THE REPUBLIC OF UGANDA

MINISTRY OF AGRICULTURE, ANIMAL INDUSTRY AND FISHERIES

AGRO INDUSTRIALISATION PROGRAMME ANNUAL PERFORMANCE REPORT

FINANCIAL YEAR 2020/21

DECEMBER 2021

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ANNUAL PERFORMANCE REPORT

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MINISTRY OF AGRICULTURE, ANIMAL INDUSTRY AND FISHERIES
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EXECUTIVE SUMMARY

Government implemented the first year Agroindustrialisation (AGI) Programme of the NDP III in FY2020/21. The Programme goal is to increase commercialization and competitiveness of agricultural production and agro-processing. In line with NDP III requirement, MDAs implementing the Programme prepared this annual report to assess the outcome and output performance of the Programme for the Financial Year 2020/21.

Programme Outcomes

The AGI Programme contributes to 10 outcomes which are monitored through 17 indicators. In the reporting period, The Programme achieved targets for 53 percent of the indicators, made some progress but did not achieve the target of 6 percent and did not make progress in 41 percent growth in the agriculture sector.

Programme Performance

The Programme comprises of 6 sub-programmes. This section summarizes output performance for each sub-programme. It states the objective of the sub-programme, the number of interventions and how many were implemented in the reporting period, and the key outputs implemented where progress was made or not made.

1. Agricultural and productivity sub-programme

The objective is to increase agricultural production and productivity. This is implemented through 10 interventions. Progress was made in:

- Setting up new and rehabilitating existing infrastructure for administration and agricultural research.
- Developing and extending to value chain actors the demanded agricultural technologies for animal breeding, food and nutrition security and industry
- Retooling public and private extension workers.
- Availing quality critical inputs to farming households.
- Setting up new and rehabilitating existing infrastructure for water for production .
- Controlling crop and animal pests, vectors and diseases.

Slow progress was made in:

- Recruitment and facilitating of agricultural research scientists and extension workers.

- Developing and applying ICT applications for extension, supervision, certification, pest vector and disease surveillance, etc.
- Developing and equipping disease diagnosis and control capacity and facilities.
- Acquisition and distribution of animal disease vaccines compared to demand
- Gazetting of fish breeding grounds.

2. Post-Harvest Handling and Storage sub-programme

The objective of this sub-program is to improve post-harvest handling and storage of agricultural products. This is implemented through 3 interventions. However, two of these were not assessed because there was insufficient data. Progress was made in:

- Supporting cooperative societies, communities with cleaning, drying, grading and primary processing equipment.
- Developing the capacity of cooperatives, communities, farmers and traders in post-harvest handling and storage.

Slow progress was made in:

- Designing and construction of storage facilities
- Supporting farer, youth and women organizations with small scale post-harvest handling technologies and storage in the 10 agro-ecological zones

3. Agro-processing and Value Addition sub-programme

The objective is to increase processing and value addition of agricultural products. It is implemented through 4 interventions. Two interventions were not assessed because implementation was not planned for this reporting period. Progress was made in:

- Revising existing industrial pollution guidelines.
- Construction/equipping of planned tea factories.
- Supporting dairy cooperatives and farmers with value addition equipment.
- Rehabilitating the absorbent cotton processing plant.
- Completing the Atiak sugar factory.

Slow progress was made in:

- Establishing agro-industrial parks/export processing zones and farm service centres.
- Establishing/completing processing factories/plants for dairy, milk, starch, ethanol, soluble coffee and meat.

4. Market Access and Competitiveness sub-programme

The objective of the sub-programme is to improve access to agricultural markets and increased competitiveness of agricultural products. It is implemented through 8 interventions. Four interventions were not assessed because implementation was not planned for this reporting period. Progress was made in:

- Training farmers and manufacturers on best SPS management practices.
- Equipping regional milk testing laboratories.
- Constructing/renovating and equipping certification laboratories.
- Coffee promotion, expos and trade shows in and outside the country.
  Developing product markets for Uganda's coffee products.

Slow progress was made in:

- Establishing coffee certification laboratory facilities.

5. Agricultural financing sub-programme

The objective of the sub-programme is to iincrease the mobilization, equitable access and utilization of agricultural finance. It is implemented through 6 interventions. Only one intervention was planned for implementation in the reporting period.

The achievements were that government capitalized Uganda Development Bank and Microfinance Support Centre to the target level.

6. AGI Programme institutional strengthening and coordination sub-programme

The objective is to establish, and/or strengthen a coordination mechanism of actors in the value chain and also ensure that services and resources are delivered to facilitate the AGI Programme agenda. Two outputs were implemented:

- 17 Memoranda of Understanding (MoUs) were signed with private sector players or for projects that will use PPP arrangements.
- 4 Multi-sectoral platforms for AGI were established.

Programme challenges

The following challenges challenges affected Programme implementation.

- Covid-19 pandemic restrictions and Standing Operating Procedures (SOPs) reduced or suspended community based activities such as extension and physical meetings; Infrastructure construction projects were suspended and lost time.
- Budgetary allocations were inadequate besides budget cuts and late releases. This affected activity implementation and service delivery. Donor funded projects continued to experience lengthy administrative procedures for release of funds and for procurements.
- Fewer technical staff compared to the tasks to perform for effective Programme implementation at national and local government levels.

- Land acquisition for infrastructure projects and demonstrations are lengthy and complex due to land tenure and ownership challenges.
- Many input suppliers did not have adequate capacity to produce adequate and quality inputs.
- Inadequate critical facilities including analytical and diagnostic laboratories, motor vehicles (cars, motorcycles) for field activities, high-speed internet connectivity and office space.

Recommended actions

- All Programme MDAs should integrate COVID-19 interventions into their work plans and budgets.
- Government should invest in developing ICT platforms, adopt use of ICT tools to

  Extend services (e.g. information dissemination, extension advice, supervision and surveillance of disease outbreak more effectively and efficiently.

- Urgent recruitment and retooling in critical areas and alternative models of service delivery be applied.
- Government should reactivate District Land Boards to expedite land access issues for Programme investments.
- Programme MDAs should institute frequent supervision and penalties to improve private sector provision of quality of materials and services.
- Government should facilitate the national and local government level staff with critical facilities and logistics for effective performance.

1 INTRODUCTION

1.1 Background

Starting with Financial Year 2020/2021, government, through the NDP III, introduced the programme approach to planning, budgeting, implementation and results reporting. This reform is in line with the government's commitment to improve service delivery while leveraging on synergies and collaborations among related Ministries, Departments and Agencies (MDAs). Agroindustrialisation (AGI) is one of the NDP III Programmes.

This is the first AGI Programme Annual Performance Report. It will be presented and discussed at the AGI Programme Annual Review in December 2021.

1.2 AGI Strategic Direction

1.2.1 Goal

The goal is to increase commercialization and competitiveness of agricultural production and agro-processing. It contributes to NDP III first strategic objective to "Enhance Value Addition in key Growth Opportunities."

1.2.2 AGI objectives and sub-programmes

The AGI Programme has six sub-programmes, each addressing a specific objective. Table 1 maps the objectives to sub-programs.

Table 1: Sub-programs and Objectives

Sub-program	Objective
Agricultural production and productivity	Increase agricultural production and productivity.
Post-harvest handling and storage	Improve post-harvest handling and storage of agricultural products.
Agro-processing and value addition	Increase agro-processing and value addition.
Market access and competitiveness	Increase market access and competitiveness of agricultural products in domestic and international markets.
Agricultural financing	Increase mobilisation, access and utilisation of agricultural finance.
AGI Programme institutional strengthening & coordination	Strengthen agriculture sector institutional capacities for agro-industrialisation.

1.2.4 Key AGI Programme Outcomes

To achieve the above objectives NDP III prioritized the following intervention areas under the AGI Programme:

1. Increased production volumes of agro-enterprises.
2. Increased Water for Production Storage and utilization.
3. Increased food security.
4. Increased employment and labour productivity in agro-industry.
5. Improved post-harvest management.
6. Increased storage capacity.
7. Increased agricultural exports.
8. Improved quality and standards of agricultural products.
9. Increased access and utilization of agricultural finance.
10. Improved service delivery.

The NDP III identifies the following 34 strategic interventions through which the AGI Programme will achieve the above results;

1.2.5 AGI Programme Implementation Action Plan (PIAP)

A PIAP links the outcomes to the outputs to be delivered by the Programme interventions and to actions that will be undertaken and the resources required by implementing MDAs to deliver these actions. It is a results-based tool with annualized targets and costs and provides the basis for developing annual workplans and budgets as well as annual performance reporting. The preparation of this report was based on the AGI PIAP.

1.3 Key AGI Programme implementing partners

The AGI Program has a wide variety of implementing partners. Some of them are the main implementers and others provide complementary interventions necessary for the AGI Programme to attain its goal. They include Ministries, Departments Agencies and Local Governments (MDALGs), Private sector organizations, Civil society and non-governmental organizations, public and international research organizations, Academia and Development Partners.

The main MDAs are:

1. MAAIF, the AGI Program implementation leader and works with other MDAs for implementation of complementary interventions.
2. Ministry of Trade Industry and Cooperatives (MTIC) is the Program co-leader. Its main intervention areas are: establishment of storage and marketing infrastructure, negotiation for market access to regional markets, promotion of compliance to quality international standards and promotion of value addition and agro-processing.
3. Ministry of Local Government (MoLG) main interventions are development of agriculture market infrastructure and delivery of agricultural extension services
4. Ministry of Water and Environment (MWE) main interventions are adaptation to climate change and developing appropriate water for agricultural production infrastructure.
5. Ministry of Lands, Housing and Urban Development (MoLHUD) main interventions are land policy and land management issues and easing access to arable land for commercial agriculture.
6. Ministry of Works and Transport (MoWT) interventions are the development of transport infrastructure for promoting internal and regional trade.
7. Ministry of Energy and Mineral Development (MEMD) interventions are developing energy sources and subsidies for agro-industrialisation.
8. Ministry of Finance, Planning and Economic Development (MoFPED) interventions are enhancing public and private sector investment in agroindustry; facilitating credit access and tax and investment incentives for agroindustry.
9. Office of the Prime Minister (OPM) provides overall guidance to the AGI programme.

The private sector will address key AGI intervention areas including engaging in public-private partnership (PPP) initiatives aimed at enhancing/facilitating private investment in agriculture, agribusiness and agro-industries. Table 3 lists the main stakeholders in the AGI Programme;

Table 3: Key stakeholders

Lead Implementing Partners	Supportive Partners
MAAIF MTIC MOLG MWE National Agricultural Research Organisation NARO) National Agricultural Advisory Services (NAADS) Operation Wealth Creation (OWC) Dairy Development Authority (DDA) Uganda Coffee Development Authority (UCDA) National Animal Genetics Resource Centre and Data Bank (NAGRC&DB) Cotton Development Organisation (CDO) Uganda National Meteorological Authority (UNMA) Uganda Development Corporation (UDC) Uganda National Bureau of Standards (UNBS) Uganda Export Promotion Board (UEPB) Uganda Cooperative Alliance (UCA) Uganda Commodity Exchange (UCE) Uganda Warehouse Receipts System Authority (UWRSA)	MFPED MOWT MLHUD MEMD Ministry of Health (MOH) Ministry of Education and Sports (MOES) Ministry of Science Technology and Innovation (MoSTI) Ministry of Information Communication and Technology (MoICT) Uganda Investment Authority (UIA) Uganda Bureau of Statistics (UBOS) Uganda Free Zone Authority (UFZA) Uganda Development Bank (UDB) Uganda Revenue Authority (URA) Uganda Insurance Regulatory Authority (IRA) Electricity Regulatory Authority (ERA) Rural Electrification Agency (REA) Umeme Uganda Electricity Transmission Company Ltd(UETCL) Uganda Electricity Generation Company Ltd (UEGCL) Uganda National Roads Authority (UNRA) Enterprise Uganda Private Sector Foundation Uganda (PSFU) Uganda Manufacturers Association (UMA) Uganda Registration Services Bureau (URSB) Uganda National Farmers Federation (UNFFE) Academia Development partners Civil Society Organizations Private sector companies especially for priority commodity value chains

1.4 Preparation of the report

This is the first AGI Programme annual performance report. The process for compiling this report was participatory, involving key implementing MDAs. The AGI Programme Secretariat led the process.

Key MDAs implementing the Programme compiled their annual performance reports. The framework for compilation of MDAs' performance reports and preparation of this report was the AGI PIAP, supplemented by data from progress on the Ministerial Policy Statements of the key implementing MDAs. The PIAP annualizes the interventions, outputs to be delivered and budget required by the Programme. The draft annual Programme performance report was validated by the by the Program Technical Working Group.

This report is supplementary to the Government Annual Performance Report (GAPR) produced by the Office of the Prime Minister.

2 OVERALL PROGRAMME PERFORMANCE

This chapter highlights AGI Programme outcome and financial performance and implementation challenges in FY 2020/21.

2.1 Performance against Programme Outcomes

The performance of the Programme in each outcome is assessed by comparing the target and actual values for FY 2020/21. This includes four scenarios: three which rank the level of results attained, and one where achievement could not be ranked because of lack of, or insufficient data. The scorecard uses green, yellow, red and grey colour scale as follows;

Rating	Description	Requirement
	**Achieved** – Programme achieved its annual target	The indicator value is 100% or more of the annual target
	**Moderately satisfactory** – Programme made some progress but the target was not met or progress was slow	The indicator value is between 75% and 99% of annual target
	**Not achieved** - Programme made very slow progress or no progress at all	the indicator value is between 0% and 74 % of annual target
	**Not assessed** – Insufficient data were available to monitor progress	No indicator value is reported or target value is missing

The AGI program contributes directly to 10 outcomes, with a total of 17 indicators. All the indicators were assessed. The Program achieved targets for 10 (59%) indicators, made some progress in 1 (6%) and did not achieve 6 (35%) of the targets.

The summary of performance against the outcomes is shown in Table 4

Table 4: AGI Programme Outcome Performance scorecard

No	Key Result Areas	Achieved	Moderately satisfactory	Not achieved
1	Increased production volumes of agro-enterprises	1	0	2
2	Increased Water for Production Storage and utilization	2	0	1
3	Increased food security	1	0	0
4	Increased employment and labour productivity in agroindustry	2	0	1
5	Improved post-harvest management	0	1	0
6	Increased storage capacity	1	0	0
7	Increased agricultural exports	1	0	0
8	Improved quality and standards of agricultural products	0	0	1
9	Increased access and utilization of agricultural finance	1	0	1
10	Improved service delivery	1	0	0
	Total	**10**	**1**	**6**
	Score (%)	**53**	**6**	**41**

Table 5 summarizes the indicator performance for each outcome. The Covid-19 pandemic and restrictions affected agricultural production, domestic and international market access and disrupted supply chains. Floods and locust invasion also affected production. Thus, most of the indicators dependent on agricultural production levels were not met or were barely met.

The implementation of planned water for production was affected by budget cuts/ insufficient funding and Covid-19 pandemic. Budgetary cuts affected the execution of activities, while activities were postponed. The Covid-19 pandemic restrictions affected the rate of implementation of planned activities especially infrastructure projects. However, the rehabilitation of existing irrigation schemes was completed, and this increased area under formal irrigation.

Despite disruptions in production and market access due to Covid-19 pandemic, the Programme exceeded the target for food secure households.

The number of jobs created in the agriculture value chain was almost twice the target. This is partly attributed to partnerships between government and national off-takers which provided opportunities for employment creation and a market for farmers' produce. A number of agro-processing and value addition enterprises were established/ expanded/rehabilitated in commodities such as tea, sugarcane, and cotton which contributed to job creation. Government programs such as the Youth Livelihood Programs, the Emyooga, and free or subsidized input distribution also supported households to invest into agricultural value chains.

Table 5: AGI Programme Outcome Indicators Performance

KRA No.	Description (outcome and its indicators)	Baseline 2017/18	FY 2020/21	
			Target	Performance
1	**Increased production volumes of agro- enterprises**			
	1.1 Agricultural Real GDP growth rate (%)	3.8	5.2	3.5
	1.2 Export value of priority[1] agricultural commodities (USD Billion).	0.935	1.217	0.993
	1.3 % change in production volumes in priority agricultural commodities.	10	25	26.1
2	**Increased Water for Production Storage and utilization**			
	2.1. Cumulative water for production storage capacity (Mcm).	39.3	54.32	50.17
	2.2. Area under formal irrigation (ha)	15,147	19,776	22,504
	2.3. % of water for production facilities that are functional at time of spot check.	86.7	87.7	87.9
3	**Increased food security**			
	3.1 % of food secure households.	69	75.2	78.3
4	**Increased employment and labour productivity in agro-industry**			
	4.1 % of households dependent on subsistence agriculture as a main source of livelihood.	68	67	39
	4.2. No of jobs created in the agro-industrial value chain.	0	75,000	160,508
	4.3. Labour productivity in agriculture (USD).	2,212	2,527	945
5	**Improved post-harvest management**			
	5.1.Post-harvest losses for priority commodities (%).	37	33	18.4
6	**Increased storage capacity**			
	6.1. Storage capacity (MT).	550,000	750,000	792,714
7	**Increased agricultural exports**			
	7.1. Share of agricultural exports to total exports (%).	26	29	32.1
8	**Improved quality and standards of agricultural products**			
	8.1 Value of agricultural imports (USD billion).	1.2	1.1	0.6
9	**Increased access and utilization of agricultural finance**			
	9.1 Share of agricultural financing to total financing.	10	12	12
	9.2 Proportion of farmers that access agricultural finance.	33	40	10
10	**Improved service delivery**			
	10.1 Level of satisfaction with service delivery in agroindustry (%).	20	40	61

[1] The priority export commodities are coffee, tea, fish, dairy, meat and maize

2.2 Overall Program Budget Performance

During the year under review, service delivery was financed directly mainly by Government and grants/concessional loans from Development Partners. The approved budget was UGX 1,534.61 billion, of which 970.084 billion (63 %) was funded by GoU and UGX 564.531 billion (37%) was funded by development partners. Only 85 percent of the approved funding was released and 92 percent of the releases was spent. Thus, only 78 percent of the total budget was spent.

Table 6: Total Resources Approved and the Funding Gap (UGX billion)

Budget Classification		**Approved Budget**	**Releases**	**Expenditure**	**Outturn**	**Absorption**
					Releases as % of Approved	**Expenditure as % of Releases**
Recurrent	Wage	141.836	147.218	144.628	103.8%	98.2%
	Non-Wage	206.231	185.608	176.008	90.0%	94.8%
Domestic Dev't	GoU	408.447	465.938	463.530	114.1%	99.5%
External Financing	Donor	564.531	398.026	306.531	70.5%	77.0%
Total GoU		**756.514**	**798.764**	**784.165**	**105.6%**	**98.2%**
Water for Prod'n		213.57	113.57	113.03	52.9%	99.5%
Total GoU+Donor excluding arrears		**1,534.61**	**1,310.36**	**1,203.72**	**85.4%**	**91.8%**

3 PRODUCTION AND PRODUCTIVITY OUTPUT PERFORMANCE

This chapter assesses progress in the implementation of the AGI PIAP outputs that were planned under the Agricultural Production and Productivity sub-programme. The assessment was done for each Programme objective.

Objective 1: Increase agricultural production and productivity

Agricultural production has increased mainly due to expansion in the use of land and labour than due to increase in agricultural productivity. Crop and livestock yields average only about 30 per cent of their biological potential. This objective aims at increasing productivity through the following strategies and actions:

1. Strengthen agricultural research and technology development:
2. Strengthen the agricultural extension system.
3. Strengthen the agricultural inputs markets and distribution systems to adhere to quality standards and grades.
4. Increase access and use of water for agricultural production.
5. Increase access and use of agricultural mechanization.
6. Increase access and use of digital technologies in agriculture.
7. Improve land tenure systems and land security mechanisms that promote inclusive agriculture investments.
8. Strengthen farmer organizations and cooperatives.
9. Strengthen systems for management of pests, vectors and diseases.
10. Promote sustainable land and environment management practices in line with the agroecological needs.

Intervention 1: Strengthening Research and Technology Development

This intervention area aims at improving the capacity of the National Agricultural Research System (NARS) so that it develops technologies for increasing agricultural production and productivity. The following are the planned outputs for this intervention area;

- Animal breeding, production, administrative units and research facilities constructed and equipped.
- Research and administrative infrastructure constructed, equipped.
- Research and administrative infrastructure rehabilitated.
- Agricultural research staff recruited and trained.
- Research standards developed.
- Research linkages with agricultural training institutions BTVET institutions engaged in agro industry enterprises established.
- Demand driven agriculture technologies developed.
- Animal and Crop genetic resources conserved.
- Climate smart technology multiplication and demonstration centers established

in BTVET institutions and all ZARDIs;
- Technology incubation centres established and operational.
- Sugar research established.
- Animal breeding stock multiplied and distributed to farmers country wide for cattle, poultry, goats, pigs, fish.

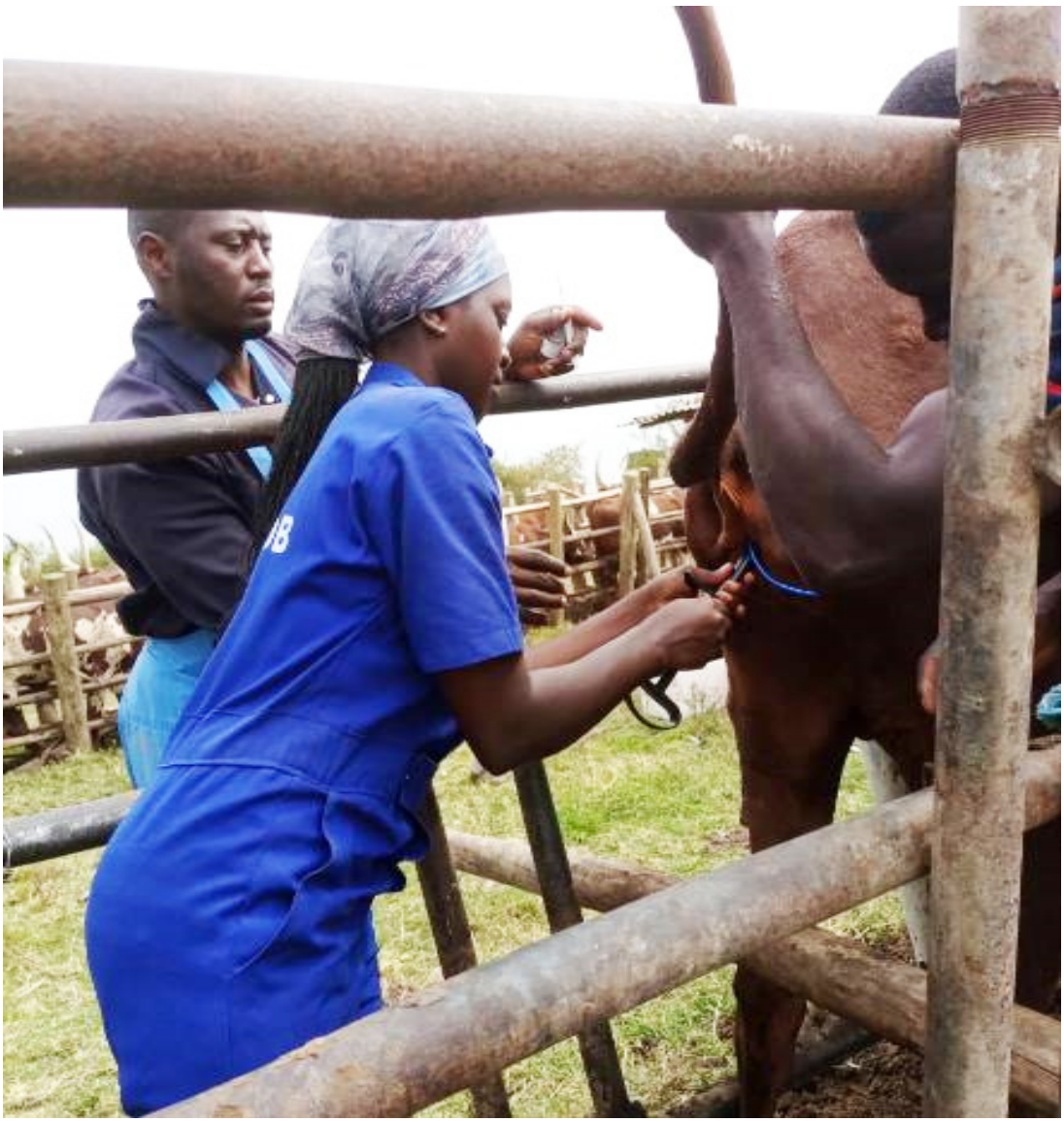
The following highlights the performance by output;

Output 1: Animal breeding, production, administrative units and research facilities constructed and equipped

The Program made substantial investment in constructing new and rehabilitating old infrastructure for agriculture research.

The Programme planned to construct 28 administrative units on the NAGRC&DB center farms. A total of 35 units were instead constructed, due to the savings it made on construction works. These structures include one administrative block that was completed and equipped at the Livestock Experimentation Station and staff quarters on Bulago, Maruzi, Aswa and Rubona stock farms/ranches. Also included is a farmer learning centre at Kasolwe Stock Farm which was still under construction, which once completed and furnished will offer skilling programmes for community livestock production and breeding.

In order increase access to improved animal genetic resources, NAGRIC&DB planned to boost the community breeding outreach programme on and off its centre farms by acquiring 3 specialized Assisted Reproductive Technology (ART) mobile laboratory equipment, installing 2 new liquid nitrogen (LN2) plants and constructing and establishing/strengthening 3 satellite Artificial Insemination (AI) centers. Five (5) specialized mobile ART equipment were procured, 35 all-terrain motorcycles were procured and modified for AI equipment. These equipment are based at Aswa Nshaara, Maruzi, Rubona, Lusenke, Bulago and the Livestock Experimentation Station. Four ART satellite centres in Gulu, Iganga, Soroti and Moroto were equipped to supply critical inputs (semen and LN2) to AI technicians in these areas for service delivery. Two regional mini LN2 production plants were installed in Mbarara to serve the western region and greater Masaka and in Njeru- Buikwe District to serve the greater Busoga Sub region. NAGRC&DB continued to operate and maintain the two existing LN2 plants at the Entebbe Headquarters and at Njeru Farm.



Artificial insemination during community breeding activities

NAGRC&DB also established a number of all-inclusive breeding and production support structures at its centre farms. These structures included calf pens, specialized paddocks, goat houses, poultry structures and pig stys.

Outputs 2 and 3: Research and administrative infrastructure constructed/ equipped/ rehabilitated

In the reporting period, the Programme targeted to construct and equip one and renovate one research laboratories to support various research evaluation platforms.

An Aquaculture Diagnostic Laboratory was established at Kajjansi though it was not equipped, a Multipurpose Laboratory was established at NACORI Mukono-Kituza to support coffee and cocoa research and a laboratory for livestock breeding (IVF) research was equipped and operationalized.

One Tissue Culture laboratory was constructed at NaCORI and equipped with essential equipment and consumables to boost operational level from 40 to 80% for production of coffee clonal cuttings.

Construction works were ongoing for an animal vaccine research and production facility and a wall fence at NALIRRI, and Phase 2 of a seed sorting plant at Mbarara.

In addition, NARO constructed/rehabilitated/equipped the following research infrastructure at/for its institutes: one hay barn was constructed at NaLIRRI Maruzi; one residential house was constructed at Kigumba; solar power lights were installed at 11 PARIs and a fence was constructed at Nabuin ZARDI experimental fields. A screen house structure was renovated at NaCORI and 2 additional screen houses were constructed at Bugusege Station (Sironko district) for Arabica coffee breeding. NARO also constructed/rehabilitated 5 modern screen houses for Hass avocado breeding research.

In order to protect Agricultural Research institutional land, government secured 2 land titles for the 26km2 of land allocated to NaLIRRI and about 2.2 km2 of land for Bugusege coffee research satellite centre. Land for Nyabuishyena (Kisoro district) and Kitgum satellite centre (for Ngetta ZARDI) were surveyed for possible titling.

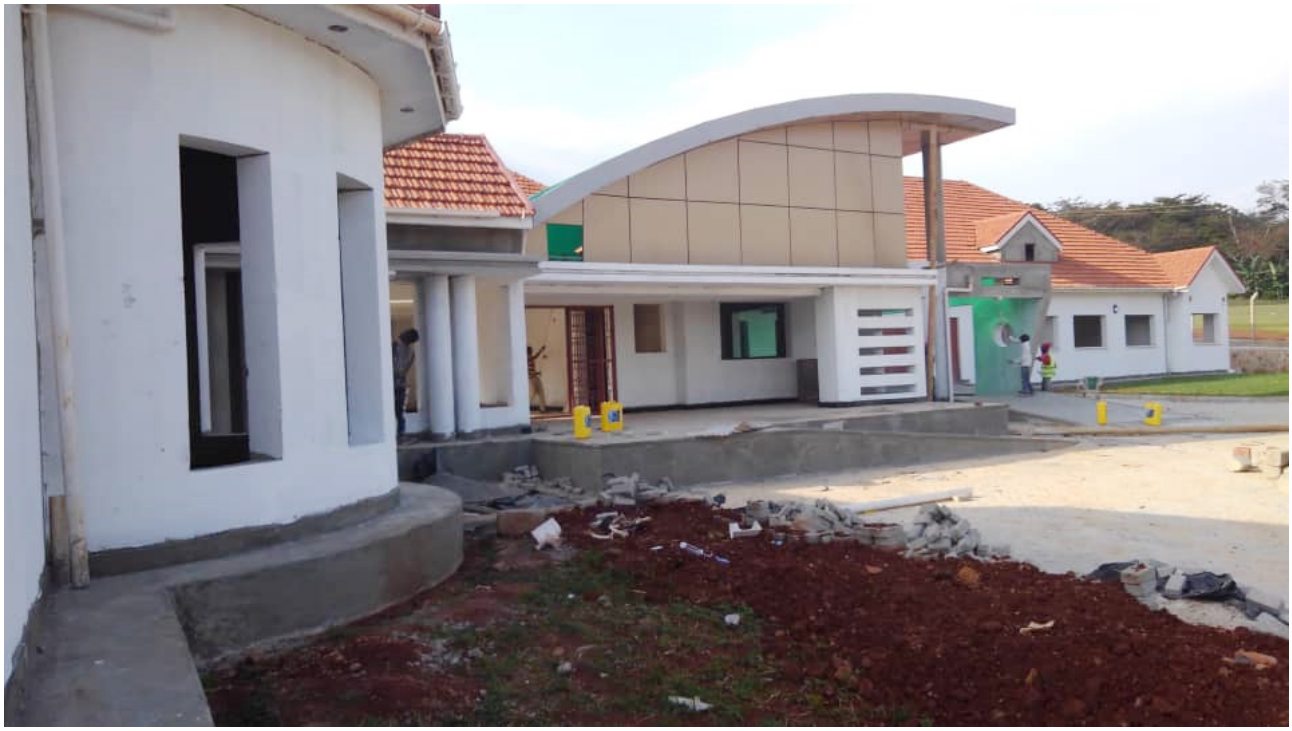


Figure 1: Multipurpose Laboratory for coffee and cocoa research established at NACORI Mukono-Kituza

Output 4: Agricultural research staff recruited and trained

In an effort to strengthen the capacity for agricultural research and service delivery, the Programme planned to recruit 9 agricultural research and 5 animal breeding scientists and support 15 scientists to undertake Msc and PhD level training programmes.

Government recruited 4 agricultural research scientists according to NARO establishment. The ongoing rationalization of agencies affected the staff recruitment exercise. Ten animal breeding scientists were recruited and posted in Government farms/ranches under NAGRC&DB.

Eight NARO scientists were supported to enroll in various universities for PhD and Masters programmes and 3,601 animal breeding scientists (ART technicians, consisting of student interns and graduate trainees) were trained/refreshed in basic principles of ARTs.

Output 5: Research standards developed

In order to strengthen research standards and quality assurance, government plans to put in place new or amend appropriate laws, policies, regulations, guidelines and regulations. The targeted are: Animal Breeding Act, National Dairy and Beef Cattle Breeding Strategy, National Small Ruminant Breeding Strategy, National Artificial Insemination Strategy, National Pig Breeding Strategy; Livestock, livestock product, and breeding stock distribution guidelines. This output was not planned for the reporting period. It is therefore not assessed in this report. However, MAAIF started the process.

A legislative gap analysis of existing Acts was conducted. These included the (a) Animal Breeding Act, (b) Dairy Industry Act, (c) Animal Diseases Act, (d) Cattle Traders Act and (e) Hides and Skins Trade Act. The analysis recommended that existing legislations be revised and new legislations enacted.

As a result, principles for the amendment of the Animal Disease Act and the Animal Breeding Act and a Livestock Identification and Traceability Policy were drafted. The Veterinary Practitioner Bill, Animal Feeds Bill and Meat Industry Development Bill were drafted to amend existing laws.

In addition, stakeholder consultations were conducted to validate: draft Rules and Regulations to operationalize the Animal Breeding Act; Regulations to register and license animal breeding service providers, hatchery operators and animal breeding

associations; and amendments to the Animal Disease Act. Regulatory Impact Assessments were also conducted on the regulation of: animal feeds; veterinary practice; livestock identification and traceability; meat inspection and certification; animal diseases prevention and control; and management of animal genetic materials.

Output 6: Research linkages with agricultural training institutions and BTVET institutions engaged in agro industry enterprises established/strengthened

Government through NARO targeted to establish functional public-private partnerships established for technology development and promotion by establishing/supporting 38 Innovation Platforms (IPs) and generating 5 commercilaisable technologies and innovations. NARO utilizes IPs approach to disseminate and share information on technologies with different stakeholders, including researchers, extension agents, farmers, traders, processors, and government officials.

In the reporting period, NARO, working with other actors, established/supported 78 IPs against a target of 38. These cut across several commodities (beans, beef and meat, apiary, maize, sorghum, millet, groundnuts) and interventions (e.g. seed production and seed banks, commercial production and marketing, artificial insemination, honey harvesting and processing, integrated pest management, and soil and water management) spread across the country.

NARO also generated 5 commercialisable technologies and innovations which were at various stages of completion/market testing/commercialization. These included value-added products from Shea fruit pulp and nuts; maize, millet and soybean instant products; cocoa protocepts (chocolate, cocoa powder, cocoa butter, cocoa wine and pasteurized cocoa juice) and; NARO safe fish smoking kiln. The target was met largely due to strengthened innovativeness of scientists and the established Intellectual property office.

Output 7: Demand driven agricultural technologies developed

The aim is to generate research products along the agriculture value chains that meet the demands for household incomes, food and nutrition security and the market/industry. These include crop, livestock, fisheries, forestry production and agricultural engineering technologies.

In order to meet community demand for improved breeds, government through NAGRC&DB targeted to produce and avail to actors along the ART value chain 72,000 doses of semen and 80,000 litres of LNs. However, 62,512 doses of semen

were produced at the National Bull Stud and Genetic Evaluation Centre and extended to beef and dairy farmers. Covid-19 restrictions affected the production and distribution of semen and promotional campaigns. A total of 98,275 litres of LN2 were produced as a result of installing additional LN2 plants.

Through NARO in partnership with various public and private actors, government targeted to generate and promote 8 market-oriented products, 10 research products and services suitable for industry, 15 research products for food and nutrition security and market responsive coffee varieties.

Output 8: Animal and Crop genetic resources conserved

Government through NAGRC&DB and NARO planned to conserve (preserve unique attributes) of 2,000 animal and plant genetic resources and construct a Gene Bank.

Construction works were initiated for a Gene Bank in Entebbe and Aswa ranch was revived to conserve Zebu cattle. One hundred sixty-six (166) Ankole long horned cattle and 255 Mubende and Small East African breeding goats for genetic conservation. Five indigenous animals (Ankole long horned cattle, small East African zebu cattle, Mubende and Kigezi goats) were conserved in situ and ex situ. The number of plant genetic resources conserved was 668. Performance was affected by limited movement to collect the genetic resources arising from COVI-19 restrictions.

Output 9: Climate smart technology demonstration and multiplication centres established in ZARDIs and BTVET institutions

Through climate smart technology demonstration and multiplication, the Programme aims to increase agricultural productivity and adapt to, and mitigate the effects of climate change on agriculture.

In total NARO demonstrated 60 climate smart technologies involving plant varieties that are resistant to drought and pests and diseases in various agroecological zones. The NaLIRRI centre demonstrated climate smart forage production technologies, innovations and management to 108 livestock farmers and the NaFORRI centre demonstrated tree planting and conservation to 364 women and 252 youth in the Mt Elgon area.

Output 10: Technology incubation centres established and operational

Agro-technology incubation centres assist the agricultural innovation system to build capacities and networks and promote uptake of these technologies In the planning period, government through NARO planned to establish one technology incubation centre, and UCDA to demonstrate coffee good agronomical practices and good business practices in 2,538 parishes.

A technology incubation centre was established at Mukono ZARDI. The centre consists of production areas for incubation and production of products in addition to infrastructures such as conference/ events hall and office space NARO also developed an incubation manual to guide the day-to-day running of the centre.

UCDA promoted Good Agronomic Practices (GAPs) for coffee in 100 parishes. Besides UCDA, NARO also promoted GAPs for various crops, including new rice varieties in Butaleja district and Bulindi ZARDI; banana in Kamwenge district and Hass avocado in Kalungu district.

Output 11: Animal breeding stock multiplied and distributed to farmers country wide for cattle, poultry, goats, pigs, fish

In an effort to improve community access and adoption of improved animal genetic resources, government multiplied and distributed various breeds to farmers through its MDAs.

A total of 1,907 goat kids were produced on NAGRC&DB centre farms against a target of 2300. The disease outbreak (Foot and Mouth Disease, PPR) severely affected goat breeding and production programme.

A total of 3,750 improved beef calves and 3,500 improved dairy calves were produced on and off NAGRC&DB centre farms. The respective targets were 3500 and 2500 respectively. This performance was a result of enhanced community-based breeding initiatives, synchronization protocols with better conception rates and increased availability of LN2 which boosted the use of AI.

A total of 427 piglets were produced on and off NAGRC&DB centre farms compared to the target of 500. Pig mortalities were recorded and investigations of the causes were ongoing.

A total of 1,248,000 chicks were hatched off the NAGRC&DB hatcheries and distributed to farmers countrywide against a target of 1,000,000. This performance was attributed to increased egg production from two dual purpose poultry breeds (kroiler and rainbow rooster). A total of 43,200 grandparent stock were procured for multiplication and distribution to farmers.

Table 7; summarises the performance of outputs that were assessed for this intervention area;

Table 7: Output performance of Research and Technology Development intervention

Animal breeding, production, admin units & research facilities constructed & equipped.	Construct and equip administrative units.	No. of admin units constructed on NAGRC&DB center farms.	28	35
	Construct & equip animal genetic resources learning centers on NAGRC breeding farms.	No. of learning centres constructed/ equipped.	1	0
	Construct & equip all-inclusive animal breeding and production support facilities.	No. of all-inclusive animal breeding & production support facilities constructed/equipped.	1	5
	Acquire ART specialized mobile laboratory vans.	No. of ART specialized Mobile laboratories acquired.	3	5
	Install regional mini Liquid Nitrogen (LN2) production plants.	No. of regional mini LN2 production plants installed.	2	2
	Establish regional community breeding satellite centres.	No. of satellite centers established/ maintained.	4	4
Research & admin infrastructure constructed/ equipped.	Construct/equip research labs.	2.1 No. of research labs constructed/equipped.	1	3
	Construct/equip demonstration facilities.	2.2 No. of demo facilities constructed/ equipped.	4	4
	Construct & furnish research admin infrastructure.	2,3 No. of research admin infrastructure constructed/ furnished.	1	
Research & admin units rehabilitated.	Rehabilitate & equip research laboratories.	3.1 No. of research laboratories rehabilitated/equipped.	3	3
Agricultural research staff recruited & trained.	Support scientists to undertake training in Msc & PhD.	4.1 No. of scientists supported to undertake long term training.	15	8
	Recruit animal breeding scientists, technicians & allied practitioners	4.2 No. of animal breeding scientists recruited.	5	10
	Recruit additional Agricultural research staff of which 30% are women.	4.3 No, of Agricultural Research staff recruited according to establishment.	9	4
Research linkages with agricultural training institutions and BTVET institutions engaged in agro industry enterprises established/strengthened.	Commercialize all-inclusive Research IP and innovations.	6.1 No of Agriculture Research Innovations and IPs commercialized.	4	6
	Develop partnerships for technology development and promotion.	6.2 No. of functional PPPs established for technology development & promotion.	22	78
Demand driven agriculture technologies developed.	Produce and extend semen to dairy, beef, pigs and goat farmers	7.1 No. of doses of semen produced and extended to farmers.	72,000	62,512
	Produce & distribute liquid nitrogen for semen, ova and embryos along the ART value chain.	7.2 No. of litres of liquid nitrogen produced for distribution of semen, ova	80,000	98,275

		and embryos along the ART value chain.		
	Generate & promote improved technologies & innovations for food, nutrition & Industry.	7.3 Number of market-oriented products generated.	8	8
		7.4 No. of research products suitable for industry developed.	10	10
		7.5 No. of research products for food and nutrition security developed.	15	13
		7.6 No of market responsive coffee varieties.	10	5
	Demonstrate coffee good agronomical practices (GAP) in parishes.	7.6 No, of parishes with GAP.	-	100
Climate-smart technology demonstration and multiplication centres established.	Establish climate smart technology in selected BTVET Institutions	8.1 No. of Centres established in selected BTVET Institutions.	2	1
	Establish climate smart technology and demonstration centres in 9 ZARDIs.	8.2 No. of climate smart centres established in ZARDIs.	3	2
Animal and Crop genetic resources conserved.	Conserve genetic resources.	9.1 No of genetic resources conserved for sustainable utilization.	2000	668
Technologies and innovations incubated.	Incubate technologies.	10.1 No. of technologies and innovations incubated.	2	0
Animal breeding stock multiplied and distributed to farmers country wide for cattle, poultry, goats, pigs, fish.	Animal breeding stock multiplied and distributed to farmers country wide.	11,1 No of poultry developed, multiplied and promoted.	1000000	1284000
		11.2 No. of improved breed of calves produced and distributed.	6000	7250
		11,3 No. of improved goat kids produced and distributed.	2300	1907
		11.4 No. of improved piglets produced and distributed.	500	427
		11.5 No. of fish fingerings distributed.	-	4973000

A total of 10 outputs and 31 output performance indicators were assessed. Of these indicators, 16 (52%) were achieved, progress was made in 7 (22%), 5 (16%) were not achieved and 3 (10%) were not assessed because of lack of sufficient data.

Intervention 2: Strengthen the agricultural extension system

Access to agricultural extension and advisory services is a key determinant of agricultural technology adoption and uptake by actors along the agriculture value chain.

Government plans to strengthen the agricultural extension system by undertaking institutional and human capacity building, strengthening coordination of the national agriculture extension systems, digitizing agricultural extension services, scaling up innovative extension models, and strengthening research-extension-farmer linkages.

The following are the planned outputs for this intervention area in FY 2020/21.

i. Extension workers (general and specialists) recruited and equipped.
ii. Extension workers (general and specialists) trained in value chain focused skills.
iii. Extension service providers profiled and registered.
iv. ICT-enabled agricultural extension supervision system developed and operationalized.

There are 4 outputs and 7 performance indicators for the reporting period. Of these indicators, 4 (57%) were achieved and 3 (43%) were not achieved.

The performance per output is highlighted below.

Output 1: Extension workers (general and specialists) recruited and equipped

There were 4,000 public extension workers in local governments at the beginning of the reporting period and government targeted to recruit 1,000 new ones. However, because there was no budget provision for their wage bill, no new public extension workers were recruited.

In the coffee sub-sector, UCDA recruited and equipped 16 coffee extension workers (14 Regional Coffee Extension Officers and 2 Regional Coffee Technical Officers). This increased coffee farmers' access to agricultural extension service. The coffee extension staff-farmers ratio reduced from 1:33,334 to 1:25,715.

Output 2: Extension workers (general and specialists) trained in value chain focused skills

Government is expected to continuously identify capacity gaps, equip and retool public and private extension workers along the value chain. In the reporting period, government targeted to develop relevant skills of 1,000 extension workers.

In preparation for urgent staff recruitment and retooling when the wage bill for new extension workers is funded. MAAIF undertook an agricultural extension staffing gap analysis in LGs and generated relevant data for planning.

MAAIF, in partnership with DLGs; non-state actors including MercyCorps and Sasakawa Africa Association; UN agencies (World Food Programme and Food and Agriculture Organization) and Makerere University trained 1,000 public and private extension workers on agriculture value chain aspects.

CDO trained 454 private sector cotton-targeted extension workers and 192 public extension workers in 70 districts on cotton production techniques.

In the oil palm sub-sector, 280 field extension workers and lead farmers in the Buvuma hub were trained as trainers in lining fields and oil palm agronomy respectively. In the Kalangala hub, 17 village agents and 3 sub-county extension workers were trained as trainers for crop, livestock, fisheries husbandry and Village Savings and Loan Association (VSLA) methodology.

In order to Incorporate BTVET institutions into the agricultural extension system and ensure that what they teach is adopted and utilized by farmers, a new agricultural extension curriculum was developed between Bukalasa Agricultural College and Dalhouse University of Canada. MAAIF engaged the Curriculum Development Centre to adopt the new curriculum. In addition, MAAIF with the support of FAO institutions trained lectures in institutions of higher learning; and staff of MAAIF, the Curriculum Development Centre and the National Farmers Leadership Centre on integration of Farmer Field School approach into their training curricula. The integration process was an on-going.

Output 3: Extension service providers profiled registered

Government targeted to profile 100 (or determine the competences) extension service providers for support and registration. MAAIF mapped and profiled 100 Non-State Actors providing agricultural extension services in 40 DLGs. However MAAIF did not undertake the registration and accreditation of the profiled service providers in the reporting period.

Output 4: ICT-enabled agricultural extension supervision system developed and operationalized

The aim is to develop and use robust digital solutions to widen access to extension services.

MAAIF initiated the process of establishing an e-extension supervision system platform. Once the e-extension system is completed. it will facilitate knowledge and information sharing. It will also integrate a number of applications including e-advisory and knowledge management, e-diary and profiling. The system was still under development.

There were other outputs that were implemented but were not planned for the reporting period. The achievements were:

a) Scale up innovative extension models

Several innovative extension service delivery models are currently being used to fill the gap left by the inadequate number of LG extension workers. These include nucleus farmers, village agents and parish development model farmers.

MAAIF created awareness in all districts about these models. It developed guidelines on implementing the nucleus farmers, village agents and parish development models and training manuals for farming as business and group dynamics. As a result, all districts identified village agents and model farmers but were not facilitated due to lack of funding.

b) Strengthening research-extension-farmer linkages

Strengthening research-extension-farmer linkages aims to increase uptake of new technologies through several approaches, including establishment of commodity-based platforms. In the reporting period, 3 national commodity platforms (beef, cocoa, rice) were established/revived and two regional stakeholder platforms were formed along the beef value chain.

Table 8; summarises the performance of outputs that were assessed for this intervention area

Four outputs and 7 indicators were assessed. Four (57%) indicators were achieved and 3 (43%) were not achieved

Table 8 Performance of assessed outputs in agricultural extension system

Output assessed	Action	Indicators	Target	Actual
1. Extension workers recruited & equipped	Recruit additional extension workers ((specialist and general practitioners) at districts and sub-counties	1.1 No. of new public extension workers recruited	1000	0
		1.2 No. of specialized public value chain extension workers recruited	0	16
	Provide logistical support to public extension service workers	1.3 No. of extension workers supported with equipment	0	0
2. Extension workers trained in value chain focused skills	Continuously identify capacity gaps, equip and retool extension workers.	2,1 No. of LG and private sector extension workers trained	1000	1946
	Partner with the Directorate of Industrial Training and BTVET institutions to develop value chain training packages	2,2 No. of training packages developed	0	2
3. Extension service providers profiled registered	Registration and accreditation of private extension service providers	3.1 No. of extension service providers profiled and registered	100	100
4. ICT-enabled agric extension supervision system developed and operationalized	Develop & extend ICT applications, provide ICT equipment and train staff on their usage; retooling and equipping Zonal Training Centres with the necessary infrastructure, equipment and ICT innovations	4.1 No of districts using the ICT-enabled agricultural extension supervision system	0	0

Intervention 3: Strengthen the agricultural inputs markets and distribution systems to adhere to quality standards and grades

Access to quality inputs is integral to increasing agricultural production and productivity. The inputs supply system is currently plagued by poor quality inputs.

This intervention seeks to improve the quality of agricultural inputs available on the market and sustainable farmers' access to these inputs. This will be achieved through rehabilitation of regional fry centres; strengthening inputs' inspection, certification and regulation and supporting farming households with critical inputs and scaling up the current input subsidy programme.

The planned outputs in FY 2020/21 are:

I. Two Fry centres fully operational.
II. Quality inputs on the market.
III. Farming households supported with critical farm inputs.
IV. Seed production on prison farms increased.
V. E-voucher scaled up.

There are 5 outputs and 9 performance indicators. Out of these 6 (67%) were achieved, substantial progress had been made for 2 (22%) indicators and there was insufficient data to assess one (11%) indicator.

The following is the summary of output performance in FY 2020/21;

Output 1: Two Fry centres fully operational

Fry centres produce and demonstrate quality fish seed. Government established 4 regional fry centres in previous FYs in Bushenyi, Gulu, Kajjansi and Mbale. However, they required rehabilitation and/or effective management structures for full operation. The target for the reporting period is rehabilitation of 2 fry centres in Bushenyi and Gulu.

The rehabilitation of the Bushenyi and Gulu fry centres was completed. The Bushenyi fry centre has a capacity to produce 500,000 fry per annum. After rehabilitation it was handed over to the DLG which is in charge of its operations. Under PPP arrangement, the Gulu fry centre was handed over to a private company to operate and manage for an agreed period.

Other achievements were that the Aquaculture Research Development Centre at Kajjansi was operationalized, with a capacity to produce 200,000 Tilapia and 50,000 Catfish fry per month. Partnership arrangements were being developed with the Buginyanya ZARDI to operate the Mbale Regional Fry Centre.

Output 2: Quality inputs on the market

The targets for improving the quality of inputs on the market in FY2020/21 included 250 agricultural input producers and dealers licensed and registered; 50 agrochemicals registered, 32 agricultural inspectors recruited, trained and equipped; Namalere Analytical Diagnostic Laboratory renovated/equipped; and National Dairy Laboratory equipped and accredited.

The aim of licensing and registering agricultural input producers and dealers is to increase supply of high-quality agricultural inputs and decrease the prevalence of counterfeits on the market. During the period under review, 505 agricultural input producers and dealers were registered or accredited, or had been approved for registration. They include 209 agrochemical dealers/premises approved by ACB for registration; and 168 national input dealers accredited to supply inputs to the e-voucher programme and 128 more whose accreditation process had been completed. In addition, MAAIF trained 500 input dealers across the country in safe use and handling of agro-inputs.

The Agricultural Chemicals Board (ACB) approved 76 candidate agricultural chemicals for registration. This exceeded the target mainly because many accredited scientists had finalized their efficacy trials and submitted the outcomes to ACB for approval. These new products are expected to increase the farmers' choice of quality agro-inputs. Apart from the approved agrochemicals, authorized importation of 251,931MT of assorted agrochemicals (insecticides; fungicides; herbicides; and fertilizers) and withdrew 5MT of non-compliant agrochemicals from the market in a bid to reduce adulterated and expired agro-inputs.

In order to increase the capacity for input quality assurance 42 new agricultural inspectors (10 veterinary inspectors and 32 plant inspectors) were recruited. In collaboration with the private sector these inspectors were trained in surveillance and inspection and certification.

The rehabilitation of the phyto-sanitary laboratories at Namalere were ongoing. These laboratories include the plant health and diagnostic laboratory, the fertilizer analytical laboratory and the residue soil analysis laboratory. The process for accreditation of the National Dairy Analytical Laboratory was in the final stages. As part of the accreditation process one of the two critical equipment and its consumables was delivered during the period under review and the second one and its consumables shall be delivered in next FY.

Output 3: Farming households supported with critical farm inputs

The target was to procure and distribute inputs to over 500,000 farming households to boost their production and support themselves and their farmers' organizations. Table 9 lists these inputs by type, quantity supplied and beneficiary farming households and locations supplied by government through NAADS, OWC, UCDA and MAAIF departments.

Table9: Inputs supplied to farming households

Type of input	Quantity	No. of beneficiary households	Location
Coffee seedlings	70,416,610	19,905	70 DLGs
Cashewnut seedlings	331,633	2,369	23 DLGs
Sim sim seed	10 MT	3,333	Kitgum Farmers Association
Vanilla vines	169,555	377	Bundibugyo and Ntoroko
Maize seed	2,978 MT	595,672	134 DLGs and 21 Municipalities
Beans seed	585 MT	48,772	100 DLGs and 16 Municipalities
Potato seed	4,708 bags	1462	29 DLGs
Cassava cuttings	162,500 bags	23,214	92 DLGs and Municipalities, 7 Church of Uganda Dioceses
Sorghum seed	300 MT seed	75,000	Obongi, Moyo, Napak, Katakwi, Kaabong, Karenga, Moroto, Nabilatuk
Mango seedlings	2,393,653	29,921	54 DLGs
Citrus seedlings	1,781,560	14,367	26 DLGs
Pineapple suckers	4,490,000	449	19 DLGs
Hybrid onion seed	143kg	572	20 DLGs
Apple seedlings	816	102,123	11 DLGs and 3 Municipalities
Tea seedlings	30,986,025	6,197	10 DLGs
Cocoa seedlings	1,625,000	3,611	Bundibugyo
In-calf heifers	2,765	2,765	85 DLGs
Exotic pigs	15,406	5,135	97 DLGs and 11 Municipalities
Beef bulls	112	-	Soroti, Kumi, Kaberamido, Katakwi and Amuria DLGs, Buikwe IRCU demonstration farm.
Fish fingerlings & feeds	3,565,000 fingerlings; 82,400kg fish feeds	-	49 DLGs and 10 Municipalities
Brooded Rainbow chicks	23,500	Women and youth leaders	Luwero, Wakiso, Kalungu and Isingiro
Hand hoes	2,500,000 pieces	1,250,000	West Nile, Madi, Karamoja and Teso sub regions

A total of 2,012,961 farming households were supported with critical farm inputs. This exceeded the target due to the distribution of hand hoes to 1,250,000 households and additional households supported with maize seed in Acholi and Lango sub-regions, cocoa in Bundibugyo and vanilla seedlings in Bundibugyo and Ntoroko DLGs.

Output 4: Seed production on prison farms increased

Prison farms have large acreages of land and therefore have capacity to produce seed for the input supply system. In the reporting period, 4 prison farms had established seed multiplication centres for all crops. The main one is Rwimi prison in Bunyangabu district. The others, Kitalya in Mityana district, Amita in Abim district and Ragem in

Pakwach district largely produced foundation seed. In addition, 40 prison farms in 33 districts participated in cotton seed multiplication on 5,737 acres. They produced 2,595 MT of fuzzy cottonseeds for planting during the 2021/22 cotton season.

Output 5: E-voucher scaled up

The current input subsidy programme is based on physical distribution of inputs to beneficiaries. About three years ago Government launched an electronic voucher (e-voucher) system through which it is administering input subsidies to beneficiary farmers.

In the period under review, the e-voucher was implemented in 57 districts. A total of 425,000 farmers were enrolled into the e-Voucher input management system since it started and 208,827 of them had redeemed inputs from accredited agro-input dealers by the end of the reporting period. The cumulative value of inputs provided to farmers (seed, cassava plantings, fertilizer, fumigants, ploughing and post-harvest materials) was UGX 85.45 billion, with government contribution of UGX 57.19 billion and farmers' contribution of UGX 28.26 billion.

Table 10: Performance of assessed outputs in the input supply extension system

Output assessed	Action	Indicators	Target	Actual
1. Regional Fry Centres in Gulu and Bushenyi rehabilitated	Rehabilitate and fully operationalize the two Fry centres in Bushenyi & Gulu	1.1 Regional Fry Centres in Gulu and Bushenyi rehabilitated	2	2
2. Quality inputs on the market	Register and accredit agro-inputs producers and dealers	2.1 No. of input producers and dealers registered and licensed.	250	505
		2.2 No. of agrochemicals registered	50	76
	Recruit, train and equip agricultural inspectors	2.3 No of national level agricultural inspectors recruited	32	42
	Renovate, equip and accredit Namalere analytical/diagnostic labs	2.4 Namalere Analytical/ Diagnostic laboratories renovated	1	0
	Equip and accredit National Dairy Laboratory	2.5 National dairy laboratory accredited	1	0
3. Farming households supported with critical farm inputs	Acquire and distribute critical farm inputs to farmers	3.1 No. of farming households supported with critical farm inputs	500,000	2, 012,961
4. Seed production on prison farms increased	Establish seed multiplication centres in prison farms	4.1 No. of prison farms with seed multiplication centres established	0	4
5. e-voucher scaled up	Roll out the e-voucher	5.1 No. of new districts enrolled on the e-voucher management system	6	57

Intervention 4: Increase access and use of water for agricultural production

Access and use of water resources is critical to increasing agricultural production and productivity and adapting to the effects of climate and climate change. Though Uganda has abundant and untapped water resources, investment in water for agricultural production (WfAP) remains low. The Program aims to increase access and use of WfAP by developing and rehabilitating public and private infrastructure and services, and promoting efficient use of water for production.

In the review period, the following outputs were targeted:

i. Irrigation schemes under construction/rehabilitation completed.
ii. Feasibility studies for new irrigation schemes completed.
iii. Sustainable management institutions for effective utilization of the Irrigation schemes and water for production facilities established.
iv. Model irrigation schemes developed to support technology irrigation at public research institutes.
v. Micro and small-scale irrigation systems constructed under UgIFT-AF-IRR programme.
vi. Solar powered water supply and small-scale irrigation systems developed.
vii. Multi-purpose water development schemes including valley dams, valley tanks developed.
viii. National Irrigation Master Plan finalized.

Eight outputs and 12 performance indicators were assessed. Six (50%) indicators were achieved, 3 (25%) were moderately satisfactory and 3 (50%) were not achieved.

The following highlights the progress in implementing these outputs

Output 1: Irrigation schemes under construction/rehabilitation completed
The target was 8 irrigation schemes completed. Seven irrigation schemes were completed. These are: Ngenge (Kween district), Rwengaaju (Kabarole), Tochi (Oyam), Mubuku II (Kasese), Olweny (Lira), Doho II (Butaleja) and Wadelai (Pakwach). This increased total area under formal irrigation by of 4,476 hectares. The main enterprises produced in these schemes are rice and horticulture (onions, green pepper, tomatoes, watermelons and cabbages). Previously government completed Mubuku I, Doho I and Agoro irrigation schemes.

Structures at a storage reservoir under use at Ngenge Irrigation scheme in Kween District

Output 2: Feasibility studies for new irrigation schemes completed

The target was to complete feasibility studies for 23 irrigation schemes and detailed design for one irrigation scheme. The feasibility study and detailed designs were completed for one irrigation scheme at Kabuyanda (3,300ha) in Isingiro District. Feasibility studies and/or detailed designs were on-going by the end of the reporting period for the following 19 irrigation schemes.

Table 11: Irrigation schemes with ongoing feasibility studies and/or designs

Planned Irrigation scheme	District(s)	Area (Ha)	
1.	Lopei	Napak	5,000
2.	Namalu	Nakapiripirit	2,200
3.	Unyama	Amuru and Gulu	2,000
4.	Sipi	Bulambuli	500
5.	Amagoro	Totoro	5,000
6.	Matanda	Kanungu	3,000
7.	Enengo	Rukungiri	2,500
8.	Imvepi	Arua	2,500
9.	Palyec	Nwoya	2,000
10.	Lumbuye	Kaliro and Luuka	2,500
11.	Nyabanja	Tororo	1,200
12.	Nabigaga	Kamuli and Buyende	1,000
13.	Angololo	Tororo	1,000

14.	Purongo	Amuru and Nwoya	1,000
15.	Nsonge	Bunyangabu	1,800
16.	Mpanga	Kamwenge and Kyenjojo	1,500
17.	Nyamugasani	Kasese	1,750
18.	Rwimi	Bunyangabu and Kasese	2,000
19.	Acomai	Bukedea and Bulambuli	1,608

Output 3: Sustainable management institutions for effective utilization of the Irrigation schemes and water for production facilities established

Sustainable Operation and Maintenance (O&M) and institutional management structures for each of the completed 7 irrigation schemes reported in output 1 above) were established.

Besides irrigation schemes, 55 water user committees were formed for sustainable management systems, against a target of 45.

Output 4: Model irrigation schemes developed to support technology irrigation at public research institutes

The aim of these schemes is to enable all-year round agricultural research. The target was 3 model irrigation schemes developed.

One 3-acre mini-irrigation scheme for maize research at Namulonge and one 5-acre seed certification mini-irrigation scheme at Namalere were completed and construction works for a 3-acre scheme for rice research at Namulonge were ongoing.

The construction of seven 5-acre solar powered irrigation systems was ongoing at 7 ZARDIs. These ZARDIs are Bulindi, Kamenyamigo, Nabuin; Abi, Buginyanya; Ngetta and Rwebitaba.

Output 5: Micro and small-scale irrigation systems constructed under UgIFT-AF-IRR programme

Micro and small-scale irrigation technologies are used to increase community awareness on irrigation and to train farmers on irrigated agriculture. UgIFT-AF-IRR (Uganda Intergovernmental Fiscal Transfers Programme Additional Funding for Irrigation) is a small-scale irrigation component of the Uganda Intergovernmental Fiscal Transfers Programme (UgIFT). It builds on the existing Production and Marketing conditional grant to local governments. The target was to construct 45 micro small-scale irrigation schemes on individual farms.

MAAIF in partnership with 40 DLGs constructed 79 micro and small-scale irrigation demonstrations under this grant. The irrigation technologies demonstrated were drip, sprinkler, and drag hose pipe using solar/gasoline energy. Performance was constrained by limited resources.

Output 6: Solar powered water supply and small-scale irrigation systems developed

The AGI Programme targeted to develop 50 solar powered water supply and small-scale irrigation systems.

Through MWE, government completed the construction of 48 solar powered small-scale irrigation schemes in 48 parishes in 40 districts. The districts were Oyam, Omoro, Dokolo, Kitgum, Zombo, Nwoya, Agago, Kiryandongo, Luweero, Nakasongola Nebbi, Pader, Hoima, Kibaale, Kalangala, Buvuma, Mpigi, Rakai, Kanungu, Rukungiri, Buhweju, Isingiro, Kasanda, Lwengo, Mbarara, Ntungamo, Kayunga, Kaberamaido, Serere, Napak, Bukedea, Busia, Mbale, Kapchorwa, Amuria, Budaka, Butebo, Kumi, Soroti and Kapelebyong. This increased the irrigable area by 965 acres benefitting 10,421 farmers. The major crop enterprises are cabbages, Irish, tomatoes, apples, onions, pineapples, matooke, coffee, watermelons, green pepper, egg plants, vanilla, grapes, mangoes, coffee, tea and pumpkins.

Harvested watermelons at Namutya solar powered water supply Irrigation Scheme in Kayunga District

Works are in advanced stages of completion for construction of 35 solar powered small scale irrigation schemes in thirty five 35 parishes in 31 districts of Zombo, Oyam, Dokolo, Nwoya, Omoro, Agago, Nakasongola, Kiryandongo, Buhweju, Buvuma, Hoima, Ibanda, Isingiro, Kalangala, Kanungu, Kasanda, Kibaale, Kyankwanzi, Kyenjojo, Mbarara, Mpigi, Ntungamo, Rakai, Rukungiri, Soroti, Tororo, Namayingo, Sironko, Kapchorwa, Mayuge and Kayunga.

NAADS also procured 44 sets of complete solar powered water-pumping irrigation systems (of 3-7 m3 per hour) for 44 targeted sites in 41 districts across the country for both crops and livestock. These will be delivered and installed in the next FY.

Output 7: Multi-purpose water development schemes including valley dams, valley tanks developed

The target was to undertake feasibility studies/preliminary designs for infrastructure for 14 dams and detailed new detailed 4 dam designs. For valley and tanks, the targets were 2 construction equipment units procured, 100 community valley tanks for livestock watering constructed, 200 individual valley tanks for livestock watering constructed and 2 new valley dams for livestock watering constructed. Also planned was the establishment of 2 water reticulation systems in selected NAGRC&DB Centre farms.

Feasibility studies and preliminary designs for 8 multipurpose water storage facilities in Amudat, Moroto, Nakapiripirit and Napak were completed. The systems will include water abstraction systems, transmission mains, water pumping systems, storage tanks and water distribution networks. Furthermore, preparations for preliminary designs for 6 dams in Abim, Kotido, Kaabong and Karenga Districts was ongoing.

Detailed designs for 3 multipurpose dams were completed. These were Kyenshama and Rushozi (Mbarara district) and Geregere (Agago district). Detailed designs for another 3 dams were ongoing at Kyahi and Makokwa (Gomba district) and Ojama (Serere district).

Two earth moving equipment units for construction of valley tanks for livestock watering were procured. Twenty-eight (28) communal valley tanks in 28 parishes in 21 districts were constructed. The districts are Nabilatuk, Kotido, Amudat, Kaabong, Karenga, Soroti, Butebo, Kapelebyong, Kumi, Bukedea, Kaabong, Kotido, Lyantonde, Bugiri, Luweero, Nakasongola, Omoro, Arua, Dokolo, Agago and Kayunga. This increased water storage capacity by 517 million litres serving an estimated 69,763 heads of livestock. In addition, construction was ongoing (at 50% earth works completed) for 8 communal valley tanks in eight 8 parishes in the districts of Nakapiripirit, Mbale, Tororo, Kiryandongo, Nwoya, Kibaale, Kiruhura, Isingiro and Sembabule.

The construction of 35 valley tanks on individual farms using the WfP construction equipment was completed in 9 districts of Kiruhura, Mbarara, Kazo, Ntungamo, Gomba, Sembabule, Rakai, Lyantonde and Mubende. This created an additional water storage capacity of 96 million litres serving about 22,858 heads of livestock. Construction was ongoing for 2 valley tanks in the districts of Kasese and Kazo using the WfP construction equipment.

The following construction works of WfAP infrastructure were ongoing at 4 NAGRC&DB ranches/stock farms: water reticulation systems at Kasolwe and Bulago stock farms, 10 valley tanks of 1,600m3 capacity each at Nshaara ranch; and 10 valley tanks of 1,600m3 capacity each at Aswa ranch. One watering facility (valley tank) industrial, tourism and other commercial uses in Etanyai – Kanyikwar in Kapedo Sub county of Karenga District.

Output 8: National Irrigation Master Plan finalized

MWE, jointly with MAAIF were undertaking the preparation of a comprehensive National Irrigation Master Plan. The earlier planned schedule was affected by COVID-19 disruptions.

Table 12: Performance of assessed outputs in the water for production

Output assessed	Action	Indicators	Target	Actual
1. Irrigation schemes under construction/rehabilitation completed.	Complete construction/ rehabilitation of 8 rrigation schemes.	1.1 No of irrigation schemes completed.	8	8
2. Feasibility studies for new irrigation schemes completed	Complete feasibility studies/ Preliminary designs for new irrigation schemes.	2.1 No. of feasibility studies for new irrigation schemes	23	19
	Complete detailed designs for new irrigation schemes.	2.2 No of new detailed irrigation scheme designs	1	1
3. Sustainable mgt institutions for effective utilization of the Irrigation schemes and water for production facilities established.	Establish O&M and institutional mgt structures for irrigation schemes and water for production facilities.	3.1 No. of irrigation schemes and water for production facilities with water user committees.	45	55
4. Model irrigation schemes developed to support technology irrigation at public research institutes.	Develop model irrigation schemes at public research institutes.	4.1 No of model irrigation schemes developed at public research institutes.	3	10
5. Micro and small-scale irrigation systems constructed under UgIFT-AF-IRR program.	Construct micro small-scale irrigation schemes.	5.1 No. of micro and small-scale irrigation systems constructed.	45	79
6. Solar powered water supply and small-scale irrigation systems developed.	Construct solar powered water supply small scale irrigation systems.	6.1 No of operational solar powered water supply & small-scale irrigation systems developed.	50	48
7. Multi-purpose water development schemes including valley dams, valley tanks developed.	Develop feasibility studies/preliminary designs and prepare detailed designs of dams; Construction of new multi-purpose water development schemes.	7.1 No of feasibility studies/ preliminary designs for dams.	23	19
		7.2 No of new detailed dam designs.	4	1
	Procurement of construction equipment units.	7.3 No of equipment for construction of valley tanks for livestock watering procured.	2	2
8. National Irrigation Master Plan finalized.	Finalize the preparation of National Irrigation Master Plan.	8.1 National Irrigation Master Plan in place.	1	0

Intervention 5: Increase access and use of agricultural mechanization

Agricultural mechanisation is still low. This attributed to high costs of mechanisation and limited awareness of the scope of mechanised agriculture. About 27 percent of farmers have access to farm mechanisation, mainly draft animal power and tractors, which they are using primarily for land preparation. The Programme aims to increase access and use of agro-machinery to enhance timeliness and profitability of farm operations and to intensify farm production systems. This will be done through: establishing and equipping regional mechanisation and service centres, developing appropriate models of labour-saving technologies, establishing farm infrastructures, and accrediting farm machinery suppliers and dealers.

In the reporting period, the following outputs were implemented:

i. Regional agricultural mechanisation service centres established.
ii. Agriculture equipment and machinery models for labour saving technologies identified developed and promoted.
iii. Farm access roads opened, improved, rehabilitated and constructed.
iv. Acreage of bush cleared and ploughed.

Four outputs and six performance indicators were assessed. All indicators were achieved apart from one which was moderately satisfactory.

The following highlights the performance of this intervention based on the above outputs;

Output 1: Regional agricultural mechanisation service centres established

Agricultural mechanisation service centres will promote mechanisation of farm activities and skill and train mechanics, operators, engineers and technicians, and farmers. They will be equipped with assorted earth moving equipment, maintenance tools and mobile workshops. The target was to establish and operationalise 2 centres In the reporting period.

MAAIF rolled out the construction and equipping of 3 Zonal Agricultural Mechanisation Centres at Bungokho in Mbale district for the Eastern region, Agwatta in Dokolo district for the Northern region and at Buwama in Mpigi district for the Central region.

Output 2: Agriculture equipment and machinery models for labour saving technologies identified developed and promoted

The target was to acquire and deploy 2 sets of assorted agricultural mechanisation equipment and 100 tractors and test and certify 15 labour saving technology machinery equipment.

Government, through MAAIF, procured, tested and operationalised 2 units of heavy mechanisation machinery, and their accessories and maintenance parts. The equipment is used for construction WfAP infrastructures in 55 districts across the country. It is also used for opening and bush clearing and improvement of farm access and production roads.

Government, through MAAIF and NAADS, procured 265 units of assorted farm tractors and accessories. These include 85 units of assorted farm tractors and their

implements and accessories procured which will be delivered in the next FY, 150 units of single axle tractors (walk behind) to support smallscale farmers in the areas with plain and flat soils and to support farm level irrigation and value addition and processing and 30 tractors to support agro-mechanization of the Atiak sugarcane project, cassava commercialization project in Gulu as well as farmers in Kamwenge, Kitagwenda and Bunyangabu districts. The procurement of agricultural machinery and equipment that include 2 tractors combine harvester for rice production in eastern Uganda was ongoing. The beneficiaries will be Busowa Farmers and Traders Cooperative Society.

To ensure quality and adaptability, 22 different categories and models of new labour-saving technologies (agricultural equipment and machinery) were tested and certified by MAAIF before they were commercialized and rolled out for adoption.

As one of its initiatives to increase agro-machinery use to improve grain quality and reduce post-harvest losses, government through NARO continued to create more agro-machinery hire service enterprises among farming communities. The achievements were: the NARO mobile motorized commercial maize sheller used by 3 youth farmer groups in Buyende, Kamuli and Pallisa districts; 9 units of animal draft power and conservation agriculture planters distributed to 3 sub counties in Adjumani district; 24 units of ox-carts distributed to 8 sub counties in Adjumani, Amuru, and Nwoya districts and 15 NARO hand cranked maize shellers delivered to 3 farmer groups in Kamuli and Buyende.

NARO also skilled 12 farmers, 36 ox drivers, 12 artisans and 8 extension staff from 4 sub-counties in Agago in using draft animal power technology for planting, weeding and transport and empowered 50 livestock farmers in Abim and Amudat districts on modern labour saving animal traction techniques. Two sets of forage production and conservation equipment to aid farmers in largescale mechanised production and conservation of feeds were procured.

Output 3: Farm access roads opened, improved, rehabilitated and constructed

The target was to develop (open, improve) 200 km of farm access roads especially in the oil palm growing districts. In total, 632 km of farm roads were opened.

MAAIF supports participating districts to make improvements on existing farm access roads to eliminate key chokes (impassable or spoilt sections of the road) that

impede flow of inputs and produce from production centres to storage, value addition centres and markets. MAAIF planned to undertake rehabilitative works on 254 km of farm road chokes in 5 pilot districts of Ntungamo (54.1km), Nebbi (54km), Iganga (59.7km), Amuru (57km) and Kalungu (29.3km). These works included 1 bridge, 8 box culverts, 33 swamp fillings and several grading/graveling sections. By the end of the FY, these works were at an overall 80 percent physical progress.

Output 4: Acreage of bush cleared and ploughed

The target was to clear and plough 7000 ha of land. By the end of FY, 27,259 ha of arable land had been opened, cleared and graded. The overperformance was due to more heavy-duty earth moving equipment units and collaboration with commercial farmers and the tractor hire service provided by the Ministry. The units are also accessed on cost sharing basis whereby the user pays only farm costs for operation and fueling.

Under the cotton tractor hire scheme managed by CDO and UGCEA, 900 ha were ploughed. In addition, 36,655 ha (about 18,807 ha for cotton and about 17,840 ha for other crops) were ploughed by oxen in Eastern, Northern, West Nile and Mid-West and Central regions under the scheme. The beneficiaries included women, youth groups, the elderly and persons with disabilities.

Table 13: Performance of assessed outputs in agricultural mechanisation

Output assessed	Action	Indicators	Target	Actual
1. Regional agricultural mechanization service centres established.	Develop designs, construct and equip regional mechanization service centres.	1.1No of regional agricultural mechanization service centres established.	2	3
2. Agriculture equipment and machinery models for labour-saving technologies identified developed and promoted.	Acquire and deploy assorted sets of agric mechanization equipment.	2.1 No. of assorted sets of Agric mechanization equipment, services and machinery availed and deployed.	2	2
	Test, certify and promote agriculture mechanisation equipment.	2,2 No. of tested and certified labour saving machinery equipment.	15	22
	Procure and deploy tractors with all implements.	2,3 No. of tractors acquired.	100	265
3. Farm access roads opened, improved, rehabilitated and constructed.	Construct farm roads.	3.1 No of km of farm roads developed.	220	362
4. Total acreage of bush cleared and ploughed.	Plough and clear.	4.1 Ha of land cleared and ploughed.	7000	27.259

Intervention 6: Increase access and use of digital technologies in agriculture for disease diagnosis, access to information, inputs, markets and finance.

Access and use of new digital technologies offers potential for efficiency in agricultural production, marketing and credit delivery by reducing time lags and asymmetries as well as lowering transaction costs of dealing with large numbers of small-scale, widely dispersed farmers. In this intervention government planned to invest in digital technologies for disease surveillance, warehouse receipts system for trade finance, and generating and disseminating meteorological data.

The planned output was an Integrated livestock information management system developed and operationalized.

Government designed a National Livestock Identification and Traceability System (LITS) which was due for piloting by the end of the reporting period. LITS provides a system for identifying and tracking livestock along the value chain to the final destination. This enables government to undertake livestock surveillance and control of trade-related animal diseases.

Other initiatives included the following: MAAIF, with FAO support operationalized the EMA-I disease reporting application (enables real time disease reporting which enables faster response to outbreak investigations) was rolled out to more than 100 districts. MAAIF, in collaboration with the infectious disease system, designed a data collection and management system for antimicrobial use on sentinel sites located in Mbarara, Kampala, Arua and Wakiso districts and NAGRC&DB established a functional National Livestock Registry and Data Bank. Apart from the e-voucher programme, MAAIF was developing agricultural ICT platforms that include online systems for e-extension, pest and diseases reporting, market linkages and financial inclusion.

MAAIF started digitizing the registration and issuance of electronic phytosanitary certificates (called e-Phytos) to exporters, a requirement that is gaining importance in importing countries. As a result 16,201 e-Phytos (or 54%) were issued and transmitted electronically to over 60 destination countries, including the European Union, Australia, United States, Brazil, Argentina, Canada, Kenya, Ghana and South Africa.

Intervention 8: Strengthen farmer organizations and cooperatives

The farmer organisations' model is a proven, efficient methodology for driving agro-enterprise development. The AGI Programme will utilise this model to promote

production, value addition and marketing for priority commodities by supporting the formation and strengthening of farmers' organisations along the value chain.

Only one output was assessed; The following highlights the progress made.

Output 1: Farmer organizations strengthened

The targets were to train 20,000 farmer groups trained along the value chain; profile and register 20,000 farmer groups and register 2 breeders' and breed associations.

Government, through DDA, registered 6 goat farmer groups which in turn they registered a Uganda National Dairy Goat Farmers Federation with MTIC. 14 dairy farmers' cooperatives were formed. Ten breeder and breeders' associations were established/fostered. These included 6 for dairy breeders and 4 for beef breeders.

A total of 25,209 farmer groups were trained along agricultural value chains. They included: the new14 dairy farmers' cooperatives trained on group dynamics, sustainability and business development and management; 70 coffee famer organisations/cooperatives (7,515 members) trained on coffee stumping and fertilizer application; over 362 Area-based Commodity Cooperative Enterprises (ACCEs)/ Rural Producer Organizations (RPOs) trained in mindset change, farming as a business, core group principles, access to market and financial linkages; 12 farmer groups (400 farmers) in Napak and Moroto districts trained on animal health and nutrition management; 188 youth groups in the cotton value chain were trained on proper inputs usage, storage, disposal of packaging bottles and environment protection; 8 groups (140 people) with established tree nurseries were trained and imparted with skills in agroforestry and tree nursery management and 59 groups (169 beneficiaries) in the beef value chain were trained in workforce skills, group dynamics, green entrepreneurship and leadership. Overperformance was aided by increased farmer mobilization and awareness campaigns in DLGs on the benefits of farmer organizations.

Intervention 9: Strengthen systems for management of pests, vectors and disease

Pests, vectors and diseases are a problem to increasing production and productivity. Currently average losses are estimated at 30-40 percent along the agriculture value chains. This intervention aims at reducing the prevalence of production and trade sensitive diseases, creating orderly marketing and improving the public sanitary

and phytosanitary control systems. This will be achieved through development of capacity and facilities for disease diagnosis and control and procurement of vaccines.

The following outputs were planned for implementation in the reporting period:

i. Disease diagnosis and control facilities developed and equipped.
ii. Human capacity for management of pests, vectors and diseases developed.
iii. Pests and diseases epidemics controlled in district local governments.
iv. Animal Disease vaccines acquired and distributed.

Four outputs and 9 indicators were assessed. Of the indicators, six (67%) were achieved, one (11%) was moderately satisfactory and 2 (22%) were not achieved.

The following are highlights of output performance;

Output 1: Disease diagnosis and control facilities developed and equipped

The target was to establish 47 mobile plant and livestock clinics and construct/ maintain vaccine cold room chains.

Twenty-eight (28) mobile plant and animal health clinics for disease diagnosis and control were established. These included 18 mobile plant clinics which were established and operationalized in the districts of Mukono, Buikwe, Kayunga, Luwero, Lamwo and Kitgum and 10 mobile animal clinics which were piloted in the districts of Mukono, Kayunga, Buikwe and Luwero.

To maintain a vaccine cold chain from manufacture to delivery in the field works were ongoing for the expansion of the cold rooms for storage of adequate quantities of vaccines at the NADDEC and Wandegeya laboratories. This included the renovation of the part of NADDEC laboratory where the residue monitoring equipment is accommodated.

Output 2: Human capacity for management of pests, vectors and diseases developed

The targets for the reporting period were 1000 LG staff trained in pest, vector and disease surveillance, diagnostics and control.

In the reporting period, 1,248 DLG staff were trained on integrated pest management, operationalization of mobile plant clinics, safe use and handling of pesticides, and control of crop and animal pests, vectors and diseases. Other trainings and/or backstopping on pest, vector and disease diagnosis and surveillance were provided

to 743 DLGs and NGOs crop staff; 28 entomologists from South Eastern Uganda, West Nile and Karamoja; 32 surveillance focal persons from 32 districts and 40 community vectors (tsetse fly) control attendants in Kalangala district. All NADDEC laboratory staff were trained in quality management.

Output 3: Pests and diseases epidemics controlled in district local governments

The target was: 41,000 animal movement certificates issued, 120 DLGs supported to acquire pests and disease control equipment and consumables; 40 animal holding grounds, quarantine stations and animal check points established and 10 disease free compartments established.

Animal movement control is key in preventing the spread of animal diseases. In the reporting period, government issued 81,350 animal movement permits in 85 districts. These included 6,050 health certificates to breeders, 68,150 for inter-district movement and 7,150 for inter-subcounty movements. There was an increased issuance of animal movement permits and reduced permit duplications due to increased collection and analysis of animal movement data. Government also updated the Veterinary Animal Movement Control Manual and 1,550 copies were printed and distributed to key stakeholders.

Government also set up and manned 80 checkpoints along the main western, central and northern routes into Kampala and 50 animal check point signposts were procured and distributed. Four holding grounds and 4 quarantine stations were constructed in the Karamoja cluster and 2 holding grounds and 2 quarantine stations were constructed at Kyankwanzii and Kisozi ranches each composed of 9 sq miles of land.

Support was extended to 123 DLGs to acquire pests and disease control equipment and consumables including 148 diagnostic kits for diagnosis of diseases in poultry, cattle, goats, sheep, pigs, dogs and cats; 5,000 pieces of vaccination equipment and 5,000 pieces of cool boxes for vaccine transportation for 50 districts in the cattle corridor and 19 units of freezers/fridges for vaccine storage.

Government is using mechanical. physical and biological interventions to control invasive aquatic weeds on major water bodies. Over 150 acres of aquatic weed

were cleared by deploying mechanical equipment at key sites on Lakes Victoria, Kyoga and Albert. Equipment (wheel barrows, pangas, life jackets, forked hoes and spades) were supplied to communities at the landing sites of Wanseko (on Lake Albert in Buliisa District) and Kikooge (on Lake Kyoga in Nakasongola District) to remove the weeds manually. MAAIF also produced/repaired/maintained patrol boats and equipment for weed control and surveillance.

As an approach to increase community participation in aquatic weed control, Government promoted consumptive use of aquatic weeds for biogas (by piloting 15 biogas units at Wanseko and Kikooge) and compost manure.

In previous years, NARO reared and released weevils for biological control of aquatic weed on affected water bodies of Lakes Kyoga, Kwania and Nakuwa; Aroca swamp and Kibimba dam. By end of the reporting period, weevils had cleared an average of 71 percent of Kariba weed on these water bodies. This enabled the restoration of fishing business, water transport and access to clean water to the community.

In the control of crop pests, vectors and diseases. The following results were achieved:

a) 13 swarms of desert locusts in Karamoja sub-region were controlled, saving an estimated 3,632 MT of cereal crops.
b) The damage by the Fall Army Worm (FAW) remained below 5 percent though the incidence increased from an average of about 47 percent in the season 2020B season to over 60 percent in season 2021A.
c) Banana Bacterial wilt (BBW) resurgence was controlled from an average incidence of 8.3 percent (by end of FY2019/20) to less than 3 percent in western Uganda (by end of 2020/21).
d) Black Coffee Twig Borer (BCTB) incidence was reduced from an average incidence of 32 percent in 2019/20 to 17.8 percent in 2020/21.
e) Coffee Berry Disease (CBD), another major coffee disease was controlled from an average incidence of 19.6 percent to 12.4 percent.
f) Cassava Brown Streak Disease (CBSD) was controlled from national average incidence of over 24 percent to 17.5 percent in 2020.
g) The spread of invasive Golden dodder weed on crop plants was controlled from an average incidence of over 9 percent to 7 percent in highly prevalent areas of eastern and northern Uganda.

h) The spread of Banana Bunchy Top Diseases (BBTD) into West Nile and other regions from the Democratic Republic of Congo was controlled and prevented.

i) Outbreaks of Sweet Potato caterpillars and the Giant loopers in Busoga and in central region were controlled, partly due to the 5,000 litres of pesticide availed for demonstration.

Disease free compartments are established farming units with the same biosecurity standards for disease control. This facilitates international trade in animal and animal products. Though no compartments were established, MAAIF initiated the process by holding 10 meetings with farmers in the districts of Nakasongola, Lyantonde, Kiruhura, Kazo and Ibanda on possible establishment of the compartments.

Output 4: Animal Disease vaccines acquired and distributed

Government procures and distributes vaccines for the control of public good (state controlled) animal diseases to DLGs. The target was to acquire and distribute 8,000,000 doses of animal disease vaccines.

In the reporting period 3,700,000 animal disease vaccines were distributed. These included 1,572,100 doses of Foot and Mouth Disease (FMD) vccine distributed to 55 districts. 137,000 doses of Contagious Bovine Pleuropneumonia (CBPP) vaccine to 11 DLGs (Kaabong, Maracha, Mbarara, Packwach, Buikwe, Kapelebyong, Arua, Lamwo, Omoro, Bulambuli and Nakaseke); 631,500 doses of rabies vaccine to 80 districts and 883,900 doses of Peste des petits ruminants (PPR) vaccine to 70 districts.

In an effort to engage the private sector to set-up crop and animal agricultural and veterinary drugs manufacturing and distribution facilities, government supported 2 companies – Alfasan Uganda Ltd and Brentec Vaccines Ltd- to set up local veterinary manufacturing plants. Makerere University and Alfasan Ltd also signed a Memorandum of Understanding for Alfasan Ltd to facilitate trial production of an anti-tick vaccine developed by the Makerere University College of Veterinary Medicine, Animal Resources and Biosecurity (CoVAB).

Table14: Performance of assessed outputs in pest, vector and disease management

Output assessed	Action	Indicators	Target	Actual
1. Disease diagnosis and control capacity and facilities developed and equipped	Establish mobile plant and livestock clinics across the country	1.1 No. of Mobile plant and livestock clinics established	47	28
	Construct cold room at NADDEC	1.2 No. of vaccine cold chains well maintained	1	2
2. Human capacity for management of pests, vectors and diseases developed	Train and provide technical backstopping in pest, vectors and diseases surveillance, diagnostics and control	2.1 No. of LG staff trained	1000	1248
3. Pests and diseases epidemics controlled in district local governments	Enforcement of animal movement control, surveillance and investigation of disease outbreaks	3.1 No. of certificates issued	41000	81350
	Acquisition of pest, vector and disease control equipment and consumables	3.2 No of DLGs supported to control pests and disease epidemics	120	123
	Establish animal holding grounds, quarantine stations and animal check points	3.3 No. of animal holding grounds, quarantine stations and animal check points established	40	90
	Train and monitor farmers in establishment of disease-free compartments and Issue certificates to disease free farms	3.4 No. of disease-free compartments established	10	0
4. Animal disease vaccines acquired and distributed	Acquire vaccines for state-controlled diseases	4.1 No. of animal disease vaccines acquired and distributed for state-controlled diseases	8,000,000	3,700,000
	Complete modalities for engaging the Private Sector to set-up crop and animal drug manufacturing in country.	4.2 No of agricultural & veterinary drugs manufacturing and distribution facilities set up	1	0

Intervention 10: Promote sustainable land and environment management practices in line with the agroecological needs

The high levels of land, water and environment degradation are undermining sustainable agricultural production and productivity climate change adaptation. Government will address these challenges by strengthening land, water and soil conservation practices; upscaling agro-forestry; regulating fishing activities; developing national soil and crop suitability maps; and establishing soil testing laboratories.

Planned outputs assessed in the reporting period were:

i. Land, water and soil conservation practices strengthened.
ii. Aquaculture production increased.
iii. Fish stocks in major water bodies increased.
iv. Soil testing laboratories at ZARDIs established.

Four outputs and 9 indicators were assessed. Four indicators (44%) were achieved, one (11%) was moderately satisfactory and four (44 %) were not achieved.

The following are highlights of the achievements in the reporting period.

Output 1: Land, water and soil conservation practices strengthened

The targets were 200 DLGs staff trained in farmland planning and farming systems, 29 catchment management plans (CMPs) developed, and 500,000 seeds procured and distributed for agro-forestry.

Farmland planning helps farmers make decisions in relation to selection of enterprises to be maintained and inputs required. Government through MAAIF trained 205 DLG district local government staff in farmland planning and farming systems.

A CMP is a long-term strategy for sustainable development and utilization of water and related resources within a catchment. Only 5 CMPs were developed due to low farmer adoption and limited community mobilization and action due to Covid-19 restrictions.

Agroforestry practices were promoted in the coffee sub-sector to promote ambient soil moisture and temperature and in the beef sub-sector to promote agro-forestry for feeding livestock and soil conservation. UCDA procured and distributed 100kg of cover crops seed for multiplication to 10 farmers in the Mt Elgon area and MAAIF raised and distributed 450,000 tree seedlings to 810 beef farmers in the districts of Kiboga, Masindi, Nakasongola and Luweero. NARO produced and delivered to uptake pathways 30,088 assorted fruit tree seedlings (mango and citrus) and forest tree (eucalyptus) seedlings.

Output 2: Aquaculture production increased

Government is promoting different models of aquaculture- the one-acre pond, the pond based and the cage-based aquaculture parks. The target was to establish 200 one-acre ponds, one pond-based and one cage-based aquaculture parks.

Twenty-five (25) one-acre ponds were constructed and stocked in the districts of Sheema, Ngora, Pallisa, Bushenyi and Ntungamo. Construction works for the one pond-based park in Apac district and one cage-based park in Mwena-Kalangala were ongoing.

Output 3: Fish stocks in major water bodies increased

Government's plan is to increase fish stocks on the water bodies, among other strategies, protecting the fish breeding grounds and regulating fishing capacity on all water bodies. In the reporting period, the planned actions were to identify, map, mark, gazette and protect 20 fish breeding grounds and to enforce fisheries regulations on the major lakes by issuing 15,000 fishing licenses on five major water bodies.

Government identified 46 high priority fish breeding grounds in water bodies but were not gazetted as planned due to inadequate funding. The number of fishing licenses issued was 2808 consisting of 2,563 issued on the five major water bodies, 114 issued on Lakes Wamala and Nakivale and 131 for Synodontis. The poor performance was attributed to the effects of Covid-19 restrictions on sensitisation and compliance monitoring.

Government established online Catch Assessment Survey systems to determine the volume of fish stock in the major water bodies of Lakes Victoria, Albert and Kyoga. Data collection tools and reporting capacity of fisheries staff and data collectors was built. A freshwater biodiversity portal (https://freshwaterbiodiversity.go.ug/) that serves as a one stop center for all the freshwater biodiversity data in Uganda was developed.

Output 4: Soil testing laboratories at ZARDIs established

Soil testing (analysis of soil) in agriculture helps to determine the current soil fertility and health. Government plan is to promote soil testing by setting up soil testing laboratories at all ZARDIs. In the reporting period, the target was to establish 2 soil testing laboratories. However, no soil laboratory was set up but as already reported, a residue soil analysis laboratory was under renovation at Namalere.

Table15: Performance of assessed outputs in sustainable land and environment management

Output assessed	Action	Indicators	Target	Actual
1. Disease diagnosis and control capacity and facilities developed and equipped.	Establish mobile plant and livestock clinics across the country.	1.1 No. of Mobile plant and livestock clinics established.	47	28
	Construct cold room at NADDEC.	1.2 No. of vaccine cold chains well maintained.	1	2
2. Human capacity for management of pests, vectors and diseases developed.	Train and provide technical backstopping in pest, vectors and diseases surveillance, diagnostics and control.	2.1 No. of LG staff trained.	1000	1248
3. Pests and diseases epidemics controlled in district local governments.	Enforcement of animal movement control, surveillance and investigation of disease outbreaks.	3.1 No. of certificates issued.	41000	81350
	Acquisition of pest, vector and disease control equipment and consumables.	3.2 No of DLGs supported to control pests and disease epidemics.	120	123
	Establish animal holding grounds, quarantine stations and animal check points.	3.3 No. of animal holding grounds, quarantine stations and animal check points established.	40	90
	Train and monitor farmers in establishment of disease-free compartments and Issue certificates to disease free farms.	3.4 No. of disease-free compartments established.	10	0
4. Animal disease vaccines acquired and distributed.	Acquire vaccines for state-controlled diseases.	4.1 No. of animal disease vaccines acquired and distributed for state-controlled diseases.	8,000,000	3,700,000
	Complete modalities for engaging the Private Sector to set-up crop and animal drug manufacturing in country.	4.2 No of agricultural & veterinary drugs manufacturing and distribution facilities set up.	1	0

4 POST-HARVEST HANDLING AND STORAGE OUTPUT PERFORMANCE

Past interventions have improved post-harvest handling and storage. However, there is still a shortage of standard and modern storage facilities. As a consequence, post-harvest losses are still high, ranging from from 30-40 percent for grains and other staples, to 30-80 percent for fresh fruits and vegetables.

The objective of this sub-program is to improve post-harvest handling and storage of agricultural products through the following interventions:

1. Establish post-harvest handling, storage and primary processing infrastructure including at subcounty, district and zonal levels.
2. Establish regional post-harvest handling, storage and value addition facilities in key strategic locations.
3. Establish relief food stocks for disaster preparedness and response.

There was insufficient data to assess performance in interventions 2 and 3. Four outputs and 7 output performance indicators were assessed. One indicator (14%) was achieved, two (29%) were moderately satisfactory and 4(57%) were not achieved.

The following highlights the output performance of the first intervention;

Intervention 1: Establish post-harvest handling, storage and primary processing infrastructure including at subcounty, district and zonal levels.

Government support is targeted at farmers, farmer organisations and communities so that they establish infrastructure for post-harvest handling, storage and primary processing.

The outputs planned for the reporting period were:

i. Post-harvest handling and storage facilities for priority commodities (both dry and wet) established.
ii. Cooperative societies, communities supported with cleaning, drying, grading and processing equipment.
iii. Cooperative Societies supported with small scale post-harvest handling technologies and storage in the 10 agro-ecological zones.
iv. Capacity of cooperatives, communities, farmers and traders developed in post-harvest handling and storage.

Output 1: Post-harvest handling and storage facilities for priority commodities (both dry and wet) established.

These facilities include silos, dryers, warehouses, and cold rooms of various scale and capacities. The target was to construct and install equipment for 5 facilities. Government undertook civil works for the construction of 5 maize milling structures; 2 feed milling structures and 5 grain storage buildings in Rwenzori sub-region. Architectural and engineering designs for construction works for 18 agriculture markets in 7 DLGs and Municipalities were developed. An abattoir at Sanga in Kiruhura District was undergoing rehabilitation and upgrade.

Output 2: Cooperative societies, communities supported with cleaning, drying, grading and processing equipment.

Government supported farmers' organizations and communities with a range of equipment and facilities for cleaning, drying, grading and primary processing. The target was 20 aggregation and collective marketing societies supported with cleaning, drying, grading and processing equipment.

Government supported the following farmers organizations with equipment through NAADS: 11 organizations supported with 8 sets of maize mills (500kg/hr) and 3 feed mills (350kg/hr); 7 farmer cooperatives in Bundibugyo, Kyenjojo and Kitagwenda supported with 7 coffee hullers.

Through the government matching grant facility managed through MAAIF, 146 processing facilities were provided to farmers' organizations across 57 districts. They included 58 coffee hullers, 39 maize mills, 27 rice mills, 15 cassava mills and 7 beans sorters. Other equipment included 58 weighing scales, 64 moisture meters and 27 driers. Through the same facility, 167 storage facilities with a total capacity of 42,714 MT were constructed in 24 districts. These comprised of 24 stores for beans, 17 for cassava, 65 for coffee, 34 for maize and 24 for rice.

Output 3: Cooperative Societies supported with small scale post-harvest handling technologies and storage in the 10 agro-ecological zones

Lack of or dilapidated community infrastructure for milk and fish handling and value

addition across the country is contributing to low storage capacity and high post-harvest losses. The targeted actions were construction of 40 community fish drying racks at major landing sites; rehabilitation and equipping of 3 milk collection centres; supporting 50 youth and women groups with dairy farm equipment; and supporting 150 farmer cooperatives with milk handling and milk cooling equipment.

In the reporting period, government, with FAO support constructed 11 community fish drying racks at major landing sites. The construction of fish handling shades was ongoing at Hamukungu landing site on Lake George and at Katwe Kabatoro Town Council on Lake Edward. The rehabilitation of fisheries infrastructure at Kagwara in Serere district was not implemented because of flooding.

In the dairy sub-sector, 2 milk collection centres in Kyegegwa and Katakwi districts were undergoing rehabilitation by DDA and the process for the rehabilitation of milk collection centres in Kamwenge and Nakasongola was ongoing. The rrehabilitation of the Kitgum milk collection centre was completed during the FY and will be handed over to the beneficiaries next FY.

Twenty 20 units of milk cooling equipment (coolers and generators) with total capacity of 62,000 litres were procured for 8 dairy farmers' organizations in south western, Midwestern and central milk sheds and 441 milk handling equipment, including milk cans and stainless-steel plungers were supplied to 122 farmers' cooperatives. Government also supported 22 women and youth groups with dairy farm equipment, including chuff cutters, milking cans, milking buckets and milking machines.

Output 4: Capacity of cooperatives, communities, farmers and traders developed in post-harvest handling and storage

The target was to train 40,000 beneficiaries in business management; post-harvest handling and storage; value addition; quality requirements and principles of cooperative movement.

In the dairy subsector, 5,244 stakeholders were trained in various areas. They include: 154 members in 14 new dairy cooperatives in group dynamics, sustainability, business development and management; 672 members of dairy farmer groups in south west milkshed in bulking and collective marketing, and 39 new board members from

4 dairy farmers' groups in northern region in cooperative governance, their roles and conflict management. Others were 3,909 dairy stakeholders trained in good dairy farming and milk handling practices; 329 smallscale processors/cottages in 7 districts in south western and eastern milksheds in dairy processing standards, business entrepreneurship, product development and GMPs and 141 dairy stakeholders were skilled in value addition and quality control and assurance.

In the beef sub-sector 169 beneficiaries from 59 beef and meat groups in 4 districts trained in workforce skills, group dynamics and leadership and one training in beef-meat processing techniques for 15 products was undertaken.

In the crop sub-sector, at least 900 value chain actors were trained by government through NARO, CDO and NAADS., NARO trained 300 maize value chain actors countrywide in appropriate post-harvest handling technologies, quality and safety of maize, and 200 actors in Bundibugyo, Mukono, Kibaale and Hoima in cocoa management and post-harvest handling. CDO trained 306 women and 188 youth groups in Eastern, Northern, West Nile, Mid-West & Kazinga Channel on post-harvest handling of cotton, in addition to cotton establishment and crop management and pest control/ NAADS trained farmers in Teso Fruit Cooperative Union and leaders of Teso Fruit factory in collective marketing.

Table 16: Post-harvest handling and storage output performance

Output assessed	Action	Indicators	Target	Actual
1. Post-harvest handling and storage facilities for priority commodities (both dry and wet) established;	design and construct storage facilities; procurement and installation of the equipment	1.1 No. of post-harvest handling, storage and processing facilities established	5	0
2. Cooperative societies, communities supported with cleaning, drying, grading and processing equipment	Provide cleaning, drying, grading and processing equipment to aggregation and collective marketing societies	2.1 No. of aggregation and collective marketing societies supported with equipment	20	164
3. Cooperative Societies supported with small scale post-harvest handling technologies and storage in the 10 agro-ecological zones	design and construct community fish drying racks at major landing sites	3.1 No. of community fish drying racks constructed at the major landing site	40	11
	Rehabilitate & equip milk collection centres	3,2 No. of milk collection centres rehabilitated and equipped	3	1
	Procure & distribute the dairy farm implements to youth and women groups	3.3 No. of chuff cutters, milking cans, milking buckets and milking machines for youth and women groups	50	22
	Procure and distribute dairy farm implements	3.4 No. of farmer cooperatives supported with milk handling and milk cooling equipment	150	130
4. Capacity of cooperatives, communities, farmers and traders developed in post-harvest handling and storage	train beneficiaries in business management; post-harvest handling and storage; value addition; quality requirements & principles of cooperative movements	4.1 No of beneficiary cooperative members trained	7739	6313

5 AGROPROCESSING AND VALUE ADDITION OUTPUT PERFORMANCE

This sub-program supports integration of agriculture and industry, the two major parts of the real economy. The gains from increased agricultural production and productivity and improved post-harvest handling and storage will require that government promotes local processing and value addition to agricultural produce. The priority interventions to be delivered mainly through PPPs are prioritised:

1. Support establishment of regional industrial parks and establishment and equipping of regional farm service centres.
2. Establish a strategic mechanism for importation of agro-processing technology
3. Upgrade Entebbe Dairy Training School to a Regional Dairy Training and Incubation College.
4. Establish new and expand existing agro-industries for processing of key agricutural commodities.

Interventions 2 and 3 were not assessed because outputs were not planned for the reporting period. Fifteen sub-programme outputs and 15 indicators were assessed. Seven (47%) output indicators were achieved and eight 53(%) were not achieved.

The following highlights the output performance of intervention areas 1 and 4;

Intervention 1: Support establishment of regional industrial parks and establishment and equipping of regional farm service centres

There has also been progress towards the development of industrial parks. This intervention consolidates and upscales these gains. The planned outputs were;

i. A survey on the status of all agro processing and value addition establishments in the country.
ii. Existing industrial pollution guidelines revised.
iii. Agro-industrial parks/export processing zones and farm service centers. estalished.
iv. Value addition incubation facilities to mentor and promote agro-based micro, small and medium scale enterprises established.

The following are the achievements;

Output 1: A survey on the status of all agro processing and value addition establishments in the country

The survey on the status of all agroprocessing and value addition establishments in the country was ongoing and had covered 72 districts. It will be finalized in FY 2021/22.

Output 2: existing industrial pollution guidelines revised

Government revised the guidelines and developed a Green Manufacturing Practices Manual.

Output 3: Agro-industrial parks/export processing zones and farm service centres established

The target was to acquire land for the parks, develop master plans and designs, and extend water mains network and medium to high voltage electricity to the agro-industrial parks.

By the end of the reporting period government had acquired a cumulative 4,708 acres of land for the development of regional industrial parks in 12 districts of Kisoro, Rukungiri, Kabale, Mbarara, Kabarole, Nebbi, Madi-okoro, Yumbe, Pader, Lira, Dokoro and Oyam. Government had also finalised topographical and geotechnical surveys for development of master plan for the Kabarole industrial park, which will be established during FY 2021/22; and draft preliminary architectural and engineering designs for a Regional Farm Service Centre at Kapeeka were developed.

Infrastructural amenities in 9 public industrial parks in Namanve, Bweyogerere, Luzira, Kasese, Mbarara SME, Jinja, Mbale and Soroti were maintained, and 5 private industrial parks in Kapeeka, Lugazi, Buikwe and Mukono were supported.

Output 4: Value addition incubation facilities to mentor and promote agro-based micro, small and medium scale enterprises established

In effort to boost food processing capacity and high quality food products, a food processing incubation centre was established and commissioned at the National Agricultural Research Laboratories (NARL) at Kawanda. The facility mentors and promotes agro-based Micro Small and Medium Enterprises (SMSEs). The facility products include breakfast cereals, cornflakes, rice flakes, instant cereals and bread. Intervention 4; Establish new and expand existing agro-industries for processing of key agricultural commodities.

The planned outputs in this intervention area and progress made are highlighted in Table 15 below:

Table 17: Progress made in implementing agroprocessing outputs

Target output FY 2020/21	Progress achieved in FY2020/21
Existing Industrial Pollution guidelines revised	A Green Manufacturing Practices manual was developed.
1 Dairy processing plant established	The planned establishment of a dairy factory in Gulu or Soroti was not undertaken.
2 Tea factories constructed/equipped	1. UDC supplied, installed and commissioned machinery for a third tea processing line at Kayonza Tea Factory. 2. UDC acquired increased its shareholding in Mabale Tea factory to 48.99%. 3. UDC commissioned a feasibility study for the establishment of tea processing facility in Zombo.
2 Starch and ethanol processing factories from cassava established	1. UDC completed a feasibility study for the establishment of Acholi Bur Parish Project, a starch processing factory in the Acholi sub-region. 2. UDC acquired equity in Bukona AgroProcessors Ltd in Nwoya district, processing dry cassava chips to produce ethanol. MFPED granted a VAT waiver on fuel and a customs duty reduction on imported cook stoves that utilize the ethanol.
10 Soluble coffee plants and coffee washing stations established in central and eastern Uganda	1. A feasibility study for establishment of soluble coffee plants will be undertaken in FY 2021/22. 2. Procurement of 35 wet processing plants for highly terrain areas was ongoing.
New spinning and textile mills established and existing ones expanded	Government supported procurement of 5,000 bales for Fine Spinners (U) Ltd and 1,000 bales for Southern Range Nyanza (NYTIL).
1 fruit factory constructed	1. Technical commissioning of Yumbe Fruit Processing Factory was completed; UDC and the private company incorporated a special purpose vehicle through which UDC shall invest in the factory. 2. Through NAADS government procured: additional equipment for Kayunga Pineapple processing facility and multi-fruit processing equipment for Kapeeka fruit factory; 3. A master plan and designs for the proposed Nwoya multi fruit-processing factory were developed. 4. Government through MAAIF, in collaboration with UNIDO supported establishment and commissioning of 9 banana value addition facilities (winery, banana juice, banana chips, banana flour) in the Ankole sub-region 5. UDC supported Soroti Fruit Factory to complete repairs of the cold storage room and spout pouch filling machines and fabrication for cooling and pulley systems on the PET line and blending room respectively.
1 Meat processing factory established	The contract for construction of a meat processing factory in Kiruhura was signed and construction will start in FY2020/21
Atiak sugar factory completed and farmer-based sugar factories established in Busoga	Atiak Sugar Factory was officially launched by the President and construction works for staff housing units and conference facilities were ongoing.

Dairy cooperatives and farmers with value addition equipment supported.	1 set of UHT milk processing equipment was procured for Tooro Dairy Cooperative; 4 mini dairy processing equipment were procured for 4 target beneficiaries in Kabale, Kiboga and Kamuli districts and 1 milk processing and packaging equipment was procured for a private mixed farm in Kamwenge district. They will be Installed in FY 2021/22.
A cocoa processing plant established in Bundibugyo.	UDC completed Terms of Reference for a feasibility study on establishing the cocoa processing factory. UDC also explored the prospects of a PPP to set up the factory.
An absorbent cotton processing facility in Luuka rehabilitated.	UDC acquired a 30% shareholding in Mutuma Commercial Agencies Ltd, a company processing Uganda's raw cotton into high quality surgical cotton wool, seed oil, and cotton seed cake plans to diversify into the production of medical gauze and sanitary towels.

Other UDC investment initiatives into Agroprocessing and value addition were:

a) It carried out due diligence, investment appraisal and valuation of Budadiri Arabica Coffee Factory Limited located in Sironko district (engaged in coffee processing and packaging for export). A special purpose vehicle through which UDC will acquire equity and provide working capital was proposed.

b) It partnered with Kaaro Agric Producers Limited (engaged in the purchase of green coffee beans from the small holder farmers in Kazo and Kiruhura districts) to set up an 8,250 MT/yr specialty coffee plant in Kazo District. the company and UDC signed a Master Investment Agreement, set up a special purpose vehicle where UDC holds 45% ordinary shares and UDC released funds for supply and installation of coffee grading and roasting equipment.

Additional agroprocessing equipment that government provided through NAADS/ OWC included: 2 small-scale bakery equipment for grain value chain in Wakiso and 1 small-scale dairy milk processing equipment in Mbarara; 10 maize and 2 feed processing equipment for Kasese, Kamwenge, Kitagwenda, and Kyegegwa districts; one set of rice processing equipment for Bunyangabu District and 57 motorized coffee pulpers for Kasese District. They will be installed in FY 2021/22.

Table 18 summarizes the performance in the sub-program outputs

Table 18: Agro-processing and value addition output performance

Output assessed	Action	Indicators	Target	Actual
1. A survey on the status of all agroprocessing and value addition establishments in the country.	Develop framework to ensure utilization of all established agroprocessing.	Framework for utilization of all established agroprocessing infrastructure in place.	1	0
2. Existing industrial pollution guidelines revised.	Revise existing Industrial Pollution guidelines.	Revised guidelines in place.	1	1
3. Agro-industrial parks/export processing zones and farm service centres established.	acquire land for the parks, develop master plans and designs, and extend water mains network and medium to high voltage electricity to the agro-industrial parks.	No of Agro-industrial parks/export processing zones and farm service centers established.	-	0
4. Value addition incubation facilities to mentor and promote agro-based micro, small and medium scale enterprises established.	acquire land, develop master plans and designs and construct and equip agro-based MSMEs infrastructure.	No of value addition incubation facilities to mentor and promote agro-based MSMEs established.	1	1
5. Dairy processing plant established.	Civil works, acquisition and fitting of machinery, and construction of waste treatment plan.t	No. of dairy processing plant established.	1	0
6. Tea factories constructed/ equipped.	Design, construct, equip the factory, provide working capital for Kayonza, Mabale and Zombo tea factories completed.	No. of tea factories constructed/equipped.	2	2
7. Starch and ethanol processing factories from cassava established.	Design, construct, equip and provide working capital for starch and ethanol processing factories from cassava established in Gulu, Tororo, Lira and Kibuku.	No. of starch and ethanol processing factories from cassava established.	2	1
8. Soluble coffee plants and coffee washing stations established in central and eastern Uganda.	Design, construct and equip the factory, provide working capital.	No. of soluble coffee plants and coffee washing stations established in central and eastern Uganda.	10	0
9. New spinning and textile mills established and existing ones expanded.	In partnership with the private sector, design, construct, equip and provide working capital for new and existing spinning and textile mills.	No. of spinning and textile mills established and existing ones expanded.	2	2

10. Fruit factories constructed.	Undertake diagnostic and feasibility studies, design, construct and equip, 11 fruit factories in Greater Masaka, Arua, Kanungu, Bundibugyo, Nwoya, Kayunga, Yumbe, Busoga Sub region, Rwenzori Sub region, Nakaseke.	No. of fruit factories constructed.	1	1
11. Meat processing factory established.	Undertake feasibility studies, design, construct and equip meat processing factories in Kiruhura, Mubende, Nakasongola and Mbarara.	No of meat processing factories established.	2	0
12. Atiak sugar factory completed and farmer-based sugar factories established in Busoga.	Design, construct, equip and provide working capital for Atiak Sugar Company and a farmer-based sugar factory in Busoga.	Atiak sugar factory completed.	1	1
13. Dairy cooperatives and farmers with value addition equipment supported.	Train and incubate private entrepreneurs.	No. of cooperatives supported with small scale dairy processing equipment.	5	6
14. A cocoa processing plant established in Bundibugyo.	Undertake diagnostic and feasibility studies, design, construct, equip and provide working capital for the cocoa processing plant.	A cocoa processing plant established in Bundibugyo.	1	0
15. An absorbent cotton processing facility in Luuka rehabilitated	Rehabilitate absorbent cotton processing facility in Luuka.	An absorbent cotton processing facility in Luuka rehabilitated.	1	1

6 MARKET ACCESS AND COMPETITIVENESS OUTPUT PERFORMANCE

Though Uganda's agricultural exports have increased over the past years, they face limited market access and competitiveness in external markets. This is partly due to limited adherence to safety standards and grades and low capacities for developing and maintaining market opportunities. The Market Access and Competitiveness sub-programme aims at improving access to agricultural markets and increased competitiveness of agricultural products by:

1. Strengthening enforcement and adherence to product quality requirements including food safety.
2. Training farmers and manufacturers on sanitary and phytosanitary standards.
3. Renovating, building and adequately equipping certification laboratory facilities in various strategic locations.
4. Digitalisation, acquisition and distribution of agricultural market information.
5. Improving agricultural market infrastructure in rural and urban areas.
6. Revitalising the warehouse receipt system and the commodity exchange system.
7. Providing incentives for the acquisition of refrigerated trucks and warehouses at boarder points and landing sites.
8. Increasing marketing of Ugandan agricultural products in the domestic, regional and international markets.

Interventions 4, 5. 6 and 7 were not planned for the reporting period and are therefore not assessed. Eleven outputs and 11 indicators were assessed. Of the indicators, 4 (36%) were achieved, 1 (9%) was moderately achieved, 2 (18%) were not achieved and 4 (36%) were not assessed because the targets were not quantified. The following is the output performance for the rest of the intervention areas.

Intervention 1: Strengthening enforcement and adherence to product quality requirements including food safety

Weak enforcement of existing regulations undermines adherence to product quality standards and grades. To improve the current status the following outputs were planned for FY2020/21 in this intervention area:

i. Sanitary and phytosanitary certificates issued.
ii. Fisheries Laboratory equipped.

Output 1: Sanitary and phytosanitary certificates issued

Sanitary and phytosanitary (SPS) certificates issued as a means of enforcing compliance with food safety standards and grades of food products. The target was 40,000 phytosanitary certificates issued.

Government issued 30,069 Phytosanitary certificates for 30,069 crop consignments that were inspected and certified for export. The agricultural export products certified included fresh fruits and vegetables, coffee, vanilla, cocoa, cereals, grains and pulses.

Other achievements included (a) 1,150 import permits were issued for importation of agricultural products; (b) 420,773MT of imported agro- products and foods (rice, corn, maize starch, malt, wheat, sorghum, peas, groundnuts, okra powder, lentils, ginger, cinnamon, dates and other foods) were inspected for compliance and conformity; (c) 224 flower farm inspections were conducted by MAAIF in partnership with Uganda Flower Exporters Association to improve compliance to standards and reduce flower interceptions; (d) Uganda honey received European Union certification for the year 2020/2021, (e) 52 meat inspection kits were procured for districts to improve inspection and certification of meat products for human consumption, and (f) 20 out of 50 animal products' facilities inspected were certified to receive certificates of Veterinary approval.

Entebbe International Airport import and export cargo terminals were manned by 20 agricultural inspectors for 24 hours every day to regulate the quality of agro-products exported and imported and 60 horticulture pack houses were manned by 9 Inspectors to reduce international interceptions in exports of hot pepper and roses infested with the False Codling Moth.

Output 2: Fisheries Laboratory equipped

The Fisheries Laboratory currently lacks some equipment and testing and analysis of most fish samples is outsourced to other laboratories. The target for the reporting period was to equip the laboratory. Assorted consumables were procured and routine maintenance of equipment was carried out but no new equipment were procured.

Intervention 2: Training farmers and manufacturers on sanitary and phytosanitary standards

The planned outputs were:

i. Farmers and manufacturers trainings and exposure on SPS conducted.
ii. Accurate and reliable measurements in the certification and testing Labs.

Output 1. Farmers and manufacturers trainings and exposure on SPS conducted

The target was to train 500 farmers and manufacturers in best SPS management practices. Three hundred horticultural farmers (16% women) producing for export from 48 districts were trained on phytosanitary compliance.

Other achievements included: 75 horticulture exporters were sensitized on SPS export requirements, 25 Phytosanitary inspectors were trained in 7 sessions on SPS compliance (including 2 trainings on official phytosanitary controls, 2 in pest surveillance methods for quarantine pests, 1 in prevention of COVID contamination on export produce and 1 induction on job training for 20 phytosanitary inspectors) and 100 farmers were trained in SPS requirements for growing horticulture exports in partnership. Eight radio talk shows were held in eight sub-regions to expose the public on SPS measures in animal products.

Output 2: Accurate and reliable measurements in the certification and testing Labs

The target was to acquire measurement standards and equipment. Construction works for a National Metrology Laboratory were ongoing at Uganda National Bureau of Standards. The Laboratory will calibrate equipment used in the National Food Safety Laboratory and other agro-food processing laboratories and industries (such as lactometers, moisture meters, thermometers, hygrometers) to ensure accurate measurement and reliable testing results.

Intervention 3: Renovating, building and adequately equipping certification laboratory facilities in various strategic locations.

This intervention entails renovation, construction and adequate equipping of certification laboratory facilities for animal feeds, coffee analysis and milk testing. The planned outputs were: 1 certification laboratory facility renovated, 2 regional milk testing laboratories equipped and 4 coffee certification laboratory facilities built and equipped.

The National Dairy Laboratory was rehabilitated and 3 mini-dairy laboratories in the cities of Gulu, Mbarara and Soroti were maintained. These laboratories undertake milk testing for food safety.

In preparation for accreditation and ISO certification for the coffee laboratory at Lugogo, UCDA conducted 3 staff training sessions in good coffee laboratory practices and 2 ISO standards and participated in GAP analysis.

Fertilizer analytical equipment was also acquired to support efforts to reduce counterfeit and adulterated fertilizers on the market. The testing equipment set is made of various items and consumables.

Intervention 8: Increasing marketing of Ugandan agricultural products in the domestic, regional and international markets

The planned outputs were:

i. Product market frameworks with countries of export interest negotiated and promoted.
ii. Product markets for Uganda's key products Mapped, profiled and developed.
iii. Promotional, expos and trade shows in and outside the country conducted.
iv. Domestic consumption of agro industrial products increased.

The PIAP does not provide targets for these outputs. Table19; highlights the results that were achieved.

Table 19 Achievements in increasing marketing of agricultural products

Output	Achievements
Product market frameworks with countries of export interest negotiated and promoted.	In response to government efforts to identify new markets for dairy products, dairy export destination countries increased to include Algeria and Malawi.
Product markets for Uganda's key products mapped, profiled and developed.	a) UCDA developed a comprehensive coffee promotion strategy with a detailed market analysis. strategies and implementation plan to position Uganda coffee on China market. b) Total coffee exports to China, Taiwan and South Korea increased 66.1 percent from 55,386 60-kg bags in 2019/20 to 135,106 60-kg bags in 2020/21. In the same period, exports to China increased by 142,6 percent, South Korea by 34.2 percent and Taiwan by 342 percent.
Promotional, expos and trade shows in and outside the country conducted.	UCDA used different approaches to promote Uganda coffee in and outside the country. These included *a)* 4 Coffee lots from the 'Best of the Pearl 2021' cupping competition from the 14 coffees that qualified for the international cupping round were auctioned. *b)* Engagements with various entities: Samples of different grades were sent to a buyer in Manchester in United Kingdom; promotional gifts were given to a delegation of National Enterprise Corporation; samples were sent to the Uganda Embassy in Beijing, China for cupping events; and samples were sent to a potential buyer in South Korea. *c)* 6 local events to promote domestic coffee consumption were conducted in Kampala, Rwenzori region and for newly elected Members of Parliament. d) Coffee messages were disseminated through 10 billboards that were installed on highways in Masaka, Mbarara, Kisoro, Jinja, Kasese, Fort Portal, Gulu, Mbale and Hoima.
Domestic consumption of agro industrial products increased	21 dairy products were produced, processed and consumed locally compared to 17 in 2019, an indicator that domestic demand for dairy products increased.

Table 20 .summarizes the output performance of this sub-programme

Output assessed	Action	Indicators	Target	Actual
1. Sanitary and phytosanitary certificates issued	Develop & strengthen the system of inspections, verification of compliance, capacity building and issuance of the certificates.	Number of Sanitary and phytosanitary certificates issued.	40,000	30,069
2. Fisheries Laboratory equipped	Equip fisheries lab	Fisheries Laboratory equipped.	1	0
3. Farmers and manufacturers trainings and exposure on SPS conducted	Identify and train/ expose farmers and manufacturers in best SPS management practices.	No. of Farmers and manufacturers trained.	300	475
4. Accurate and reliable measurements in the certification and testing Labs	Acquire measurement standards and equipment.	No of quality control, monitoring and inspection equipment in test labs.	-	0
5. Certification laboratory facility renovated,	Construction/renovate and equipping of certification laboratories.	No. of certification laboratory facilities renovated, built and equipped.	1	1
6. Regional milk testing laboratories equipped	Equip regional milk testing laboratories.	No. of regional milk testing laboratories equipped.	2	3
7. Coffee certification laboratory facilities built and equipped	Establish and adequately equip Coffee certification laboratory facilities.	No. of coffee certification laboratory facilities built and equipped.	4	1
8. Product market frameworks with countries of export interest negotiated and promoted	Negotiate product market deals with emerging markets and countries of export interest.	No of product market frameworks with countries of export negotiated.	-	2
9. Product markets for Uganda's key products mapped, profiled and developed	Map, profile and develop markets for Uganda's key products.	No of product markets developed.	-	3
10. Promotional, expos and trade shows in and outside the country conducted	Conduct promotional, expos and trade shows in and outside the country.	No of expos and trade shows in and outside the country carried out.	-	12
11. Domestic consumption of agro industrial products increased	Promote domestic consumption of agro industrial product.	The rate of increase in domestic production.	-	-

7 AGRICULTURAL FINANCING OUTPUT PERFORMANCE

The AGI Programme aims to iincrease the mobilization, equitable access and utilization of agricultural finance. This is expected to increase both short term and long-term financing available to the players in the agroindustry value chain. The strategic interventions of the sub-program include:

1. Finalising and implementing the Agricultural Finance and Insurance Policy.
2. Reviewing tax levies and other incentives on agricultural insurance products to encourage uptake by farmers.
3. Facilitating organic bottom-up formation of farmer groups (including youth) and cooperatives.
4. Strengthening existing agricultural commodity price stabilisation mechanisms for commodities that are vulnerable to high price fluctuations particularly grains, cotton and dairy.
5. Developing concessional long-term financing for agricultural infrastructure and capital investments.
6. Supporting women farmers to transition to agro-business, export trade and more profitable agricultural enterprises.

Five intervention areas were not assessed because they were not planned for implementation in FY2020/21.

1. Intervention 1: Finalising and implementing the Agricultural Finance and Insurance Policy

The outputs planned for the reporting period were: Uganda Development Bank (UDB) capitalized with UGX 500 billion, Microfinance Support Centre (MSCL) capitalized with UGX 90 billion; Agricultural Credit facility (ACF) and the Grain Trade Facility capitalized with UGX 1 billion.

In the reporting period, Government disbursed UGX. 455 billion as capitalization to the Uganda Development Bank to support businesses. In addition, government allocated and disbursed UGX 85 billion to UDB. Government allocated UGX.100billio to MSCL for emyooga programme and UGX 27.72billion for on-lending to SACCOs.

There were other outputs planned across the six intervention areas for FY2021/22 that were implemented/initiated in 2020/21. The following is the progress made.

Table 21: Other Agricultural Financing sub-programme outputs implemented

Output	Planned action	Progress made
National Payment Systems (NPS) regulations issued and gazette.	Fast track the issuance of the National Payment Systems regulations.	Government issued 3 sets of NPS regulations: NPS regulations 2021 (**Sandbox**); NPS regulations 2021 (**Agent**) and NPS regulations 2021 (**Licensin**g).
Satellite pasture drought index insurance developed.	Promote the design and delivery of a satellite pasture drought index insurance for the cattle corridor.	Government was designing a project with support from the World Bank to promote livestock insurance for pastoralists in the cattle corridor. The progress was hindered by Covid-19.
Micro Insurance Regulations gazette.	Issue the Micro Insurance Regulations in order to guide micro insurance in the agriculture sector.	The Insurance, (Micro insurance organisation) regulations, were prepared and gazated.
Insurance distribution platforms established.	Invest in insurance distribution platforms as well as claim support structures for example, by developing the capacity of extension workers to understand and provide agriculture insurance information, mainstreaming agriculture insurance in extension messages, as well as allocating resources for awareness creation.	The addendum for the operationalization of the Agriculture Insurance mandates the Extension workers to support agriculture insurance. The bancassurance has further provided a cooperate distribution channel for insurance. The digitalization of Marine Insurance and Motor-third party has further increased insurance distribution and reduced fraud.
Area Yield Index Insurance products developed and used by farmers.	Develop agriculture yield databases at county level to support the Area Yield Index Insurance (AYII) project.	The current framework uses satellite data to approve pay out of claims.
	Support the development of appropriate infrastructure for computing weather insurance indices (e.g. weather stations etc.) to facilitate the expansion of agriculture insurance in Uganda.	The current framework uses satellite data to approve pay out of claims.
High quality micro-insurance products targeting the needs of smallholder farmers developed.	Support the design and scaling-up of micro insurance products in the agricultural industry and promoting the coherence between social protection and agriculture.	The Insurance, (Micro insurance organisation) regulations, were prepared and gazetted.
Farmers reached through financial literacy programs & awareness campaigns.	Invest in agriculture insurance sensitization and awareness campaigns across the country in order to increase uptake.	The sensitization has been done jointly by the 13 insurance companies under the Agro-consortium.

8 AGI PROGRAMME INSTITUTIONAL STRENGTHENING AND COORDINATION OUTPUT PERFORMANCE

AGI Programme includes several MDAs which are poorly coordinated and a wide range of support services that are inadequate Other constraints include a multiplicity of policies and laws, inadequate public funding and limited policy evaluation. This sub-program aims at putting in place, and/or strengthening a coordination mechanism of actors in the value chain and also ensure that services and resources are delivered to facilitate the AGI Programme agenda. The interventions in this sub-programme are:

1. Strengthen linkages between public and private sector in agro-industry.
2. Strengthen coordination of public institutions in design and implementation of policies.

The following is a highlight of the achievements for each intervention area;

Intervention 1: Strengthen linkages between public and private sector in agro-industry

This intervention aims to strengthen public private partnership (PPP) models in agro-industrialization. There is one output and two output indicators.

Output 1: Projects under PPP arrangements successfully initiated

The targets were (a) Memoranda of Understanding (MoUs) signed with private sector players in the agro-industry value chain and (b) Agro-Industrialization projects running PPP models in the Project Investment Plan.

A total of 17 MoUs were signed. NARO signed 5 MOUs with five smoked fish processing enterprises to use and promote the NARO PAH Safe Fish Smoking Kiln (NAROFIK-3); MAAIF in collaboration with PSFU signed MoUs with 10 nucleus farmers to demonstrate, train, bulk and acquire inputs for supplementary feeding of the targeted small holder beef farmers within their locality; one MOU was signed between MAAIF, NAGRC&DB and Kiruhura DLG for rehabilitation/upgrade of the Sanga slaughter facility and MAAIF and Uganda Flower Exporters Association signed an MOU to partner in flower farm inspections.

Programme MDAs prepared 10 Project Concept Notes under a PPP arrangement that were reviewed by the AGI Programme Technical Working Group. Seven were recommended to the Development Committee in MFPED for further review and management.

Intervention 2: Strengthen coordination of public institutions in design and implementation of policies

This intervention aims to foster the capacity of the public sector institutions to create an enabling policy environment for private sector participation in agro-industry. One output was planned.

Output 1: Multi-sectoral platforms for agro-industrialization established.

Four platforms were established. These are the Programme Leadership Committee, the Programme Working Group, the Programme Technical Working Group and the Programme Secretariat. However the Programme Working Group, the Programme Technical Working Group and the Programme Secretariat were functional in the reporting period.

9 CHALLENGES AND RECOMMENDATIONS

Besides performance, the MDAs in the Programme reported on the challenges that they experienced and their effects on Programme implementation. They also made recommendations on what government can do to improve Programme performance.

9.1 Challenges;

a) Covid-19 pandemic. The Covid-19 restrictions and Standing Operating Procedures (SOPs) affected Programme activities. Community-based activities such as extension service delivery, consultations, awareness creation campaigns, trainings and physical meetings were postponed or cancelled. Infrastructure construction works were suspended. The result was that projects lost time and costs for execution of activities increased (e.g. when meetings and trainings resumed, the number of participants was reduced to adhere to SOPs).

b) Budget execution/funding. Budget execution had several challenges. Budgetary allocations especially for critical Programme interventions such as regulation and certification were inadequate. The situation was exacerbated by budget cuts and delays in funds release. This affected implementation of prioritized activities and service delivery to beneficiaries. Lengthy administrative protocols and procedures for release of funds and for procurements in donor funded projects (in one project it was reported up to six months) delayed execution, postponement or scaling down planned actions. Several projects want extensions. The Programme Secretariat budget for programme coordination was not funded.

c) Staff capacity is limited, especially in terms of number of technical staff at national and local government levels, to effectively implement the Programme. This was exacerbated by staff turnovers in key areas and limited logistics. One department reported a staffing capacity of as low as 42 percent. Another challenge reported was that salaries and wages of research scientists were still low compared to government target pay.

d) Access to land for setting up projects, especially for infrastructure and demonstration, is a constraint to Programme implementation. challenge. The processes to acquire it are lengthy and complex especially for infrastructure projects notably due to land tenure and ownership challenges. This led to delays in the implementation of projects.

e) Input suppliers, especially suppliers of livestock inputs (breeder of poultry and heifers) and certified seed did not have adequate capacity to produce adequate and quality inputs relative to high and growing demand. Some infrastructure projects' contractors delayed execution of their contracts because of poor planning.

f) Weak linkages in the provision of services was a concern. For example, agricultural inputs were supplied to farmers but the extension service in Local Governments did not have adequate staffing and mobility to reach out to reach input beneficiaries. This affected budget execution and wastage.

g) Inadequate critical facilities including analytical and diagnostic laboratories, motor vehicles (cars, motorcycles) for field activities, high-speed internet connectivity and office space at national and local government levels were reported by MDAs. This affected the ability of the staff to undertake their functions.

h) Weather conditions in the reporting period were characterized by heavy rains in several parts of the country and delayed onset of rains in other parts including West Nile and Acholi sub-regions. The resultant floods affected agricultural production and infrastructure construction or rehabilitation and delayed rains delayed in the delivery of planting materials.

9.2 Recommended actions

a) Covid-19 should be declared a crosscutting issue and all MDAs should integrate COVID-19 interventions into their work plans and budgets.

b) Government should invest in developing ICT platforms, and increasingly adopt wide use of ICT tools and the media to extend services. These include field data collection and information dissemination, extension advice, supervision and surveillance disease outbreak. This will increase service delivery and efficiency.

c) Programme MDAs should undertake staffing gap analysis. Data generated should be used for identifying critical areas where urgent recruitment and retooling are required and where alternative models of service delivery can be applied.

d) Government should reactivate District Land Boards to expedite land access issues for Programme investments.

e) Programme MDAs should institute frequent supervision and penalties to improve private sector provision of quality of materials and services. With respect to seed, government should consider to approve accreditation of communities and private suppliers producing Quality Declared Seeds (QDS).

f) Government should facilitate the national and local government level staff with critical facilities and logistics for effective performance.

g) Given the erratic weather, government should intensify research and technology development to produce varieties and production techniques that mitigate climate change and other related challenges.

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