REPUBLIC OF RWANDA

MINISTRY OF AGRICULTURE AND ANIMAL RESOURCES

REPORT FOR FORWARD-LOOKING AGRICULTURE JOINT SECTOR REVIEW

THE FISCAL YEAR 2022/2023

July 2022

I. INTRODUCTION

The Ministry of Agriculture and Animal Resources/MINAGRI with its agencies Rwanda Agriculture and Animal Resources Development Board/RAB and National Agricultural Export Development Board/NAEB is implementing the fourth edition of the Strategic Plan for Agriculture Transformation (PSTA 4) since 2018, which is currently under review.

The current findings from PSTA 4 Mid Term Review (MTR) showed that its implementation was effective and contributed to agriculture development. It was noted that the PSTA 4 put emphasis on climate change adaptation and mitigation as well as environmental protection through climate-resilient activities such as marshlands development, irrigation, terracing, agroforestry, and others which resulted in increased agricultural production and productivity. For instance, radical terraces have increased by 28.4%, progressive terraces by 9.1% and the area under irrigation increased by 21.3% during the 2018-2021 period.

The PSTA 4 also supported the development and release of local high-yielding climate-resilient varieties. The seeds of these improved varieties were locally produced and helped to reduce dependency on seed importations. The MTR found out that PSTA 4 supported the initiation of 53 local seed companies including 25 for maize, 20 for soybean, and 8 for wheat. These companies contributed to the availability and access of locally produced improved seeds to smallholder farmers.

The Agriculture Joint Sector Review Meeting (JSR), Forward-Looking (FL) was organized and held on June 09, 2022, at MINAGRI Conference room. It was chaired by the Hon. Minister of State in the Ministry of Agriculture and Animal Resources Prof. Dr. Jean Chrysostome Ngabitsinze and Co-chaired by Mr. Byiringiro Esdras, on behalf of the Development Partners.

The Forward-Looking Agriculture Joint Sector Review is an opportunity for the Ministry to show different stakeholders the implementation progress of the PSTA 4 as well as key priorities for the next financial year 2022/2023. It is also a forum that brings together all Sector Working Group (SWG) stakeholders to engage in policy dialogue and to ensure ownership, accountability, and transparency of the National Strategy for Transformation (NST1) implementation and monitoring process.

The main objectives of the Forward-Looking Joint Sector Reviews were the following:

- To present and discuss areas prioritized during the planning and budgeting process;
- To discuss and validate the 2022/23 sector targets and related policy actions;
- To select policy-related studies to be conducted in the 2022/23 fiscal year;

– To assess progress towards implementation of the fiscal year 2021/22 policy actions;

To provide the latest status on SDGs indicators already monitored by sectors and review the progress on the implementation of the plans and strategies to monitor the additional SDG indicators currently having clear computation methodologies.

II. OPENING REMARKS

In his opening, the **Chair** thanked Development Partners (DPS), NGOs, Civil Societies, the Private Sector and line Ministries for their participation in the Agriculture Joint Sector Review Forward-Looking and for their support to the development of the Agriculture Sector in Rwanda.

He reminded the audience that despite the effects of Covid-19, the agriculture sector continues to be the backbone of the Rwanda economy with 26% as share in Gross Domestic Product (GDP) and it is the largest source of employment countrywide where it accounts for 66% of the national employment.

He revealed that the next fiscal year 2022/2023 will be the fifth year of the implementation of the Strategic Plan for Agricultural Transformation (PSTA 4). We need to put more effort to implement areas lagging behind. The Ministry will continue to provide sector coordination and support to stakeholders' dialogues by providing fora of exchange such as the Agriculture Sector Working group (ASWG), Cluster Working Group (CWG), Joint-Sector Review (JSR,) and the Sector Wide Approach (SWAP) meeting platform.

On the other hand, the **Co-Chair (World Bank)** in his remarks, on behalf of the Development Partners (DPs), thanked the Ministry for organizing the Forward-Looking Agriculture Joint Sector Review.

He mentioned that considering the budget allocated to agriculture sector in the next fiscal year 2022/23, a considerable proportion of the public funds is allocated to agricultural input purchase while more should be allocated to many other factors that could drive the commercialization and the development of value chains; consideration of those different factors has emerged crucial, given the important role that the sector has in ensuring food security, and the transformation objectives of the PSTA4 but also the growing demand for more high-value foods in the country and internationally.

He concluded his remarks by saying that there is a good change among sector priorities for next year. In addition to the interventions to increase access to agriculture finance and sector de-risking, there are also more focused interventions to increase commercialization and strengthen public-private dialogues and value chain platforms, which are critical to create a conducive environment for more private sector investments.

III. AREAS PRIORITISED DURING PLANNING AND BUDGETING

3.1. Current progress towards the implementation of NST1

The Ministry of Agriculture and Animal Resources and its affiliated agencies (RAB and NAEB) has put more efforts in achieving agriculture targets that contribute to the NST1 indicators.

Looking at the current status towards the implementation of NST1 indicators, we realized the following achievements:

- 66,840.5 ha of irrigation has been developed within an Integrated Water Resources Management Framework in 2020/21 against 102,284 ha planned to be achieved in 2023/24;
- 762,773 ha of area of land under consolidation in Season A and 523,236 ha in Season B in 2020/21 against 980,000 ha planned to be achieved in 2023/24;
- 30% of farm operations were mechanized in 2020/21 against 50% to be achieved in 2023/24;
- According to the area of land under erosion control measures and used optimally, 131,056.7 ha of radical terraces and 972,055 ha of progressive terraces have been achieved in 2020/21 against 142,500 ha of radical and 1,007,624 ha of progressive terraces planned to be achieved in 2023/24 respectively;
- For the percentage of farmers using quality seeds on consolidated sites: Large Scale Farmers (LSF): 88.8% has been achieved in 2020/21 against 75% planned in 2023/24;
- Quantity of fertilizer applied: 60 Kg per ha achieved against 75 Kg per ha in 2023/24;
- Considering the yield of major crops (MT/Ha for – Maize, Beans, Irish potatoes, Wheat and Soybeans): Maize: 1.6, Beans: 0.7, Irish potatoes: 8.9, Wheat: 1.0 and Soybeans: 0.5 have been achieved in 2020/21 against Maize: 2.94, Beans: 2.22, Irish potatoes: 14.00, Wheat: 1.77 and Soy beans: 1.28 planned in 2023/24;
- For Strategic food reserves stored, we realized that the quantities of food commodities in stock at the end of June 2020, were Maize: 15,752 MT and Beans: 5,550 MT against Maize: 140,980 MT and Beans: 69,917 MT;
- Quantity of meat and dairy products produced (Meat, Milk, Eggs): Milk: 891,326, Meat: 174,904 and Eggs: 5,800 have been achieved in 2020/21 against Milk: 1,274,554, Meat: 215,058 and Eggs: 19,403 planned in 2023/24;
- Credit to agriculture sector as percentage of total loans: 6.15% against 10.4%.

3.2. Priority areas and allocated budget for 2022/23 FY

Regarding the areas prioritized during planning and budgeting processes, the 2020/21 Backward Looking Joint Sector Review held on October 28, 2021, identified broad priority areas for consideration during the 2022/23 FY planning and budgeting processes.
In accordance with the Terms of Reference issued by the Ministry of Finance and Economic Planning, the Ministry made a presentation to demonstrate the linkage between the identified priorities, plans, and budget for 2022/2023 FY.

(i) Scale up the use of modern inputs, research, and technology transfer to maximize productivity

Under this priority, efforts will be invested in local seed production including:

- Maize: Basic Seed: 55 MT & Certified: 5,000 MT;
- Wheat: Basic seed: 60 MT &Certified: 950 MT;
- Soybean: Basic Seed: 55 MT& Certified: 400 MT;
- Rice: Basic seed: 18 MT & Certified: 650 MT;
- Irish potato: Basic Seed: 1,700 MT& Certified:35,000MT;
- Banana: 7,000 suckers;
- Cassava: QDS: 115,000,000;
- Beans: Basic seed: 50 MT & Certified: 550 MT

To reduce Rwanda's dependency on seed importation; the development of new high yielding varieties for future release will continue to be encouraged. The following varieties will be developed for future release:

- Cassava: 3;
- Soybean: 5;
- Maize: 9;
- Irish potato: 5;
- Sweet potato: 10;
- Wheat: 5;
- Bean: 9;

The efforts will continue also to be invested in distribution of improved Seeds (MT): 'Maize: 4,145; Wheat: 890 and Soybean: 124; Fertilizers (MT): DAP: 19,283; UREA: 11,608; NPK: 13,600; KCL+Blends:5,688 and lime 37,736 MT.

To increase animal resources productivity, the focus will be oriented towards improving high-quality animal genetic resources through vaccination of diseases: BQ: 983,200; LSD:983,200; Brucellosis:104,358; RVF: 384,272; FMD: 240,000; Rabies: 21,430 and insemination of 132,531 cows and animal feed and livestock water availability. In addition, the construction of a modern bull station for semen production will be finalized. Vulnerable families will be supported with small livestock and cows. The estimated budget allocated to this priority is around 56,704,614,052 Frw representing 35% of the total budget allocated to the sector.

(ii) Increase adaptation and resilience to climate change and other disasters for smart agriculture

Under this priority, the sector will continue to build resilience to Climate Change through the development of small-scale irrigation at 3,272 ha; construction of hillside irrigation scheme of Mahama 1 and Mahama II at 50%; Completion of infield development at Gabiro Agri-Business Hub: 5,600 ha; completion of activities related to the marshland rehabilitation of Bugarama (100 ha) and Kamiranzovu (456 ha), the establishment of irrigation infrastructures (20%) for Ndego irrigation schemes (2,000 ha); rehabilitation of new marshlands (Mukura, Rwamamba & Ngiryi) and construction of radical and progressive terraces. The estimated budget allocated to this priority is around 75,772,229,347 Frw representing 46% of the total budget allocated to the sector.

(iii)Strengthen post-harvest handling methods of crop and animal products

Regarding the strengthening of post-harvest handling methods of crop and animal products, the Ministry will focus on the construction of 8 postharvest infrastructures (2 rice storages, 4 rice drying grounds, and 2 maize shelters); maintenance of existing infrastructures (Laboratory, Packhouse, Color sorter Machine, cold truck) to meet safety standards; purchases of the cold truck to reinforce export logistics for fresh produce prior exports to meet required markets standards; conduct calculations on harvest and post-harvest losses on Maize, Rice, Wheat, Beans; acquire 3 fruits and vegetable drying machines; conduct Study on Aflatoxin in groundnuts; upgrade 5 MCCs to SMEs; acquire milk testing instruments and kits for milk quality and safety enhancement at MCC and Supply clean water and renewable solar energy to 7 MCCs. The estimated budget allocated to this priority is around 4,414,281,754 Frw representing 3% of the total budget allocated to the sector.

(iv) Increase commercialization of agriculture products to increase revenues earned from domestic and international markets

The commercialization of crop and animal resources value chains will be strengthened by increasing private sector engagement, promoting market-oriented agri-businesses, setting up quality infrastructures to meet export market requirements, and promoting country products Brands on existing and exploration of new markets. This will continue to increase the volume of investments in the agriculture sector through the promotion of public-private partnerships (PPPs).

Through this channel, the production export agriculture products are expected to increase as coffee from 20,958 MT (2020/21) to 21,467 (2022/23), tea from 34,736 MT (2020/21) to 36, 475

MT (2022/23) and Pyrethrum 31.2 MT (2020/21) to 34.7 MT (2022/23). While horticulture will increase from 15,804 MT (2020/21) to 26,055 MT (2022/23).

In 2022/23 fiscal year, the sector is expecting to get coffee revenues USD 83 million, tea revenues USD 113 million, horticulture revenues (Fruits, Vegetables and Flowers) to USD 29.2 million, Pyrethrum revenues USD 7.3 million and flower stems USD 10,92. The estimated budget allocated to this priority is around 17,242,646,224 Frw representing 10% of the total budget allocated to the sector.

(v) Increase access to agriculture finance and risk-sharing facilities

In order to implement activities aiming at increasing access to agriculture finance and risk-sharing facilities, the Ministry will reinforce the insurance to de-risk the sector and scale up the existing national agriculture insurance program; support the private sector to access agriculture matching grants; capacity building of farming households/SMEs on Business plans and Management; establish agriculture finance working group to provide platforms for players to discuss issues in Agri finance and propose appropriate interventions to de-risk the sector.

In this regard, insurance of crops and livestock will be stimulated whereby Ha for maize will increase from 3,861 ha (2020/21) to 5,865 ha (2022/23); rice from 19,652.6 ha (2020/21) to 21,006 ha (2022/23) and the number of cows insured will increase from 24,144 (2020/21) to 27,602 (2022/23). The Ministry through its National Strategic Grain Reserve planned to store 10,000 MT of Maize and 5,000 of Beans. It will continue to mobilize districts and the private sector to make sure that the storage facilities located at districts are efficiently used. The estimated budget allocated to this priority is around 10,115,329,755 Frw representing 6% of the total budget allocated to the sector

Considering the budget allocated to Programs as highlighted in the **Annex1**, the Programs to be implemented in 2022/2023 FY include Agriculture Research and Extension with Frw 4,414,281,754; Sustainable Crops and Animal Resources Production and Productivity with Frw 84,476,843,399; Value Addition and Competitiveness of Crops and Animal Resources with Frw 17,242,646,224; Enabling Environment and Responsive Institutions with Frw 2,607,474,717 and Administrative and Support Services with Frw 7,507,855,038 as well as Earmarked Transfers to Districts with Frw 48,000,000,000 making a total of **Frw 164,249,101,132.**

IV. SECTOR TARGETS AND RELATED POLICY ACTIONS IN 2022/2023 FY

The agriculture sector continues to play a big role in economic development, poverty reduction, and enhancing food and nutritional security in Rwanda.

In 2022/2023 FY, the Ministry will put more effort to increase the productivity of priority crops (MT/ha) as highlighted in NST1 [Maize:1.71, Beans: 0.87, Irish potatoes: 9.1, Wheat: 1.15, Soybeans: 0.6] by mobilizing farmers to use improved seeds, fertilizers, lime and for land consolidation under priority crops; increase land under irrigation and mechanization. To deal with issues of land degradation; the soil will be protected against erosion through radical (1,146 ha) and progressive (11,020 ha) terraces.

It will also increase the productivity of animal resources (Milk: 1,100,000 MT; Meat: 200,000 MT and Eggs: 10,000 MT) and the quantity of strategic food reserve (Maize: 10,000 MT & Bean: 5,000 MT) for food and nutrition security. The sector will also increase the production of export for agricultural products (Coffee: 21,467 MT, Tea: 36,475 MT, and Horticulture: 26,055 MT) (See Annex 2 &3).

V. SECTOR ANALYTICAL STUDIES PLANNED FOR 2022/23

During the 2022/2023 fiscal year, the Ministry will continue to carry out different new studies including the Development of the National Irrigation Strategy; the Study on Aflatoxin in groundnuts, and the Feasibility study for the Urea Fertilizer production and Situational analysis of low carbon, climate-resilient actions in the agriculture sector and develop a roadmap for the transition to low carbon and climate-resilient agriculture in Rwanda (See Annex 4).

(i) Development of National Irrigation Strategy:

Rwanda has committed to continue increasing the area under irrigation to 102,284 ha by 2024 (NST1, PSTA 4), and to 600,000 ha by 2050 (Vision 2050). To achieve this noble objective, Rwanda requires clear plans, elaborated strategies, and detailed sets of actions for the development and improvement of the irrigation sector, with appropriate monitoring & evaluation processes and mobilization of needed resources through collaboration with various stakeholders. MINAGRI has NAP, PSTA 4, and Irrigation Master Plan that give policy direction as a base of the efforts for irrigation development. However, these policy and strategic documents, especially Irrigation Master Plan, are wide, thus descriptions are sometimes too general and lack details. In addition, the Master Plan lacks a clear direction on how to develop the potential irrigation area, what management models should be applied to different types of irrigation schemes, who is responsible for implementation and OMM, and how to overcome the inability/problem of the existing governance structure of irrigation sectors, among others. Many gaps are observed between Irrigation Master Plan and ongoing irrigation projects currently implemented, and therefore MINAGRI needs to fill this gap with another strategic document that breaks down the contents of the Irrigation Master Plan into more concrete and detailed sets of actions, priorities, and steps toward achieving the Government's ambition.

(ii) Development of a feasibility study to produce urea from methane gas in Rwanda

The Rwanda Mines Petroleum and Gas Board (RMB) has carried out an assessment of Alternative Uses of the Lake Kivu Methane Resource. Among the potential uses, there is urea which can be processed from that gas. Producing urea locally is justified by the constant increase of urea fertilizers. For example, in June 2020, the FOB price was $233.5 per MT and $385 per MT in June 2021 which is translated into an increase of 65%. Prices keep increasing while farmers increase the use of urea. In fact, in 2019-20, farmers consumed 11,690.2 MT and 23,376 MT; increase of 99.9%. Further, urea will be a raw material for the blending fertilizer plant which will have a capacity of 80 MT per hour. The above-mentioned assessment carried out by RMB has shown that the locally produced urea will cost $876 per ton. Looking at the evolution of worldwide prices and the increase of the Rwanda market of that fertilizer, there is a need to carry out a detailed feasibility study to look at ways of processing methane gas into urea in Rwanda.

(iii)Monitoring and analysis of food price shocks

This study aims to organize and analyze data on domestic, regional, and international commodity price patterns and trends to improve the quality of information available for decision-making on food and agriculture in Rwanda, particularly in light of the recent price shocks being experienced in both global and regional commodity markets.

(iv) Agricultural mechanization

This study will investigate the appropriate role for agricultural mechanization in Rwanda by mapping the policy landscape, analyzing available data on prevalence and correlates of mechanization, and examining the potential for mechanization across factors such as farming systems, landholding sizes, crops, and cost structures.

(v) Stunting decomposition

This study will assess the drivers of change in stunting reduction among children 0-59 months of age between 2005 and 2020 in Rwanda using successive rounds of the Rwanda Demographic & Health Survey (DHS).

(vi) Diets, income, and food price changes

This study will analyze the effects of income and food price changes in Rwanda on nutritional outcomes by simulating the likely effects of alternative policy scenarios and economic shocks on food demand and diet composition.

(vii) Gender and women's empowerment in agriculture

The aim of this study is to provide more analytical depth and insight on status of women's empowerment in the agriculture sector status, drawing on the Women's Empowerment in Agriculture Index (WEAI) baseline survey conducted for MINAGRI in 2019.

(viii) Agricultural value chain prioritization

This study uses a forward-looking economywide modelling suite developed for Rwanda to identify value chains in Rwanda's food system that are most effective at fostering social and economy development along four dimensions: generating economic and sectoral growth; reducing national and rural poverty; generating jobs and employment (both on-farm and in the broader agri-food system); and improving diet quality.)

(ix) Smallholder commercialization

The study aims to (1) collect and analyze essential data that is required to develop more nuanced farmer typologies, (2) estimate the returns to commercial production systems across multiple farmer typologies, and (3) improve the design and implementation of policies, investments, and programs for smallholder production and commercialization in Rwanda.

VI. PROGRESS TOWARDS 2021/22 SECTOR ANALYTICAL STUDIES

In the FY 2021/22, the Ministry planned to conduct analytical studies related to the development of the Rwandan Food Composition Table (RFCT); the Development of the Postharvest Management Strategy (2021-2025); Cattle identification and registration, prioritizing public policies and investments for agricultural transformation, PSTA 4 MTR, Climate Risk mapping and develop mitigation measures to orient private investment opportunities in climate-resilient agriculture, Analysis of climate investment and financial flows in the agriculture sector, Resource mobilization strategy for agricultural climate-resilient projects and Capacity need assessment of professionals in Public and Private Sector to identify and design bankable agricultural climate-resilient project (See Annex 5).

Thus, the implementation progress of those studies is described below:

(i) Development of the Rwandan Food Composition Table (RFCT):

The Ministry in collaboration with Rwanda Standards Board (RSB) managed to sample 32 food items out of 70 food items planned. Currently, the project was transferred to RSB. Thus, the remaining 38 food items will be sampled and analyzed by RSB in the 2022/2023 fiscal year.

(ii) ***Postharvest Management Strategy:*** The strategy was finalized and validated in Agriculture Sector Working Group (ASWG) held on 31 May 2022.

(iii) ***Cattle identification and registration*:** In 2021/22, the Ministry planned to identify and register 950,000 cattle across the country. Currently, 1,359,308 cattle were identified and registered in the system.

(iv) Mid-term review of PSTA 4: Draft document for Mid-Term review of PST 4 MTR in place. The document was pre-validated in ASWG held on 31 May 2022.

(v) Prioritizing public policies and investments for agricultural transformation: The study was completed. The following are some of the achievements:

- *"Synopsis: Public investment for Rwanda's inclusive agricultural transformation: A midterm assessment of the contribution of PSTA4": https://doi.org/10.2499/p15738coll2.135044.*
- *"Synopsis: Public investment prioritization for Rwanda's agricultural transformation: Benefits of an increase in public spending on agriculture under PSTA4": https://doi.org/10.2499/p15738coll2.135043.*
- *"Synopsis: Public investment prioritization for Rwanda's inclusive agricultural transformation: Evidence from rural investment and policy analysis modeling": https://doi.org/10.2499/p15738coll2.135045.*

(vi) Climate Risk mapping and develop mitigation measures to orient private investment opportunities in climate-resilient agriculture:

The study was to assess the current level of agricultural risks associated with actual climatic conditions and future climatic projections across 11 selected Value chains including cassava, maize, rice, soybeans, beans, chili, banana, Irish potatoes, wheat, dairy, poultry.
As key findings,

- *Total monthly and annual rainfall has been increased since 1981 and will continue to increase up to 2050.*
- *The onset and cessation dates of rainfall seasons will continue to be confined within March/September and May/December up to the middle century (2050)*
- *The country means an increase in 30 years coming will be 1.7°C and 1.6°C for minimum temperature and maximum temperature respectively; and the annual mean increase will be 0.06°C and 0.05°C for minimum temperature and maximum temperature respectively*

(vii) Analysis of climate investment and financial flows in the agriculture sector:

The study was to identify gaps in investments and financial flows for adaptation and mitigation interventions in the agriculture sector and propose recommendations for addressing them.
As key findings,

- *Gap of 43% registered in the period between 2014/15 and 2020/21;*
- *The revised NDC (2020) proposes an average annual budget of USD 533.7 million for both adaptation and mitigations interventions;*
- *Gap of 87.8% for both adaptation and mitigations interventions in 2020/2021.*

(viii) ***Resource mobilization strategy for agricultural climate-resilient projects:***

The study was to develop a resource mobilization strategy to raise funds for agricultural climate-resilient projects including adaptation and mitigation.
As key findings,

- *Gaps in coordination mechanisms;*
- *Insufficient financial investments in Agriculture Climate Resilient Projects;*
- *Identified extra-budget cases resulting from ineffective planning and monitoring;*
- *Human resources and capacity gaps.*

(ix) Capacity need assessment of professionals in the Public and Private Sector to identify and design bankable agricultural climate-resilient project:

The study was to increase the capacity of Rwandan professionals in the Public and Private Sectors to be more competitive in designing climate-resilient agriculture and NDC-related projects and fund mobilization.
As key findings;

- *Lack of necessary knowledge and skills related to climate change for both public and private sector;*
- *Lack of necessary information on climate financing opportunities.*

VII. PROGRESS AGAINST 2021/22 POLICY ACTIONS

During the 2021/2022 fiscal year, the Ministry planned to implement different policy actions including increasing farmer's access to improved inputs; increasing the coverage of Extension services; increasing area under irrigation and mechanization; mobilization of farmers for season preparation and land consolidation; increase area under radical and progressive terraces; establish modern post-harvest infrastructures; distribution of 9,000 litters of Pesticide and 3,000 litters of Fungicide; resettlement of 32 families relocated by industrial block expropriation and support Coffee farmers with Alcohol to apply to 1,500 traps and accessories prepared by farmers themselves and strengthening partnership with Private Sector for food commodities storage (See Annex6).
Thus, the current status of the implementation progress of those policy actions is described as follows:

- Increasing farmer's access to improved inputs through Smart Nkunganire: In 2021/22 FY, the farmers registered in Smart Nkunganire for accessing improved inputs as follows:
    - In 2022 A Season: 1,174,996 Farmers
    - In 2022 B Season: 824,502 Farmers
- Increasing the coverage of Extension services: In the 2022A Season: 1,174,996 farmers mobilized for season preparation and 18,611 trained on good agricultural practices and in the 2022B Season: 824,502 farmers mobilized for season preparation and 18,456 trained on good agricultural practices.

- Mobilizing Farmers for season preparation and land consolidation: 756,305 Ha of Land prepared and planted in 2022 Season A and 514,858 Ha of Land prepared and planted in 2022 Season B.

- Increase area under radical and progressive terraces (cumulative): 134,657 Ha of Radical and 985,634 ha of Progressive Terraces were constructed.
- Establish modern post-harvest infrastructures: Construction of 1 Maize dryer in Gatsibo is at 5% and the construction of 1 Maize dryer in Kayonza is at 5% i.e., foundation level. In addition, the construction works for 1 Storage in Nyabirasi is at Site Mobilization and Site installation. It is planned that this storage will be completed at the end of Q4.
- Distribution of 9,000 litters of Pesticides and 3,000 litters of Fungicide: 15,860 Liters of pesticides instead of 9,000 Liters were distributed. The extra liters were purchased and distributed due to increased pests in coffee plantations. Also, the 3,000liters of fungicide were distributed for application to coffee plantations.
- Resettlement of 32 families relocated by industrial block expropriation: 40 Families instead of 32 were fully resettled in 5 houses of 8 in 1.
- Support Coffee farmers with Alcohol to apply to 1,500 traps and accessories prepared by farmers themselves: The coffee farmers were supported with 940 Liters where 640 liters were of Methanol and 300 liters of Ethanol which covered 8,000traps instead of 1,500 traps.

VIII. STATUS, PLAN/STRATEGY TO MONITOR SDGs INDICATORS

Rwanda is strongly committed to ensuring that SDGs are understood and owned both at national and local levels and across stakeholders. It has a strong institutional framework that streamlines the adoption of the SDGs, starting at the national level and continuing to the local, and involves a range of stakeholders.
In the agriculture sector, the Ministry of Agriculture and Animal Resources is implementing Strategic Plan for Agriculture Transformation (PSTA 4), which is fully aligned with SDGs. As articulated in the strategy and captured in the results framework, the agriculture sector will contribute directly to SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture. This goal will be achieved through the successful implementation of the 4 priorities of PSTA 4: 1) Innovation and extension; 2) Productivity and resilience; 3) Inclusive markets and value addition; 4) Enabling environment and responsive institutions.

(i) Status of SDGs indicators currently monitored

The SDG Indicators currently monitored by the Ministry of Agriculture and Animal Resources include the following:

- Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)-Proxy (CARI Method).

  - *Moderately food insecure*
  - *Severely food insecure*

- Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities
  - *Plant Genetic Resources*
  - *Forest Genetic Resources*
  - *Animal Genetic Resources*

- (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure - % of agriculture land ownership by gender

  - *Only Women own agriculture*
  - *Only Men own agriculture*
  - *Both male and female (married couples)*

Table 1: The status of the implementation of SDG Indicators

SDGs Indicators	Baseline	Status
Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)-Proxy (CARI Method) – *Moderately food insecure* – *Severely food insecure*	19.4 % of the total HHs: ▪ *16.8% are moderately food insecure* ▪ *2.6 % are severely food insecure* *Source: CFSVA,2015*	18.7 % of the total HHs: ▪ *17% of HHs are moderately food insecure* ▪ *1.7% of HHs are severely food insecure.* *Source: CFSVA,2018*
Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities: – *Plant Genetic Resources* – *Forest Genetic Resources* – *Animal Genetic Resources*	▪ *646 Plant genetic resources* ▪ *40 Animal genetic resources conserved* ▪ *11 Forest genetic resources* *Source: MINAGRI Report, 2018/19*	▪ *1,335 Plant genetic resources* ▪ *306 Animal genetic resources conserved* ▪ *48 Forest genetic resources* *Source: MINAGRI Report, 2021/22*
(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure - % of agriculture land ownership by gender – *Only Women owns agriculture* – *Only Men owns agriculture* – *Both male and female (married couples)*	▪ *79.2% Only Women owns agriculture* ▪ *86.2% Only Men owns agriculture* *Source: EICV 5*	▪ *Only Women owns agriculture:88.3%* ▪ *Only Men owns agriculture: 87.4%* *Source: NISR, AHS 2020*

(ii) Current progress against the implementation of plans or strategies for monitoring SDGs indicators not currently monitored

The SDG Indicators not currently monitored by the Ministry of Agriculture and Animal Resources include Prevalence of undernourishment; Volume of production per labor unit by classes of farming/pastoral/forestry enterprise size; Average income of small-scale food producers, by sex and indigenous status, and the agriculture orientation index for government expenditures. Table 2 highlights current progress against the implementation of plans or strategies for monitoring SDGs indicators.

Table 2: Current progress against the implementation of plans or strategies for monitoring SDG indicators

SDG Goal	**SDG Target**	**SDG indicator (not currently monitored but with clear computation methodology and applicable to Rwanda)**	**Current status on implementation of the sector plans or strategies to monitor the indicator**
Goal 2: End Hunger, achieve food security and improved nutrition and promote sustainable agriculture.	Target 2.1: By 2030 end hunger and ensure access by all people to safe, nutritious, and sufficient food all year round.	Indicator 2.1.1: Prevalence of undernourishment	The Ministry is discussing with various stakeholders to support conducting those studies to get baseline values
Goal 2: End Hunger, achieve food security and improved nutrition and promote sustainable agriculture.	Target 2.3: By 2030, double the agricultural productivity and incomes of small-scale food producers.	Indicator 2.3.1: Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size.	
Goal 2: End Hunger, achieve food security and improved nutrition and promote sustainable agriculture.	Target 2.3: By 2030, double the agricultural productivity and incomes of small-scale food producers.	Indicator 2.3.2: Average income of small-scale food producers, by sex and indigenous status	
Goal 2: End Hunger, achieve food security and improved nutrition and promote sustainable agriculture.	Target 2.a. Increase Investments to agriculture	Indicator 2.a.1: The agriculture orientation index for government expenditures	

IX. ISSUES RAISED AND RECOMMENDATIONS FROM THE MEETING

During the meeting of the Forward-Looking Joint Sector Review (FL JSR), the participants raised different issues and recommendations were proposed as summarized in the following table.

No	Issues identified	Recommended Actions/Explanations
1	Participants requested to know the strategies of the Ministry to support farmers to continue accessing inputs while the prices have been and continue to be changed.	As feedback, MINAGRI emphasized that the Government of Rwanda is very committed for continuing supporting farmers through subsidy for accessing inputs (improved seeds and fertilizers) to stabilize food production. This is especially relevant in the current situation when the Russia-Ukraine war is causing the hike of prices for most of food items.
2	Concerning the first priority on Scale up the use of modern inputs, research, and technology transfer to maximize productivity, the selected key actions seem to focus on use of inputs and less on research and technology transfer	As feedback, MINAGRI informed the participants that the activities presented in power point were the summary and different interventions related to research and technology transfer are captured under MINAGRI, RAB and NAEB action plan.
3	Participants commend the huge efforts made to build a robust and competitive seeds supply system for the key priority crops. They suggested to include a focus on market driven seeds research systems, which take into consideration consumer preferences, to increase market competitiveness of Rwandan produce.	As reaction, MINAGRI welcomed the suggestion proposed by the participants and informed them to be concerned in the plans for implementation.
4	Interested to hear more about the status of the CAES (developed some time back) which could be a tool for the technology transfer.	MINAGRI informed the participants that CAES is under implementation throughout different programs/projects. There is a plan to assess where we are towards the implementation of CAES' interventions since 2021/2022 FY. The updates will be communicated in one of the coming ASWG meetings.
5	Regarding the second priority on "Increase adaptation and resilience to climate change and other disasters for smart agriculture"; most of the key activities presented are about irrigation but this cannot be the only strategy for improving resilience to climate change as it will not reach the vast majority of farmers, and particularly those that will not have access to the irrigation schemes. Additional solutions and approaches are needed, and the studies that were conducted last year could help to identify some of the activities that could be included here.	As feedback, MINAGRI informed the participants that the activities presented in power point were a summary of the planned activities under action plan. The detailed interventions for improving resilience to climate change may be found under action plans.
6	The linkages between the second priority on Increase adaptation and resilience to climate change and other disasters for smart agriculture and Rwandan updated NDC adaptation commitments should be made since over 50% of adaptation targets are linked to the agriculture sector. Important as well to understand resources eventually mobilized to inform the MRV (Monitoring, Reporting and Verification system) on the NDC targets.	MINAGRI responded to the participants that the second priority on Increase adaptation and resilience to climate change and other disasters for smart agriculture is clearly linked to the Rwandan updated NDC adaptation interventions. Regarding the suggestion on establishment of an MRV, MINAGRI informed the audience that there are on-going discussions with MoE (the custodian of NDCs), and improvement of a reporting system is one of the considered points.
7	Participants noted that the soil sampling and testing exercise is taking shape, but it may be useful to go a step beyond and consider preparing a complete soil map in the near future;	As a reaction, MINAGRI welcomed the comment proposed by the participants and informed them to be concerned in the future plans

No	Issues identified	Recommended Actions/Explanations
	with strategies to use the generated information to inform the use of appropriate inputs, smart agriculture practices and tailored extension services.	for implementation.
8	Participants mentioned that most of the planned postharvest infrastructures are made with public investments. It will be critical to operationalizing the new postharvest strategy, including to set-up improved management models for these assets and those previously built to ensure sustainable O&M mechanisms	As feedback, MINAGRI welcomed comments made by the participants and informing them that the private sector is encouraged to investor in different postharvest as stipulated in new postharvest management strategy. In addition, one of the on-going studies will recommend on appropriate O&M mechanisms for the sustainability of the agricultural infrastructure.
9	To better explain the purpose of directly purchasing equipment (as cold trucks or drying machine) – given the aim of PSTA-4 to see MINAGRI becoming a market enabler instead of market actors.	As mentioned in PSTA 4, MINAGRI will continue to be a market enabler meaning continue to create an enabling environment, but this does not prevent the Ministry to invest in some agriculture equipment's like cold trucks or drying machine. Indeed, the exit is expected to be smooth and progressive as the private sector's involvement gradually increase. Already in this area, there are some private companies that are playing a considerable role.
10	Some key critical interventions were not considered among key actions: these include the Promotion of (or leveraging) private sector investments in postharvest handling. Important to better present activities aiming at partnering and engaging with the private sector.	MINAGRI informed the participants that the activities presented in power point were a summary of the planned activities under action plan. Other activities aiming at partnering and engaging with the private sector could be found in action plans.
11	On market surveys, to consider the large amount of research and surveys already done, and engage with DPs before doing more to get access to studies already done on the same topic (more broadly to consider improving knowledge management systems).	Each research and survey to be carried out is discussed through different channels such as Subsector Working Group (SSWG)/Clusters, Agriculture Sector Working Group (ASWG) and Joint Sector Review (JSR). Throughout those forums, Development Partners (DPs) are involved and represented and their active participation is highly expected.
12	Various activities are still around distributing inputs to farmers, and it would be good to see a gradual shift in the name of the activities aiming at supporting commercialization.	As the Ministry is still focusing to increase productivity, the support to the private sector in the distribution of inputs (seeds and fertilizers) to farmers on time continues to be the responsibility of the Ministry as commercialization cannot happen if productivity is poor. Yet, other activities are not ignored and the contribution of all stakeholders including the DPs is highly valued.
13	Food price monitoring: to consider establishing a dashboard (as part of the common data warehouse developed under the World Bank's PforR) as an outcome to allow continuous monitoring, and avoid conducting regular studies. To consult the initial dashboard drafted by the Covid-19 technical group, which included various indicators to monitor the impact of Covid-19 on food systems	The Ministry has a plan to upgrade current systems including the common data warehouse to allow continuous monitoring, and avoid conducting regular studies.
14	Coordination mechanisms to ensure coherence with the various interventions to develop the horticulture value chain, including through several donor-funded programs. This seems to be missing among key actions.	As feedback, all activities captured under Minister Annual Action Plan should not be presented powerpoint in presentation. Other key actions leading to Coordination mechanisms to ensure coherence with the various interventions to develop the horticulture value chain can be found under detailed Ministry action plans.
15	The Kigali Wholesale market, a key project for coming years to support some of the sector priorities is not captured	Kigali Wholesale Market is captured under the projects to be implemented in 2022/23 Fiscal Year and it has got a total of

No	Issues identified	Recommended Actions/Explanations
	in the budget allocations/actions to be implemented, more information on this project would be welcome.	2,605,000,000 Frw to implement the planned activities.
16	Key critical interventions were not considered regarding the support to private sector to access finance from financial sector (in addition to matching grants) and ensure the various grants facilities are not crowding out private finance.	The interventions presented in power point were a summary of the planned key activities under action plan. Other activities aiming at supporting the private sector to access finance from financial sector including matching grants may be found under action plans.
17	Requested to know if the Ministry should provide a table summarizing the budget distribution/institutions: MINAGRI, RAB, NAEB, and Districts	As reaction, MINAGRI informed the participants that the table summarizing the budget distribution will be provided in the final report (See annex 2).
18	They raised the issue that from the first PPT version to the one presented, the slide showing the "Agricultural Sector Budget Trend" has disappeared and it is interesting and should be kept	MINAGRI informed the audience that the slide showing budget trend shall be captured in the final report (See annex 2).
19	Interested to know if the findings and recommendations of the PSTA4 MTR are already considered in this budget proposal.	As a reaction, MINAGRI informed the participants that PSTA 4 MTR report is not yet finalized and validated. However, some of the recommendations are already considered as they are not far from what the Ministry is currently prioritizing. Among others, these include: De-risking agriculture and increasing the participation of the private sector, strengthening extension services and stakeholders' coordination. Once the report is finished and validated, all the findings will be considered in the next fiscal year 2023/24.
20	On the studies conducted last year, it is important to ensure that the 4 studies on climate change are presented and disseminated to the ASWG (and ideally to both the ASWB and the Environment and Climate SWG). This should be used to feed discussions on new/additional priority actions to consider for the second objective.	MINAGRI informed the participants that all studies completed shall be presented to ASWG as well as Senior Management Meeting. There is a plan to have a workshop in July 2022 to establish a roadmap on how the findings may be integrated in the existing plans for implementation.
21	Requested to know why there is no actions aiming at strengthening cooperatives and farmers associations, which are an important player for the commercialization of agriculture	As feedback, MINAGRI informed the participants that the activities captured under power point presentation were just a summary of key activities planned under different projects implemented by MINAGRI and agencies RAB and NAEB.
22	Effective implementation of the gender mainstreaming plan for MINAGRI doesn't seem to be captured in the sector's priorities	Gender mainstreaming is a cross-cutting area and it is captured in different agriculture interventions within different projects. In fact, in every fiscal year planning, MINAGRI has to show how gender is mainstreamed and remains accountable on this.
23	On the analytical studies foreseen, we are pleased to see a number of them linked to nutrition challenges. However, nutrition doesn't seem to feature high in the sector priorities and SDGs not currently monitored include the one linked to undernourishment: it would be welcome to identify nutrition-sensitive actions for FY22/23, maybe linked to the enhanced CAES implementation.	MINAGRI informed the audience that the nutrition-sensitive actions are well mainstreamed and captured throughout different projects implementing interventions related to nutrition including small livestock, One Cow Per Family, Sustainable Agriculture Intensification and Food Security Project, Development of efficient and inclusive market systems for value chains of poultry and pig industries, Partnership for Resilient and Inclusive Small Livestock Markets (PRISM) etc.
24	Interested to know what will be the actions to monitor the SDG indicators not currently informed. The remaining indicators are really interesting to feed policies: on	As feedback, MINAGRI is encouraging the development partners to support conducting studies to get baseline values. The SDG

No	Issues identified	Recommended Actions/Explanations
	undernourishment; production per labor, farmers 'incomes and national agriculture expenditures…	indicators not currently monitored include: – *Indicator 2.1.1: Prevalence of undernourishment* – *Indicator 2.3.1: Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size.* – *Indicator 2.3.2: Average income of small-scale food producers, by sex and indigenous status* – *Indicator 2.a.1: The agriculture orientation index for Government expenditures.*
25	The participants raised the question on the results, and particularly progress in yields presented. It was observed that no crop has made progress in terms of yields since the baseline (in the last two years). Therefore, this should not be considered "on watch'' (yellow) and such findings should be used to have additional discussion on the current prioritization and allocation of resources.	MINAGRI informed the participants that the actual progress (June 2022) of the Yield of major crops (Maize, Beans, Irish potatoes, Wheat and Soybeans) was computed based on NISR data (SAS, Season A 2021). It was also highlighted that productivity of crops through increased access to inputs and improved seeds received a considerable budget for better outcomes. Strengthening the extension system is also envisaged in the current fiscal year.

CONCLUSION

The Chair closed the meeting by thanking the participants for their participation and their contribution to the sector development.

SIGNATURES

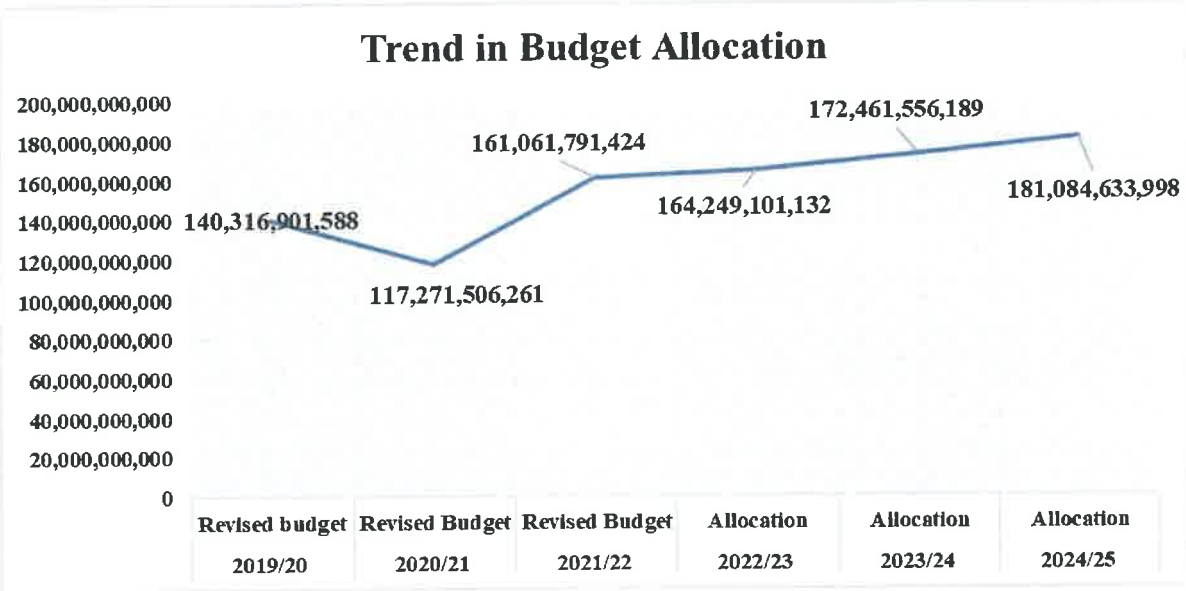
Jean Claude MUSABYIMANA
Permanent Secretary
MINAGRI

Åsa GIERTZ
Senior Agriculture Economist and
Task Team Leader /World Bank Group

Annex 1: Linking Sector Outcomes Budget programme and sub-programmes

Annex 1: Linking Sector Outcomes Budget programme and sub-programmes			
Sector Outcome 1: Farmers and rural value chain actors are engaged in innovative agricultural practices and improved business management			
No.	**Programmes**	**Sub-programmes**	**2022/23 Budget allocated**
1	**AGRICULTURE RESEARCH AND EXTENSION**		**4,414,281,754**
		1. Research and Innovation	2,929,185,869
		2. Extension Services and Technology Adaptation and Skills Development	1,485,095,885
	Sector Outcome 2: Increased productivity, nutritional value and resilience through sustainable, diversified, and integrated crop, livestock, and fish production systems		
2	**SUSTAINABLE CROPS AND ANIMAL RESOURCES PRODUCTION AND PRODUCTIVITY**		**84,476,843,399**
		1. Sustainable, Diversified and Climate Smart Crop Production and Productivity	54,700,517,638
		2. Sustainable Animal Resources Production and Productivity	18,575,929,761
		3. Nutrition sensitive agriculture and Resilience Mechanisms	11,200,396,000
	Sector Outcome 3: Increased competitiveness and value addition of diversified agricultural commodities for more inclusive domestic and international markets		
3	**VALUE ADDITION AND COMPETITIVENESS OF CROPS AND ANIMAL RESOURCES**		**17,242,646,224**
		1. Food Systems for domestic market supply	7,475,146,224
		2. Traditional Export Crop Development	4,047,915,960
		3. Export Diversification	5,654,084,040
		4. Farmers -Market Linkages Infrastructures	65,500,000
	Sector Outcome 4: Effective and efficient public and private sector services delivery in the agriculture sector		
	ENABLING ENVIRONMENT AND RESPONSIVE INSTITUTIONS		**2,607,474,717**
4		1. Agriculture Sector Planning, Coordination, Financing and Information Systems	459,200,000
		2. Animal Resources Policy, Strategies Development	563,443,684
		3. Crop Policy and Strategies Development	1,584,831,033
5	**ADMINISTRATIVE AND SUPPORT SERVICES**		**7,507,855,038**
		Administrative And Support Services	**7,507,855,038**
	Total		**116,249,101,132**
	Earmarked Transfers		48,000,000,000
	Grand Total		**164,249,101,132**

Annex 2: Agriculture Budget Trend



AGENCY & CATEGORY	*2019/20 Revised budget*	*2020/21 Revised Budget*	*2021/22 Revised Budget*	*2022/23 Allocation*	*2023/24 Allocation*	*2024/25 Allocation*
MINAGRI Central	**6,805,988,060**	**5,683,095,609**	**7,841,143,992**	**12,159,094,662**	**12,767,049,395**	**13,405,401,865**
Wages and salaries	754,865,306	517,114,833	788,228,784	788,228,784	827,640,223	869,022,234
Recurrent non wages	861,622,754	874,361,830	652,661,105	1,440,744,937	1,512,782,184	1,588,421,293
Capital domestically financed	4,189,500,000	3,297,964,113	5,724,448,965	8,467,542,630	8,890,919,762	9,335,465,750
Capital externally financed	1,000,000,000	993,654,833	675,805,138	1,462,578,311	1,535,707,227	1,612,492,588
RAB	**82,631,837,356**	**82,735,609,008**	**105,961,237,910**	**93,458,412,147**	**98,131,332,754**	**103,037,899,392**
Wages and salaries	3,981,869,250	3,981,869,250	3,304,653,374	3,304,653,374	3,469,886,043	3,643,380,345
Recurrent non wages	897,474,042	583,153,033	1,633,084,549	1,498,133,620	1,573,040,301	1,651,692,316
Capital domestically financed	43,942,473,422	49,731,202,120	42,276,800,696	39,179,357,374	41,138,325,243	43,195,241,505

Capital externally financed	33,810,020,642	28,439,384,605	58,746,699,291	49,476,267,779	51,950,081,168	54,547,585,226
NAEB	**16,792,441,172**	**5,511,215,324**	**8,299,594,323**	**10,631,594,323**	**11,163,174,039**	**11,721,332,741**
Wages and salaries	1,029,685,475	1,019,813,552	866,841,519	866,841,519	910,183,595	955,692,775
Recurrent non wages	220,723,655	114,096,008	62,752,804	62,752,804	65,890,444	69,184,966
Capital domestically financed	10,972,850,928	4,377,305,764	7,370,000,000	9,702,000,000	10,187,100,000	10,696,455,000
Capital externally financed	4,569,181,114	-	-	-		-
S/Total	**106,230,266,588**	**93,929,919,941**	**122,101,976,225**	**116,249,101,132**	**122,061,556,189**	**128,164,633,998**
Earmarked Transfers	**34,086,635,000**	**23,341,586,320**	**38,959,815,199**	**48,000,000,000**	**50,400,000,000**	**52,920,000,000**
Total	**140,316,901,588**	**117,271,506,261**	**161,061,791,424**	**164,249,101,132**	**172,461,556,189**	**181,084,633,998**

Annex.3 Targets and Policy Actions for the Sector Indicators Matrix

Sector outcome	Sector outcome indicators (not exceeding 10 including NST1 indicators)	Baseline (2020/21)	2022/23 Targets	2022/23 Policy Actions/ priority outputs (maximum of 2 per each indicator)
Economic Transformation Pillar				
Priority 6: Modernize and increase productivity of Agriculture and livestock				
Increased productivity, quality and sustainability of crop production	Yield of major crops (MT/Ha for – Maize, Beans, Irish potatoes, Wheat and Soybeans) (SAS, Season A 2021)	Maize: 1.6 Beans: 0.7 Irish potatoes: 8.9 Wheat: 1.0 Soybeans: 0.5	Maize: 2.85 Beans: 2.04 Irish potatoes:13.76 Wheat: 1.60 Soybeans: 1.11	1. Support farmers to access improved seeds and fertilizers 2. Strengthen local seed production to ensure self-sufficiency in quality seeds
	Ha of land under irrigation	66,841	76,171	1. Produce National Irrigation Strategy 2. Increase area under irrigation
	Ha of land under mechanization	7,894	9,000	1. Increase area under mechanization 2. Study on Agricultural mechanization
	Ha of land consolidated under priority crops	**Season A:** / **Season B:**	**Season A:** / **Season B:**	1. Mobilize Farmers on season preparation and land use consolidation 2. Train farmers and extension agents on good agriculture practices
	Maize:	253,253 / 56,685	258,318 / 53,100	
	Rice:	13,949 / 11,665	14,511 / 14,239	
	Beans:	358,696 / 340,188	372,876 / 351,984	
	Irish Potatoes:	62,652 / 49,732	65,769 / 53,475	
	Wheat:	6,944 / 34,804	8,874 / 37,292	
	Soybean:	4,553 / 3,036	4,705 / 2,842	
	Cassava:	55,278 / 20,380	58,971 / 22,464	
	Vegetables:	7,448 / 6,746	8,160 / 9,349	
	Total:	**762,773** / **523,236**	792,184 / **544,745**	
	Ha of terraces constructed: Radical (R) Progressive (P)	R: 131,056.7 P: 972,055	R: 135,803 P: 993,212	1. Increase area under radical and progressive terraces 2. Monitor the establishment of radical and progressive terraces
Improved post-harvest management	Number of drying shelters constructed (Cumulative)	636	642	1. Construction of postharvest infrastructures 2. Study on harvest and post-harvest losses
	Number of storage facilities constructed (Cumulative)	38	40	

Increased revenue from coffee, tea and horticulture	MT of green coffee produced	20,958	25,467	1. Support farmers with coffee mineral fertilizers 2. Support farmers with pesticides and fungicides
	MT of made tea produced	34,736	36,475	1. Support farmer's cooperatives with tea mineral fertilizers 2. Train tea plucking in professional tea plucking
	MT of fruit and vegetables produced	15,804	26,055	1. Train farmers of vegetables and fruits in Good Agricultural Practices (GAP) for export 2. Acquire fruits and vegetable drying machines
Social Transformation Pillar				
Priority Area 2: Eradicating Malnutrition: By promoting nutrition sensitive agriculture and food security				
Enhanced food security and nutrition	MT of food commodities stored as strategic food reserve	Maize: 15,752	Maize: 10,000	1. Purchase Maize and Beans for strategic stock 2. Extend the capacity of metallic silos
		Beans: 5,550	Beans: 5,600	

Annex.4. NST 1 Monitoring and Evaluation Matrix

No	NST 1 Outcome	Indicators	Units	Baselines 2016/17	Target		2022/23 Policy Actions/ priority outputs (maximum of 2 per each indicator)	Responsibility for reporting
					2022/2023	2023/2024		
13	Increased productivity, quality and sustainability of crop production	A. Ha of irrigation developed within an Integrated Water Resources Management Framework	Ha	48,508	76,170.5 (cumulative) [8,600 ha for 2022/23	102,284	1. Produce National Irrigation Strategy 2. Increase area under irrigation	MINAGRI, Agriculture Sector
		B. Area of consolidated land	Ha	635,603	Season A: 783,590 Season B: 543091.5	980,000	1. Mobilize Farmers on season preparation and land use consolidation 2. Train farmers and extension agents on good agriculture practices	MINAGRI, Agriculture Sector
		C. Percentage of farm operations mechanized	Percent	25	45	50	1. Increase area under mechanization 2. Study on Agricultural mechanization	MINAGRI, Agriculture Sector
		D. Area of Land under erosion control measures and used optimally	Ha				1. Increase area under radical and progressive terraces 2. Monitor the establishment of radical and progressive terraces	MINAGRI, Agriculture Sector
		Radical		110,905 [2017]	135,803 [1,146 ha for 2022/23]	142,500		
		Progressive		923,604 [2017]	993,212	1,007,624		
		E. Percentage of farmers using quality seeds on consolidated sites: - Large Scale Farmers (LSF) - Small Scale Farmers (SSF)	Percent	52	LSF: 90.2 SSF: 43	75	1. Support farmers to access improved seeds and fertilizers 2. Strengthen local seed production to ensure self-sufficiency in quality seeds	MINAGRI, Agriculture Sector
		F. Quantity of fertilizer applied	Kg per ha	32	65	75		MINAGRI, Agriculture Sector
		G. Yield of major crops (MT/Ha for – Maize, Beans, Irish potatoes, Wheat and Soybeans) (SAS, Season A 2021)	MT/ha	Maize: 1.57 Beans: 1.21 Irish potatoes: 8.18 Wheat: 0.95 Soy beans: 0.55	Maize: 2.85 Beans: 2.04 Irish potatoes: 13.76 Wheat: 1.60 Soybeans: 1.11	Maize: 2.94 Beans: 2.22 Irish potatoes: 14.00 Wheat: 1.77 Soy beans: 1.28	1. Reinforce the insurance of crops 2. Development of new high yielding seeds varieties for future release	MINAGRI, Agriculture Sector
		H. Strategic food reserves stored	MT	Maize: 123,000	Maize: 10,000	Maize: 140,980	1. Purchase Maize and Beans for strategic stock	MINAGRI, Agriculture

			Beans: 61,814	Beans: 5,000	Beans: 69,917	2. Extend the capacity of metallic silos	Sector
		I. Quantity of meat and dairy products produced (Meat, Milk, Eggs)	MT	Milk: 776,284	Milk: 1,100,000	Milk: 1,274,554	1. Improve animal health and feeds 2. Reinforce the insurance of livestock	MINAGRI, Agriculture Sector
				Meat: 96,457	Meat: 200,000	Meat: 215,058		
				Eggs: 7,475	Eggs: 10,000	Eggs: 19,403		
		J. Credit to agriculture sector as percentage of total loans	Percent	5.2	6.5	10.4	1. Support the private sector to access agriculture matching grants. 2. Strengthen Agriculture Public-Private Dialogues	MINAGRI, Agriculture Sector

Annex.5: Sector Priority Analytical Studies for 2022/23

Sector outcome	Planned Analytical Work & Duration	Objectives of the Analytical Work	Funding Source (GoR, if otherwise, specify, also state the status i.e. Secured/ Still under mobilization)
Increased productivity, quality and sustainability of crop production	Development of National Irrigation Strategy	To produce a National Irrigation Strategic Plan.	JICA
	Feasibility study for the Urea Fertilizer production	To develop a feasibility study to produce urea from methane gas in Rwanda	GoR
	Study on harvest and post-harvest losses on Maize, Rice, Wheat, Beans;	To conduct study on harvest and post-harvest losses on Maize, Rice, Wheat, Beans	GoR
	Study on Aflatoxin in groundnuts	To conduct study on Aflatoxin in groundnuts	GoR
	Beekeeping Strategy	To develop Beekeeping Strategy	FONERWA
	National Aquaculture Development Strategy	To develop National Aquaculture Development Strategy	GATSBY
	Situational analysis of low carbon, climate resilient actions in the agriculture sector and develop a roadmap for the transition to low carbon and climate resilient agriculture in Rwanda.	To identify existing and new low carbon and climate actions in the agriculture sector; To develop a costed roadmap to for the transition to low carbon and climate resilient agriculture in Rwanda	UNDP
	Monitoring and analysis of food price shocks	This study aims to organize and analyze data on domestic, regional, and international commodity price patterns and trends to improve the quality of information available for decision-making on food and agriculture in Rwanda, particularly in light of the recent price shocks being experienced in both global and regional commodity markets. (Joint work with MINAGRI.)	EU/IFPRI
	Agricultural mechanization	This study will investigate the appropriate role for agricultural mechanization in Rwanda by mapping the policy landscape, analyzing available data on prevalence and correlates of mechanization, and examining the potential for mechanization across factors such as farming systems, landholding sizes, crops, and cost structures. (Joint work with MINAGRI)	EU/IFPRI
	Stunting decomposition	This study will assess the drivers of change in stunting reduction among children 0-59 months of age between 2005 and 2020 in Rwanda using successive rounds of the Rwanda Demographic & Health Survey (DHS). (Joint work with MINAGRI)	EU/IFPRI
	Diets, income, and food price changes	This study will analyze the effects of income and food price changes in Rwanda on nutritional outcomes by simulating the likely effects of alternative policy scenarios and economic shocks on food demand and diet composition. (Joint work with MINAGRI	EU/IFPRI

	Gender and women's empowerment in agriculture	The aim of this study is to provide more analytical depth and insight on status of women's empowerment in the agriculture sector status, drawing on the Women's Empowerment in Agriculture Index (WEAI) baseline survey conducted for MINAGRI in 2019. (Joint work with MINAGRI)	EU/IFPRI
	Agricultural value chain prioritization	This study uses a forward-looking economywide modelling suite developed for Rwanda to identify value chains in Rwanda's food system that are most effective at fostering social and economy development along four dimensions: generating economic and sectoral growth; reducing national and rural poverty; generating jobs and employment (both on-farm and in the broader agri-food system); and improving diet quality. (Joint work with MINAGRI)	EU/IFPRI
	Smallholder commercialization	The study aims to (1) collect and analyze essential data that is required to develop more nuanced farmer typologies, (2) estimate the returns to commercial production systems across multiple farmer typologies, and (3) improve the design and implementation of policies, investments, and programs for smallholder production and commercialization in Rwanda. (Joint work with MINAGRI, RAB, University of Rwanda, and High Land Center for Leadership for Development; supported by Embassy of Netherlands)	EU/IFPRI

Annex.6: Progress against 2021/22 Sector Analytical Studies

NST 1 sector outcome	2021/22 Planned Analytical Work	Brief progress
Increased productivity, quality and sustainability of crop production	Mid-term review of PSTA 4	Draft document for Mid-Term review of PST 4 MTR in place. The document was pre-validated in ASWG held on 31 May 2022
	Development of the Rwandan Food Composition Table (RFCT)	The Ministry in collaboration with Rwanda Standards Board (RSB) managed to sample 32 food items out of 70 food items planned. Currently, the project was transferred to RSB. Thus, the remaining 38 food items will be sampled and analyzed by RSB in the 2022/2023 fiscal year.
	Cattle identification and registration	In 2021/22, the Ministry planned to identify and register 950,000 cattle across the country. Currently, 1,359,308 cattle were identified and registered in the system.
	Postharvest Management Strategy (2021-2025)	The strategy was finalized and validated in Agriculture Sector Working Group (ASWG) held on 31 May 2022
	Prioritizing public policies and investments for agricultural transformation	The study was completed. The following are some of the achievements: 1. "Synopsis: Public investment for Rwanda's inclusive agricultural transformation: A midterm assessment of the contribution of PSTA4": https://doi.org/10.2499/p15738coll2.135044 2."Synopsis: Public investment prioritization for Rwanda's agricultural transformation: Benefits of an increase in public spending on agriculture under PSTA4": https://doi.org/10.2499/p15738coll2.135043 3."Synopsis: Public investment prioritization for Rwanda's inclusive agricultural transformation: Evidence from rural investment and policy analysis modeling": https://doi.org/10.2499/p15738coll2.135045
	Climate Risk mapping and develop mitigation measures to orient private investment opportunities in climate resilient agriculture	The study was to assess the current level of agricultural risks associated with actual climatic condition and future climatic projections across 11 selected Value chains including: cassava, maize, rice, soy beans, beans, chilli, banana, Irish potatoes, wheat, Dairy, poultry. As key findings, 1. Total monthly and annual rainfall has been increased since 1981 and will continue to increase up to 2050. 2. The onset and cessation dates of rainfall seasons will continue to be confined within March/September and May/December up to middle century (2050) 3. The country means increase in 30 years coming will be 1.7°C and 1.6°C for minimum temperature and maximum temperature respectively; and the annual mean increase will be 0.06°C and 0.05°C for minimum temperature and maximum temperature respectively. The study was completed.
	Analysis of climate investment and financial flows in agriculture sector	The study was to identify gaps in investments and financial flows for adaptation and mitigations interventions in agriculture sector and propose recommendations for addressing them. As key findings, 1.Gap of 43% registered in the period between 2014/15 and 2020/21 2.The revised NDC (2020) proposes an average annual budget of USD 533.7 million for both adaptation and mitigations interventions. 3. Gap of 87.8% for both adaptation and mitigations interventions in 2020/2021 The study was completed.

	Resource mobilization strategy for agricultural climate resilient projects	The study was to develop a resource mobilization strategy to raise funds for agricultural climate resilient projects including adaptation and mitigation. As key findings, 1.Gaps in coordination mechanisms, 2.Insufficient financial investments in Agriculture Climate Resilient Projects, 3.Identified extra-budget cases resulting from ineffective planning and monitoring, 4. Human resources and capacity gaps. The study was completed.
	Capacity need assessment of professionals in Public and Private Sector to identify and design bankable agricultural climate resilient project	The study was to increase the capacity of Rwandan professionals in Public and Private Sector to be more competitive in designing climate resileint agriculture and NDC-related projects and fund mobilization. As key findings; 1. Lack of necessary knowledge and skills related with climate change for both public and private sector 2. Lack of necessary information on climate financing opportunities. The study was completed.

Annex 7: Progress against 2021/22 Policy actions

No.	NST /SECTOR OUTCOME	INDICATOR	UNIT	Baseline (2020/21)	2021/22 Targets	Actual Performance	Indicator Score			Policy Actions planned in 2021/22 FLJSR	Brief Description of Progress against implementation of 2021/22 Policy actions (This should be brief with focus on fast racking progress since a detailed assessment will be captured in the Backward Looking JSRs)
							> 90% On-Track	50-90% On-Watch	<50% Lagging Behind		
	Economic Transformation Pillar										
	Priority 6: Modernize and increase productivity of Agriculture and livestock										
1	Increased productivity, quality and sustainability of crop production	Area under irrigation { (Marshland (M), Hillside (H) and Small Scale Irrigation Technology (SSIT)} (ha) (cumulative)	Ha	66,840.50	67,571	67,712				Increase area under irrigation	The area covered under irrigation increased from 66,840.5 ha in 2020/21 to 67,712 ha as current status in May 2021.
2		Land consolidated under priority crops	Ha	**Season A:**	**Season B:**	**Season A:**	**Season B:**	**Season A:**	**Season B:**		Farmers are mobilized on season preparation and land consolidation	756,305 Ha of Land prepared and planted in 2022 Season A 514,858 Ha of Land prepared and Planted in 2022 Season B
		Maize:		253,253	56,685	253,253	52,059	252,271	57,111			
		Rice:		13,949	11,665	14,226	13,960	14,478	14,972			
		Beans:		358,696	340,188	365,565	345,082	371,277	338,437			
		Irish Potatoes:		62,652	49,732	64,479	52,426	60,203	43,503			
		Wheat:		6,944	34,804	8,700	36,561	5,784	23,020			
		Soybean:		4,553	3,036	4,613	2,786	4,691	4,845			
		Cassava:		55,278	20,380	57,815	22,024	51,968	29,000			

		Vegetables:		7,448	6,746	8,000	9,166	6,108	3,970						
		Total:		**762,773**	**523,236**	**776,651**	**534,064**	**766,780**	**514,858**						
3		Percentage of farm operations mechanized	Percent	30		41		32							
4		Radical Terraces constructed (Cumulative):	Ha	131,056.70		133,729.84		134,657.00					Increase area under radical and progressive terraces	134,657 Ha of Radical Terraces constructed	
5		Progressive Terraces constructed (Cumulative)	Ha	972,055		983,212		985,634.00						985,634 ha of Progressive Terraces constructed	
6		Percentage of farmers using quality seeds on consolidated sites: - Large Scale Farmers (LSF) - Small Scale Farmers (SSF)	Percent	LSF: 88.8 SSF: 36		LSF: 89 SSF: 38		LSF: 81.7 SSF: 31.9							
7		Quantity of fertilizer applied	Kg per ha	60		65		60							
8		Yield of major crops (Maize, Beans, Irish potatoes, Wheat and Soybeans) (SAS, Season A 2021)	MT/ha	Maize: 1.6		Maize: 2.76		Maize: 1.6					1. Increasing famers' access to improved inputs through Smart Nkunganire. 2. Increasing the coverage of Extension	1. In 2021/22 FY, the farmers registered in Smart Nkunganire for accessing improved inputs as following: - In 2022 A Season : 1,174,996 Farmers - In 2022 B Season : 824,502 Farmers	
				Beans: 0.7		Beans: 1.86		Beans: 0.7							
				Irish potatoes: 8.9		Irish potatoes: 13.5		Irish potatoes: 8.6							
				Wheat: 1.0		Wheat: 1.44		Wheat: 1.1							

				Soybeans: 0.5	Soybeans: 0.97	Soybeans: 0.5 (SAS, Season A 2022)				services		2. In 2021/22 FY, farmers were mobilized for season preparation as follow: - In 2022A Season: 1,174,996 farmers mobilized - In 2022B Season: 824,502 farmers mobilized 3. In 2021/22 FY, frontline extension agents were trained: - In 2022 A: 18,611 trained - In 2022 B: 18,456 trained
9		Quantity of meat and dairy products produced (Meat, Milk, Eggs)	MT	Milk: 891,326	Milk: 1,170,683	Milk: 932,951						
				Meat: 174,904	Meat: 179,061	Meat: 183,969						
				Eggs: 5,800	Eggs: 14,946	Eggs: 8,665						
10		Credit to agriculture sector as percentage of total loans	Percent	6.15	6.2	6						
11	Increased revenue from coffee, tea and horticulture	Green coffee produced	MT	20,958	23,241	16,091				Distribution of 9,000 litters of Pesticide and 3,000 litters of Fungicide		15,860 Liters of pesticides instead of 9,000 Liters were distributed. The extra liters were purchased and distributed due to increased pests in coffee plantations. Also the 3,000liters of fungicide was distributed for application to coffee plantations
12		Made tea produced	MT	34,736	34,983	29,449				Resettlement of 32 families relocated by industrial block expropriation		40 Families instead of 32 were fully resettled in 5 houses of 8 in 1.

13		Fruit and vegetables produced	MT	15,804	23,314	31,869				Support Coffee farmers with Alcohol to apply to 1,500 traps and accessories prepared by farmers themselves	The coffee farmers were supported with 940 Liters where 640 liters were of Methanol and 300 liters of Ethanol which covered 8,000traps instead of 1,500 traps
	Social Transformation Pillar										
	Priority Area 2: Eradicating Malnutrition: By promoting nutrition sensitive agriculture and food security										
14	Enhanced food security and nutrition	Food commodities stored as strategic food reserve (Stock situation and Food commodities distributed to the beneficiaries)	MT	Maize: 15,752	Maize: 2,500	Maize Stock position stands at 10,405 MT				Strengthen partnership with Private Sector for foodcommodities storage	The Ministry continue to work closely with Private Sector to identify and collect food commodities as strategic grain reserve
				Beans: 5,550	Beans: 2,000	Stock position of beans stands at 3,205.693 MT					