both yield and quality. In FY 2024/2025, the coffee breeding program under RAB identified promising new varieties that could replace obsolete ones as part of the national coffee rejuvenation program, directly contributing to Priority Area 8 of NST2 (boosting exports).

Season B of 2025 marked the completion of the National Performance Trials (NPT), whose results will guide the research team and relevant authorities in drawing conclusions and recommendations for DUS and VCU evaluations within the variety registration process.

In line with Rwanda's coffee farming systems, the promotion of new varieties will leverage demonstration plots to enhance farmer adoption. Following the completion of performance evaluations, the NPT sites will be converted into demo plots in Huye, Ngoma, Nyamasheke, and Nyabihu Districts. These will serve as learning platforms where farmers can observe first-hand the higher yields, improved disease resistance, and superior quality of the new coffee varieties.



**Figure:** Phenotypic appearance of Some of coffee varieties subjected to variety promotion



**Figure:** For the sake of market responsiveness best coffee varieties must combine good cherry yield per tree and good quality attributes

The Specialty Coffee Association of America (SCAA) evaluates coffee quality using a standardized cupping score on a 100-point scale, where scores of 80 and above classify a coffee as “specialty.” Within this system, scores of 80–84.99 are rated as Very Good – Specialty, 85–89.99 as Excellent – Specialty, and 90–100 as Outstanding – Specialty. The score reflects multiple sensory attributes including flavor, aroma, and overall cup experience. Cupping results revealed that at least four varieties met consumer preferences, combining high yields (above 5 kg of cherry per tree) with excellent quality scores above 85. These included Mundo Novo,

Mundo Maya, SL28, and IPR 107. In addition, Centro Americano also performed strongly, meeting both yield and quality benchmarks. Three further varieties—Geisha, Pacamara, S4808, and Paraneima—recorded excellent specialty coffee scores, though their yields were slightly below 5 kg per tree. Despite variations in yield performance, all nine varieties demonstrated strong potential for Rwanda’s specialty coffee market. Moving forward, deployment strategies will prioritize not only yield and cup quality but also disease resistance, to reduce production costs and maximize farmers’ net returns.

### **(ii) Establishment of true to type coffee seed stocks**

Functioning seed systems are central to reducing farmer risk and enhancing value. Strengthening seed value chains that deliver healthy, vigorous, and disease-resistant plants enables farmers to secure long-term productivity and improved quality throughout the life of the coffee tree. The vision of the coffee research program under RAB is to ensure that superior planting materials are both available and accessible across Rwanda's coffee-growing zones through the establishment of true-to-type and genetically pure field seed stocks (seed mother gardens).

In line with this vision, during the 2024/2025 performance period, four new seed stocks were established: two at Rubona, one at Mwito, and one at Ngoma stations. To guarantee purity, these seed lots underwent DNA fingerprinting using single nucleotide polymorphism (SNP) technology. The DNA fingerprinting results confirmed genetic integrity and will serve as a benchmark for strengthening Rwanda's coffee seed sector. This achievement provides a strong foundation for sustaining the country's coffee supply chain, ensuring that farmers access high-quality planting material in the years to come.



**Figure:** One of newly established coffee seed stock at Rubona and the process of seed purification (removal of offtypes) based on DNA fingerprinting.

### **(iii) True to type basic coffee seeds produced and distributed to nursery operators**

Even if the major coffee seed harvest season happens in Season B, RAB has already established 6 ha of genetically pure seedlots at Rubona, Ntendezi and Ngoma stations. During the course of 2024/2025 performance period, activities focused on maintenance of the seed lots, harvesting and processing seeds to ensure good quality seeds from commercial varieties. The annual performance was 4800 kg of genetically pure seeds produced which equivalent to 90% of the target.

This amount of seeds is equivalent to 13,500,000 seedlings comprising of climate resilient varieties (BM 139, Jackson 1257 and RABC 15) and will be mainstreamed into the coffee rejuvenation programme. The list of coffee nursery operators is being updated and will be added to this report or in the annual report.

## I. Hot pepper -focused research

Hot pepper (*Capsicum* spp.) is a high-value horticultural crop with strong economic, nutritional, and medicinal importance, offering Rwanda opportunities to improve rural livelihoods, diversify production, and increase export revenues. Despite this potential, production remains underdeveloped due to low yields and limited availability of resilient varieties adapted to local agro-ecological conditions. Introducing and evaluating improved varieties with higher yield potential, disease resistance, and climate adaptability is therefore essential to strengthen value chains, expand farmer incomes, and enhance food security.

During FY 2024/2025, RAB evaluated eleven introduced hot pepper genotypes (all *Capsicum* annum) sourced from the World Vegetable

Center, Taiwan, alongside the local control variety, Long Cayenne. The trials aimed to identify high-performing varieties suitable for future release and wider adoption. Results showed highly significant differences among varieties for fruit number, yield per plant, yield per plot, and yield per hectare ( $P < 0.0001$ ). HP0816 was the best performer across all parameters, averaging 261 fruits per plant, 919 g per plant, 21.6 kg per plot, and 33.3 t/ha, highlighting its strong potential for adoption in Rwanda. Other varieties such as HP2004, HP23094, and HP2001 also outperformed the local control, which yielded only 522 g per plant, 9.1 kg per plot, and 14 t/ha. In contrast, HP23118 exhibited the lowest yield (5.0 kg per plot), indicating limited suitability for local conditions. These findings provide a solid foundation for selecting promising hot pepper varieties to boost productivity and competitiveness in Rwanda's horticultural sector.

**Table 27:** Yield performance of introduced hot pepper varieties evaluated in Rubona Station during season 2025B

No	Variety	Fruit number/plant	Yield/plant (g)	Yield/plot (kg)
1	HP22072	146bdc	440dc	9bc
2	HP1337	84ed	612bc	7.8bc
3	HP0816	261a	919a	21.6a
4	HP2004	202ba	758ba	13.8b
5	HP23094	151bdc	713bac	13.1b
6	HP2009	121edc	566bc	11.7bc
7	HP1342	94ed	643bac	13.2b
8	HP2001	97ed	696bac	14.6ba
9	HP23118	59e	258d	5.0c
10	HP2005	92ed	518bdc	11.9bc
11	HP23127	137bedc	440dc	8.6bc
12	Cayenne (Control)	185bac	522bdc	9.1bc
	P Value	<.0001	<.0001	<.0001

These findings suggest that some of the introduced varieties, particularly HP0816, have promising agronomic potential and could significantly enhance hot pepper production if adopted. Further steps include multi-location and multi-season evaluations to confirm the stability and adaptability of the promising varieties before large-scale promotion.



Data collection on trial for evaluation of introduced hot pepper genotypes in Rubona station



Photo. Introduced hot pepper lines planted in greenhouse for seed increase in Rubona station

### 3.1.1.2 Animal Breeding for improved productivity, disease resistance, and adaptability

#### A. Ruminant Program

##### (i) Energy, protein, dry matter, and water gap analysis in dairy cows kept under cut and carry fodder-based feeding systems

A study was conducted to determine the dry matter, water, protein, and energy intake of lactating dairy cows and compared with their requirements for potential milk production under a cut-and-carry fodder-based feeding system in Rwanda's lowland and highland regions. Ninety-six dairy cows from 96 smallholder farms were purposively included in the data collection process. Data on feed characterization were computed using the Farm DESIGN models while data on cows' production requirements were calculated using LIGAPS dairy models. Data were analysed using descriptive statistics and a General Linear Model (GLM) with univariate analysis in the Statistical Package for Social Sciences (SPSS).

Results on feed characteristics showed that the mean nutritive value of the served fodder was 25% DM, 58.5% NDF, 9.8% CP, and 6 MJ of metabolizable energy (ME) per kg DM. Results showed the mean daily DM intake was 9 kg, daily water intake 35 litres (L), 898 g of CP, and 55 MJ of ME, resulting in mean daily milk production of 8.8L across both regions. However, the calculated average requirement for maintaining a dairy cow with a body weight of 430 kg and potential milk production of 16.5 L per day was 15 kg of DM, 57 L of water, 1 907g of CP, and 137 MJ of ME.

This resulted in daily deficits of 6 kg DM, 21.6 L of water, 1 094 g of CP, and 83.7 MJ of ME. Available fodder was low in quantity and quality for the provision of nutrients for maintenance and production to express the genetic potential of lactating cows in smallholder farms.

##### (ii) Effect of regions on milk gap and nutrient intake gap of lactating dairy cows in smallholder farms Rwanda

The body weight, milk and nutrient gaps in the study areas is shown in Table 1. The mean body weight of lactating dairy cows in the lowlands (447 kg) was significantly higher than in the highlands (398 kg). Based on body weight, lactating cows of the lowlands required higher DMI (15.6 kg), higher ME intake (58 MJ/day), and higher CP intake (607 g/day) for their body maintenance compared to those in the highlands. In contrast, lactating cows in the highlands had significantly higher potential milk production (17.5 L) than in the lowlands (16 L). Therefore, lactating cows in the highlands required higher ME (85 MJ) and higher CP (1 391 g/day) to sustain their potential milk production than did the lowlands with significant differences ( $P < 0.05$ ). The nutrient content of composite feeds served to lactating dairy cows in the highlands (55% NDF, 11.6% CP and 7 MJ/day) was better compared to composite feeds served to the lowlands (60% NDF, 9% CP and 5.5 MJ per day) and the difference was significant ( $P < 0.05$ ).

**Table 28:** Effect of agro-ecology on milk and nutrient intake gaps of lactating dairy cows in smallholder farms Rwanda

Variables (Units)	Lowlands		Highlands		Total	F	P
	Mean	N	Mean	N			
Cow age (years)	6.6	66		30	6.6		
Cow parity (number)	3.3	66	2.3	27	3.0	5.851	0.018*
Cow BW (kg)	446.8	66	398.5	30	431.7	6.473	0.013*
Milk yield and gap							
Days in milk (day)	138.9	66	153.6	30	143.5	0.359	0.551
Milk suckled by calf (L/day) <sup>1</sup>	2.8	66	2.8	30	2.8	0.014	0.906
Hand milked (L/day) <sup>2</sup>	6.2	66	5.8	30	6	0.401	0.528
Total milk yield (L/day) <sup>1</sup>	8.9	66	8.6	30	8.8	0.142	0.707
Potential milk (L/day) <sup>1</sup>	16	66	17.5	30	16.5	8.545	0.004*
Gap milk (L/day) <sup>3</sup>	7	66	9	30	7.6	3.962	0.049
Percentage gap milk (day) <sup>3</sup>	43.2	66	51.2	30	45.7	1.981	0.163

<b>Water supply and gap</b>							
Water per day (L/day)	34.9	66	35.5	23	35.1	0.025	0.876
Water requirement (L/day)	57.6	66	54.3	23	56.7	3.756	0.056
Gap water (L)	22.7	66	18.6	23	21.6	1.042	0.31
Percentage water gap	40	66	33.2	23	38.3	0.941	0.335
<b>DM supply and gap</b>							
DM intake (kg/day)	9.1	66	8.9	30	9.1	0.117	0.733
DMIR (kg/day)	15.6	66	14	30	15.1	6.147	0.015*
DM intake gap (kg/day)	6.5	66	5	30	6	7.419	0.008*
Percentage DM intake gap (day)	41.7	66	34	30	39.3	4.66	0.033*
<b>ME supply and gap</b>							
ME intake (MJ/day)	50.9	48	61.9	30	55.2	4.493	0.037*
MEM (MJ/day)	57.9	50	52.4	30	55.8	9.36	0.003*
MEPM (MJ/day)	79.4	50	85.2	30	81.6	5.307	0.024*
MEM+MEPM (MJ/day)	137.4	50	137.6	30	137.5	0.004	0.951
Gap ME (MJ/day)	88.5	50	75.6	30	83.7	4.658	0.034*
Percentage ME gap (day)	64.3	50	54.7	30	60.7	5.999	0.017*
<b>CP supply and gap</b>							
CP intake (g/day)	835.5	57	1013	30	896.7	4.063	0.047
CPM (g/day)	606.9	66	557.6	30	591.5	6.392	0.013*
CPPM (g/day)	1280.9	66	1391.3	30	1315.4	9.473	0.003*
CPM+CPPM (g/day)	1887.8	66	1948.9	30	1906.9	2.113	0.149
Gap CP (g/day)	1166.2	66	935.9	30	1094.3	4.995	0.028*
Percentage gap CP (day)	55.9	66	47.2	30	52.9	3.374	0.07

<sup>1</sup>=estimated; <sup>2</sup>=measured; <sup>3</sup>=calculated; L=litre; \*Means differences are statistically significant at P<0.05; DMIR= Dry matter intake requirement; ME=Metabolizable energy; MEM=ME for maintenance; MEPM=ME for potential milk; CPM=CP for maintenance; CPPM=CP for potential milk.

### (iii) Comparison of growth and health performance of weaned calves under zero-grazing and open-grazing systems at RAB Songa Station

High disease incidence and inconsistent growth performance in weaned calves remain key challenges in smallholder livestock systems. This study evaluated the growth and health performance of weaned calves managed under two different production systems at the RAB Songa station: zero-grazing (ZG) and open-grazing (OG).

A total of sixteen weaned calves were selected based on sex, breed, and age, and randomly assigned to either the ZG or OG group (n=8). The study was conducted over an 8-week period. Data collection included weekly body weight measurements, bi-weekly assessments of body height and body condition score (BCS), and continuous health status monitoring. In the ZG group, calves were housed in a controlled environment with ad libitum access to feed and water. In contrast, OG calves had

unrestricted access to pasture both day and night.

Results showed that the ZG group recorded fewer disease cases (3 cases) compared to the OG group (12 cases). However, OG calves demonstrated superior growth performance, gaining an average of 16.5 kg and growing at a rate of 0.297 kg/day, compared to 4.87 kg and 0.086 kg/day in the ZG group. By the end of the trial, OG calves reached a higher average body weight (122.13 kg) and BCS (2.63), compared to 111.50 kg and a BCS of 2.13 in the ZG group (p< 0.05).

These findings suggest that while the OG system promotes better growth, the ZG system is more effective in reducing disease incidence and improving calf welfare. Therefore, smallholder farmers may consider adopting ZG systems to minimize disease risk and support calf health. Further research is recommended to evaluate the long-term productivity and economic viability of both systems.

#### **(iv) Effect of dietary supplementation on milk yield and composition in early lactating cows**

Low dairy productivity remains a critical challenge in Rwanda, despite advancements in genetics, animal health, and management practices. Nutritional deficiencies especially during early lactation continue to limit the genetic potential of crossbred dairy cows. This study evaluated the effects of dietary supplementation using locally formulated concentrate composed of cereal and cereal by-products on milk yield and composition in early lactating cows at Songa RAB station.

Eight (8) early -lactating crossbred cows were purposively selected and divided into two groups: a supplemented group (n = 4), which received concentrate in addition to pasture grazing, and a non-supplemented group (n = 4), which grazed exclusively on natural pasture. Milk yield was recorded daily over an 8-week period, and weekly milk composition was analysed using a LactoScan analyzer.

Results showed an increase in milk yield among supplemented cows (6.6-7.5 L/day) compared to the non-supplemented cows (3.5-5 L/day) ( $p < 0.05$ ). Milk composition parameters such as fat, protein, lactose, minerals, and solid non-fat remained unaffected by supplementation ( $p > 0.05$ ). Positive correlations were observed between milk yield and both body weight ( $r = 0.481$ ,  $p = 0.228$ ) and generation level ( $r = 0.340$ ,  $p = 0.411$ ).

These findings demonstrate that enhanced nutrition, particularly the inclusion of cereal by-products can significantly boost milk production without compromising milk quality.

### **B. Monogastric program**

#### **(i) Effect of pig artificial insemination using the boar semen delivered by the Zipline Drone facilities in Rwanda**

This study evaluated the effect of drone-assisted semen delivery on artificial insemination (AI) outcomes, including conception rate, litter size, and piglet survival across 13 districts. Zipline drones maintain semen at approximately 17°C during transit, ensuring cold chain integrity for timely insemination. The finding revealed that 70.8% farmers relied solely on AI, and 69.6% reported successful conception following a single insemination.

The mean litter size was 8.4 piglets, with 7.4 born alive and 7.1 weaned per sow. Zipline drones, operating in collaboration with veterinarians (80.5%), achieved an average delivery time of 60.3 minutes from dispatch to farm. Although delivery time and distance did not significantly influence conception rates ( $p > 0.05$ ), farms closer to drone drop-off sites reported significantly larger litters ( $p = 0.02$ ). Farmer experience was also critical: those with 3–5 years in pig farming or with multiple AI attempts demonstrated significantly higher conception rates and improved reproductive outcomes ( $p < 0.01$ ).

Affordability emerged as a key barrier, 45.4% of respondents considered AI services expensive. Farmers recommended reducing AI costs (60.5%), widening drone delivery coverage (10.3%), and improving training opportunities (8.6%).

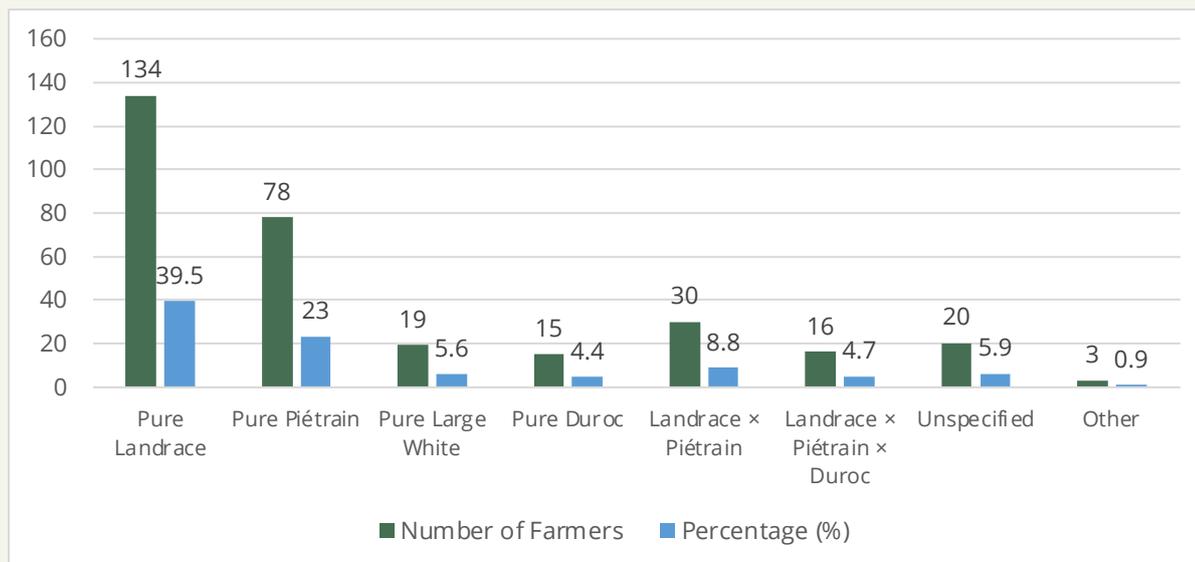
These findings highlight the promise of drone-enabled AI delivery in enhancing pig productivity under smallholder systems, while emphasizing the need for investments in affordability, farmer education, and service accessibility.

#### **(ii) Farmers' preferred boar breeds for artificial insemination**

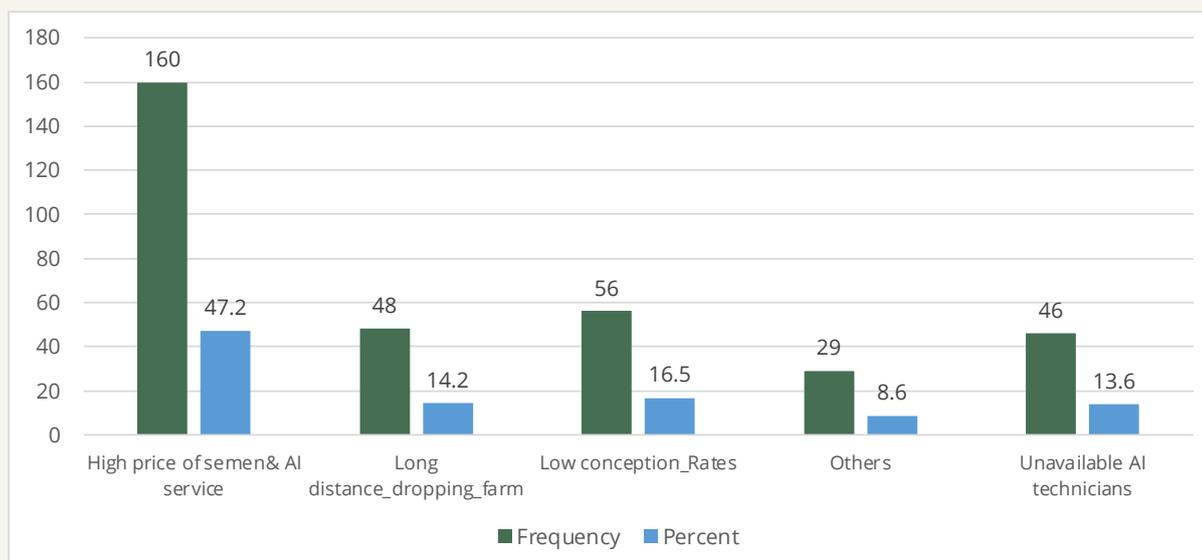
Farmers prefer to use pure Landrace as AI boar breed, it was selected by 134 farmers (39.5%), emphasizing its popularity due to strong maternal qualities and reproductive performance. Pure Pietrain, known for its excellent muscling and leanness, was the second most preferred breed, chosen by 78 farmers (23.0%). These were followed by Pure Duroc, favored by 15 farmers (4.4%), and Pure Large White, selected by 19 farmers (5.6%), both valued for growth efficiency and carcass quality.

A few farmers opted for combinations of two or more breeds, such as Landrace × Pietrain (30 farmers, 8.8%) and Landrace × Pietrain × Duroc (16 farmers, 4.7%), reflecting a strategic approach to maximizing hybrid vigor through multi-breed use in AI programs. A small portion of responses (5.9%) did not specify a breed, and a few farmers (0.9%) cited "Other" breeds, suggesting either unfamiliarity with breed types or the use of locally available alternatives.

**Figure:** Preferred boar breeds in the study area



**Figure:** Challenges associated with pig artificial insemination services



**(v) Conception rate and litter size of sows subjected to natural service versus artificial insemination in Rwanda**

This study aimed to characterize the conception rate (CR), litter size, piglet survival rates, of sows subjected to natural service versus artificial insemination (AI) in swine breeding within the Northern Province of Rwanda.

Pig farming in Rwanda is mainly small-scale, with few medium-sized operations. A total of 583 sows gilts, representing four breeds namely Landrace (n = 188), Landrace x Piétrain (n = 330), Large White (n = 26), local breed (n = 39) was monitored. The sows varied in age from 0.7-4.3 years. Data collected included estrus type (induced, 252; natural, 331),

mating type (AI, 266; natural service, 317), number of mating (one service, 359; two services, 164, three services, 60), age, parity, CR, gestation length, litter size, and piglet survival rate.

Using descriptive statistics, Chi-square and analysis of variance tests, the study analysed effects of breed, age, farm, season, service type and number on CR, litter size, and weaning rate. Results showed that CR (90.2%) was not affected by sow parity but significantly influenced by boar age and number of services. Mean litter size, born alive were  $8.70 \pm 3.90$ ,  $8.60 \pm 3.90$  piglets per sow, respectively, with a survival rate of 94%.

In conclusion, boar age, mating frequency, farm type, boar and sow breed influence conception

rates, litter size, and piglet survival. The study highlights AI potential to improve CR and effectively manage litter sizes.

**(vi) Growth performance and carcass characteristics of indigenous chickens in Rwanda**

The aim of the study was to evaluate the growth performance and carcass characteristics of two Rwandan indigenous chicken types, normal feathered and naked neck, under a deep litter system over 16 weeks. A total of 80 birds (n=40 per type) were monitored for weekly body weight, feed intake, and mortality. Normal feathered chickens consistently showed higher body weights from hatch (54.5g) to week 16 (985g), with significantly greater average daily weight gain observed at week 4.

Although naked neck chickens exhibited relatively higher weight gain by week 16, the feed conversion ratio (FCR) was significantly better in normal feathered birds at week 4 (4.47), with no significant differences noted in overall FCR (7.25). Carcass evaluation of 24 birds (six per indigenous type and six from a control group) revealed significant differences in thigh, breast, and neck measurements, muscle weights, and dressing percentage, with the control group generally outperforming both indigenous types.

The findings suggest that while normal feathered chickens perform better in early growth and some carcass traits, naked neck chickens may offer advantages in later growth stages. These insights support informed breeding and management decisions to enhance indigenous poultry production in Rwanda.

**C. Aquaculture and fisheries Program**

**(i) Impact of substituting Fish Meal Protein with Full-Fat Black Soldier Fly (*Hermetia illucens*) Larvae Meal on the Performance of pond-reared Nile Tilapia (*Oreochromis niloticus*)**

To sustain fish feeds availability to smallholder fish producer at affordable price, a forward-looking raw material able to replace high-cost fish meal is paramount important. The focus to explore and use of black soldier fly larvae (BSFL) as animal feed sources was undertaken. This study investigated the effects of replacing fish meal (FM) with full-fat BSFL on the growth of Nile tilapia fry. A total of 900 healthy male Nile tilapia fry with average weight of 1 gram were randomly stocked into 15 hapas all installed in one pond in three triplicates per treatment and fed for nine months (270 days). Fish were fed three times daily and weighted monthly bases to monitor growth performance and adjust the feed offered. Water quality parameters including temperature, pH and dissolved oxygen were monitored using a real-time IoT device known as SynWater which is SYNELIXIS innovative solutions.

This study demonstrated that BSFL can replace FM up to 75% without adversely affecting the growth of Nile tilapia. Future research should focus on promoting BSFL production techniques to farmers in order to encourage low-cost insect-based protein diets for livestock and fish production in Rwanda.

**Table 29:** Growth performances (mean±SE) of Nile tilapia fed on black soldier fly larvae meal at varying inclusion level

Parameters	Experimental diets				
	BSFLM <sub>0</sub>	BSFLM <sub>25</sub>	BSFLM <sub>50</sub>	BSFLM <sub>75</sub>	BSFLM <sub>100</sub>
Initial body weight (g)	0.8±0.0	0.8±0.0	0.8±0.0	0.8±0.0	0.8±0.0
Final body weight (g)	236.0±3.0 <sup>ab</sup>	238.0±7.0 <sup>ab</sup>	263.0±13.0 <sup>b</sup>	241.0±8.0 <sup>ab</sup>	216.0±8.0 <sup>a</sup>
Body weight gain (g)	235.0±3.0 <sup>ab</sup>	237.0±7.0 <sup>ab</sup>	262.0±13.0 <sup>b</sup>	240.0±8.0 <sup>ab</sup>	215.0±8.0 <sup>a</sup>
Specific growth rate (g%/day)	1.5±0.01 <sup>ab</sup>	1.53±0.008 <sup>ab</sup>	1.56±0.013 <sup>b</sup>	1.54±0.009 <sup>ab</sup>	1.51±0.01 <sup>a</sup>
Feed conversion ratio (%)	2.24±0.036 <sup>a</sup>	2.29±0.075 <sup>a</sup>	2.22±0.084 <sup>a</sup>	2.32±0.03 <sup>a</sup>	2.42±0.1 <sup>a</sup>
Survival rate (%)	84.84±0.8 <sup>a</sup>	83.33±2.3 <sup>a</sup>	85.35±1.8 <sup>a</sup>	82.32±1.33 <sup>a</sup>	86.86±2.20 <sup>a</sup>

\*BSFLM=Black Soldier Fly Larvae Meal

### 3.1.1.3 Soil testing for optimizing inputs use, improving crop yields, and maintaining soil health

Soil acidity affects nearly **50% of Rwanda's croplands**, particularly in highland districts. Acidic soils limit phosphorus availability and cause Aluminium toxicity, both of which reduce crop yields. To address this, field trials were conducted on farmers' fields using **three lime rates (0, 1, and 2 tons/ha) and four phosphorus rates (0, 20, 40, and 150 kg/ha)**, to evaluate their effects on **bean and Irish potato yields**.

For **beans in Burera**, results showed that increasing lime from 0 to 2 tons/ha raised yields from **0.82 to 2.13 t/ha (a 160% increase** without any phosphorus). When combined with 40 kg/ha of phosphorus, yields reached 4.01 t/ha, representing a 2.85 t/ha increase or 347% over the control (no lime, no phosphorus). These findings confirm that lime significantly improves bean yields, especially

when paired with the double rate of phosphorus. For phosphorus alone, the 40 kg/ha rate performed best, increasing bean yield by 1.4 t/ha compared to the control. For Irish potatoes, phosphorus was the dominant factor across all districts. In Burera, applying 40 kg/ha of P increased yield from 14.5 t/ha to 17.6 t/ha (a 21.4% increase). Similarly, in Nyaruguru and Huye, yields rose from 6.5 t/ha (no P) to 10.8 t/ha, a gain of 4.3 t/ha, or 66.1%. Lime had no significant effect on potato yields in any location. Based on these results, applying 2 tons/ha lime is recommended for beans in acidic soils, and applying **40 kg/ha phosphorus** is recommended for **both beans and potatoes** to improve productivity and food security in Rwanda. The soil pH and exchangeable aluminium of the selected sites for the trials establishment are presented in the table 1 below.

Parameters	Site	pH	Al <sup>3+</sup> (cmol/kg)
Nyaruguru	Muganza	4.7	0.28
	Ruramba	4.6	2.47
Huye	Rubona Station	4.7	0.38
	Rubona Station	4.3	3.61
Burera	Rwerere Station	4.2	0.20
	Tangata/Rugari	4.9	0.88
	Rushara/Mugomero	5.0	0.10
	Rugezi/Rwerere Station	4.8	0.23

The trials were established under extremely to very strongly acidic soils with soil pH vary between 4.3 and 5.0.

Results from the experiments are presented here below.

**Table 31:** Effect of phosphorus (P) rates and lime rates on bean yield in Burera district

P fertilizer treatment	Lime rate (t/ha)			Mean P fertilizer (t/ha)
	0	1	2	
	Bean yield (t/ha)			
No P fertilizer (P0)	0.82	1.72	2.13	1.6b
Recommended P (P1)	0.83	2.22	3.21	2.1ab
Double of recommended P (P2)	1.16	1.48	4.01	2.2a
High P [150 kg P/ha] (P3)	1.15	2.14	2.47	1.9ab
Mean Lime rate (t/ha)	1.0c	1.9b	3.0a	
<b>ANOVA values</b>	Lime	P fertilizer	Interaction	
p-value	<.001***	0.024*	0.006**	
LSD	0.354	0.408	0.707	
CV (%)	16.5			

The interaction between phosphorus and lime rates showed a significant difference effect on bean in Burera district. High rate (2t/ha) of lime revealed greater effect with 3t/ha of bean grain yield followed by 1t/ha which yielded 1.9t/ha compared to 1t/ha obtained from the untreated plot (where no lime was applied). The highly performing treatments generated a bean yield increase over control (un-limed plot) of 2t/ ha and 0.9t/ha, equivalent to 200% and 90% for 2t/ha and 1t/ha of lime respectively.

The effect of P fertilizers was comparable for the three rates (recommended rate, double of the recommended rate and high rate) and significantly higher to that due the control (with non-P application). Among the three rates, the double of recommended P is likely to be the most performing rate which induced an average bean yield of 2.2t/ ha.

**Table 31:** Effect of phosphorus (P) rates and lime rates on potato tuber yields in Burera district

P fertilizer treatment	Lime rate (t/ha)			Mean P fertilizer (t/ha)
	0	1	2	
	Bean yield (t/ha)			
No P fertilizer (P0)	16	14.2	13.3	14.5b
Recommended P (P1)	16.7	15.6	15.4	15.9ab
Double recommended P (P2)	18.3	15.8	18.8	17.6a
High P [150 kg P/ha] (P3)	17.9	17.7	16.7	17.4a
Mean Lime rate (t/ha)	17.2	15.8	16	
<b>ANOVA values</b>	Lime	P fertilizer	Interaction	
P-value	0.241	0.014*	0.693	
LSD	ns	2.07	ns	
cv (%)	15.2			

The analysis of variance indicated that there is no significant difference between different rates of lime neither for their interaction with the rates of phosphorus, while a significant difference between rates of is noticed (p=0.014). The effect of the tree rates of P is similar and significantly different to the control. The effect if slightly higher with application of the double rate of P which yielded 17.6t/ha and an increase of 3.1/ ha, equivalent to 21.4% in Burera.

**Table 32:** Effect of phosphorus (P) rates and lime rates on potato tuber yields in Nyaruguru-Huye districts.

P fertilizer treatment	Lime rate (t/ha)			Mean P fertilizer (t/ha)
	0	1	2	
	Bean yield (t/ha)			
No P fertilizer (P0)	6.1	6	7.6	6.5c
Locally recommended P (P1)	8.4	7.7	9.1	8.4bc
Double of recommended P (P2)	10.7	10.6	11	10.8a
High P [150 kg P/ha] (P3)	8.9	9.7	10.5	9.7ab
Mean Lime rate (t/ha)	8.5	8.5	9.5	
<b>ANOVA values</b>	Lime	P fertilizer	Interaction	
P-value	0.265	<.001***	0.978	
LSD	ns	1.68	ns	
cv (%)	25.9			

The results indicate that no significant effect is observed between the lime rates and their interaction with the rates of P on Irish potato yield in Huye district. However, a significant difference is revealed between the rates of P. The double of the recommended rate of P and the high rate are

significantly generating higher Irish potato yield of 9.7 to 10.8 t/ha compared to the recommended rate and the control. The double recommended rate is likely to be the most promising with 10.8t/ha resulting to an increase of 4.3t/ha over control, equivalent to 66.1%.

### 3.1.2 Customized Agricultural Extension System

The agricultural extension system was significantly strengthened through the Twigire Muhinzi platform, which delivered customized training programs during Season 2025A (August–September 2024). Sector-level trainings were organized across 400 sectors, each tailored to reflect local crop priorities and farming realities.

For instance, 67 sectors focused on Irish potato production, 22 on cassava, 192 on maize, and 120 on systematic intercropping of maize with beans or soybeans. Complementary Lime and Hybrid Maize campaigns were rolled out in 23 and 157 sectors respectively, ensuring that knowledge dissemination was directly linked to the practical needs of farmers.

To anchor these trainings in field practice, frontline extension agents received agro-inputs and learning kits to establish over 56,000 maize demonstration plots countrywide.

A total of 265,929 extension materials including booklets, tester packs, and flyers on soil health and liming were distributed. Inputs provided included 8,316 kg of hybrid maize seed, 28,032.8 kg each of DAP and urea fertilizers, and 37,200 kg of agricultural lime. These resources not only strengthened the quality of demonstrations but also enhanced farmer confidence in adopting improved practices. Attendance averaged 98% across all cadres, reflecting strong ownership and commitment. Clear follow-up actions were agreed, including organizing systematic field visits, enhancing visibility of demonstration plots, and accelerating farmer registration in the Smart Nkunganire System (SNS). This approach has raised up the extension system to a more demand-driven and farmer-centered model.

### 3.1.3 Technical Capacity Building, Education and Skills Development

Capacity building was a priority of extension service delivery in FY2024/25. Frontline extension agents including Farmer Promoters (FPs), Farmer Field School (FFS) facilitators, SEDOs, sector agronomists, and Agro-dealer agents were comprehensively trained to enhance their facilitation, mobilization, and technical advisory skills. Training modules covered Good Agricultural Practices (GAP), efficient fertilizer use, soil health and liming, clean seed systems for cassava and Irish potato, as well as systematic intercropping practices.

Innovative learning methods such as quick-fire questions and answers sessions, role-plays, and group-based problem-solving exercises were deployed to make trainings more interactive and effective. Structured monitoring by SEDOs ensured that knowledge was not only acquired but also applied in the field.

**Approximately 97% of frontline agents were successfully trained, creating a strong foundation for cascade trainings aimed at reaching nearly 950,000 farmers across the country.** The program was reinforced by extensive dissemination of

learning materials and provision of inputs for demonstration activities, ensuring consistency between classroom learning and field practice.

Despite challenges such as delayed rains affecting the establishment of demonstration plots and occasional gaps in localized input availability, the program introduced adaptive measures. These included flexible training calendars responsive to weather conditions, video-based sessions at farmer gathering points, and early farmer registration to align with agro-dealer input stocking. These strategies not only mitigated disruptions but also strengthened resilience and encouraged innovation within the extension and training ecosystem. Overall, the year marked significant progress in building technical capacity, education, and skills development, laying a strong foundation for the effective rollout of PSTA5 priorities.

### 3.1.3.1 Capacity building in animal health services

The Capacity Building workshop for Veterinary Practitioners, organized by RAB in collaboration with UGHE, was conducted in Kigali in February 2025. The training aimed at advancing the One Health agenda by equipping veterinary practitioners with enhanced skills in disease management, biosecurity, and antimicrobial stewardship. Nineteen (19) participants benefited from a combination of classroom sessions, group discussions, and field visits focusing on dairy, pig, and poultry production systems. The workshop emphasized the critical role of veterinarians in controlling zoonotic diseases, strengthening surveillance, and promoting responsible antimicrobial use. Field visits and practical exercises revealed existing gaps in farm-level biosecurity, antimicrobial use, and waste management. Participants developed recommendations to improve feeding practices, vaccination schedules, and farm hygiene standards.

The post-training evaluations showed significant knowledge improvement, underscoring the effectiveness of such initiatives. The workshop reinforced veterinarians' role as frontline actors in One Health and highlighted the importance of sustained professional development to safeguard both animal and public health.

From March to April 2025, RAB in collaboration with UGHE organized the second cohort of the Capacity Building Workshop for Veterinary Practitioners under the Veterinary Sanitary Mandate framework.

### 3.1.3.2 Training in Animal Genetic Improvement

The National Animal Genetic Improvement Center (NAGIC), operating under RAB, plays a central role in advancing animal breeding and genetic improvement in Rwanda. Its core mandate includes the production and distribution of quality bovine semen, ensuring availability of liquid nitrogen for storage, and facilitating artificial insemination (AI) services across the country. **In the FY2024–2025, 148,624 doses of semen from Friesian, Jersey, Fleckvieh, and local Inkungu breeds were produced and distributed.**

In addition, the two nitrogen plants at Rubona and Rubirizi collectively produced over 175,000 liters of liquid nitrogen, ensuring a steady supply to support nationwide AI programs.

NAGIC also prioritizes capacity building and technical skills development.

The training, held at RAB Mulindi engaged 22 participants representing all five provinces, with a gender balance. The workshop strengthened technical and operational capacities in disease diagnostics, treatment protocols, biosecurity, antimicrobial stewardship, and self-protection against zoonoses. Sessions covered One Health principles, zoonotic diseases, and responsible antimicrobial use, complemented by field visits to abattoirs, butcheries, veterinary pharmacies, and livestock farms. These practical engagements allowed participants to contextualize classroom learning and assess real-life challenges in farm management and public health.

The evaluations revealed a statistically significant improvement in participants' knowledge and practices, with median post-training scores rising markedly compared to pre-training levels. Lessons drawn emphasized the importance of strengthened intersectoral collaboration, systematic biosecurity protocols, and prudent use of antimicrobials. Recommendations included expanding training to more veterinary practitioners and farmers, enhancing disease reporting capacity, and promoting digital literacy among VSM companies. Overall, the workshop reinforced veterinarians' role as frontline actors in advancing One Health, while contributing to safer food systems.

During the reporting period, **322 animal science technicians were trained in bovine AI, 42 in pregnancy diagnosis, and 32 in the use of ultrasound technology**, which significantly improved the success rates of AI.

**As a result, 117,105 cows were inseminated and 44,543 AI-born calves identified, surpassing national targets.**

These milestones demonstrate progress in strengthening cattle genetics, conserving local breeds, and boosting productivity in milk and beef value chains.

It is recommended that efforts to boost productivity in milk and beef value chains prioritize improved genetics, enhanced feeding practices, stronger animal health systems, better farm management, upgraded post-harvest handling, and strengthened

market linkages, as these actions collectively lead to higher yields, improved product quality, reduced losses, and increased farmer incomes.

The program not only supports food security but also enhances farmers' incomes and livelihoods, making NAGIC a strategic driver of livestock transformation.



**Photo:** Capacity building of artificial insemination stakeholders.

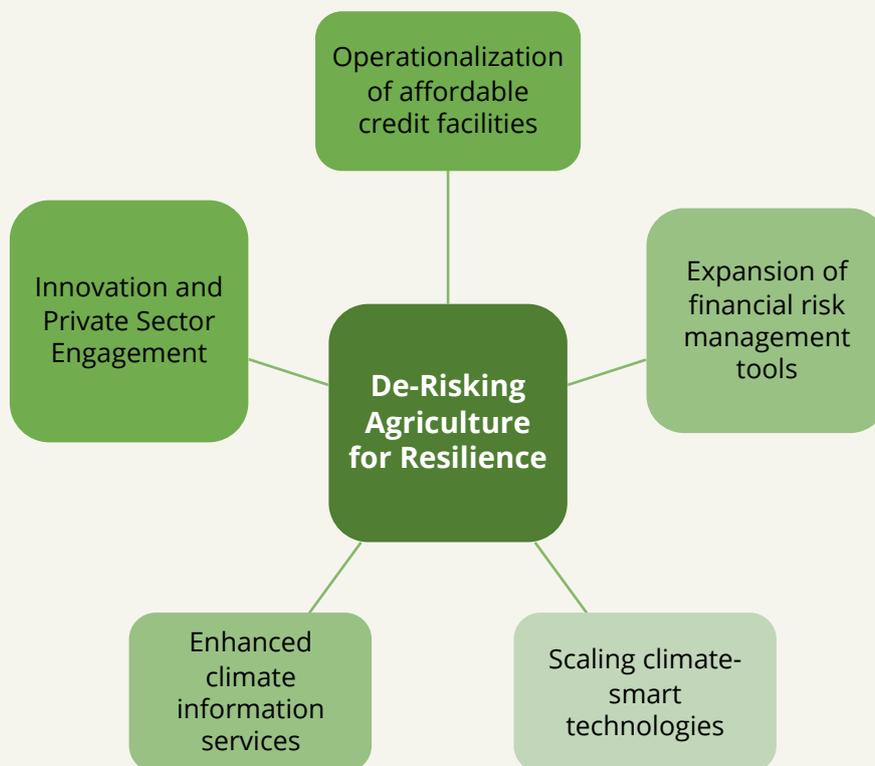
### 3.1.3.3 Training technicians on Artificial Insemination

The training on Artificial Insemination (AI) in pigs was organized by RAB as part of efforts to improve pig genetics and farming practices. Pig multipliers were trained between July and September 2024 to strengthen their knowledge in pig management, artificial insemination, and record keeping. These multipliers are spread across various districts including Bugesera, Gasabo, Gicumbi, Kamonyi, Kicukiro, Rwamagana, Huye, Musanze, Nyagatare, Nyanza, Rubavu, Karongi, Nyaruguru, and Rusizi. The training equipped them with practical skills to manage pig breeding efficiently, detect the right time for insemination, and contribute to reducing inbreeding. A total of 60 pig multipliers and 41 veterinarians were trained, ensuring a wide coverage of skills across the country.

The veterinarians received a seven-day intensive training at Nyamasheke and Huye sites, focusing on pig rearing, feed and feeding management, disease control, biosecurity, and proper pig housing. They also learned anatomy and physiology of pig reproduction, heat detection, and practical demonstrations on AI using reproductive organs. These sessions emphasized record keeping, good hygiene practices, and the importance of identifying standing heat for successful insemination.

## 3.2 De Risking Agriculture for Resilience

In FY 2024/25, a substantial progress was made in building a more resilient and commercially viable agriculture sector through a multi-pronged de-risking strategy. Key achievements include:



- **Operationalization of affordable credit facilities:** Through the Commercialization and De-Risking for Agricultural Transformation Project (CDAT), in collaboration with the Development Bank of Rwanda (BRD), a dedicated credit line facility was launched at an interest rate of 8%. This initiative significantly improved access to affordable finance for farmers, including women, youth, and cooperatives involved in agribusiness. By addressing financial barriers, the facility is driving agricultural productivity, job creation, and inclusive growth across key value chains.
- **Expansion of financial risk management tools:** The National Agriculture Insurance Scheme (NAIS) and CDAT expanded their reach, enabling thousands of farmers to access crop and livestock insurance and mitigate the risks of climate-related losses.
- **Scaling climate-smart technologies:** The adoption of climate-resilient crops, irrigation infrastructure, and sustainable agricultural practices increased nationwide, reducing vulnerability to erratic weather and enhancing yields.
- **Enhanced climate information services:** Farmers received improved access to timely weather forecasts, seasonal outlooks, and localized climate advisory services, coupled with training to support informed decision-making.
- **Innovation and Private Sector Engagement:** MINAGRI in collaboration with various sector partners mobilized new investments and fostered agri-tech solutions to address challenges faced by agricultural value chains actors, particularly farmers.

These efforts collectively strengthened the resilience of Rwanda's agricultural sector, safeguarded farmer livelihoods, and promoted sustainable, inclusive agricultural transformation.

### 3.2.1 Agricultural financing

Progress in agricultural financing has continued to advance in line with PSTA 5 priorities that aim to expand equitable access to finance, foster competitive value chains, and mobilize private investment for agrifood sector transformation. Through CDAT, SAIP2, and RDDP II, substantial strides have been made in scaling up guarantee and grant facilities, deploying tailored financial products, and strengthening digital farmer profiling systems. These efforts have enhanced the availability of affordable credit for agribusinesses, directly supporting PSTA 5 targets to increase agricultural lending volumes, improve risk-sharing mechanisms, and expand financial inclusion.

The implementation of blended financing models—most notably under CDAT—has contributed to de-risking agricultural lending and crowding in additional private capital, consistent with PSTA 5's focus on innovative financing instruments. Meanwhile, the expansion of digital farmer profiles has improved transparency, strengthened creditworthiness assessments, and enabled more targeted delivery of financial services. Collectively, these interventions are reinforcing the foundations of a more inclusive, efficient, and resilient agricultural financing ecosystem, positioning the sector to accelerate progress toward PSTA 5's ambitious investment and productivity goals.

#### Loan Distribution and Beneficiary Profile

During the reporting period, a total of RWF 2,217,152,000 was disbursed to 336 beneficiaries under the BRD/CDAT credit line. The distribution of loans reflects CDAT's inclusive financing approach:

- **Women:** 113 beneficiaries received RWF 548,829,000, reflecting the project's commitment to gender empowerment and the promotion of women-led agribusinesses.
- **Youth (18–30 years):** 36 young beneficiaries accessed RWF 105,363,000, underscoring CDAT's focus on fostering youth-led innovation and entrepreneurship in agriculture.
- **Cooperatives:** 1 cooperative benefited from RWF 1,746,000, highlighting the project's recognition of collective action in driving sustainable agribusiness development.

#### Supported Value Chains

The loans were made available across all value chains except coffee, tea, and pyrethrum. Beneficiaries invested in a wide range of commodities and enterprises, including: cattle farming, horticulture,

piggery, poultry, maize, Irish potato, rice, banana, cassava, beans, seed multiplication, goat rearing, agro-dealerships, animal feed production, irrigation equipment, and agricultural inputs. This broad coverage demonstrates the facility's inclusiveness and its role in supporting strategic commodities that contribute to food security, household income, and rural transformation.

The CDAT/BRD credit line at 8% interest has proven to be a highly effective instrument in promoting financial inclusion and agricultural growth. By targeting women, youth, and cooperatives, the facility not only provides affordable financing but also strengthens the foundations for sustainable agribusiness development. Moving forward, continuous investment in financial literacy, capacity building, and strong monitoring mechanisms will be critical to maximizing impact, ensuring proper fund utilization, and sustaining the long-term benefits of this initiative.

#### Matching Grant provision- CDAT Support

During the fiscal year 2024–2025, the CDAT Matching Grant disbursed RWF 2,008,932,321 to 101 beneficiaries to support agribusiness development and improve livelihoods across various value chains. This initiative highlights CDAT's ongoing commitment to promoting inclusive growth by targeting vulnerable groups and strengthening cooperative enterprises.

Among the beneficiaries, women received the largest share, with 92 individuals (91.1%) awarded RWF 1,765,554,689 (87.9%), emphasizing the program's focus on women's empowerment. In addition, 6 youth beneficiaries (5.9%) were granted RWF 135,240,642 (6.7%), reflecting efforts to encourage young entrepreneurs. Additionally, three cooperatives were funded with RWF 108,136,990 to boost collective action and enhance sustainability in farming communities.

The grant supported a diverse array of projects spanning multiple sectors such as beekeeping, cattle, fish, goat, piggery, and poultry farming. Other supported activities included greenhouse farming, milk processing, potato farming, as well as infrastructure investments like transport truck acquisition and warehouse construction.

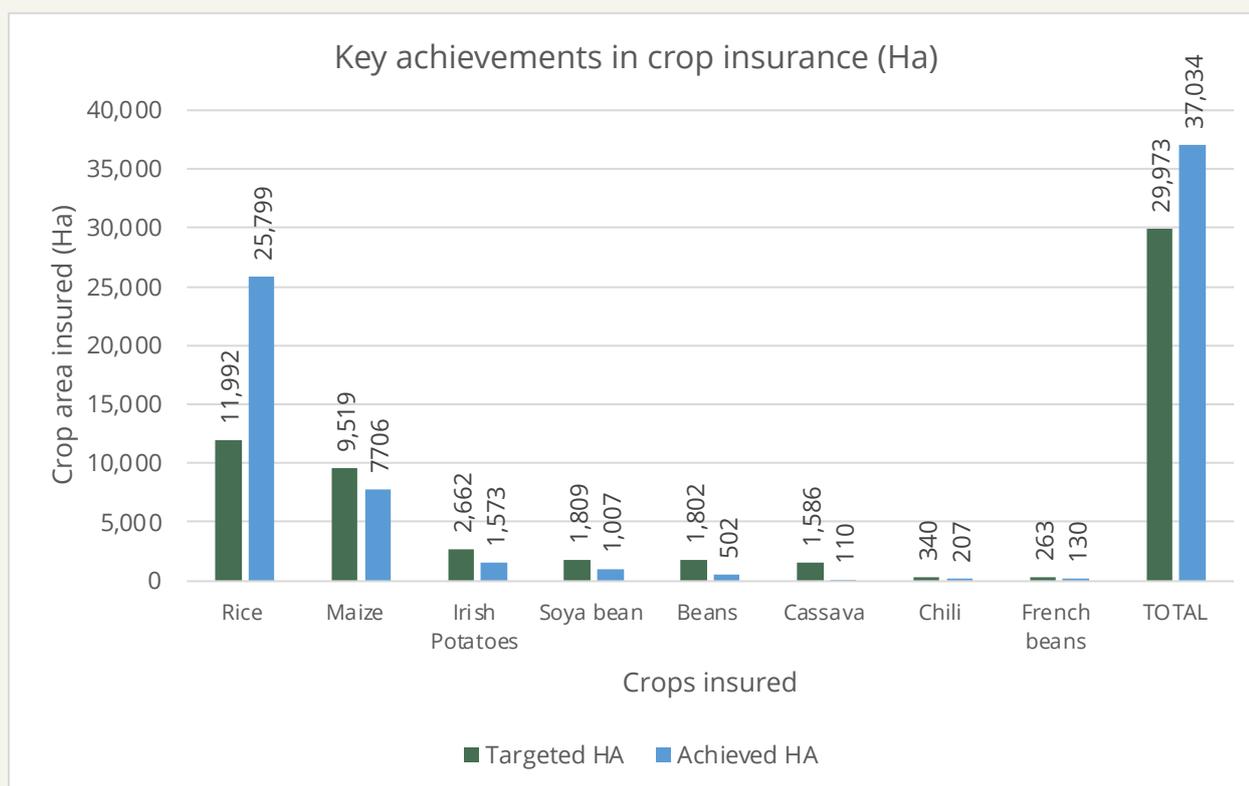
Overall, the CDAT Matching Grant played a vital role in transforming rural livelihoods by empowering key groups, promoting food security, and generating

employment opportunities. Continued monitoring and capacity-building efforts are essential to ensure the long-term sustainability and impact of these investments. Under the Matching Grant scheme, each beneficiary contributes 50% of the total project budget, while CDAT and BDF (by then) provide the remaining 50% as a grant. This co-financing model fosters shared responsibility, enhances beneficiary ownership, and strengthens the sustainability of supported projects.

### 3.2.2.1 Crop insurance scheme

Through extensive mobilization and awareness campaigns jointly conducted by MINAGRI, RAB, Insurers, and local government, uptake of crop Insurance has significantly increased.

In the 2025A & 2025B Season, a total of 37,034 hectares were Insured, covering 307,593 farmers Premiums collected amounted to RWF 2,230,769,072.



### 3.2.2.2 Livestock insurance scheme achievements

The livestock insurance scheme for FY 2024/2025 achieved coverage of 440,798 animals, demonstrating strong uptake and engagement among farmers. In detail, a total of 53,125 cattle, 15,661 pigs, and 372,012 chickens were enrolled in the scheme across the country. This reflects the scheme’s effectiveness in providing risk protection and financial security to livestock keepers.

Overall, the results underscore the scheme’s role in supporting the livestock sector and highlight opportunities to expand coverage to all livestock, mitigating potential losses from diseases, pests, natural disasters, or other risks. Continued promotion of the program, along with targeted outreach, awareness campaigns, and product

customization, could further enhance participation, strengthening the resilience and sustainability of livestock farming.

**Table 33:** Number of animals insured during FY 2024/2025

S/N	Type of Livestock	Number of animals insured
1	Cattle	53,125
2	Pig	15,661
3	Poultry farms	372,012
	<b>TOTAL</b>	<b>440,798</b>

The table below presents the distribution of beneficiaries under the National Agriculture Insurance Scheme (NAIS) livestock microinsurance for the fiscal year 2024–2025. It categorizes insured beneficiaries by livestock type (cattle, pigs, and chickens) and disaggregates them further into

individual farmers, companies, self-help groups (SHGs), and by gender (female and male). This classification provides a clear overview of the reach and inclusivity of the scheme across different groups of livestock keepers.

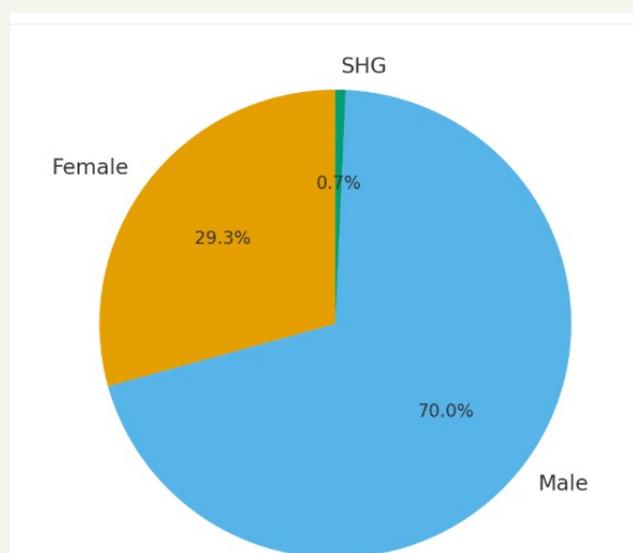
**Table 34:** Beneficiaries of NAIS livestock microinsurance by category, FY 2024-2025

Livestock microinsurance Product	Beneficiary category			
	Individual		Company	SHG
	Female	Male		
Cattle	14,570	33,994	174	18
Pigs	1,939	5,519	102	110
Chickens	86	129	78	42

This table also reveals that cattle insurance accounts for the largest share, with 48,756 beneficiaries, of which females represent 29.9% and males 69.7%. Pig insurance follows with 7,670 beneficiaries, where females make up 25.3% and males 72.0%. Chicken insurance remains relatively small with 335 beneficiaries, showing 25.7% females and 38.5% males, while SHGs constitute a notable share (35.8%).

Overall, cattle insurance is the most dominant, but pig and chicken insurance demonstrate opportunities for expansion, particularly in promoting inclusivity.

As it is illustrated on the figure, overall, males represent the majority of livestock insurance beneficiaries (69.1%), followed by females (29.0%) and SHGs (1.9%). This indicates that while the scheme reaches both genders, there is still room to enhance women’s participation and strengthen the role of collective groups (SHGs) in livestock microinsurance.



**Figure:** gender and SHG distribution across all livestock beneficiaries in NAIS for FY 2024-2025

### 3.2.2.3 Claim Settlements and compensation of farmers

In fiscal year 2024/25, farmers insured under the National Agriculture Insurance Scheme (NAIS) received a total compensation of 3,316,883,505 Frw for losses caused by climate shocks and animal epidemics. Of this amount, crop farmers received 1,153,207,352 Frw, representing approximately 34.8% of the total, while livestock keepers were compensated 2,163,676,153 Frw, accounting for about 65.2% of the total payouts, indicating that the majority of funds went to support livestock-related losses.

As part of continuous improvement, NAIS has onboarded the Rwanda Veterinary Council to serve as a mediator in livestock claim settlements, particularly in cases where misalignments arise between farmers and insurers. This intervention has strengthened transparency, enhanced trust between farmers and insurers, and supports strategic efforts to expand insurance coverage.

### 3.2.2.4 Stakeholder trainings and workshops on crop insurance uptake

During FY 2024/2025, a series of trainings and workshops on Crop Insurance Products were organized by RAB-SPIU in collaboration with MINAGRI, insurance companies, and local government authorities. These initiatives aimed to build the capacity of agronomists, veterinary officers, extension staff, and farmers to enhance their knowledge and practical skills on crop Insurance under the National Agriculture Insurance Scheme (NAIS).

Participation was extensive and inclusive, with representatives drawn from all four provinces and the City of Kigali. Farmers, sector agronomists, local government officers, and national-level institutions actively engaged in these sessions.

**Table 35:** Number of participants attended Crop Insurance Training & Workshop.

S/N	Training / Workshop participants (FY 2024/2025)	Male (M)	Female (F)	Total
1	Collaborative Campaign on NAIS Awareness	594	228	822
2	Workshop on Crop Insurance (Agronomists per Province)	318	62	380
3	Validation of Chili & French Beans Investment Cost	37	12	49
4	Technical Training on NAIS Implementation (Institutions & Provinces)	173	61	234
5	Training on Crop Insurance Products (Technical Modules: Policy, CCE, Underwriting, Compensation)	13	12	25
	<b>TOTAL</b>	<b>1,135</b>	<b>375</b>	<b>1,510</b>

A total of **1,510 participants** were trained, including 1,135 males and 375 females. This demonstrates significant progress in mobilizing and building the capacity of key actors to accelerate the uptake and sustainability of NAIS. The high level of participation across multiple provinces and districts reflects the growing interest and recognition of the importance of agricultural insurance in strengthening resilience against risks such as climate shocks, pests, and diseases. The diverse training activities provided a strong foundation for effective scheme implementation, enhanced collaboration among stakeholders, and improved service delivery to farmers.

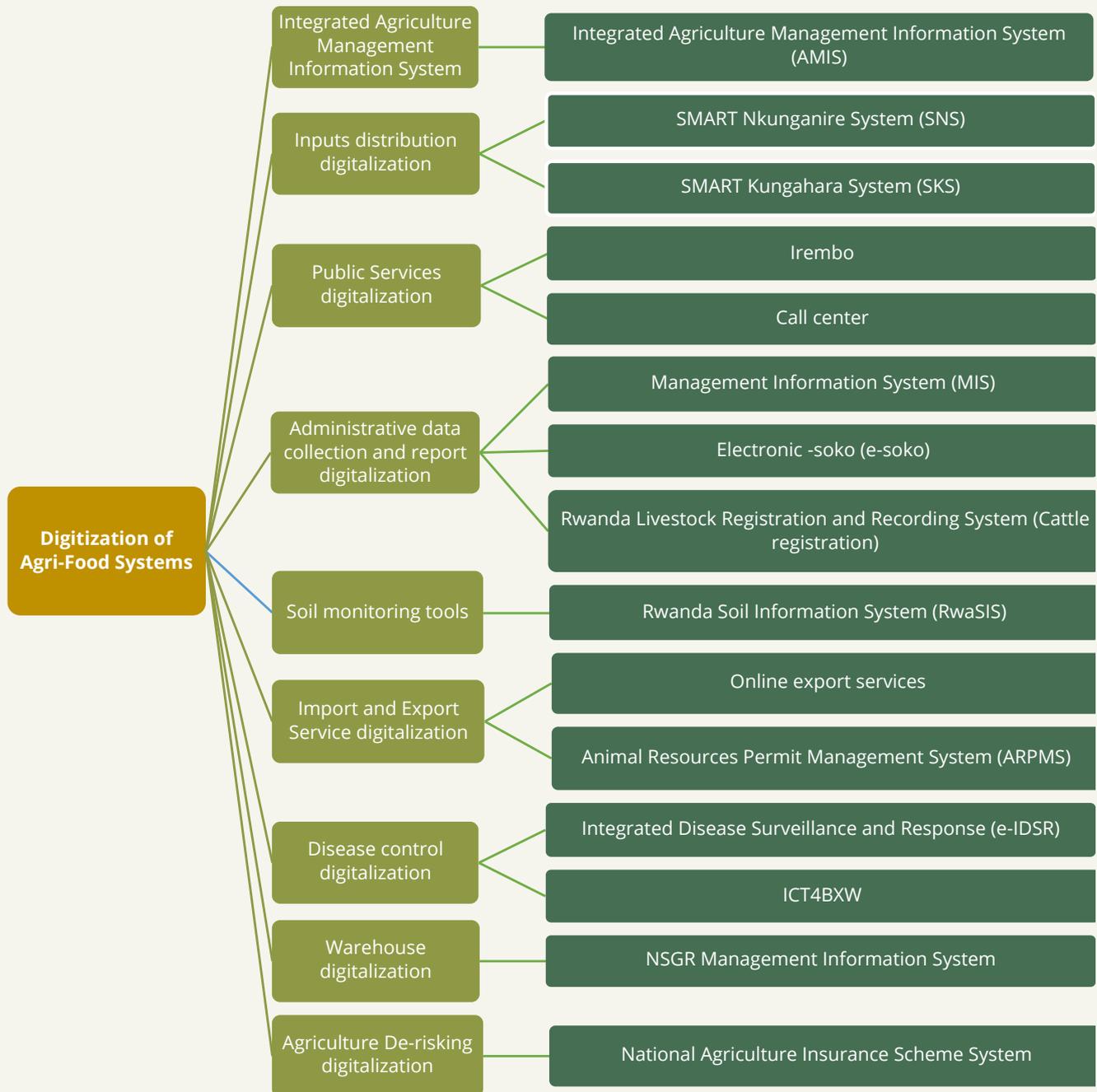


**Photo:** Training conducted on Crop Insurance Product.

### 3.3 Digitization of Agri Food Systems

The digital transformation of agriculture in Rwanda is a strategic initiative aimed at leveraging modern technologies to enhance efficiency, sustainability, and resilience in the sector. Through digital tools and systems, the country seeks to address persistent challenges such as poor market access, limited financial services, insufficient information on agricultural practices, and the impacts of climate change.

In 2024–2025, several key digital systems were driving the modernization of Rwanda’s agricultural sector. The chart below highlights the digital tools developed to support the agrifood system, with additional initiatives underway to further enhance service delivery.



## **I. Integrated Agriculture Management Information System (AMIS)**

**Integrated Agriculture Management Information System (AMIS)** is a comprehensive digital public infrastructure designed to strengthen decision-making, streamline service delivery, and foster sustainable agricultural development. It supports accurate data collection, reporting, and analysis while ensuring security and interoperability across different institutions. AMIS also enhances market linkages within the agriculture sector, positioning itself as a national platform for integrated agricultural services delivery.

Currently under active development, the veterinary certification service has already been completed and is now undergoing training and rollout. AMIS has a growing agriculture service in backlog, with new modules scheduled for delivery in the near future. Once fully operational, it will function as a one-stop center for agricultural services across the country.

### **II. Inputs distribution digitalization**

**SMART Nkunganire System (SNS):** A Public Private Partnership between BK Techouse and Rwanda Agriculture Board (RAB). The platform targets end-to-end digitization of the agri-input supply chain management under Rwanda's Agri-Input Subsidy program and bridging the communication gap between all the stakeholders involved in the agriculture sector.

It ensures better access to critical agricultural inputs, increasing productivity and reducing inefficiencies in input distribution. During 2025A season, 2,217,740 farmers were registered in SNS from 1.9 Million registered in 2024A season.

**SMART Kungahara System (SKS):** Smart Kungahara System (SKS): a Public Private Partnership between BK Techouse and National Agricultural Export Development Board (NAEB) aims to digitalize cash crop value chains such as coffee, tea and horticulture, and monitor the farmers' agro-input distribution at all levels, track the farmers' production supply, manage the production treatment centers operations, create transparency and efficiency, generate relevant analytics to ease decision making processes.

### **III. Public Services digitalization**

**Irembo:** Irembo uses design and technology to build digital products that help organizations deliver online services in Rwanda, agriculture sector digitalizes various services for public access, the service can be found on Agriculture & Livestock page.

**Call center facility:** The Agriculture Call Center is a dedicated toll freeline 4127, with a support web system to handle agriculture related inquiries and provide timely responses to farmers and the general public. This facility enhances communication, improves service delivery, and ensures farmers and citizens have reliable access to agricultural support services.

### **IV. Administrative data collection and report digitalization.**

**Management Information System (MIS):** Management Information system (MIS) was initiated in 2016. It is a web-based system which has capacity for data entry, consolidation, analysis, and reporting. The MIS plays a crucial role in the monitoring and evaluation framework between MINAGRI, its agencies, district, and other stakeholders in the agriculture sector. The impact made so far is better data, evidence-based decision, and accountability.

**Electronic-Soko (e-soko):** An online platform that provides real-time market price information on commodities across different markets in Rwanda.

The platform acts as a central source of commodity price data, making information easily accessible to the public. It supports market actors in making informed buying and selling decisions while also guiding government policy-making.

**Rwanda Livestock Registration and Recording System (Cattle registration):** This system focuses on registering and tracking cattle, and other livestock for improved management, breeding, milk production, supports traceability, generating reliable data for evidence-based policymaking and health monitoring.

### **V. Soil monitoring tools.**

**Rwanda Soil Information System (RwaSIS):** Integrating scientific soil analysis with practical agricultural guidance, the system serves as a critical decision-support tool for both farmers and policymakers. Farmers gain precise knowledge about the best crops to plant in their specific regions, while policymakers can design evidence-based agricultural strategies and allocate resources more efficiently to address soil-related challenges. This system directly contributes to optimizing crop choices for different agro-ecological zones in Rwanda. By 2025, more than 340,000 coffee farmers, and 300 coffee stations were registered.

## VI. Import and Export Service digitalization.

**Online Export Services:** This system facilitates exporters of agricultural commodities mainly coffee and tea to export online with facilitation by the National Agriculture export development board (NAEB).

It simplifies and streamlines the export process, improving the competitiveness of Rwanda's agricultural exports, reducing bureaucratic barriers, and facilitating smoother international trade.

**Animal Resources Permit Management System (ARPMIS):** An online animal transportation permit application. The system enables Rwandan citizens and foreigners to acquire live animal transport permits, including internal movement, transit, import, and export.

It digitizes the process of issuing permits for animal resources, ensuring greater transparency and efficiency in animal trade and movement, and ensures compliance with health and safety regulations in animal transport.

## VII. Disease control digitalization.

**Integrated Disease Surveillance and Response (e-IDSR):** This system allows for the monitoring and tracking of animal diseases, enabling a quick response to outbreaks and improving overall animal health management.

It ensures animal health, preventing disease outbreaks that could severely impact livestock production and food security, the system is coordinated by both Ministry of health and Rwanda Agriculture and Animal Resources Boards.

**ICT4BXW:** An initiative that leverages digital technologies to support smallholder farmers in combating Banana Xanthomonas Wilt (BXW), a major threat to banana production. Through web and mobile applications, the platform enables farmers and extension agents to report cases, receive early warnings, and take timely action to control the spread of the disease.

ICT4BXW contributes to safeguarding banana production, a staple food and key income source in Rwanda, while enhancing resilience in farming communities.

## VIII. Warehouse digitalization

**National Strategic Grain Resources (NSGR) Management Information System:** a digital platform that automates the management of warehouse and silo grain records. It manages the entire grain storage lifecycle, from reception to dispatch, by capturing and reporting data at every stage.

The system enables accurate tracking of grain storage levels over time and ensures that records are updated consistently, generating real-time information on storage capacity, the System provides insights on grain in storage facility for decision-making, planning, and resource allocation.

## IX. Agriculture De-risking digitalization

### National Agriculture Insurance Scheme System

– **NAIS:** Digital platform that automates cattle insurance processes, including registration, claims, and renewals. It supports farmers, local governments, and private stakeholders in managing insurance activities, replacing manual paperwork with online verification, incident reporting, and transparent workflows. The system enhances access to insurance data, improves reporting, reduces administrative costs, and ensures accountability through incident recording. It promotes transparency and evidence-based decisions, it builds trust, strengthens regulatory oversight, and supports farmers in managing risks. As of September 2025, the NAIS System has insured 182,957 livestock.

**Future priority:** The objective for the coming period is to strengthening Agrifood systems enablers for effective and efficient delivery, by defining and establish a unified platform that serves as a single point for data collection, report, information access, and service delivery across agricultural sectors. This integrated system will reduce reliance on multiple fragmented data sources while strengthening efficiency, data governance, transparency, accuracy, and accessibility in agricultural services.

The prioritized enablers in PSTA 5 will covers innovation and technology transfers, agriculture financing and de-risking, digitalization, planning and coordination. Improving the capacity of these functions underpins transformation of the system through availing critical service to farmers, market actors, and consumers.

### 3.4 Agriculture sector visibility and public relations

The Ministry organised and hosted a series of events that enabled Rwanda's agriculture stakeholders to connect with their colleagues at national and international levels while increasing the country's agriculture profile.

These events offered opportunities for advanced learning from different agriculture stakeholders and experts while also expanding mutual professional networks.

#### 3.4.1 National events

##### 3.4.1.1. National Celebrations to mark World Food Day 2024

On 25th October 2024, Rwanda celebrated the World Food Day in Nyamasheke District, under the global theme "The Right to Foods for a better life and a better future". This annual event, organized by the Ministry of Agriculture and Animal Resources (MINAGRI), brought together government officials, international representatives, and local communities to emphasize the importance of ensuring access to safe, nutritious, and sustainable food for everyone.

As part of celebrating the World Food Day 2024, a month-long campaign to promote healthy diets was organised by MINAGRI and development partners in the agriculture sector from 16th October to 15th November 2024 with the National Celebrations held on 25th October 2024 being part of the month-long campaign activities.



Below is a list of main activities conducted to celebrate World Food Day 2024 and raise awareness on healthy diets:

The World Food Day celebration month, observed from 16th October to 15th November 2024, featured a range of impactful activities across Rwanda. These initiatives aimed to promote food security, combat malnutrition, and encourage sustainable agricultural practices:

1. Egg and other animal source food consumption campaign: the one-month campaign focused

on reversing malnutrition among children in the Western Province. Running from 16th October to 15th November 2024, the campaign highlighted the importance of balanced diets for healthy growth, targeting children at risk of stunting across the region.

2. Donation of Cows Through the Girinka Program: On 25th October 2024, in Nyamasheke District, 13 cows were donated to vulnerable households under the Girinka Programme, enhancing household nutrition and livelihoods.

3. Fruit trees planting: Fruit trees were planted at all Primary and Secondary Schools in the whole district during the one-month campaign that started on 16th October 2024.
4. A mini-exhibition was held on 25th October 2024 in Nyamasheke District, showcasing innovative approaches to enhancing food systems, local agricultural products, and sustainable farming practices.
5. A comprehensive media campaign ran throughout the celebration month on TV and radio, reaching a broad audience to raise awareness about sustainable agriculture, nutrition, and the importance of collective action to achieve food security; awareness on animal sources food and fruits consumption.
6. Mobilization for Season 2025A Success: From 16th October to 15th November 2024, a nationwide mobilization effort encouraged farmers to adopt good agricultural practices, including weeding, rainwater harvesting, urea fertilizer application, and pest control.
7. Community sharing (Ubusabane): sharing meals with the local community to foster unity and shared responsibility in the fight against hunger and malnutrition (on 25th October 2024, in Nyamasheke district).

### 3.4.1.2. Launching the 5th Strategic Plan for Agriculture Transformation (PSTA5)

On December 6th, 2024, MINAGRI launched the country's Fifth Strategic Plan for Agriculture Transformation known as PSTA 5 from its French acronym for plan stratégique pour la transformation agricole.

Under the theme of "Building Resilient and Sustainable Agri-Food Systems", the PSTA5 covering five years from 2024 to 2029 was launched in Kigali at the presence of more than 100 key partners in Rwanda's agriculture and food systems sector.



Aligned with Vision 2050 and the National Strategy for Transformation (NST 2), it focuses on building resilient and sustainable agri-food systems to address climate change, enhance food security, and boost economic growth.

At the launch of the plan, Rwanda's Minister of Agriculture and Animal Resources, Dr. Mark Cyubahiro Bagabe, emphasized that it was designed as a tool and a roadmap to guide efforts at tackling the country's food systems challenges.

### 3.4.1.3. The 18th Agriculture exhibition (2024-2025)

On Friday June 20th, 2025 MINAGRI officially opened the 18th Rwanda Agriculture Show at Mulindi showground in Gasabo District, Kigali City. The event themed “leveraging innovation and investment for building resilient and sustainable agri-food systems” took place from 18/06/2025 to 27/06/2025.

It focused on showcasing various agricultural technologies meant to fight effects of climate change and increasing productivity. This year’s show attracted more than 500 exhibitors.



As he opened the agricultural exhibition, the Minister of Agriculture and Animal Resources, Dr. Mark Cyubahiro Bagabe, encouraged farmers to adopt resilient technologies that can help them secure their future through developing a climate smart agriculture sector.

### 3.4.1.4. Media Field Trip

The Ministry of Agriculture and Animal Resources (MINAGRI) organised a media field trip during the period from 21st to 25th October, 2024 to raise awareness about benefits of consuming healthy diets based on animal quality proteins in fish and micro-nutrients in fruits and vegetables. The sites covered during the media field trip include fruits trees planting in Rubavu District, fish distribution

to vulnerable households in Rwamagana District, as well as World Food Day 2024 celebrations in Nyamasheke District among other sites. The media field trip was conducted as part of the Kwihaza Project implemented by MINAGRI and its partners to raise awareness on benefits of consuming healthy diets based on animal quality proteins in fish and micro-nutrients in fruits and vegetables.



**Photo:** Journalists interviewing an avocado farmer in Huye District while on a media field trip from 21st to 25th October, 2024 to raise awareness about benefits of consuming healthy diets based on animal quality proteins in fish and micro-nutrients in fruits and vegetables.

## Outcomes

The media field trip achieved the following:

- Increased knowledge on benefits of consuming healthy diets based on animal quality proteins in fish and micro-nutrients in fruits and vegetables through information sharing done by journalists.
- Increased awareness on healthy diets based on fish and fruits
- Improved relationship between media and MINAGRI
- Increased visibility of the agriculture sector in the media
- Highlighted untapped opportunities in horticulture and fish farming through media.
- A wide coverage of World Food Day 2024 on national and international media.

### 3.4.1. 5. Commemorating the 1994 Genocide against the Tutsi

In line with marking the 31st commemoration of the 1994 Genocide against the Tutsi in Rwanda under the theme of “Remember-Unite-Renew”, on 13th June 2025, the Ministry of Agriculture and Animal Resources and its affiliated agencies RAB and NAEB commemorated for the 31st time its former employees, staff of affiliated agencies and projects

who were killed during the Genocide perpetrated against the Tutsi in 1994 in Rwanda. MINAGRI, RAB, and NAEB staff members and other agriculture sector development partners in Rwanda met at Gisozi Genocide Memorial in Kigali on 13th June 2025 to mark the 31st commemoration of the 1994 Genocide against the Tutsi.



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### 3.4.2. International events organized

#### 3.4.2.1. The Africa Food Systems Forum 2024

From 02-06 September 2024, Rwanda hosted the Africa Food Systems Forum (AFS Forum) in Kigali, where more than 4,900 people attended the meeting in-person to share and learn from discussions held at the summit.

AFS Forum is the world's premier forum for African agriculture and food systems, bringing together stakeholders to take practical action and share lessons that help move African food systems forward.

The AFS Forum for 2024 was held under the theme of “Innovate, Accelerate, and Scale: Delivering Food Systems Transformation in a Digital and Climate Era”.

Participants at the forum assessed innovative policy mechanisms, financing initiatives, research, business models, and modern technologies needed for successful delivery of a well-functioning food system across Africa.

While officiating the opening of the forum, Rwanda's then Prime Minister, Dr. Edouard Ngirente, urged governments to utilize digital technologies, implement climate-resilient practices and create inclusive systems to ensure every African has access to adequate, safe, and nutritious food.

He also emphasized the importance of collaboration between governments, policymakers, and the private sector to transform agriculture and secure a sustainable food supply.

During the forum, Dr. Ngirente also highlighted untapped opportunities for the private sector in modernizing agriculture, agro-processing, strengthening market connections, ensuring food and nutrition security, and increasing exports.

While describing Rwanda's policies at the forum, Ngirente said that for transforming the country's agriculture sector into a powerful engine for economic development, Rwanda has embraced innovation and making evidence-based-policy decisions.

"In this context, the Government has focused on de-risking the sector to ensure that it becomes more profitable and attractive for the youth and private sector actors," he told delegates at the forum.



AFS Forum is a multi-sector platform that comprises of key partners leading in African agriculture all focused on putting farmers at the centre of the continent's growing economies. The AFS Forum exists to progress Africa's Food Systems and promote agricultural excellence across the diverse landscapes of the continent.

### 3.4.2.2. The second edition of the African Conference on Agricultural Technologies (ACAT2025)

The Government of Rwanda through the Ministry of Agriculture and Animal Resources (MINAGRI) in collaboration with African Agricultural Technology Foundation (AATF), hosted the second edition of the African Conference on Agricultural Technologies (ACAT2025) from 9–12 June 2025 in Kigali.

This four-day event, held under the theme of "NextGen Ag-tech Solutions for Africa's Farmers," aimed to explore and deliberate on next-generation agricultural technologies that can transform African agriculture and empower farmers.



During the high-level official opening ceremony of the ACAT2025, Rwanda’s then Prime Minister, Dr. Edouard Ngirente, called upon African nations to integrate technology into agriculture by empowering young innovators, mitigating risks through insurance and climate-resilient seeds, and expanding digital farming tools to enhance food security and promote sustainable growth.

The ACAT Conference brought together over 800 delegates drawn from the African continent and beyond. They included government representatives, industry thought leaders, policymakers, technical experts, private institutions, farmers, women, and youth. The convening was expected to build momentum towards action on current discussions and recommendations on the importance of the utilization of innovative agricultural technologies.

### 3.4.2.3. Rwanda hosted the IDF Regional Dairy Conference Africa 2025

The Government of Rwanda through the Ministry of Agriculture and Animal Resources (MINAGRI), in collaboration with the International Dairy Federation (IDF), Rwanda National Dairy Platform (RNDP), and Rwanda Private Sector Federation (PSF), hosted the Regional Dairy Conference Africa from 29th May to 1st June, 2025 in Kigali.



Under the theme: “Sustainable Dairy for a Prosperous Africa”, this conference brought together global and continental dairy experts, industry leaders, policymakers, researchers, private sectors, and stakeholders from across Africa and beyond to share insights, foster partnerships and chart a path forward for a thriving and sustainable dairy industry across Africa.

### 3.4.3 Mass communication

sector and keep the general public and farmers in particular informed of new trends in the country's agriculture sector. In this regard, mass media such as radio, television, newspapers, online and social media were used to reach out to target audiences.

#### Radio and Television

Community-based radio stations played a great role in reaching out to community farmers and disseminating agricultural messages in different parts of the country. Live and pre-recorded radio talk-shows were aired on Radio Rwanda as well as RBA's community radio stations across the country known as RCs (Radios Communautaires); RC Musanze, RC Rubavu, RC Rusizi, RC Huye, and RC Nyagatare. During the financial year, 467 radio talk-shows were aired on Rwanda Broadcasting Agency (RBA)'s Radio Rwanda and its affiliated locally-based community radio stations known in French as Radios Communautaires (RCs), with topics of the talk-shows ranging from **healthy diets, awareness for agriculture insurance, and good agricultural practices in both crop and livestock farming.**

Some 42 TV talk-shows were also aired on RTV (RBA's Rwanda Television) while 10 TV and radio

spots to support media campaigns and awareness for **healthy diets, awareness for agriculture insurance, and good agricultural practices** were also aired on RTV and Radio Rwanda. You can watch some of the TV Talk-shows and adverts here:

<https://www.youtube.com/watch?v=7hXwBxRzOyo>

#### Social Media

Social media platforms were used to timely spread information on various sector activities. The main social media outlets used include X (formerly Twitter), Facebook, Flickr, YouTube, and Instagram.

#### Media Relations

Media management was on top of the daily work of the communication team at MINAGRI. This included proper handling of media inquiries, arranging media interviews with the ministry's officials, daily media monitoring, and strengthening relationships between the ministry and media fraternity. Good relationship with media enabled the ministry to drive the narrative around its mission, policies, good agricultural practices, and Rwanda's success stories in agriculture sector in a consistent way.

### 3.4.4. MINAGRI's Call Centre

The Call Centre (accessible by dialling 4127) was used to receive and respond to queries from farmers across the country. This has enabled not only the farmers to get information from relevant directorates but also the ministry to get feedback from farmers.

The Call Centre has been upgraded with a well-functioning Customer Relationship Management (CRM) system and it was used as a toll-free line by all farmers and other agriculture stakeholders in the country to address issues that range from crop and livestock insurance to crop pest management and access to improved animal breeds, crop seeds and fertilisers among other needs. The total number of calls registered in the Call Centre from July 1st, 2024 to June 27th, 2025 is 25,356 calls, with topics ranging from crop and livestock insurance to crop pest management and access to improved animal breeds, crop seeds, and fertilisers among other inquiries.



### 3.4.5 Audio-visual Production and archiving

During the Financial Year 2024/2025, 50 videos on Agriculture and Livestock were produced. All produced videos were disseminated through different channels including Media and social media (X, Instagram, YouTube and Facebook). The YouTube Channel of the Ministry of Agriculture and Animal Resources grew from 25,000 subscribers in June 2024 to 35,000 subscribers as of June 2025; an increase of 10,000 subscribers in one year. You can watch the videos (TV Shows and adverts) on this link: RwandaAgri: <https://www.youtube.com/channel/UCB-oYINxgCdmyEnPi-SWAZw>. You can access photos here: <https://flickr.com/photos/rwandaagri/albums>

### Budget Execution Performance for 2024/25 FY

The source of the budget executed by MINAGRI central, and its implementing agencies (RAB and NAEB) came from Government (domestic budget) and Development Partners (loan and/or grant). The revised budget allocated to MINAGRI and its affiliated agencies in 2024/25 FY was 188,779,203,828 Frw. Overall budget execution for the sector stands at 92%, indicating strong performance in utilizing allocated resources. Recurrent budgets were consistently well executed across all institutions, showing good control and predictability of operational expenditures.

### Our Impact – Farmers’ stories



“Before we started insuring chickens, they would die and we would face the losses. But today we lose the birds and get money in return as compensation.”

Clarisse Manishimwe, a poultry farmer in Musanze District.



“Before we would grow crops fearing that we may lose everything and even our land be auctioned by the bank, but today we farm with hope knowing that insurance will compensate us in case of losses”

Irish potatoes farmers Habimana Theoneste in Musanze District.”

# Annexes

## Annex 1: Budget Execution per Agencies 2024/2025

Institutions	Budget types	Revised budget 2023/24	Executed budget	%
MINAGRI Central	Recurrent	2,010,562,843	1,752,275,173	87
	Development	9,708,318,257	36,083,431,076	372
	S/total	11,718,881,100	37,835,706,249	323
RAB	Recurrent	5,511,459,697	5,088,883,858	92
	Development	150,704,501,075	115,777,677,865	77
	S/total	156,215,960,772	120,866,561,723	77
NAEB	Recurrent	1,033,402,090	1,033,402,090	100
	Development	19,810,959,866	13,313,456,588	67
	S/total	20,844,361,956	14,346,858,678	69
<b>Total</b>	<b>188,779,203,828</b>	<b>173,049,126,650</b>	<b>92</b>	

Source: MINECOFIN

## Annex 2: Budget Execution per type (Domestic, External & Districts agriculture programs)

Budget types	Revised Budget	Executed Budget	%
Recurrent	8,555,424,630	7,874,561,121	92
Development (Internal)	60,811,813,110	78,061,990,401	128
Development (External)	119,411,966,088	87,112,575,128	73
S/Total	188,779,203,828	173,049,126,650	92
Districts Budget Execution on Agriculture Programs (including Earmarked Transfers)	63,864,728,723	60,920,489,442	95
<b>Total</b>	<b>252,643,932,551</b>	<b>233,969,616,092</b>	<b>93</b>

Source: MINECOFIN

## Annex 3: Budget Execution per Programs and Subprograms in 2024/2025 FY

No.	Programmes	Sub-programmes	Revised Budget	Executed Budget	%
1	AGRICULTURE RESEARCH AND EXTENSION		5,600,329,089	3,826,723,874	68
		1. Research and Innovation	4,380,567,254	3,086,450,992	70
		2. Extension Services and Technology Adaptation and Skills Development	1,219,761,835	740,272,882	61
2	SUSTAINABLE CROPS AND ANIMAL RESOURCES PRODUCTION & PRODUCTIVITY		144,600,345,357	111,587,142,720	77
		1.Sustainable, Diversified and Climate Smart Crop Production and Productivity	77,417,882,829	65,889,693,550	85
		2. Sustainable Animal Resources Production and Productivity	57,389,678,452	38,377,797,326	67

		3.Nutrition-sensitive agriculture and Resilience Mechanisms	9,792,784,076	7,319,651,844	75
<b>3</b>	<b>VALUE ADDITION AND COMPETITIVENESS OF CROPS AND ANIMAL RESOURCES</b>		<b>28,202,985,187</b>	<b>48,503,529,261</b>	<b>172</b>
		1. Food Systems for domestic market supply	7,888,198,692	34,826,261,402	441
		2. Traditional Export Crop Development	12,148,391,861	7,656,648,209	63
		3. Export Diversification	7,662,568,005	5,656,808,379	74
		Farmers -Market linkages infrastructures	503,826,629	363,811,271	72
<b>4</b>	<b>ENABLING ENVIRONMENT AND RESPONSIVE INSTITUTIONS</b>		<b>1,917,919,565</b>	<b>1,350,969,674</b>	<b>70</b>
		1. Agriculture Sector Planning, Coordination, Financing and Information Systems	811,371,655	378,939,993	47
		2. Animal Resources Policy, Strategies Development	927,045,694	796,547,465	86
		3. Crop Policy and Strategies Development	179,502,216	175,482,216	98
<b>5</b>	<b>ADMINISTRATIVE AND SUPPORT SERVICES</b>		<b>8,457,624,630</b>	<b>7,780,761,121</b>	<b>92</b>
		Administrative and Support Services	8,457,624,630	7,780,761,121	92
<b>TOTAL</b>			<b>188,779,203,828</b>	<b>173,049,126,650</b>	<b>92</b>

#### Annex 4: MINAGRI Central Projects Budget Execution in 2024/25 FY

Projects	Revised Domestic Budget	Revised External Funds	Total	Executed Budget for domestic	Executed Budget for external funds	Total	%
Smart Agriculture Information System (SAIS)	291,786,122	475,785,533	767,571,655	108,436,037	226,703,956	335,139,993	44
Agricultural Insurance Project (AIP)	0	889,045,694	889,045,694	-	758,547,465	758,547,465	85
National Strategic Grain Reserve Project	7,878,198,692	0	7,878,198,692	34,816,261,402		34,816,261,402	442
Buffet Project (Nasho Irrigation)	0	173,502,216	173,502,216		173,482,216	173,482,216	100
<b>TOTAL</b>	<b>8,169,984,814</b>	<b>1,538,333,443</b>	<b>9,708,318,257</b>	<b>34,924,697,439</b>	<b>1,158,733,637</b>	<b>36,083,431,076</b>	<b>372</b>

## Annex 5: NAEB Projects Budget Execution in 2024/2025FY

Projects	Revised Domestic Budget	Revised External Funds	Total	Executed Budget for domestic	Executed Budget for external funds	Total	%
Improving Coffee Production, Productivity and Quality	2,066,227,453	-	2,066,227,453	2,054,914,419	-	2,054,914,419	99
Tea Expansion Project	1,504,967,024	-	1,504,967,024	1,611,242,846	-	1,611,242,846	107
Export Logistics Development	1,766,230,986	-	1,766,230,986	1,523,797,936	-	1,523,797,936	86
Sericulture Project	186,083,739	-	186,083,739	148,223,129	-	148,223,129	80
Commodity Chain Development (Horticulture Intensification and Quality Management)	430,165,659	-	430,165,659	337,088,159	-	337,088,159	78
Kigali Wholesale Market	525,000,000	-	525,000,000	523,728,338	-	523,728,338	100
Development of New Agriculture Export Chain	664,913,333	-	664,913,333	470,380,508	-	470,380,508	71
Smart Food Value Chain Management Project	795,770,253	2,998,846,786	3,794,617,039	795,770,253	1,903,938,436	2,699,708,689	71
Promoting Smallholder Agro-export Competitiveness Project (PSAC)	349,228,000	7,925,776,294	8,275,004,294	348,000,000	3,500,842,410	3,848,842,410	47
Strengthening horticulture farmer's cooperatives and SMEs competitiveness through enhanced Post-Harvest Management and Market Access	-	597,750,339	597,750,339	-	95,530,154	95,530,154	16
<b>TOTAL</b>	<b>8,288,586,447</b>	<b>11,522,373,419</b>	<b>19,810,959,866</b>	<b>7,813,145,588</b>	<b>5,500,311,000</b>	<b>13,313,456,588</b>	<b>67</b>

## Annex 6: Districts Budget Execution on Agriculture Programs in 2024

Districts	Revised Budget	Committed Amount	Budget Balance	%
<b>4000 NGOMA DISTRICT</b>	1,417,431,906	1,416,926,906	505,000	100
<b>D5 Agriculture</b>	1,417,431,906	1,416,926,906	505,000	100
<b>D501 Sustainable Crop Production</b>	1,346,657,748	1,346,657,748	0	100
<b>D502 Sustainable Livestock Production</b>	70,774,158	70,269,158	505,000	99.3
<b>4100 BUGESERA DISTRICT</b>	3,723,912,185	3,646,587,172	77,325,013	97.9
<b>D5 Agriculture</b>	3,723,912,185	3,646,587,172	77,325,013	97.9
<b>D501 Sustainable Crop Production</b>	3,372,593,550	3,295,318,537	77,275,013	97.7
<b>D502 Sustainable Livestock Production</b>	68,000,000	67,950,000	50,000	99.9
<b>D503 Producer Professionalization</b>	283,318,635	283,318,635	0	100
<b>4200 GATSIBO DISTRICT</b>	2,165,573,511	2,118,410,707	47,162,804	97.8
<b>D5 Agriculture</b>	2,165,573,511	2,118,410,707	47,162,804	97.8
<b>D501 Sustainable Crop Production</b>	2,116,822,656	2,069,659,852	47,162,804	97.8
<b>D502 Sustainable Livestock Production</b>	48,750,855	48,750,855	0	100

4300 KAYONZA DISTRICT	4,568,022,402	4,030,054,955	537,967,447	88.2
D5 Agriculture	4,568,022,402	4,030,054,955	537,967,447	88.2
D501 Sustainable Crop Production	3,035,999,024	2,502,797,896	533,201,128	82.4
D502 Sustainable Livestock Production	62,018,260	61,977,855	40,405	99.9
D503 Producer Professionalization	1,470,005,118	1,465,279,204	4,725,914	99.7
4400 KIREHE DISTRICT	2,237,444,311	2,232,855,877	4,588,434	99.8
D5 Agriculture	2,237,444,311	2,232,855,877	4,588,434	99.8
D501 Sustainable Crop Production	2,150,212,745	2,149,842,245	370,500	100
D502 Sustainable Livestock Production	65,207,527	62,217,855	2,989,672	95.4
D503 Producer Professionalization	22,024,039	20,795,777	1,228,262	94.4
4500 NYAGATARE DISTRICT	6,265,510,472	5,882,196,293	383,314,179	93.9
D5 Agriculture	6,265,510,472	5,882,196,293	383,314,179	93.9
D501 Sustainable Crop Production	6,132,349,987	5,792,405,953	339,944,034	94.5
D502 Sustainable Livestock Production	133,160,485	89,790,340	43,370,145	67.4
4600 RWAMAGANA DISTRICT	1,039,272,639	1,004,272,639	35,000,000	96.6
D5 Agriculture	1,039,272,639	1,004,272,639	35,000,000	96.6
D501 Sustainable Crop Production	1,001,446,084	966,446,084	35,000,000	96.5
D502 Sustainable Livestock Production	37,826,555	37,826,555	0	100
4700 HUYE DISTRICT	947,606,408	919,318,244	28,288,164	97
D5 Agriculture	947,606,408	919,318,244	28,288,164	97
D501 Sustainable Crop Production	872,264,429	843,976,688	28,287,741	96.8
D502 Sustainable Livestock Production	75,341,979	75,341,556	423	100
4800 NYAMAGABE DISTRICT	3,239,506,756	2,946,141,709	293,365,047	90.9
D5 Agriculture	3,239,506,756	2,946,141,709	293,365,047	90.9
D501 Sustainable Crop Production	3,160,853,387	2,867,525,054	293,328,333	90.7
D502 Sustainable Livestock Production	78,653,369	78,616,655	36,714	100
4900 GISAGARA DISTRICT	2,626,438,773	2,596,840,293	29,598,480	98.9
D5 Agriculture	2,626,438,773	2,596,840,293	29,598,480	98.9
D501 Sustainable Crop Production	2,556,779,518	2,527,181,038	29,598,480	98.8
D502 Sustainable Livestock Production	69,659,255	69,659,255	0	100
5000 MUHANGA DISTRICT	1,272,362,592	938,633,680	333,728,912	73.8
D5 Agriculture	1,272,362,592	938,633,680	333,728,912	73.8
D501 Sustainable Crop Production	1,146,793,629	866,962,925	279,830,704	75.6
D502 Sustainable Livestock Production	125,568,963	71,670,755	53,898,208	57.1
5100 KAMONYI DISTRICT	857,318,167	852,106,210	5,211,957	99.4
D5 Agriculture	857,318,167	852,106,210	5,211,957	99.4
D501 Sustainable Crop Production	759,481,112	759,391,711	89,401	100.0
D502 Sustainable Livestock Production	88,193,453	83,158,143	5,035,310	94.3
D503 Producer Professionalization	9,643,602	9,556,356	87,246	99.1
5200 NYANZA DISTRICT	2,591,829,090	2,401,466,584	222,748,546	92.7

D5 Agriculture	2,591,829,090	2,401,466,584	222,748,546	92.7
D501 Sustainable Crop Production	2,500,736,233	2,325,791,629	207,330,644	93.0
D502 Sustainable Livestock Production	91,092,857	75,674,955	15,417,902	83.1
5300 NYARUGURU DISTRICT	1,810,870,854	1,795,518,100	15,352,754	99.2
D5 Agriculture	1,810,870,854	1,795,518,100	15,352,754	99.2
D501 Sustainable Crop Production	1,724,242,047	1,712,175,796	12,066,251	99.3
D502 Sustainable Livestock Production	80,508,807	77,222,304	3,286,503	95.9
D503 Producer Professionalization	6,120,000	6,120,000	0	100.0
5400 RUSIZI DISTRICT	2,845,464,464	2,780,363,828	97,359,329	97.7
D5 Agriculture	2,845,464,464	2,780,363,828	97,359,329	97.7
D501 Sustainable Crop Production	2,703,788,994	2,667,223,573	68,824,114	98.6
D502 Sustainable Livestock Production	141,675,470	113,140,255	28,535,215	79.9
5500 NYABIHU DISTRICT	3,129,131,844	3,120,171,805	6,260,039	99.7
D5 Agriculture	3,129,131,844	3,120,171,805	6,260,039	99.7
D501 Sustainable Crop Production	3,046,151,950	3,046,151,950	0	100.0
D502 Sustainable Livestock Production	69,989,215	63,614,595	3,674,620	90.9
D503 Producer Professionalization	12,990,679	10,405,260	2,585,419	80.1
5600 RUBAVU DISTRICT	3,185,696,202	3,183,599,185	2,097,017	99.9
D5 Agriculture	3,185,696,202	3,183,599,185	2,097,017	99.9
D501 Sustainable Crop Production	3,136,036,831	3,136,036,831	0	100.0
D502 Sustainable Livestock Production	37,794,354	37,794,354	0	100.0
D503 Producer Professionalization	11,865,017	9,768,000	2,097,017	82.3
5700 KARONGI DISTRICT	992,168,435	904,254,185	87,914,250	91.1
D5 Agriculture	992,168,435	904,254,185	87,914,250	91.1
D501 Sustainable Crop Production	976,255,180	888,340,930	87,914,250	91.0
D502 Sustainable Livestock Production	15,913,255	15,913,255	0	100.0
5800 NGORORERO DISTRICT	2,292,081,921	2,242,208,071	49,873,850	97.8
D5 Agriculture	2,292,081,921	2,242,208,071	49,873,850	97.8
D501 Sustainable Crop Production	2,146,827,462	2,144,834,347	1,993,115	99.9
D502 Sustainable Livestock Production	130,695,898	82,962,254	47,733,644	63.5
D503 Producer Professionalization	14,558,561	14,411,470	147,091	99.0
5900 NYAMASHEKE DISTRICT	2,858,807,293	2,440,531,942	416,275,351	85.4
D5 Agriculture	2,858,807,293	2,440,531,942	416,275,351	85.4
D501 Sustainable Crop Production	2,509,631,827	2,195,337,757	314,294,070	87.5
D502 Sustainable Livestock Production	110,718,555	104,236,741	4,481,814	94.1
D503 Producer Professionalization	238,456,911	140,957,444	97,499,467	59.1
6000 RUTSIRO DISTRICT	2,467,394,052	2,309,213,034	151,431,018	93.6
D5 Agriculture	2,467,394,052	2,309,213,034	151,431,018	93.6
D501 Sustainable Crop Production	1,120,452,023	1,120,452,023	0	100.0
D502 Sustainable Livestock Production	36,326,555	36,326,555	0	100.0

D503 Producer Professionalization	1,310,615,474	1,152,434,456	151,431,018	87.9
6100 BURERA DISTRICT	2,154,192,128	2,144,330,360	9,861,768	99.5
D5 Agriculture	2,154,192,128	2,144,330,360	9,861,768	99.5
D501 Sustainable Crop Production	2,067,142,773	2,066,835,005	307,768	100.0
D502 Sustainable Livestock Production	87,049,355	77,495,355	9,554,000	89.0
6200 GICUMBI DISTRICT	1,511,829,803	1,558,023,022	1,190,061	103.1
D5 Agriculture	1,511,829,803	1,558,023,022	1,190,061	103.1
D501 Sustainable Crop Production	1,452,090,695	1,498,283,914	1,190,061	103.2
D502 Sustainable Livestock Production	53,619,108	53,619,108	0	100.0
D503 Producer Professionalization	6,120,000	6,120,000	0	100.0
6300 MUSANZE DISTRICT	1,975,617,335	1,975,601,126	16,209	100.0
D5 Agriculture	1,975,617,335	1,975,601,126	16,209	100.0
D501 Sustainable Crop Production	1,936,583,280	1,936,567,071	16,209	100.0
D502 Sustainable Livestock Production	39,034,055	39,034,055	0	100.0
6400 RULINDO DISTRICT	1,336,674,570	1,334,456,698	2,217,872	99.8
D5 Agriculture	1,336,674,570	1,334,456,698	2,217,872	99.8
D501 Sustainable Crop Production	907,790,762	907,790,762	0	100.0
D502 Sustainable Livestock Production	43,841,748	42,248,537	1,593,211	96.4
D503 Producer Professionalization	385,042,060	384,417,399	624,661	99.8
6500 GAKENKE DISTRICT	1,159,095,653	1,143,774,662	15,320,991	98.7
D5 Agriculture	1,159,095,653	1,143,774,662	15,320,991	98.7
D501 Sustainable Crop Production	1,093,215,298	1,077,894,307	15,320,991	98.6
D502 Sustainable Livestock Production	65,880,355	65,880,355	0	100.0
6600 RUHANGO DISTRICT	1,413,234,109	1,273,012,928	140,221,181	90.1
D5 Agriculture	1,413,234,109	1,273,012,928	140,221,181	90.1
D501 Sustainable Crop Production	1,325,779,862	1,188,839,225	136,940,637	89.7
D502 Sustainable Livestock Production	78,143,730	78,053,703	90,027	99.9
D503 Producer Professionalization	9,310,517	6,120,000	3,190,517	65.7
7000 KIGALI CITY	1,780,240,848	1,729,619,227	50,621,621	97.2
D5 Agriculture	1,780,240,848	1,729,619,227	50,621,621	97.2
D501 Sustainable Crop Production	1,679,829,624	1,630,423,300	49,406,324	97.1
D502 Sustainable Livestock Production	100,411,224	99,195,927	1,215,297	98.8
Total	63,864,728,723	60,920,489,442	3,044,817,294	95.4

**Annex 7: Agriculture Sector Priorities for 2025/2026 FY**

Priorities	Key Interventions
<b>Increase productivity of priority crops</b>	<ul style="list-style-type: none"> <li>• Increase area of land under radical (142,318 ha to 146,518 ha) and progressive terraces (1,032,282 Ha to 1,044,282 Ha)</li> <li>• Increase quantity of mineral fertilizers used by farmers from 96,372.9 MT to 101,191 MT</li> <li>• Increase quantity of improved seeds used by farmers from 7,575.6 MT to 7,954 MT</li> <li>• Increase local production of certified improved seeds</li> <li>• Increase the percentage of farmers reached by extension services in partnership with the Private sector</li> <li>• Promote and operationalize Agri-Hubs (1,000 Ha) and Food Basket Sites (124,702 Ha)</li> <li>• Increase the land under conservation agriculture</li> </ul>
<b>Achieve and sustain self-sufficiency in animal resources</b>	<ul style="list-style-type: none"> <li>• Increase access to water resources for livestock (Valley dams &amp; Boreholes)</li> <li>• Improve Animal genetics (Liquid Nitrogen plants &amp; Animal breeding and Insemination)</li> <li>• Increase local production of animal feeds</li> <li>• Increase veterinary clinics and provide proximity veterinary services</li> <li>• Increase fish production</li> </ul>
<b>Strengthen post-harvest handling and management and reduce post-harvest losses</b>	<ul style="list-style-type: none"> <li>• Expand national storage capacity of food crops and equip with modern preservation technologies</li> <li>• Establish and upgrade agriculture export facilities (cold rooms)</li> <li>• Increase the number of Milk Collection Centers and Milk Collection Points</li> </ul>
<b>Attract investment in the agriculture sector and increase credit to agriculture sector</b>	<ul style="list-style-type: none"> <li>• Scale up insurance coverage on crops and livestock</li> </ul>
<b>Boosting agriculture exports</b>	<ul style="list-style-type: none"> <li>• Rejuvenate coffee plantation</li> </ul>

## Annex 8: Progress toward PSTA5 and NST2

No	NST2 Outcome	Indicators	Units	Baseline (2023/24)	2024/25 Target	Current progress (2024/25)
1	Sustainable economic growth and increased per capita incomes	Agriculture GDP growth	Percentage	2.0%	6.8%	4%
<b>Economic Transformation Pillar</b>						
6	Modernized Crop Production and productivity	Index on Productivity increase for priority food crops	Percentage	-		NISR
		Productivity and production for specific priority food crops	MT/Ha	Maize: Maize: 1.7 (508,492)	Maize: 1.87	2 Mt/Ha (481,245 Mt)
				Beans: 0.6 (441,406)	Beans: 0.8	0.7Mt/ha (230,456 Mt)
				Irish Potatoes: 8.2 (781,032)	Irish Potatoes: 9.2	8.7Mt/ha (475,785 Mt/ha)
				Wheat: 1.2 (16,656)	Wheat :1.29	1.3 Mt/ha (3,144 Mt)
				Soybean: 0.4 (29,059)	Soybean: 0.8	0.5 Mt/ha (15,657 Mt)
				Cassava: 13.5 (1,345,379)	Cassava :15.0	13.5 Mt/ha (542,874 Mt)
				Cooking banana: 14.2 (1,049,838)	Cooking banana: 16.3	14.3Mt/Ha (590,252Mt)
		Area under irrigation	Ha	71,549	76,686	74,375.0
		Area Under terraces	Ha (Radical)	142,318	146,518	146,846.62
			Ha (Progressive)	1,032,282	1,044,282	1,047,314.4
		Quantity of fertilizers applied	Kg per Ha	70	72.2	73.2
		Percentage of farmers using improved seeds	Percentage (LSF)	85.7	90	85.4%
		• Large-scale farmers (LSF)	Percentage (SSF)	35.9	57.5	35.9%
		• Small-scale farmers (SSF)				
		Coverage of agricultural extension services	Percentage	35	51	67.1%
7	Strengthened Market Linkages and Post-Harvest Infrastructures	Post-harvest losses on food crops	Percentage	13.8	12%	N/A
8	Modernized Animal Resources production and productivity	Production of milk products	MT	1,061,301	1,114,366	1,152,514
		Production of Meat products	MT	197,778	207,667	219,523
		Production of Fish	MT	46,495	54,000	52,439
		Production of Eggs	MT	17,344	18,211	29,855
9	Strengthened Agriculture De-risking for resilience	Crops insured	Ha	33,269	41,807	37, 034
		Livestock insured	Number	Cattle: 48962	49,962	53,125
			Number	Pigs: 7300	27,300	15,661
			Number	Poultry: 274506	294,506	372,012
		Credit to Agriculture Sector as a percentage of total loans	Percentage	6	6	BNR

