



NATIONAL AGRICULTURAL RESEARCH ORGANIZATION

Coordinating, Overseeing and Guiding Agricultural Research in Uganda



ANNUAL WORKPLAN AND BUDGET FOR FISCAL YEAR 2019/2020

"Agricultural Research for Socio-economic Transformation"

June 2019



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ACRONYMS

AEZ	Agroecological Zone
AIDS	Acquired Immuno-Deficiency Syndrome
ASSP	Agriculture Sector Strategic Plan
ATAAS	Agricultural Technology and Agribusiness Advisory Services
BBW	Banana Bacterial Wilt
BCC	Budget Call Circular
BCTB	Black Coffee Twig Borer
CAADP	Comprehensive Africa Agriculture Development Program
CBSD	Cassava Brown Streak Disease
CGS	Competitive Grant Scheme
CMD	Cassava Mosaic Disease
FAW	Fall Army Worm
FY	Financial Year
GoU	Government of Uganda
HIV	Human Immunodeficiency Virus
ICT	Information Communication Technology
IVF	In-Vitro Fertilization
JICA	Japan International Cooperation Agency
LACZ	Lake Albert Crescent Zone
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
MDA	Ministries, Departments and Agencies
MoFPED	Ministry of Finance Planning and Economic Development
MT	Metric Tonnes
MTEF	Medium Term Expenditure Framework
NaCORI	National Coffee Research Institute
NaCRRI	National Crops Resources Research Institute



NaFIRRI	National Fisheries Resources Research Institute
NaFORRI	National Forestry Resources Research Institute
NaLIRRI	National Livestock Resources Research Institute
NARL	National Agricultural Research Laboratories
NARO	National Agricultural Research Organisation
NAROSEC	National Agricultural Research Organisation Secretariat
NARS	National Agricultural Research System
NaSARRI	National Semi-Arid Resources Research Institute
NCDC	National Curriculum Development Center
NDP	National Development Plan
NEPAD	New Partnership for Africa's Development
NRM	National Resistance Movement
NTR	Non Tax Revenue
PAH	Polycyclic Aromatic Hydrocarbons
PARI	Public Agricultural Research Institute
PIMA	Public Investments in Management of Agro-Industrialization
PM&E	Planning Monitoring and Evaluation
PRiDe	Promotion of Rice Development
SDGs	Sustainable Development Goals
SLM	Sustainable Land Management
SWAEZ	South Western Agro-ecological Zone
SWHAEZ	South Western Highlands Agro-ecological Zone
TIMPs	Technologies Innovations and Management Practices
UBIC	Uganda Biosciences Information Center
UCDA	Uganda Coffee Development Agency
UGX	Uganda Shillings
USD	United States Dollars
ZARDI	Zonal Agricultural Research and Development Institute

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FOREWORD

As NARO Governing Council, we have three primary responsibilities, (i) crafting a vision, (ii) aligning the vision to organizational objectives and (iii) championing execution of the vision. We are pleased to inform you that we have collectively achieved the first and second responsibilities and have made strides in execution of the NARO Strategic Plan (2018/19 – 2027/2028) through the development of implementation work-plans. It is against this background that we are honored to unveil the NARO work plan and budget for the fiscal year 2019/20 themed, *“Agricultural Research for Socio Economic Transformation”*

Research for increased agricultural productivity is the springboard from which this current work-plan has been developed, reaffirming our commitment to making meaningful contributions to the socio-economic transformation of our society. In this work-plan, you will note that there has been a deliberate effort to link research to agro-industrial needs by increasing availability of improved agricultural technologies and innovations, and effective information dissemination to the beneficiary communities and relevant stakeholders.

We are reminded of the words of Michael Jordan, a renowned sportsman, “talent wins games, intelligence and teamwork wins championships,” that allude to a minuscule yet profound aspect of winning organizations, “effective teams.” NARO has recorded significant success in its vision to increase productivity and improve food and nutrition security, and economic security, and we attribute this success to smart teams. We will continue to rely on our teams to register even greater success in accordance with our approved Strategic Plan 2018/19 -2027/28.

The 2019/2020 NARO work-plan, a result of the combined effort of our staff and different stakeholders, is testament to the power of teams and highlights groundbreaking research interventions and how to bring them to the market. These research interventions include; an in-vitro fertilization platform, establishment of a livestock vaccine facility, climate smart agro-practices and value chain mechanization.

Finally, we would like to acknowledge and appreciate the wholesome support of the government of Uganda through the Ministry of Agriculture, Animal Industry and Fisheries, Ministry of Finance Planning and Economic Development, our Development Partners and Stakeholders in meeting the increased public and private demand for our services. As we plan to invest in additional resources in both infrastructure and human resources to ensure effective dissemination of our technologies, innovations and management practices to our stakeholders, we look forward to the continued support of our development partners and stakeholders, especially the players along the commodity value chains, in implementing this work-plan which serves as a framework for guiding efficient and effective implementation of the planned activities and also inform disbursement of funds.



.....
Professor Joseph Obua
CHAIR PERSON,
NARO GOVERNING COUNCIL



.....
Dr Ambrose Agona
DIRECTOR GENERAL
NARO

EXECUTIVE SUMMARY

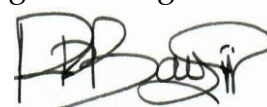
NARO is mandated by the National Agricultural Research (NAR) Act 2005 to undertake research in all aspects of Agricultural activities in Uganda including crops, livestock, fisheries, forestry, agro-machinery, natural resources management and socio-economics. The mandate is guided by SDGs 1, 2, 3 and 12; CAADP pillars 3 and 4; the Science Agenda for Agriculture in Africa, aspiration one of Agenda 2063; NDP III; Uganda's Vision 2040; the objectives of the Agricultural Sector Strategic Plan plus NARO's 10-year strategic plan 2018/19-2027/28. This work plan underpins these policies and runs under the theme *Agricultural Research for Socio-economic Transformation*. It serves as a one-point reference for research and development activities to be conducted during the fiscal year 2019/20, and as a guide to effective and efficient implementation of research activities on budget. It is also a means of ensuring delivery of planned deliverables and, efficient monitoring and evaluation.

Interventions presented in this workplan were arrived at after a highly participatory exercise which followed review and planning processes from different Public Agricultural Research Institutes (PARIs) before it was considered and recommended by NARO Top management to the NARO Council for approval. The workplan highlights key deliverables from the financial year 2018/19, which include: 20 new varieties, 70 production technologies, 21 CGS mode run studies, 15 technological innovation platforms established/supported and 60 technological innovations delivered to uptake pathways from the different research components in NARO's sixteen (16) PARIs. Also, it makes mention of advances made under different research extension interfaces promoted and strengthened in the financial year 2017/18 which include: partnerships, technology promotion and dissemination, and strategic positioning of NARO for improved visibility. The workplan highlights progress made in improving internal controls, strengthening agricultural research capacity, collaborations, promoting good governance and management plus planning, monitoring and evaluation.



This year's work plan and budget benchmarks the 2018/19 budget which was funded by government of Uganda under GoU development, GoU recurrent and Non Tax Revenue (NTR). The organisation received UGX 61.2 billion (87.9%) out of the annual budgeted UGX 69.5 billion, and spent 100% of the released budget. This release was less than the UGX 89.9 billion received in 2017/18 and the UGX 114.1 billion for 2016/17, indicating a continued declining trend in budget allocations to NARO. With this, NARO was able to implement only 85% of the 2018/19 workplan and most of the achieved success is attributed to the adopted approach of implementing research activities under the CGS mode that targets specific products with inbuilt mechanisms for tracking progress to inform management decisions plus support from off-budget funding. Implementation of the 2018/19 workplan was thus faced with challenges including inadequacies in funding, human resource, research infrastructure, and stakeholder engagement. This was compounded by limited information dissemination, emerging issues, dynamic change in technology, rationalization of agencies, and competing land use interests. This situation came with implementation gaps such as the inadequate capacity to deal with biotic (emerging pests and diseases) and abiotic (climate change and declining soil fertility) challenges. Additionally, there were limited efforts to support sustainable use and conservation of existing plant and animal genetic resources, low connection with markets and industry due to limited funding, effective partnerships and technology transfer linkages. Workplan implementation was also characterised by limited support to effectively promote use of technological innovations and management practices leading to persistent yield gap between on-station and farm-level productivity. This was coupled with limited capacity for postharvest processing, storage and packaging of seed produced by PARIs and inadequate ICT integration in agricultural research as a support tool for decision making and real time data management.

Amidst the gaps, the previous work plan opened up several opportunities including: a chance to build research capacity to develop new or improve existing technologies and



management practices with increased resilience to biotic and abiotic constraints to boost production and productivity in different environments. The workplan also gives NARO a chance to increase its focus on bio-fortification through development of gender and nutrient sensitive crop varieties for healthier diets, improve pest and disease surveillance through development of integrated options including but not limited to use of computerized early warning systems, development of NARO's laboratory capacity for improved pathogen diagnostic capacity, and enhance its knowledge and information-sharing ability by operationalizing a knowledge management system. This will enable NARO to develop capacity to produce demanded products and services suited for niche markets, enhance its capacity in production of early generation seed and conducting core field based research, develop both human resources and infrastructure research capacity, to exploiting the potential of the youth and women, and to share and collect information that will trigger accelerated agricultural research for people impact.

This year's workplan will be mainly funded by GoU, to the tune of UGX 79.662 billion compared to UGX 69.5 billion for 2018/19 and UGX 89.9 billion for 2017/18. This funding will be invested in; generation of agricultural technologies (UGX 10.82 billion, 13.29%); promoting and strengthening research extension interface (UGX 5.62 billion, 6.9%); and strengthening of agricultural research capacity (UGX 44.397 billion, 54.52%), and other critical areas. Additional funding is expected to come from development partner to fund projects which are currently under formulation. Additional funding valued at UGX 42.9 billion is expected from the 114 off-budget projects. With the planned funding, the required governance and human resource, it is hoped that NARO's advanced research agenda will directly contribute to rapid transformation of the agricultural sub-sector. The NARO Top Policy Management (TPM) is committed to the aspirations as ascribed herein and will use this workplan for disbursement of resources and accountability during the FY 2019/20.



CHAPTER 1: INTRODUCTION

1.1 Background

The National Agricultural Research Organisation (NARO) is an agency under the Ministry of Agriculture Animal Industries and Fisheries (MAAIF) mandated by the National Agricultural Research (NAR) Act 2005 to undertake research in all aspects of Agricultural activities in Uganda including crops, livestock, fisheries, forestry, agro-machinery, natural resources and socio-economics. It is comprised of the Council as its governing body, committees of the Council as its specialized organs, and a Secretariat for its day-to-day operations. It has sixteen (16) semi-autonomous Public Agricultural Research Institutes (PARIs). These include seven (7) National Agricultural Research Institutes (NARIs) with a national research mandate, and nine (9) Zonal Agricultural Research and Development Institutes (ZARDIs) mandated to carry out applied and adaptive research for a specific agro-ecological zone. At the grassroots level, the structure provides for satellite stations for specific adaptive research activities (*Annex A*).

In order to execute her mandate, NARO develops and implements 10-year strategic plans. The current strategic plan for NARO for the period 2018/19 – 2027/28 has shifted focus from simply increasing agricultural production and productivity to causing real sector and socio-economic transformation. Thus, the new strategic direction is inclined towards: i) *Increasing niche markets created along product lines*; ii) *Increasing agricultural research products and services suited for industry*; iii) *Increasing use of improved, highly productive and efficient agricultural technologies and innovations*; and iv) *Undertaking institutional orientation to agricultural transformation*. Consequently, the annual work plan for FY 2019/20 is developed to help NARO deliver the new strategic direction that is product, market and industry led. The work plan also seeks to address areas of climate



change, gender and equity, biotic and abiotic stresses and emerging research issues of national priority.

1.2 Objectives of the work plan and budget for FY 2019/20

- a) To serve as a one point reference for research and development activities to be conducted for the FY 2019/20
- b) To guide effective and efficient implementation of research activities on budget
- c) To ensure delivery of planned deliverables and, efficient monitoring and evaluation

1.3 The process of developing the annual work plan and Budget for FY 2019/20

As a Government agency, NARO follows an established budgeting process and planning cycle. The annual work plans and budget preparation cycle is a highly participatory bottom-top up process which starts in September of each year following the first Budget Call Circular (BCC). It involves periodic identification of research areas through demand articulation and priority setting of agricultural production and productivity constraints and opportunities. Such review and planning processes involving different PARIs and their stakeholders were conducted, leading to a NARO-wide consolidated Workplan and budget. The work plan was then reviewed by Top Management and approved by Council.



CHAPTER 2: KEY ACHIEVEMENTS FOR FY 2018/19

2.0 Summary

NARO continues with its commitment to generate relevant Technologies, Information, Management Practices, and Strategies (TIMPS) for agricultural development and socio-economic transformation. During the FY 2018/19, NARO delivered on all her Key Performance Indicators (KPIs) including 20 varieties submitted for release and developed 70 production technologies (**Table 1**). Remarkably, NARO adopted the Competitive Grant Scheme (CGS) funding mode for running the GOU budget through which strategic research leading to products and commercialization are supported. Accordingly, twenty-one projects were funded under the GoU CGS mode and these projects will be operated for a period of three years.

Table 1: NARO's Performance against the KPIs during the FY 2018/19

Key Performance Indicator	Planned Target FY 2018/2019	Actual Performance (Achieved)	Remarks
New varieties submitted to Variety Release Committee	20	20	- Additional financial support from off-budget projects - Timely Variety approval processes by the Variety Release Committee
Production technologies generated or released	70	70	- Additional financial support from from off-budget projects
Research studies run under CGS mode	18	21	- Three (3) high profile projects were added with technologies/products almost ready for commercialisation - Effective concept and proposal review and award system
Technological innovation platforms established/supported	10	15	- Increased enthusiasm by farmers, processors and other groups in the value chain
Technological innovations delivered to uptake pathways	40	60	- Additional financial support from Contribution of from off-budget projects - Improved Research -Extension linkages



2.1 Generation of agricultural technologies

2.1.1 Crops research

In the crop sector, five (5) varieties out of the twenty (20) candidate varieties submitted to the National Variety Release Committee of MAAIF were released (**Table 2**). The varieties have superior attributes over those currently existing, with respect to yield advantage, pest and disease resistance, adaptation to drought prone environments and culinary attributes. In addition, two (2) yellow rust resistant wheat lines, two (2) advanced maize lines and three (3) highland sorghum varieties are ready for advancement to the National Performance Trials (NPTs) prior to submission for consideration for release.

Table 2: Varieties submitted for release during the FY 2018/19

Commodity	Number of varieties submitted for release*	Varieties released	Key Attributes of the submitted varieties**
Cotton	2		• High fibre quality (>30 mm) and strength • High yielding
Ground nuts	2	NARONUT1T, NARONUT2R	• Drought tolerance • Early maturity (75 – 80 DAP***)
Beans	2	NAROBAN6, NAROBAN7	• Drought tolerance
Maize	4		• Drought tolerance • Good grain type (shape, texture, colour, etc)
Rice	2		• High yield • Aromatic
Bananas	2	NAROBAN5	• High fruit quality comparable to land races • Resistant to weevils and Black Sigatoka
Potatoes	6		• Crispy and suitable for fast foods • Resistant to late blight disease

*The next Variety Release Committee is scheduled to take place April/May 2019.

**The candidate varieties present a yield advantage over the existing reference varieties, for each commodity.

***DAP= Days After Planting



In addition, the following management practices were identified, developed and promoted;

- a) Mandi Plus cassava seed treatment technology for enhanced germination and vigour developed;
- b) One (1) foliar fertilizer and one (1) bio pesticide effective for cotton production were recommended for use;
- c) Five (5) out of eighteen (18) introduced Dutch potato varieties with capacity to yield over 30T/ha were identified to be adaptable to the South Western Agro ecological Zone condition.

2.1.2 Livestock research

As a step towards sustainable management of the tick and tick-borne diseases burden in the livestock industry, NARO is developing three (3) specific anti-tick vaccines. In addition, a cocktail anti tick vaccine comprising antigens from all the three tick species (brown ear tick, blue tick and bont-legged tick) was constituted. A controlled clinical trial involving 50 experimental dominant cattle breeds notably Friesian crosses (10), Zebu (20) and Ankole (20) was conducted to validate the vaccines. The experiment revealed capacity for high level protection against target ticks. The vaccines are currently under going final clinical evaluation in line with World Health Organization protocols and national regulation. Similarly, vaccines the Foot and Mouth Disease (FMD), and African Swine Fever (ASF) are also near ready. To ensure sustainable capacity for future vaccine research and development, three staff are undertaking PhD studies in relationship to vaccine production and establishment of a validation facility is underway at NaLIRRI- Nakyesasa hub.

In addition, NARO introduced a New Jersey Breed (Viking Jersey) to improve milk production. Similarly, efforts have been initiated towards establishing an in-vitro fertilisation, semen processing and genetic purity analysis facility. This will enable



farmers access high quality embryo and semen of proven breeds. Furthermore, NARO has started on an initiative to set up an Ankole bull stud to improve the productivity of the adapted Ankole cattle and other breeds.

A pasture-breeding and phenotyping platform was established by NARO. This is the largest pasture-breeding platform on the continent, which is currently providing a diversity of pasture species (accessions) to end-users.

2.1.3 Fisheries research

Efforts were geared towards generating relevant information to guide interventions in the sector. The following information has been documented;

- a) Impacts of fish cages on water quality and biota at SON cage fish farm; and
- b) Occurrence, abundance and diversity of microplastics in sediment, water and fish,
- c) Light attraction technologies for enhanced harvest of Mukene on Lake Victoria were determined. The green (3.6 ± 0.9 Kg/hr-1) and white (2.3 ± 0.8 Kg/hr-1) light colours harvested high catch rates (>2 Kg/hr-1). Generally, the catch rates increased with intensification of light intensity and varied with light source; the solar bulbs harvesting higher catch rates (12.1 ± 2.9 kg hr-1) than the traditional pressure lamps (7.2 ± 2.9 kg hr-1). Surface lights harvested higher catch rates (2.0 ± 0.4 Kg/hr-1) than other light settings.
- d) In partnership with other institutions in the African Great Lakes Region, NaFIRRI developed best management practices (BMPs) for promoting environmentally, economically and socially sustainable cage aquaculture. The BMPs are consolidated in a mobile application, NARO Cage Aquaculture, which can be accessed by various stakeholders.
- e) Through MoUs, NaFIRRI has developed partnerships with key Government MDAs and CSOs to enhance freshwater biodiversity data sharing, use, and incorporation into decision-making and conservation. NaFIRRI is availing data



and information in user-friendly formats and in easy to access platforms such as Global Biodiversity Information Facility.

- f) In an effort to establish a community conservation area on Lake Nyaguo (a shared lake between Pallisa, Kumi and Ngora districts), NaFIRRI facilitated the creation of ten Community Conservation Committees in 10 fishing villages around the lake. A draft management plan for the proposed conservation area has been developed.
- g) NaFIRRI in partnership with line institutions in DRC have supported integrated fisheries and water resources management on lakes Edward and Albert through guidance on fish stocks, appropriate fishing efforts and selection of areas suitable for cage aquaculture and fish breeding areas. NaFIRRI has developed a protocol that guides the extraction and characterisation of cyanotoxins in fish and water. NaFIRRI has determined the scale of plastic wastes in the Lake Victoria water environment and fish to initiate mitigation
- h) Additionally, geo-referenced maps for breeding/nursery grounds in lakes Edward and Albert of key commercial species were updated and a check list of fish species diversity in lakes Edward and Albert, distribution and conservation status generated;
 - i. Database and geo-referenced map of suitable sites for cage aquaculture in lakes Edward and Albert
 - ii. Surveillance standards for aquatic animal health (SOPs) produced
 - iii. Nile perch oil extraction, nutrient profiling (omega 3, Vitamins ADEK, fatty acids) and physiochemical characterization protocols developed.

2.1.4 Forestry research

Research in the forestry sub-sector focused on improving the hydrocarbon-sawdust blending that led to an increase in the combustibility of saw dust fuel lighters by 5%. High value fuel lighters of improved blend of wax and saw dust were produced. In

addition, a new design of a wood waste fuel cook stove prototype was produced and is to be commercialised.

To address the burden of eucalyptus pests, *Glycaspis brimblecombei* (red gum lerp psyllid) hotspot sites were established in Western and S.W. Uganda for the release of the parasitoid. Further, procedures for implementation of options for control of eucalyptus pests (Red gum Lerp Psyllid and Bronze bug) were developed.

2.1.5 Tea research

To understand the genetic make up of Uganda's tea, an analysis of tea genetic diversity using Genomic DNA extraction method was conducted for 63 accessions. This will inform determination of best breeding pipelines. Further, laboratory analysis of 22 tea accessions for biochemical attributes was conducted. Preliminary results show that all the 22 accessions picked are fast fermenters implying that they are good for black tea and not green tea. The analysis also showed that all the tea accessions had good and high cup quality.

2.1.4 Agricultural engineering

The first prototype of the NARO Polycyclic Aromatic Hydrocarbons (PAHs)-safe Liquid Smoke Distiller was developed. The distiller is yet to be tested on-station and commercialized. Additionally, development of an improved design (second generation) of NARO PAH-Safe smoking kiln (NAROFIK-3) is underway. The new designs are expected to lead to better quality management systems for processing smoked fish products.

2.1.5 Value addition

a. Protocols for development of a nutrient dense Market-Smart AroNutro Instant Maize Snack were developed. The snack is intended to contribute to reducing impacts of



malnutrition and reducing food losses. An innovative technology transfer model that facilitates market access for the product was developed and is yet to be tested. The approach will engage the private sector, incubatee enterprises and producer groups as a strategy to enhance commercialisation.

- b. A prototype of the fish-smoking kiln which considerably reduced levels of all the four carcinogenic elements of PAH from average total of 40,000 ppb to 23.8 ppb was developed.

2.1.6 Bio-technology

Biotechnology research focused on addressing the challenge of devastating diseases, namely: Cassava Brown Streak Disease (CBSD) and Cassava Mosaic Disease (CMD). Forty three (43) CBSD and CMD resistant progenies with functional transgene inheritance out of 116 evaluated were advanced to yield selection trial currently ongoing at Namulonge and Serere.

Additionally, one (1) transformation protocol was optimized, three (3) farmer preferred cassava varieties (NASE 13, NASE 19 & NAROCASS 1) were transformed and over 200 plantlets from 30 lines weaned in the screen house for further evaluation. One (1) cassava variety (TME 204) was transformed with genes for enhanced nitrogen uptake and utilization, and 15 events generated.

Under Ag-biotech and biosafety education, the Uganda Biosciences Information Center (UBIC) recorded milestones towards the institution of a positive policy environment, enhancing appreciation of biotech and biosafety by farmers and community leaders, and integrating biotechnology in the formal education system. UBIC for example was instrumental in supporting the passage of the Genetic Engineering Regulatory Act by the Parliament of Uganda in November 2018. It also engaged members of Parliament including the Speaker, the Committee of Agriculture, staff of the Ministry of Science, Technology and Innovation including the Minister and the Permanent Secretary.



Additionally, UBIC facilitated balanced, fact-based and objective discourse on modern biosciences in Uganda. This was through sharing knowledge and information on agricultural biotechnology research in Uganda by engaging over 250 farmers, extension workers, and community, religious and cultural leaders. Similarly, three (3) biotechnology and biosafety sensitization workshops and four screenings of the [Food Evolution movie were organized](#), which attracted **over 6000** Ministries, Departments and Agencies (MDA) staff, media, students and educators as well as members of the general public. Three of these screenings were organized in collaboration with the [Cornell Alliance for Science](#). At four national expos, **close to 2000 visitors** were directly engaged and exposed to advances in modern agricultural biotechnology in Uganda at the NARO stalls.

Through schools' outreach and mentorship programs, UBIC made noteworthy progress in magnifying the relevance of modern biosciences and supporting their integration into the formal education system. Consequently, arrangements are in advanced stages—with the [National Curriculum Development Center](#) (NCDC) and the [Ministry of Education](#)—to integrate modern biosciences in the national schools' curriculum. In this light, a week-long training workshop in which over 50 teachers from high schools nationwide was conducted, where they learnt about ag-biotech and biosafety innovations at NaCRRI. Additionally, a national university debate in which over 2000 students and educators from ten universities was organized. An annual flagship activity-the National Biotechnology Essay Writing Contest run for its sixth edition climaxing in March 2019. Partnerships were strengthened with over 13 universities and tertiary institutions, 50 schools, the NCDC and the Ministry of Education. Many more school going youths were exposed to modern biotechnology research and development through this initiative.





Figure 1: Hon. Minister for Agriculture visits the Bio-tech Laboratory

2.1.7 Socioeconomic and cross-cutting research

Gender mainstreaming in agricultural research for development

NARO has registered considerable achievements in the implementation of its gender and Diversity programs. In an effort to ensure that all gender categories (children, women, youth, the elderly and persons with disabilities) benefit from its technological development and dissemination initiatives at the grassroots the organization has endeavoured to develop technologies in various disciplines (agricultural engineering, crops, livestock and fishers) to cater for production challenges.

In this regard, prevailing gender concerns in agricultural research projects at institutional and grassroots level are often analysed and integrated into the different technology generation and dissemination interventions for different sub-project

activities. The major gender concerns addressed were: women's limited voice and decision-making ability, lack of access and control over production factors (land, finance, in-and output markets), limited engagement in research, extension and capacity building processes, poor access to technology, limited interests of youth in agriculture, food, income insecurity and poor nutrition.

NARO has also been engaged in the management of social risks. This has involved building capacity of the local communities including institute workers, staff and community personnel to address social concerns including child-labour, HIV/AIDS, gender and sexual harassment. Under infrastructural developments, gender equity considerations have been embedded to ensure that harm and discomfort are not caused to the people utilizing them.

Current status and distribution of *S. molesta* in water bodies in Uganda determined

Field surveys were conducted to determine the current number of water bodies (including wetlands in the Kyoga lake basin and catchment areas) infested by the invasive Kariba weed (*Salvinia molesta*). Of the 15 areas visited, Kibimba dam (Bugiri district), Leye dam (Kole district), Abuket (Ngora district), Okole wetlands (Oyam district) were heavily infested with the Kariba weed. Capacity has been built among fishing communities and Beach Management Units (BMUs) through sensitization and training on bio-control and management of Kariba weed. Weevil rearing facilities were refurbished to increase capacity of producing weevils for field releases.

Studies conducted to establish demand for selected products

To provide information to guide development and commercialization of product lines that respond to niche markets, studies have been conducted along selected value chains to;

- Ascertain the potential for production and consumer demand for specialty tea (Green, white, silver, purple, yellow) in Uganda.
- Analyse maize markets so as to guide AroNutro Instant Maize product definition and positioning.

2.2 Research extension interface promoted and strengthened

2.2.1 Partnerships, technology promotion and dissemination

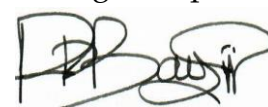
In an effort to contribute to promoting and strengthening of the research extension interface, the agricultural technology promotion function in NARO achieved the following key outputs in FY 2018/19:

- An on-line NARO Information Hub was developed and operationalised as a source of agricultural data, information and knowledge to support self-learning, information access as well as feedback. Additionally, data collection and transfer tools as well as five mobile applications were developed and applied to support the Hub. The Hub is available and operational on www.naroinfohub.org.
- A NARO Technologies Compendium (2012-2017) that provides information about technologies generated by NARO in the five years was published.
- A biennial NARO-MAK Scientific Conference was held, where NARO knowledge was disseminated amongst over 350 participants. The conference opened up NARO to the rest of the world by attracting regional and international participants from 10 countries. Details on www.naromakconference.com.
- NARO knowledge and technologies were shared with at least 7000 stakeholders during the National Agricultural Show in Jinja; the World Food Day 2018 at Nabuin ZARDI, and four Farm Clinics held at Mbarara ZARDI, Bulindi ZARDI, Ngetta ZARDI and NaSARRI; and the Harvest money expo.
- A Communication and Knowledge Management Strategy was published and popularized.

- f. An Outreach Strategy was published to guide implementation of outreach interventions.
- g. Information Education and Communication (IEC) materials for effective application of NARO technologies were published in collaboration with CABI.
- h. An Intellectual Property Management Committee was constituted in efforts to mainstream incubation, commercialization and IP management in NARO.
- i. NARO continued to support the seed system through Local Seed Businesses (LSBs), Multi-Stakeholder Innovation Platforms (MSIPs) and farmer groups engagements to ensure quality seed access. Specifically: a bean MSIP in Gombe; 3 commodity Innovation Platforms (IPs) by Kapchorwa and Manafwa district local governments; 18 private nursery operators supplying fodder planting material to dairy IPs in Manafwa/Namisindwa and Kapchorwa districts; and Mt. Elgon Women in Coffee IP were supported.
- j. To enhance access to quality seeds, NARO launched the Hoima Community Seed bank in Kibare village to promote supply of quality seeds to farmers in July 2018. This was at a National Seed Diversity fair in Bulindi Sub County, Hoima district. This is to promote the Community Managed Seed Security model;
- k. An annual report (2017/18) was published and distributed to account to government and stakeholders on agricultural research outputs.
- l. NARO signed an MoU with ROTRACK to periodically develop and publish a NARO Digest aimed at disseminating NARO technologies in very simple terms.

2.2.2 Strategic Positioning of NARO for Improved Visibility

Public Relations in 2018 epitomized the need for foundation setting of metrics in Public Relations and Communications in NARO. In a baseline survey conducted by IPSOS, a global independent market research firm, to establish NARO's reputation index, NARO scored a reputation satisfaction score of 71%, compared to 64% for FY2017/18. Whereas this is a relatively high score for public sector organizations, it is still below the global public



sector average of 86%. It was observed that whereas NARO was highly rated by *stakeholders (98%)*, there was still scanty knowledge about its operations in the *general public (65%)*. NARO has thus undertaken the following activities to improve these ratings; media partnerships with Bukedde TV& TV West, strategic engagements with policy makers and drivers such as Parliament of Uganda sessional committee, NTV economic summit and China-Hunan agricultural partnerships.

Relatedly, NARO entered into *two (2) media partnerships for purposes of enhancing visibility of agricultural technologies at the grassroots*. The media houses that NARO entered into partnership with were; *Bukedde TV and TV West* in addition to the existing partnership with *UBC*. The cumulative International Public Relations Value for NARO's presence in the media in the financial year 2019/2020 so far is valued at *Ugx 4.2 billion* accounting for a *262.5%* increment in media visibility from the previous financial year.

Agricultural Research for Industry and agribusiness was a key driver for NARO's narrative in the public sphere. This was augmented by *NARO's strategic partnership with Uganda's embassy in China* that coordinated the China Hunan Province delegation exchange visits between Uganda and China. The exchange visits birthed the concept of agricultural industrial parks and consequently profiled NARO as a progressive entity in the Ugandan agricultural sector and has influenced how NARO is designing her interventions and technologies for effective market penetration. The concept of agricultural industrial parks has been adopted at the national level with NARO as a fundamental component of the agro-economic hub set-up.

NARO played a key role in shaping the *NTV Summit 2018*. The annual event that is sponsored by the Ministry of Finance Planning and Economic Development informs the focus for the executive. In the previous year, this event garnered ninety-eight (98) million hits online and is a strategic platform for positioning NARO's agenda. In the last summit, NARO played a key role in shaping the conversation on the role of agriculture



in achieving the wider economic transformation goal of Uganda towards the National Development Plan of Vision 2040.

In a bid to streamline the organization presence across all consumer touchpoints, NARO resolved *to standardize the NARO brand across all her public agricultural research institutes*. The exercise of putting in place a branding policy and popularizing it illuminated the need to extend this exercise to the online community.

Streamlining NARO's online presence was a priority in the third quarter of the financial year. A NARO online content development and management committee was constituted and flagged off by the Chair NARO Governing Council. Their main purpose was to revisit how the organization was positioning itself online and ensure that all information was routed through the www.naro.go.ug portal for easy access and reference by the general public. The team at the end of the exercise will unveil a new web interface for the organization addressing the different audience needs by various stakeholders.

2.3 Internal Audit

Deriving from the NARO Audit Charter, the Audit function facilitated NARO in achieving its mandate. Notably, the following were achievements of the function through its recommendations to management to undertake cardinal activities such as:

- i. Establishment of irrigation activities to provide for all year round to minimize losses
- ii. Renovation of dilapidated buildings with emphasis of replacement of asbestos roofs
- iii. Survey and titling of all NARO land



2.4 Agricultural research capacity strengthened

2.4.1 Training and HR management

During the FY 2018/19, the Human Resource directorate registered two major achievements namely:

- a) *Human Resource Capacity Development:* NARO's capacity was strengthened by supporting eight scientists to obtain PhDs, --- to undertake Masters Studies. Out of these six students completed their studies and graduated during the FY 2018/19. In addition, three staff completed their Master's degree.
- b) *Performance Management:* To improve performance, a new Performance management system was developed and implemented. This has improved objectivity in the performance appraisal process and nurtured a performance culture.

2.4.2 Infrastructure

- 1) In an effort to fulfil a presidential directive to relocate NaLIRRI from Tororo to Maruzi in Apac via Nakyesasa at Namulonge, NARO with support from Government of Uganda;
 - a. Renovated dilapidated buildings to create staff office and research space (livestock breeding and assisted reproduction laboratory) at Nakyesasa.
 - b. Constructed an 800m long perimeter fencing wall at Nakyesasa to ensure safety of production and experimental fields
 - c. Acquired a state-of-the-art machinery and equipment to enable large-scale and mechanised forage seed and feed production at Maruzi. This is expected to meet the rising demand for livestock feed and pasture seed in the country. In addition, one square mile of land at Maruzi was cleared of thickets and bushes for forage and feed production.
 - d. Acquisition of free hold land title of 10 square miles in Maruzi, which is near conclusion.
 - e. Initiated paddock civil works at Maruzi Ranch in Apac



- 2) The following infrastructure developments were also made at Nakyesasa
- a. Completed construction of state-of -the-art cowshad at Nakyesasa.
 - b. Completed modification (re-tooling) of the milking parlor at Nakyesasa
 - c. Constructed a vaccine trial, evaluation and production facility at Nakyesasa.
 - d. Established a state-of -the-art feed mill at Nakyesasa (*Figure 1*).
 - e. Through a DETRA grant, a state of the art bio security laboratory, fully equipped was completed at Nakyesasa (*Figure 2*). The facility will be used to diagnose highly infectious pathogens.
- 3) Infrastructure development at other PARIs included:
- a. Construction of two (2) screen houses at Nabuin ZARDI near completion.
 - b. Expanded a tea nursery to accommodate specialty tea at Rwebitaba
 - c. Renovated a guest house at National Forestry Resources Research Institute (NaFORRI) in Mukono
 - d. Undertook civil works for rehabilitation of Rwebitaba ZARDI. Works at NASARRI were delayed due to approval processes. Consequently, substantial funds planned for rehabilitation of NaSARRI and Rwebitaba for the FY 2018/19 were front-loaded for Rwebitaba. Accordingly, the budget for civil works for rehabilitation on this capital development for FY 2019/20 shall be dedicated to NaSARRI. It should however be noted that during the FY 2018/19 the architectural designs for NaSARRI were completed and approved, contract awarded and works attained 20% completion level.
 - e. Constructed two (2) residential houses at National Coffee Resources Research Institute (NaCORI)
 - f. Rehabilitated two (2) residential staff accommodation houses at Nabuin
 - g. Constructed one (1) staff houses at Bulindi ZARDI in Hoima.



- h. Extension of waterborne washrooms and administration block at Kiige in Kamuli District which is a horticultural satellite station under National Crops Resources Research Institute (NaCRRI)
- i. Renovated the GeneBank under National Research Laboratories (NARL) at PGRC- satellite station in Entebbe



Figure 2: State-of -the-art feed mill established at Nakyesasa, NaLIRRI



Figure 3: A state-of-the-art bio security laboratory, established at Nakyesasa, NaLIRRI

2.4.3 ICT

- a) Provided shared corporate ICT services (Internet, email, telephony etc) efficiently and effectively
- b) Planned and coordinated the procurement and use of new staff ID generation machine.
- c) Implemented PFSense firewall to enable better management of NARO's expanded network.
- d) Prepared and facilitated the implementation of the NARO Information hub.
- e) Increased awareness and visibility of NARO technologies by coordinating the design and deployment of commodity based mobile applications onto the global mobile application platform (Google play store).
- f) Ensured that NARO is proactively positioned (Infrastructure setup) to take advantage of the Government ICT shared services (Internet, data center hosting services, Unified Communication and collaboration services and e-government services) being implemented by NITA-U

2.4.4 Collaborations

In an effort to enhance research outputs, NARO continued establishing strategic research collaborations with public and private entities. Also, NARO established collaboration with the *Hunan Province through the China South-to-South cooperation under ministry of Agriculture, Vision Group and NTV* that will support generation as well as increase uptake and promotion of agricultural technologies.

2.4.4 Governance and Management

In execution of its role of providing oversight of implementation of the organizational mandate and Strategic Plan, the Council approved the following Policies and Strategies: Outreach Strategy 2018/90-2027/28; Planning Monitoring & Evaluation Policy; Planning Monitoring & Evaluation Strategy 2018/19-2022/23; Risk Management Policy, Non Tax Revenue Management Policy and the revised Financial Management Manual. To support the research functions, appointments of qualified and talented staff were



made; this includes scientists and a new Director of Research for the National Coffee Resources Research Institute.

2.5 Planning, Monitoring and Evaluation

Broadly, NARO implements internal systems that target to assess physical and financial performance as well as the audit process. In order to plan, track and report performance of NARO, the PM&E unit has continued to undertake planning, monitoring, reporting and evaluation functions. During the past year, focus was on generation of performance reports, streamlining the planning function for better workplan and budget, tracking implementation of the annual workplan, and development of various planning and monitoring frameworks. Operationalisation of the approved NARO strategic plan and M&E policy and strategy will require developing a mid-term plan (2018/19 – 2024/25) to guide implementation and effective monitoring and evaluation.

To support the internal efforts, review workshops were held to assess progress and achievements of various interventions. External monitoring of research interventions was also conducted by government and development partners especially for off- budget supported projects.

During the FY, various reports including management and performance reports were delivered. Further, an internal implementation completion results report (ICRR) for ATAAS project was generated.

There have been increased efforts towards mobilization of resources for sustainable agricultural research. Currently, two (2) project proposal development initiatives are also ongoing. These include; the East and Central Africa Agricultural Transformation Project (ECAATP) and Climate Smart Agriculture (CSA) project.



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CHAPTER 3: BUDGET PERFORMANCE AND WORKPLAN IMPLEMENTATION FOR FY 2018/19

3.0 Summary

NARO's annual budget for FY 2018/19 was funded through direct budget support from government of Uganda under GoU development, GoU recurrent and Non Tax Revenue (NTR) as well as external financing especially for off-budget projects (**Table 3**).

Table 3: Summary of annual financial performance for FY 2018/19 (in Billions)

Source	Approved Annual Budget	Annual Budget Release 2018/2019	Annual Budget Spent 2018/2019	% Annual Budget Released	% Annual Budget Spent	% Annual Released Spent
GoU Recurrent wage	22.472	22.472	22.472	100	100	100
GoU Recurrent Non-Wage	7.099	7.099	7.099	100	100	100
GOU Development	32.783	29.891	29.891	91	91	100
Total GOU	62.354	59.462	59.462	95	95	100
NTR	7.146	4.395	4.395	62	62	100
Domestic Arrears	0.114	0.114	0.114	100	100	100
Total Budget	69.614	63.971	63.971	92	92	100
Total Excluding Arrears	69.500	63.857	63.857	92	92	100

3.1 Budget performance for FY 2018/19

NARO received a total of UGX 63.857 billion under GOU budget out of the annual budgeted UGX 69.5 billion for the FY 2018/19. This represents a 92% budget release performance. This total GoU funding received of UGX 69.5 billion cv. UGX 89.9 billion for 2017/18 and UGX 114.1 billion for 2016/17 indicate a continued declining trend in budget allocations to NARO. To effectively implement NARO's strategic interventions

for transformation, adequate funding of at least UGX 300 billion per annum is required for agricultural research and development.

The development budget release performance was at 91% while recurrent was at 100%. However, absorption of the development funds was low due to the protracted procurement process. This could also be explained by the implementation of the Integrated Financial Management System (IFMS), which slowed the payment process because of the learning curve for the staff in the IFMS process that begins with e-requisition, LPO and invoicing before payments are effected. Amidst the associated challenges, NARO finally started utilizing IFMS.

NTR performance for the FY 2018/19 was 61.5%. Overall, NTR greatly improved during FY 2018/19 with NARO posting a budget performance of 61.5%, which is above the average mark of 50%.

During FY 2018/19, NARO implemented a total of 118 off-budget projects supported by development partners to a tune of UGX 35.52billion. This represents a 32% of the annual budget which indicates a 7.5% increase from FY 2017/18. The steady up-ward trend in external funding makes it slightly possible to implement research and to attain meaningful agricultural transformation with the current minimal budget support from government.

3.2 Work plan implementation performance for FY 2018/19

NARO developed tracking systems to assess work plan implementation and performance. Generally, NARO was able to implement the work plan at 85%. The success is attributed to the adopted approach of implementing research activities under the CGS mode that targets specific products with inbuilt mechanisms for tracking progress to inform management decisions.



3.3 Challenges during implementation of work plan for 2018/19

- a) *Effectively conducting research with inadequate funding:* Over the years, NARO has been operating with a very limited budget. For instance, the approved NARO budget for FY2018/19 was UGX 69.5 billion, out of the National Medium Term Expenditure Framework (MTEF) of UGX 29.673 trillion; representing a 0.23% allocation. This is contrary to the Africa Union Malabo Declaration which requires African governments to allocate at least 10% of their budgets to agricultural research. This has made it difficult for the organization to fulfil its mandate, and adequately plan and respond to emerging issues. This results in sub-optimal interventions due to the tight linkage between funds availability and work-plans. Underfunding of research also results into staff under engagement and high staff turnover. There is thus urgent need to review the staff retention strategy and identify strategies that will reduce the employee turnover.

Relatedly, the bulk of NARO's budget is under the GoU development budget and this only caters for capital items plus retooling of staff. Under this budget, funds for infrastructure maintenance and core research have over the years been categorized as consumptive expenditures. For this reason, there are no funds to maintain the procured assets. NARO has thus requested MOFPED to support reallocation of funds from the development budget to cater for the maintenance of infrastructure and for core research that would ordinarily have been funded by the development budget.

- b) *Operating with inadequate human resource:* The organisation has continued to operate below capacity with 10% of the positions not filled. The current staffing level does not adequately respond to the current research needs of the country. Besides,



NARO has been faced with a challenge of recruiting and retaining highly specialized staff due to low remuneration. Staff salaries have remained very low compared to those paid to staff in similar organisation and universities. This has jeopardized staff retention, resulting into increased levels of staff turnover with experienced scientists leaving to join international research organisations and national public universities. Raising the staff ceiling and enhancing staff remuneration is inevitable to effectively deliver expected research products and services.

- c) *Working with limited research infrastructure:* Whereas there has been notable improvement in research infrastructure supported by loans to government and development partners, it is still inadequate for executing cutting edge research and responding to emerging issues. There is need to improve infrastructure to adequately contribute to agriculture transformation.
- d) *Adequately engaging stakeholders:* Despite the several efforts undertaken, there is still inadequate stakeholder engagement, especially the private sector to support research and development. This affects the extent to which new technologies and products are disseminated and commercialised.
- e) *Enhancing access to information:* NARO continues to face challenges with ensuring that its stakeholders get access to adequate and reliable information at the right time. This requires establishing efficient ICT services in NARO to support and contribute to the NARO wide agenda. Currently, ICT platforms and data portals are being established to enable end-users access timely information and facilitate sustainable use of NARO technologies.
- f) *Responding to dynamic change in technology:* The rapid pace at which technology is changing requires NARO to be adaptable and responsive to the change and derive



maximum benefit from emerging technologies. This poses a challenge, as funding for ICT initiatives must compete with other organizational priorities.

- g) *Ensuring good governance amidst rationalization of agencies:* The recent Cabinet decision of rationalization of agencies and proposed merger of agencies including NARO and NAGRC&B is likely to have impact on the staff of the institution due to anxiety of the outcome.
- h) *Operating under competing land use interests:* NARO operates under uncertain land ownership and distressing pressure from interested parties with divergent development plans on land designated for agricultural research. This has slowed down investments in research infrastructure and interrupted effective implementation of land-use plans e.g. Maruzi. This warrants investment in securing land for agricultural research.
- i) *Addressing the challenges of climate change:* Whereas NARO has generated and promoted several technologies and practices for mitigating and adapting to climate change, the effects of prolonged drought and floods retarded the uptake and adoption of some technologies. It is therefore critical to support NARO to generate climate smart agricultural technologies and practices, including reducing greenhouse gas emissions, which will eventually result into agriculture and livelihood resilience to effects of climate change.

3.4 Gaps and opportunities for FY 2019/20

NARO recognizes the fact that there are still gaps in research and development that are yet to be fully addressed. These present opportunities for further investment as indicated below;



3.4.1 The gaps

- a) Biotic challenges notably emerging pests and diseases coupled with inadequate capacity for pest and disease surveillance as well as inadequate pathogen diagnostic capacity. This necessitates improvement in existing technologies and /or development of new technologies to meet demands.
- b) Changing trends in abiotic environments especially climate change and declining soil fertility. This is worsened by low adaptability of crop, tree, livestock and fish varieties/ breeds to climate variability
- c) Genetic degeneration of existing varieties due to increasing pathogen/viral load
- d) Poor genetic quality of animal genetic resources, coupled with poor nutrition
- e) Low connection with markets and industry due to limited effective partnerships and technology transfer linkages.
- f) Limited use of technological innovations and management practices leading to persistent yield gap between on-station and farm-level productivity
- g) Low capacity to produce quality breeder and foundation seed for crops, forage and fish, inability to conduct core field based research all year round
- h) Limited capacity for postharvest processing, storage and packaging of seed produced by PARIs
- i) Inadequate ICT integration in agricultural research as a support tool for decision making and real time data.

3.4.2 The opportunities

Amidst the gaps, the following opportunities exist;

- a) Research capacity to develop new or improve existing technologies and management practices with increased resilience to biotic and abiotic constraints to boost production and productivity in different environments.
- b) Increased focus on bio-fortification through development of gender and nutrient sensitive crop varieties



- c) Improvement of pest and disease surveillance through development of integrated options including but not limited to use of computerized early warning systems.
- d) Development of NARO's laboratory capacity for improved pathogen diagnostic capacity
- e) NARO has capacity to develop demanded products and services suited for niche markets
- f) Enhanced capacity in production of early generation seed and conducting core field based research
- g) Development of both human resources and infrastructure research capacity.
- h) Exploiting the potential of the youth and women as a trigger for accelerated agricultural research for people impact

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CHAPTER 4: INVESTMENT PLANS FOR FY 2019/20

4.0 Introduction

Agricultural research is a core public good and will continue to play a critical role in productivity growth and improved competitiveness as a basis for the transformation of agriculture. Investment in agricultural research will therefore be required to contribute to regional research agenda and support implementation of the National Development Plan II (NDP II) in three (3) key result areas of; i) generation of agricultural technologies, ii) promoting and strengthening research extension interface, and iii) strengthening agricultural research capacity. These key result areas are aligned to global, regional and national development policy frameworks. These policies include the United Nations (UN) Sustainable Development Goals (SDGs), the Science Agenda for Agriculture in Africa (S3A), the African Union (AU) Agenda 2063, the NRM Manifesto on agricultural production and productivity, NDPII and Agriculture Sector Strategic Plan (ASSP).

On a global perspective, the plan is positioned to make a significant contribution towards the SDG 2 aimed at ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture. Additionally, the plan focuses on increased production and market-led agriculture that directly contributes to the African Union Heads of State and Government adopted Malabo Declaration (2014) on accelerated agricultural growth and transformation for shared prosperity and improved livelihoods. Both the Malabo declaration and S3A are aimed at ending hunger by 2025 through accelerated agricultural growth by doubling agricultural productivity levels, by the year 2025. This will be achieved through the development and promotion of superior productivity enhancing technologies, innovations and management practices suited for the industry. Further, the African Union Agenda 2063 aspires to promote modern Agriculture for increased productivity and production with targeting to i)



double agricultural total factor productivity; ii) increase youth and women participation in integrated agricultural value chains by at least 30%; iii) reduce post-harvest losses by 50%; iv) increase the proportion of farm, pastoral and fisher households resilient to climate and weather related risks to 30%; and v) eliminate child under nutrition with a view to bring down stunting to 10% and underweight to 5%, among others.

At national level, NARO's workplan for FY 2019/20 is aimed at achieving the Uganda Vision 2040 by propelling the country towards middle income status by 2020. It emphasizes commercialization of agriculture, increased production and productivity along the value chains as a launch path to industrialization. This will be done through strengthening the country's competitiveness for sustainable wealth creation, employment and inclusive growth. Particularly, it focuses on increasing production and productivity; improving agricultural markets and value addition in prioritized commodities, and institutional strengthening as specified in the NDP II and ASSP.

The work plan is also designed to help deliver NARO's new strategic plan 2018/19 – 2027/28 that is well-aligned to contribute towards the realization of these aspirations and in effect cause transformation of the Agriculture sector in Uganda. The four key Strategic Result areas include; 1.) Increased niche markets for communities in agricultural sector, 2.) Increased research products and services suited for industry, 3.) Communities increasingly using improved agricultural technologies and innovations, and 4.) Institutional orientation to agricultural transformation. These strategic results are expected to guide NARO to contribute to national wealth creation and increased employment along the agricultural value chains in a sustainable manner. This will enhance poverty reduction while supporting economic growth and transformation of the country to a middle-income status. However, it is imperative to develop a Mid-Term Plan (MTP) against which attainment of the strategic can be evaluated. During the FY 2019, NARO has planned to develop this MTP (2018/19 – 2022/23).



4.1 The Financial envelop

The annual work plan and budget for FY 2019/20 for NARO will be mainly funded through GoU funding. There are also on-going initiatives for external financing through government supported projects as well as funding from development through off-budget projects that are either on-going or expected to be funded during FY 2019/20.

4.1.1 Government of Uganda

Government of Uganda is the core source of funding for NARO research interventions through development, recurrent and non-tax revenue (NTR) annual budgetary allocations. In the FY 2019/20, NARO will receive a total funding of UGX 79.662 billion compared to UGX 69.5 billion for 2018/19 and UGX 89.9 billion for 2017/18. The FY 2019/20 funding will be invested in; generation of agricultural technologies (UGX 10.82 billion, 13.29%); promoting and strengthening research extension interface (UGX 5.62 billion, 6.9%); and strengthening of agricultural research capacity (UGX 44.397 billion, 54.52%), and other critical investment areas as described in section 4.3.

4.1.2 External Financing:

To bridge the current financial gap, NARO is in the process of finalising development of project proposals that seek external financing from development partners particularly the East and Central Africa Agricultural Transformation (ECAAT) project and Climate Smart Agriculture (CSA) project. These financial resources mobilization initiatives are in line with Vision 2040, NDP II and ASSP and are intended to help NARO advance its research agenda that will directly contribute to rapid transformation of the agricultural sub-sector.

4.1.3 Off-budget projects

Off-budget grants significantly contribute to financing agricultural research in NARO. In the FY 2019/20, a total of 114 off-budget projects amounting to a total value of UGX



42.9 Billions will be implemented (*Table 4, Annex J*). These off-budget projects are a result of the continuous efforts by scientists at various PARIs to generate additional research funds (*Figure 4 and 5*). The average relative proportion of off-budget to MTEF for Agricultural research is 48%, which should largely be government responsibility. It should be noted that a significant amount of funds from off-budget is secured towards a few commodities, notably cassava, banana and maize (*Annex J*).

Table 4: Distribution of off-budget projects and annual budget by PARIs

S/N	PARI	Total Number of Projects	% Contribution to Number of off-budget projects	Total Annual Budget for FY 2019/20 (UGX'000)	% Contribution to total annual Budget from Off-budget projects
1	NaCRRI	46	40.4	15,751,183	36.6
2	NARL	15	13.2	10,628,778	24.7
3	NaSARRI	12	10.5	1,611,285	3.7
4	NaFIRRI	10	8.8	3,049,917	7.1
5	NaLIRRI	7	6.1	4,938,169	11.5
6	NaCORI	4	3.5	2,483,295	5.8
7	BUGI ZARDI	4	3.5	732,334	1.7
8	NaFORRI	3	2.6	291,455	0.7
9	Kachwekano	3	2.6	339,400	0.8
10	Nabuin	3	2.6	314,963	0.7
11	Abi	2	1.8	644,205	1.5
12	MUZARDI	2	1.8	869,861	2.0
13	Bulindi	1	0.9	81,876	0.2
14	Ngetta	1	0.9	1,307,358	3.0
15	Rwebitaba	1	0.9	44,833	0.1
16	MBAZARDI	0	0.0	0	0.0
	Total	114		43,088,910	

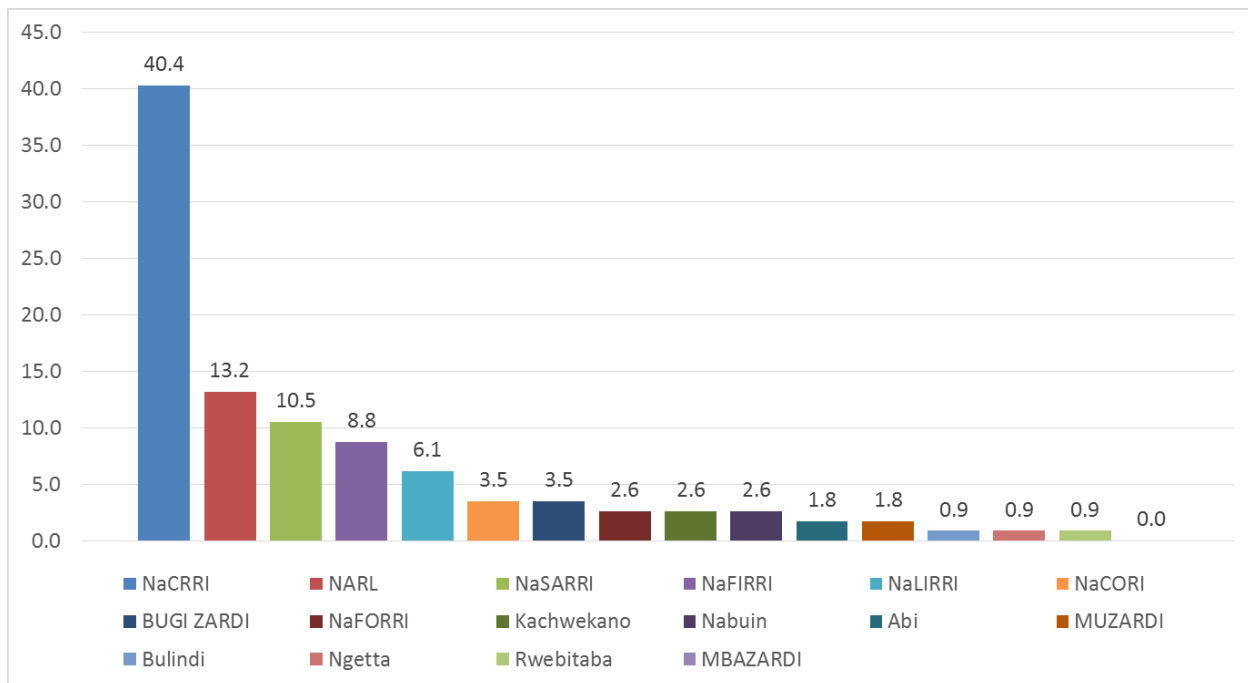


Figure 4: Percentage contribution of PARIs to total number of off-budget projects for FY 2019/20

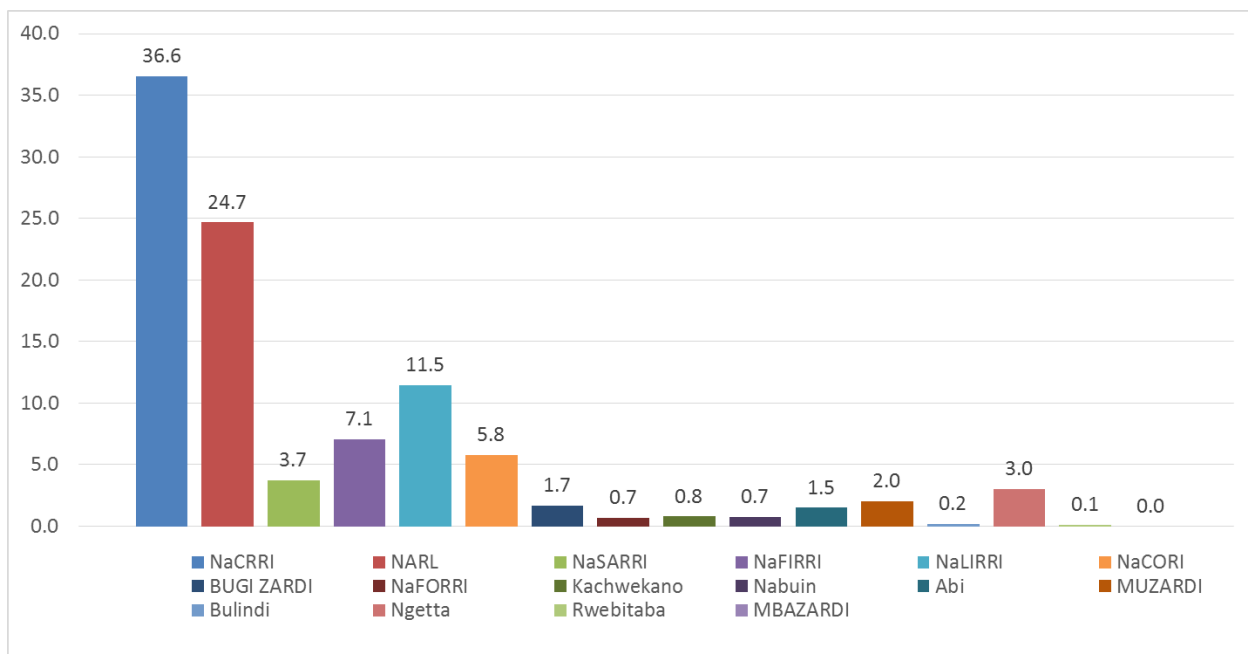


Figure 5: Percentage contribution of PARIs to total funds secured for off-budget projects

4.3. Investment areas for FY 2019/20

4.3.1 Generation of agricultural technologies

There is a continuous need for TIMPS for agricultural development. NARO will undertake technology generation programmes for: improved crop varieties, livestock breeds; post-harvest handling and value addition; improved farm power and mechanization; management of the environment and natural resources; improved pest, disease and vector control; increased resilience and productivity under changing climatic conditions; and sustainable land management. NARO has adopted a CGS mode to fund interventions under GoU development support. This is envisaged to increasingly lead to greater research outputs as well as commercialisation of innovations for agricultural transformation.

To contribute to NARO's aspiration of transformational changes hinged on niche markets and industry as enshrined in her new strategic plan, NARO received an enhanced MTEF of UGX 4.44 billion for GoU recurrent and an additional UGX 10billion for agricultural research. The enhanced MTEF of UGX 4.44billion will support implementation of research efforts geared towards value addition (*Annex I*). Key prioritised investment areas include:

- a) Citrus Fruits Seedling Platform;
- b) Tissue Culture Tree Resource Seedling Platform;
- c) Fish Feed and Fingerling Hatchery;
- d) Seed Storage and Processing Platform;
- e) Goat value chain industrial park;
- f) Cassava value chain industrial park; and
- g) Eight (8) CGS mode supported research interventions (*Annex I.1*)

The UGX 10billion MTEF enhancement will specifically support agricultural research for development, establishment of research infrastructure and sustainable power



supply for the agricultural research laboratories. Further, it will support enhancement of priority research particularly coffee, climate change and youth engagement in agri-entrepreneurship through value chain mechanisation.

In order to address the increasing demand for highly productive replacement breeding stock for dairy production, NARO collaborated with Viking Genetics to acquire a foundation stock of 50 Viking Jersey heifers. The breed has got several production and survival traits conducive to Uganda's and regional production environments. By using the conventional methods, the desire to exploit the herd's genetic potential by multiplying such elite animals for the benefit of many farmers would occur at a slow rate. These elite heifers would otherwise produce one calf a year when bred using conventional methods, and seven to eight calves in their lifetime. However, advanced reproductive technology in form of In-Vitro Fertilization (IVF) provides NARO with the solution to quickly multiply these elite animals. During the financial year 2019/2020, NARO will focus on establishing an IVF platform that will potentially produce a minimum of 100 female embryos per cow per year. The IVF platform will also provide NARO with opportunities for the conservation and multiplication of elite individual animals from indigenous breeds with unique attributes. IVF research and genetic improvement of local breeds will be made available to smallholder farmers in Uganda and the region. NARO will also continue to support human and infrastructural capacity development during the financial year 2019/2020.

4.3.2 Promoting and strengthening research-extension interface

To create a closer alliance between agricultural research and extension, and enhance partnerships with other stakeholders, NARO needs to promote and strengthen research-extension linkage. NARO will coordinate and undertake programmes in technology promotion, multiplication, dissemination, incubation and commercialization to ensure that improved technologies are availed to different uptake pathways for increased adoption and socio-economic transformation of communities.



Moving forward, in FY2019/20, the Agricultural Technology Promotion function will focus on:

- a. Enhancing access to knowledge, information and technologies to key stakeholders particularly users through various information platforms and materials, and technology show-casing events.
- b. Developing and implementing policy frameworks that guide effective technology promotion and transfer.
- c. Consolidating and strengthening partnerships with industry, extension, community-based initiatives and research organizations for NARO technologies incubation, commercialization and uptake.
- d. Strengthening Intellectual Property Management to prevent misappropriation of NARO technologies.

Additionally, the workplan aims at generating technologies that are linked to industry for example:

- a) Development of potato varieties adaptable to unique environments is linked to the fast food (chips) industry
- b) Out-scaling NARO polycyclic aromatic hydrocarbon safe smoking technologies for increased market competitiveness of fish value chain actors is linked to fish value addition and health
- c) Enhancing cocoa productivity through connecting farmers to sustainable strategic research interventions is linked to the chocolate industry
- d) Climate-smart and nutrient-rich forage varieties for increased income under Peri-urban dairy and poultry production systems is linked to the livestock feed industry
- e) Ensuring sustainable food and nutritional security through vegetable breeding in Uganda is linked to the horticulture industry



- f) Strategic mechanisms to advance resilient Tilapia (SMART) in Uganda
- g) Diagnostic tools and geospatial modelling for TILV control
- h) Commercialization of Nile perch oil Products
- i) Extending Biological Control of Kariba Weed in the infested water bodies (Kyoga, Nile & Albert Complex) of Uganda, and
- j) Treasure of Microalgae in industrial effluent management are linked to the fisheries industry.

4.3.3 Strengthening agricultural research capacity

Over the years, NARO has been developing and strengthening her research capacity through investment in physical, human, financial and informational resources which have to be managed and maintained. In the FY 2019/20, NARO will focus on strengthening her research capacity as follows;

4.3.3.1 Human resources

A total of UGX 22.4billion is dedicated to payment of contract staff salaries, UGX 2.2billion for social security contributions, UGX 200million for staff medical insurance, UGX 200million for incapacity, UGX 100million for death benefits and funeral insurance and UGX 1.9 billion for gratuity payments. Staff capacity will be enhanced through various short-term and long-term training programs at a cost of UGX 256 million.

4.3.3.2 Infrastructure resources

NARO will undertake capital investments worth **UGX 12.9billion** in infrastructural development and a further **UGX 3.9 billion** in supplies such as specialized machinery, furniture, laboratory and ICT equipment.

Rehabilitations

Civil works for rehabilitation will be conducted for residential, non-residential and other structures including; Bugusege Satellite institute, Kigumba satellite staff houses,



Installation of a water pump at Namaere, NARL; Completion of a seed facility at Mbarara ZARDI; Abi ZARDI staff houses; and perimeter fence constructed around Nakyesasa among other. Additionally, solar power for streetlights and laboratories will be installed at selected ZARDI's and critical laboratories, respectively.

Support to relocation of NaLIRRI to Maruzi via Nakyesasa

Relocation of NaLIRRI is expected to be a phased process, estimated at a total cost of UGX 53billion. During the financial year 2019/2020, NARO has planned to invest UGX 2.028billion to NaLIRRI's relocation to Maruzi (**Annex LII**). The focus will be on; expansion of the forage and feed production fields by one square mile that will result in 2,940 tons of silage and hay, and 180 tons of grain produced; strengthening the capacity for mechanised farm operation, developing infrastructural capacity for feed storage and research operations and relocation of institute assets from Tororo to Maruzi via Nakyesasa.

Civil works for NARO vaccine production facility at Nakyesasa, NaLIRRI

Livestock diseases and pests are endemic in Uganda and greatly constrain livestock production and productivity. Adequate control of livestock diseases using vaccines is mainly challenged by local pathogen strain diversity, their evolutionary trends across the various landscapes and the low investment into innovative vaccine research prospects. Application of knowledge of disease pathogen strain diversity among the different agro-ecological zones, livestock species populations will empower development of regional/ zonal specifically tailored efficacious vaccines. Vaccines act by stimulating the host immunity against target pathogens and have been used to save hundreds of millions of animals worldwide and subsequently sustaining livestock based livelihoods. Veterinary vaccines are prepared either as live or inactivated (killed) products, adjuvanted to enhance their efficacy and potency in production of disease protective antibodies.



NARO envisions the use of local disease pathogen strains, modern industrial technologies, well designed facilities, state of the art equipment and skilled personnel to design, produce quality and efficacious veterinary vaccines. NARO therefore seeks to construct well-designed modern research, manufacturing/ production facilities, including experimental animal pens incorporated with features that ensure good quality products. This will strengthen strategic and integrated control of livestock diseases and vectors in Uganda. The vaccine facility is estimated at a total cost of UGX 15billion. For the FY 2019/20, NARO has planned to invest a total of UGX 1.935billion **(Annex LIII)** to establishment of a vaccine production facility. The funds will support; development of infrastructural capacity for vaccine research; procurement of transport facility and building staff capacity in recombinant vaccine development. Additional investment, validation of the efficacious broad spectrum and specific anti tick vaccine molecules; constitution of candidate viral-vector vaccine molecule against viral diseases i.e ASF, development and evaluation of efficacious multi strain FMD candidate vaccine, development of approaches for integrated on-farm novel disease control approaches; and strengthen capacity for validation and rapid assessment of livestock Vaccines.

Infrastructure Improvement at NaSARRI

GoU made a decision to establish suitable modern infrastructure for research, training and outreach programs at NaSARRI to enable achieve their vision and goals, and enhance their contribution to the economic development of the country. For the FY 2019/20, NARO has budgeted for an investment of UGX 1.553 billion for this cause.



CHAPTER 5: BUDGET OVERVIEW FOR FY 2019/20

This section highlights the approved NARO total budget for FY2019/20 based on the Medium Term Expenditure Framework (MTEF) and the funding by source. It further details the allocations by vote function outputs and programme as well as the planned procurements.

5.1 Budget summary for 2019/20 MTEF

The vote MTEF for FY 2019/20 shows a slight increase in budget allocation to NARO by government (Table 5). This is also attributed to the enhanced MTEF for GoU Recurrent to support research interventions with specific focus on value addition.

Table 5: Overview of vote 142 MTEF for FY 2016/17 to 2019/20

UGX Billion	Approved Budget (UGX BN)				%Comparative analysis with FY 2018/19
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	
GoU Recurrent (Wage)	22.472	22.472	22.472	22.472	100
GoU Recurrent (Non-Wage)	8.523	7.311	7.099	19.717	278.6
GoU Development -0382	9.130	8.780	32.783	3 5.445	119.5
GoU Development -1516 ¹				2.028	
Total GoU	40.125	38.564	62.354	79.662	130.6
Ext. Finance ²	67.739	45.540	0.000	0.000	0
Total GoU + Ext Finance	107.865	84.104	62.354	79.662	130.6
Domestic Arrears	0.000		0.114	0.000	0
Non Tax Revenue	6.272	5.792	7.146	0.000	0
Grand Total Budget, Vote 142	114.137	89.896	69.614	79.662	116.9
Total Excluding Arrears	114.137	89.896	69.500	79.662	117.2

¹ Project code 1516 is Operatoinalise and Relocation of NaLIRRI to Maruzi

² ATAAS was the core source of external funding for FY 2016/17 – 2017/18. Delayed approval of external funded projects like ECAATP is likely to result in a decline in research outputs.

5.2 Budget allocation by vote function outputs

Table 6: Budget Allocations by Vote Function Outputs for FY 2019/20 (UGX '000)

Output Code	Vote Function Output	GOU-DEV 0382	GOU-DEV 1516	GOU-REC	Total	%AGE
1	Generation of agricultural technologies	6,255,553	717,000	3,846,313	10,818,866	13.58
2	Research extension interface promoted and strengthened	4,605,219	60,000	955,005	5,620,224	7.06
3	Internal Audit			130,000	130,000	0.16
4	Agricultural research capacity strengthened (Including Interna Audit Function)	6,838,547	240,000	37,257,484	44,397,254	55.66
5	Generation of technologies for priority commodities				0	
51	Contributions to International Organizations and autonomous Inst.	1,844,000			1,844,000	2.31
72	Non-Residential Buildings	12,113,293	811,000		12,924,293	16.227
75	Transport Equipment				0	
76	ICT Equipment	785,644			785,644	0.99
77	Machinery and Equipment	2,515,738	200,000		2,715,738	3.41
78	Furniture & Fixtures	487,000			487,000	0.61
TOTAL		35,444,993	2,028,000	42,188,802	79,661,795	100.00

Table 7: A comparative summary of vote estimates by programme for FYs 2018/19 and 2019/20

Programme 51 Agricultural Research		FY 2018/19 Approved Budget (UGX '000)				2019/20 Draft Estimates		
Recurrent Budget Estimates		Wage	Non-Wage	AIA	Total	Wage	Non-Wage	Total
01	NARO Secretariat	22,301,175	5,792,505	7,145,695	35,239,376	22,472,228	12,592,774	35,065,022
07	National Crops Resources Research Institute	17,553	183,924	0	201,477		653,950	653,950
08	National Fisheries Resources Research Institute	11,000	81,122	0	92,122		986,900	986,900
09	National Forestry Resources Research Institute	11,000	65,963	0	76,963		645,450	645,450
10	National Livestock Resources Research	11,000	80,869	0	91,869		180,000	180,000
11	National Semi arid Resources Research	11,000	67,119	0	78,119		80,000	80,000
12	National Laboratories Research	17,500	88,082	0	105,582		296,950	296,950
13	Abi ZARDI	9,000	65,583	0	74,583		278,130	278,130
14	Bulindi ZARDI	9,000	73,592	0	82,592		488,000	488,000
15	Kachwekano ZARDI	9,000	80,894	0	89,894		475,000	475,000
16	Mukono ZARDI	9,000	76,976	0	85,976		475,000	475,000
17	Ngetta ZARDI	9,000	80,565	0	89,565		475,000	475,000
18	Nabuin ZARDI	9,000	66,737	0	75,737		349,400	349,400
19	Mbarara ZARDI	9,000	69,987	0	78,987		475,000	475,000
20	Buginyanya ZARDI	9,000	96,421	0	105,421		480,000	480,000
21	Rwebitaba ZARDI	9,000	82,037	0	91,037		475,000	475,000
26	NARO Internal Audit	0	80,000	0	80,000		130,000	130,000
27	National Coffee Research Institute	11,000	80,363	0	91,363		180,000	180,000
Total Recurrent Budget Estimates for Programme		22,472,228	7,212,740	7,145,695	36,830,664	22,472,228	19,716,554	42,188,802
Development Budget Estimates		GoU Dev't	ExternalFin	AIA	Total	GoU Dev't	External Fin	Total
0382	Support for NARO	32,782,994	0	0	32,782,994	35,444,994	0	35,444,994
1560	Relocation and Operationalisation of Maruzi					2,028,000		2,028,000
	External support	0	0	0	0	0	0	0
Total Dev't Budget Estimates for Programme		32,782,994	0	0	32,782,994	37,472,994	0	37,472,994
Total for Programme 51		62,467,962	0	7,145,695	69,613,657	79,661,795	0	79,661,795
Total Excluding Arrears		62,354,214	0	7,145,695	69,499,909	79,661,795	0	79,661,795
Total Vote 142		62,467,962	0	7,145,695	69,613,657	79,661,795	0	79,661,795
Total Excluding Arrears		62,354,214	0	7,145,695	69,499,909	79,661,795	0	79,661,795

Table 8: Summary of vote estimates by expenditure item for FYs 2018/19 and 2019/20

Expenditure item	FY 2018/19 Estimates				FY 2019/20 Estimates		
	Approved GOU Budget	External Fin	AIA	Total	Approved GOU Budget	External Fin	Total
211102 Contract Staff Salaries	23,547,308	0	944,111	24,491,419	22,472,228	0	22,472,228
211103 Allowances (Inc. Casuals, Temporary)	18,000	0	0	18,000	2,324,012	0	2,324,012
212101 Social Security Contributions	0	0	0	0	2,230,118	0	2,230,118
212201 Social Security Contributions	2,230,118	0	0	2,230,118	0	0	0
213001 Medical expenses (To employees)	200,000	0	0	200,000	300,000	0	300,000
213002 Incapacity, death benefits and funeral expenses	102,000	0	0	102,000	150,000	0	150,000
213004 Gratuity Expenses	1,859,918	0	0	1,859,918	1,859,918	0	1,859,918
221001 Advertising and Public Relations	1,477,971	0	22,000	1,499,971	1,820,637	0	1,820,637
221002 Workshops and Seminars	1,625,898	0	867,080	2,492,978	4,666,402	0	4,666,402
221003 Staff Training	754,085	0	11,000	765,085	1,444,696	0	1,444,696
221004 Recruitment Expenses	200,000	0	0	200,000	200,000	0	200,000
221006 Commissions and related charges	288,650	0	20,792	309,442	925,990	0	925,990
221007 Books, Periodicals & Newspapers	28,119	0	6,840	34,959	140,806	0	140,806
221008 Computer supplies and Information Technology (IT)	370,225		99,600	469,825	304,808		304,808
221009 Welfare and Entertainment	329,396	0	234,080	563,476	511,830	0	511,830
221011 Printing, Stationery, Photocopying and Binding	145,232	0	102,067	247,299	757,438	0	757,438
221012 Small Office Equipment	8,800	0	34,000	42,800	26,964	0	26,964
221016 IFMS Recurrent costs	140,000	0	0	140,000	260,000	0	260,000
221017 Subscriptions	150,000	0	0	150,000	150,000	0	150,000
222001 Telecommunications	153,849	0	9,100	162,949	150,345	0	150,345
222002 Postage and Courier	8,166	0	300	8,466	8,479	0	8,479
222003 Information and communications technology (ICT)	699,225		29,200	728,425	493,567	0	493,567
223001 Property Expenses	0	0	0	0	300,000	0	300,000

Expenditure item	FY 2018/19 Estimates				FY 2019/20 Estimates		
	Approved GOU Budget	External Fin	AIA	Total	Approved GOU Budget	External Fin	Total
223002 Rates	0	0	0	0	100,000	0	100,000
223004 Guard and Security services	166,000	0	98,260	264,260	344,472	0	344,472
223005 Electricity	352,099	0	314,300	666,399	1,467,387	0	1,467,387
223006 Water	83,922	0	38,040	121,962	197,459	0	197,459
224001 Medical Supplies	725,600	0	270,265	995,865	2,152,019	0	2,152,019
224004 Cleaning and Sanitation	136,590	0	152,148	288,738	302,624	0	302,624
224005 Uniforms, Beddings and Protective Gear	51,000	0	5,000	56,000	66,000	0	66,000
224006 Agricultural Supplies	1,221,881	0	1,174,014	2,395,895	3,678,020	0	3,678,020
225001 Consultancy Services- Short term	1,049,407	0	4,000	1,053,407	1,572,687	0	1,572,687
226001 Insurances	117,420	0	4,000	121,420	221,346	0	221,346
226002 Licenses	200,000	0	0	200,000	250,000	0	250,000
227001 Travel inland	1,390,420	0	404,520	1,794,940	3,776,737	0	3,776,737
227002 Travel abroad	1,050,000	0	0	1,050,000	516,500	0	516,500
227004 Fuel, Lubricants and Oils	975,482	0	275,772	1,251,254	1,625,657	0	1,685,879
228001 Maintenance - Civil	1,300,000	0	1,405,192	2,705,192	1,344,494	0	1,344,494
228002 Maintenance - Vehicles	556,448	0	272,300	828,748	1,121,377	0	1,121,377
228003 Maintenance Machinery, Equipment & Furniture	65,167		240,997	306,164	474,774	0	474,774
228004 Maintenance Other	43,620	0	96,717	140,337	119,165	0	119,165
273102 Incapacity, death benefits and funeral expenses	61,000	0	10,000	71,000	76,166	0	76,166
262201 Contributions to International Organisations (Capital)	750,000			750,000	1,800,000		1,800,000
264101 Contributions to Autonomous Institutions	30,000	0	0	30,000	44,000	0	44,000
281501 Environment Impact Assessment for Capital Works					400,000		400,000
281502 Feasibility Studies for Capital Works	0	0	0	0	517,500	0	517,500
281503 Engineering and Design Studies & Plans for capital works	0	0	0	0	517,500	0	517,500

Expenditure item	FY 2018/19 Estimates				FY 2019/20 Estimates		
	Approved GOU Budget	External Fin	AIA	Total	Approved GOU Budget	External Fin	Total
281504 Monitoring, Supervision & Appraisal of capital works	0	0	0	0	400,000	0	400,000
312101 Non-Residential Buildings	10,007,615	0	0	10,007,615	7,794,893	0	7,794,893
312102 Residential Buildings	300,000	0	0	300,000	1,629,400	0	1,629,400
312104 Other Structures	200,000	0	0	200,000	1,665,000	0	1,665,000
312201 Transport Equipment	1,460,000	0	0	1,460,000	0	0	
312202 Machinery and Equipment	5,468,384	0	0	5,468,384	3,501,382	0	3,501,382
312203 Furniture & Fixtures	255,200	0	0	255,200	487,000	0	487,000
321605 Domestic arrears (Budgeting)	4,394	0	0	4,394	0	0	0
321614 Electricity arrears (Budgeting)	109,354	0	0	109,354	0	0	0
Grand Total Vote 142	62,467,962	0	7,145,695	69,613,657	79,661,795	0	79,661,795

5.3 Budget allocation by program

Table 9: Summary of GoU Development Code 0382 Allocations for FY 2019/20

NO.	INSTITUTE	REFERENCE ANNEX	AMOUNT (UGX '000)
1.	CENTRAL ITEMS	lxxxviii	8,686,381
2.	NAROSEC	lvi - lxxxiv	1,282,000
3.	PROCUREMENT UNIT OPERATIONS	lxxx	230,000
4.	INTERNAL AUDIT	lxxii	235,000
	Sub-Total		10,433,381
5.	NaCRRRI	v	216,800
6.	NaFIRRI	vi	126,000
7.	NaFORRI	vii	162,450
8.	NaLIRRI	viii	205,000
9.	NaSARRI	ix	385,000
10.	NARL	x	181,800
11.	NaCORI	xi	185,000
	Sub-Total		1,462,050
12.	ABI ZARDI	xii	381,569
13.	BUGINYANYA ZARDI	xiii	185,000
14.	BULINDI ZARDI	xiv	272,000
15.	KACHWEKANO ZARDI	xv	185,000
16.	MBARARA ZARDI	xvi	185,000
17.	MUKONO ZARDI	xvii	185,000
18.	NABUIN ZARDI	xviii	215,600
19.	NGETTA ZARDI	xix	185,000
20.	RWEBITABA ZARDI	xx	185,000
	Sub-Total		1,979,169

NO.	INSTITUTE	REFERENCE ANNEX	AMOUNT (UGX '000)
	KEY INVESTMENT AREAS		
21	DCS-Gender & equity/Equal Opportunity	lxxxii	50,000
22	JICA Rice GoU Support (PRiDe)	lxxxix	100,000
23	Projecting Writing expenses	lviii	100,000
24	Tractors (e.g at NaSARRI)	lxxviii	150,000
25	Rehabilitation (including removal of asbestos tiles/roofing)	lxxxiv	1,325,000
26	Destruction of Expired Chemicals	lxxxviii	300,000
27	Furniture for new constructed labs and other buildings	lxxviii	300,000
28	Contribn to Int. Orgns -BeCA	lxxv	1,844,000
29	Marine Vessel at NaFIRRI-Overhaul	lxxxviii	100,000
30	Marine Vessel at NaFIRRI-Insurance	lxxxviii	100,000
31	Land Survey & Tittling	lxxxiii	1,000,000
32	Vaccine	liii	3,126,900
33	NaSARRI Rehabilitation	lv	1,553,000
34	Core Research (CGS Mode)	xxi – li	4,300,000
35	ICT-Intervention	lxxvii – lxxix	711,494
36	Civil Works	lxxxv	1,920,000
37	Instalation of solar systems in the PARIs	lxxviii	900,000
38	Baseline Survey for naro Strategic Plan (in 2019/20)	lix	200,000
39	Non-Residential Buildings	lxxxv	2,825,000
41	Other Structures	lxxxvii	665,000
	SUB-Total		21,570,394
	GRAND TOTAL		35,444,994

Table 10: Summary of GoU Development Code 1560 for Relocation and Operationalise of NaLIRRI -Allocations for FY 2019/20³

No.	Item	Amount (UGX '000)
1.	Allowances	182,000
2.	workshops & seminars(Institutes)	50,000
3.	Medical & Veterinary supplies	60,000
4.	Agricultural supplies	200,000
5.	Travel-inland	75,000
6.	Fuel,Lubricants and Oils	150,000
7.	Information Communication Technology	60,000
8.	Electricity	40,000
9.	Maintanance -Civil	100,000
10.	Maintanance -Vehicle	100,000
11.	Non-Residential Buildings(INC. NARL Civil Works)	811,000
12.	Machinery & Equipment	200,000
13.	TOTAL	2,028,000

Table 11: NAROSEC items on GoU Development funds for FY 2019/20

No.	Expenditure Item	Amount (UGX '000)
1	Directorate of Research	200,000
2	Office of Director General	172,000
3	Directorate of Finance	300,000
4	Directorate of Human Resources	380,000
5	Directorate of Atp (Out Reach)	100,000
6	Directorate of Corporate Services	130,000
	Total	1,282,000

³ See annex Annex lii

Table 12: Centralized items on GoU Development funds for FY 2019/20

NO.	EXPENDITURE ITEM	REFERENCE ANNEX	AMOUNT (UGX'000)
1.	Staff Training(HR)	lxx	240,000
2.	Recruitment(HR)	lxx	200,000
3.	Subscriptions-Annual Professional Subscription(HR)	lxx	150,000
4.	Travel Abroad(HR)	lxx	250,000
5.	IFMS(FIN)	lxxi	100,000
6.	Advertising(DCS)	lxxxi	100,000
7.	Books & Periodicals(DCS)	lxxxviii	8,000
8.	Computer Supplies (DCS)	lxxix	70,000
9.	Printing & Stationery (DCS)	lxxxviii	130,000
10.	Non Residential Building(DCS)	lxxxv	50,000
11.	Furniture(DCS)	lxxviii	20,000
12.	Rates (DCS)	lxxxviii	50,000
13.	Consultancy – Short-Term (DCS)	lxxvi	200,000
14.	Fuel, Oils & Lubricants(DCS)	lxxxviii	100,000
15.	Maintanance- Vehicles(DCS)	lxxxviii	100,000
16.	Environmental Impact Assessment for Capital works(DCS)	lxxxviii	400,000
17.	Feasibility Studies for Capital Works(DCS)	lxxxviii	517,500
18.	Engineering and Design Studies for Capital works(DCS)	lxxxviii	517,500
19.	Monitoring , Supervision & Appraisal of capital work(DCS)	lxxxviii	400,000
20.	NAROSEC Emergencies	lxxi	610,000
21.	Workshops & seminars(DRC)	lx	400,000
22.	Electricity – Jinja Show ground (ATP)		13,500
23.	Advertising(ATP)	lxii & lxiii	452,000
24.	Books & Periodicals(ATP)	lxiii & lxiv	100,000
25.	Printing & Stationery (ATP)	lxiii & lxiv	200,000
26.	Consultancy – Short-Term (ATP)	lxii	100,000
27.	Licences (ATP)	lxvii	200,000
TOTAL			8,686,381

Table 13: Summary of GoU Recurrent Allocations for FY 2019/20

NO	GOU-RECURRENT	REFERENCE ANNEX	AMOUNT (UGX '000)
1.	NAROSEC ⁴	cvi - cxii	35,065,022
2.	NaCRRI	xc	653,950
3.	NaFIRRI	xcii	986,900
4.	NaFORRI	xciii	645,450
5.	NaLIRRI	xciv	180,000
6.	NaSARRI	xcv	80,000
7.	NARL	xcvi	296,950
8.	NaCORI	xcvii	180,000
9.	ABI ZARDI	xcviii	278,130
10.	BUGINYANYA	xcix	480,000
11.	BULINDI	c	488,000
12.	KACHWEKANO	ci	475,000
13.	MBARARA	cii	475,000
14.	MUKONO ZARDI	ciii	475,000
15.	NABUIN	civ	349,400
16.	NGETTA	cv	475,000
17.	RWEBITABA	cx	475,000
18.	INT AUDIT		130,000
TOTAL			42,188,802

⁴Higher allocations to NAROSEC includes Salaries and other Salary related centralised items

Table 14: Summary of GoU Recurrent Allocations for NAROSEC for FY 2019/20

Output	Item	Generation of agricultural technologies	AMOUNT('000)
01	211103	Allowances	20,000
01	221002	Workshops & Seminars	25,000
01	221006	Committee, Council and Board expenses	200,000
01	222001	Telecommunications	20,000
01	223006	Water	12,800
01	227001	Travel inland	25,000
		Total	302,800
Output	Item	Research extension interface promoted and strengthened	
02	221001	Advertising and public relations	253,853
02	221002	Workshops & Seminars	200,000
02	227001	Travel inland	200,000
		Total	653,853
Output	Item	Agricultural research capacity strengthened	
04	211102	Contract staff salaries	22,472,228
04	212101	Social Security Contributions	2,230,118
04	213001	Medical Expenses (Medical Insurance)	300,000
04	213002	Incapacity, death benefit & Funeral costs workers compensation	150,000
04	213004	Gratuity Payments	1,859,918
04	221001	Advertising and public relations	460,165
04	221006	Committee, Council and Board expenses	5,000
04	221007	Books, Periodicals & Newspapers	7,686
04	221009	Welfare and Entertainment	167,400
04	221011	Printing, Stationery, Binding	95,000
04	221012	Small office Equipment	5,000
04	221016	IFMS Recurrent Costs	160,000
04	222001	Telecommunications	75,000
04	222002	Postage and Courier	5,140
04	223004	Guard and Security services	40,000
04	223005	Electricity	357,320
04	224004	Cleaning and Sanitation	70,000
04	224005	Uniforms, Beddings and Protective Gear	50,000
04	225001	Consultancy services- short Term	19,407
04	226001	Insurances	100,000
04	227001	Travel inland	218,624
04	227002	Travel Abroad	100,000
04	227004	Fuel, Lubricants & Oils	250,000

Output	Item	Generation of agricultural technologies	AMOUNT('000)
04	228001	Maintenance – Civil	20,000
04	228002	Maintenance – Vehicles	180,000
04	228003	Maintenance - Machinery & Equipment	40,000
04	228004	Maintenance – Other	50,000
04	273102	Incapacity, death benefits and Funeral costs	45,000
		Total	29,533,005
		GRAND TOTAL	30,489,658

Table 15: Summary of consolidated NTR application by Institute for FY 2019/20⁵

INSTITUTE	AMOUNT (UGX) ⁶
Headquarters NAROSEC	3,600,000
NaCRRI	315,351,000
NAFIRRI	566,109,600
NAFORRI	136,361,400
NALIRRI	384,406,500
NaSARRI	248,696,600
NARL	944,757,500
NACORI	92,715,900
ABI	118,201,900
BUGINYANYA	105,786,900
BULINDI	142,706,500
KACHWEKANO	114,920,500
MBAZARDI	132,558,600
MUZARDI	1,000,538,200
NABUIN	74,615,000
NGETTA	95,975,500
RWEBITABA	98,062,508
GRAND TOTAL	4,575,364,108

⁵See Annex iv for details

⁶ The total sum of UGX 4.57 Billion will be generated from areas such as Rental income, Sale of farm produce (planting material/ seedlings, culls and breeding stocks of goats & cows, milk, hay, forage choppers, dairy pellets etc), workshops, Lab services, Tractor hire, Canteen, Educational tours, Golf course, Mechanical workshop.

5.4 Procurements for the FY 2019/20

Procurements under GOU Development will include civil works, non-residential, residential buildings and other structures (Table 16 - 18) while GOU Capital Expenditure will include mainly supply of: assorted laboratory and furniture; computer and ICT; motor vehicles and tractors; and machinery and equipment (Table 19). Further, consultancies for environmental impact assessment for capital works, feasibility studies, engineering and designs, surveying and titling of NARO land will be procured (Table 20). Various items will also be procured under GOU Recurrent (Table 21)

Table 16: Procurements under GOU Development - Civil Works (Residential) ⁷

S/No.	Expenditure Code	Description of procurement	Category	Institute	Estimated Budget (UGX '000)
1.	312102	Rehabilitation of Dormitory and Laboratory	Civil works	AbiZARDI	350,000
2.	312102	Rehabilitation/Removal of Asbestos/Tiles/Roofing	Civil works	Buginyanya ,Kajjansi ARDC	729,400
3.	312102	Construction of Power line	Civil works	Buginyanya	50,000
4.	312102	Construction of Residential House	Civil works	Kigumba	300,000
5.	312102	Construction of Office Block	Civil works	Bugusege	200,000
Total					1,629,400

⁷See Annex lxxxiv and lxxxvi for budget source

Table 17: Procurements under GOU Development - Civil Works (Non-Residential)

S/No.	Expenditure Code	Description of procurement	Category	Institute	Estimated Budget (UGX '000)
1	312101	Construction of Office Bloks	Civil Works	NaSARRI	1,553,000
2	312101	Construction of NaCORRI Admin and Gate House	Civil Works	NaCORRI	2,825,000
3	312101	Construction of Vaccine Research Facility	Civil Works	NaLIRRI	1,276,000
4	312101	Construction of Seed Processing Structure	Civil Works	Mbarara	300,000
5	312101	Construction of Hayban, Grain Silos and Silage Banks	Civil Works	NaLIRRI	811,000
6	312101	Value Addition Small Works	Civil Works	Nabuin	98,000
7	312101	Value Addition Small Works	Civil Works	Kajjansi	15,000
8	312101	Asbestos Removal and Roofing	Civil Works	PARIS	596,500
9	312101	Rehabilitation/Small Works	Civil Works	NAROSEC	50,000
10	312101	Small Works under CGS	Civil Works	PAARIS	260,393
11	312101	Construction of Water Pump house	Civil Works	AEATREC	10,000
Total					7,794,893

Table 18: Procurements under GOU Development - Civil Works (Other Structures)

S/No.	Expenditure Code	Description of procurement	Category	Institute	Estimated Budget (UGX '000)
1	312104	Irrigation Facility at Kigumba	Civil Works	Kigumba	500,000
2	312104	Setting up of a Wall Fence	Civil Works	NaLIRRI	700,000
3	312104	Fencing of Surveyed Land	Civil Works	PARIs	300,000
4	312104	Fencing of Experimental Field Sites	Civil Works	Nabuin	165,000
Total					1,665,000

Table 19: Procurements under GOU Capital Expenditure-Supplies

S/No.	Expenditure Code	Description of procurement	Category	Institute	Estimated Budget (UGX '000)
1	312203	Supply and Installation of Assorted Laboratory, Furniture and other buildings	Supplies	Selected PARIs NAROSEC	320,000
		Supply and Installation of Assorted Furniture for Core Research (CGS)			85,000
		Assorted Furniture			82,000
2	312202	Purchase of Office and ICT requirements	Supplies	All PARIs	460,150
		Machinery & Equipment (Assorted ICT inclusive Software)			115,494
		Installation of WAN Interconnecting all PARIs	Supplies	AEATREC	210,000
3	312202	Supply of Tractors	Supplies	NASARI	150,000
4	312202	Farm & Livestock Handling Equipment	Supplies	NaLIRRI	200,000
5	312202	Machinery & Equipment	Supplies	JICA Rice GOU	34,800
6	312202	Machinery & Equipment	Supplies	CGS Mode	525,138
7	312202	Machinery & Equipment	Supplies	PARIs	395,800
8	312202	Water Pump	Supplies	AEATREC	10,000
9	312202	Machinery & Equipment (Solar Security Lights)	Supplies	ZARDIS	900,000
10	312202	Vaccine Machinery	Supplies	NALIRRI	500,000
Total					3,988,382

Table 20: Procurements under Consultancies⁸

S/No.	Expenditure Code	Description of procurement	Category	Institute	Estimated Budget (UGX '000)
1	281501	Environmental Impact Assessment for Capital Works	Consultancies	PARIs	400,000
2	281502	Feasibility Studies	Consultancies	PARIs	517,500
3	281503	Engineering and Designs	Consultancies	PARIs	517,500
4	225001	Surveying of NARO Land/Titling	Consultancies	PARIs	500,000
5	225001	HR-Review effect of training on NAROs Performance	Consultancies	NAROSEC	60,000
6	225001	IVF-Embryo	Consultancies	NAROSEC	260,000
7	225001	Consultancies on Legal and other issues for NARO	Consultancies	NAROSEC	140,000
Total					2,395,000

⁸See Annexes xxxviii; lxxxiii; liv for budget source

Table 21: Procurements under GoU Recurrent⁹

S/No.	Expenditure Code	Description of procurement	Category	Institute	Estimated Budget (UGX '000)
1	224005	Uniforms, Beddings and Protective Gear	Supplies	NAROSEC	50,000
2	221011	Printing, Stationery and Binding	Supplies	NAROSEC	130,000
3	224004	Cleaning and Sanitation	Supplies	NAROSEC	60,000
4	226001	Insurance of Motor Vehicles	Supplies	NAROSEC	100,000
5	225001	Consultancies-Short Term	Services	NAROSEC	19,407
6	228002	Motor Vehicle Repairs/Maintenance	Supplies	NAROSEC	130,000
7	213002	Funeral Services	Supplies	NAROSEC	100,000
8	226001	Marine Vessel Insurance	Supplies	NaFIRRI	100,000
9	221008	Computer supplies and IT Service,	Supplies	All PARIs	120,000
10	221012	Small Office Equipment	Supplies	NAROSEC	5,000
11	221008	Back Up Equipment & Services	Supplies	PARIS	30,000
12	222003	NARO Wide, LAN, WAN VOIP	Supplies	PARIS	176,000
13	223001	Disposal of Chemicals	Supplies	PARIS	300,000
Total					1,320,407

⁹See Annexes xc - cxvii for budget sources

5.5 Planned annual targets and implementation of the Work Plan

5.5.1 Performance targets and indicators

In the FY 2019/20, NARO will deliver on the five key deliverables defined by the vote function outputs especially generation of agricultural technologies and strengthening research extension interface (Table 22).

Table 22: Key Performance Indicators for FY 2019/20

#	Key Performance Indicators	Annual Target 2017/18	Annual Target 2018/19 ¹⁰	Annual Target 2019/20 ¹¹
VF Output: Generation of agricultural technologies				
1	Number of new varieties/prototypes submitted for release	60	20	20
2	Number of production technologies generated	80	70	70
3	Number of research studies funded under CGS mode	47	18	25
VF Output: Research extension interface promoted and strengthened				
4	Number of technological innovation platforms established and supported	39	10	10
5	Number of technological innovations delivered to uptake pathways	116	40	40

5.5.2 High level outcomes indicators and targets

The principal outcome of the targeted interventions will be increased productivity and commercialisation of priority and strategic commodities. The outcome indicators and their targets are presented in Table 23. The outcome will be triggered by achievement of the aforementioned key deliverables in table 22.

¹⁰ Annual targets for FY 2018/2019 declined in comparison with FY 2017/2018 due to reduced funding base especially with ATAAS project coming to an end in June 2018.

¹¹ The increase in annual targets for FY 2019/2020 is attributed to CGS mode funded projects targeted towards generation and commercialization of technological innovations.

Table 23: Three high-level outcome indicators and their corresponding

Outcome indicator	Target ¹²	2017/18	2018/19	2019/20
Increased productivity triggered by uptake and utilization of improved technologies	Changes in productivity of various commodities	0.05%	0.1%	0.15%
Percentage number of new varieties/breeds and other technologies promoted and adopted by farmers/users	Percentage of farmers/users using newly released varieties/breeds and other technologies	30%	35%	40%
Number of technologies and innovations commercialized	Number of new technologies/ innovations commercialized and applied by 1 million Ugandans per year	10	20	30

5.5.3 Effective implementation of the Plan

The FY 2019/20 work plan will be implemented within the existing national agriculture specific frameworks. The following tools will be critical in ensuring its effective implementation:

1. Effective oversight by the NARO governing council.
2. Periodic supervisory visits by NARO leadership and management.
3. Compliance to good research practices (manuals, guidelines and other frameworks)
4. Timely disbursement of funds guided by agreed payment milestones
5. Regular monitoring and evaluation of progress to track implementation and performance as well as beneficiaries mapping
6. Quarterly and annual progress review meetings to ensure compliance to the work plan and budget
7. Periodic and timely reporting of activities, processes and results to inform evidence based management and decision making
8. Tracking of individual staff targets in performance management contracts
9. Internal audit reviews and value for money audits for identification of possible risks which may hamper the effective implementation of the work plan. Details of anticipated key risks and proposed mitigation measures are highlighted in Table 19.

¹²The target increments for the FYs are cumulative

Table 24: Key risks while implementing the work plan for FY 2019/20

Risk	Risk Rating	Source	Mitigation
1. Financial Risk -The risk that financial resources may not be disbursed in accordance with the approved work plan on a timely basis.	High	External	Utilize funds disbursed in key output areas; continue engaging key stakeholders to ensure funds disbursement is timely and not subjected to budget cuts.
2. Human Capacity Risk - Looming staff departure which is largely occasioned by redundancy as a result of underfunding, low staff salaries coupled with the retirement of key staff yet no proper planned replacement strategy. This will have a clear impact on the research activities.	High	Internal	Implement processes for succession planning and develop a staff replacement strategy
3. Operational Risk - The risk that people, processes, systems, or external events may impede implementation of the work plan. This risk is a function of internal controls, employee conduct, process efficiency or a breakdown of processes to comply with laws or regulations.	Medium	Internal	Oversight by the Governing Council, Committees of Council, the Internal Audit Function and Management
4. Climate risk - The risk that unpredictable weather patterns may affect research output through dry spells and pests and disease outbreaks. The spreading climate change coupled with lack of irrigation facilities at most of the PARIs is likely to lead to a dismay if no funds are provided for meaningful solutions to avert the challenge.	Medium	External	Adopting modern farming methods such as Climate Smart Agriculture, irrigation, Sustainable land management, use of fertilizers and the use of herbicides and pesticides to control pests and diseases

5.5.4 Strategic partnerships to support delivery of the Work plan and Budget for FY 2019/20

To generate the planned technologies, CGS projects will work long side different strategic partners. These will include, but not limited to:

- a) *Makerere University, Department of Food Technology and Nutrition and ICAM Chocolate* to enhancing cocoa productivity through connecting farmers to sustainable strategic research interventions
- b) *Beca-ILRI* to genotype and sequence for assessment of passion fruit diversity and nutrient profiles and *World Vegetable Centre and Nongwo bio* (South Korea) to source Tomato germplasm so as to ensure sustainable food and nutritional security through fruits and vegetable breeding in Uganda
- c) *ILRI and CIAT* as source for exotic accessions of Lablab and Michigan State University (MSU), Kansas State university and Aberystwyth university to optimize and strengthen high throughput biochemical protocols for routine phenotyping and selection of elite forage germplasm in the Climate-smart and nutrient-rich forage varieties for increased income under Peri-urban dairy and poultry production systems project
- d) *Makerere University, College of Health Science, The Cancer Institute, Wandegaya Herbal Clinical, Kampala* in the milk fortification to improve micronutrient status and alleviate common health problems project.
- e) *Kiyindi Women Fish Processors Association* in the project of Out-scaling NARO polycyclic aromatic hydrocarbon safe smoking technologies for increased market competitiveness of fish value chain actors
- f) *Tea Research Institute Kenya* to undertake genetic diversity studies and Studies on specialized teas in the project to enhance tea productivity for increased income along the value chain in Uganda,
- g) *CoVAB, Makerere University, Beca-ILRI, Agro-Marketing Day* in the project for Strategic Mechanisms to Advance Resilient Tilapia (SMART) in Uganda: Diagnostic Tools and Geospatial Modeling for TILV control

- h) *UNBS* and *NDA* to standardize Nile perch oil in the project aimed at commercializing Nile perch oil products

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Annexes

Annex A: NARO, Public Agricultural Research Institutes and Satellite Stations

S/N	Institute	Location	Satellite station	Mandate
1.	National Agricultural Research Organisation Secretariat	Entebbe, Wakiso		Coordinating, Overseeing and guiding Agricultural Research
National Agricultural Research Institutes				
2.	National Agricultural Research Laboratories	Kawanda, Wakiso	• AEATREC Namalere • Plant Genetic Resources Centre	Laboratories, soils, post-harvest, food science and agro-engineering, banana
3.	National Coffee Research Institute	Kituza, Mukono	Bugusege	Coffee, cocoa
4.	National Crops Resources Research Institute	Namulonge, Wakiso	Kiige	Root crops, legumes, cereals, horticulture, oil palm
5.	National Fisheries Resources Research Institute	Jinja	Kajjansi	Capture and Aquaculture Fisheries
6.	National Forestry Resources Research Institute	Kifu, Mukono		Forestry
7.	National Livestock Resources Research Institute	Maruzi, Apach	Nakyesasa	Livestock, Apiary, poultry
8.	National Semi Arid Agricultural Research Institute	Serere		Dryland legumes, cereals and oil seed crops, cotton
Zonal Agricultural Research and Development Institute (ZARDI)				
9.	Abi ZARDI	Arua		West Nile region
10.	Buginyanya ZARDI	Bulambuli	• Ikulwe • Bulegeni	East Agro-Ecological Zone
11.	Bulindi ZARDI	Hoima	Kigumba	Lake Albert Crescent
12.	Kachwekano ZARDI	Kabale	Kalengyere Bugongi	South Western Highlands
13.	Mbarara ZARDI	Mbarara		South West Agro-Ecological Zone
14.	Mukono ZARDI	Mukono	Kamenyamiggo	Lake Victoria Crescent
15.	Nabuin ZARDI	Moroto		Karamoja & Teso region
16.	Ngetta ZARDI	Lira	Kitgum TVC	Northern farming system
17.	Rwebitaba ZARDI	Fort Portal	Kyembogo	Western Rangelands

Annex B: Summary GoU Budgets

Annex i: Summary for GoU Development budget for FY 2019/20

OUTPUT	ITEM CODE	ITEM DESCRIPTION	AMOUNT (UGX)
	2111030	Allowances	1,139,054,000
01	2210020	workshops & seminars(Institutes)	1,241,905,800
01	2230010	Property expenses	300,000,000
01	2230010	Electricity	319,071,000
01	2240010	Medical & Veterinary supplies	1,128,758,476
01	2240060	Agricultural supplies	1,343,408,624
01	2270010	Travel-inland	1,016,209,700
01	2270040	Fuel,Lubricants and Oils	484,145,000
		Description	
02	2111030	Allowances	800,000
02	2210010	Advertising and Public Relations	1,010,395,600
02	2210020	Workshops & seminars	1,984,516,000
02	2210070	Books, Periodicals and Newspapers	108,900,000
02	2210080	Computer Supplies & IT Service	227,203,500
02	2210110	Printing & Stationery	475,751,000
02	2220010	Telecommunications	900,000
02	2220030	Information Communication Technology	406,000,000
02	2270010	Travel-inland	449,393,000
02	2270040	Fuel,Lubricants and Oils	1,360,000
		Description	
04	2210020	Workshops & seminars(institutes & Int Audit)	440,480,000
04	2210030	Staff Training	1,388,156,300
04	2210040	Recruitment Expenses	200,000,000
04	2210060	Committee, Council and Board expenses	566,000,000
04	2210090	Welfare & Entertainment	150,000,000
04	2210120	Small office Equipment	3,000,000
04	2210160	IFMS- Recurrent costs	100,000,000
04	2210170	Subscriptions-Annual Professional Subscription	150,000,000
04	2220030	Information Communication Technology	27,600,000
04	2220050	Electricity	55,000,000
04	2230020	Rates	100,000,000
04	2250010	Consultancy -Short term	1,245,337,000
04	2260010	Insurance	100,000,000
04	2260020	Licenses	250,000,000

OUTPUT	ITEM CODE	ITEM DESCRIPTION	AMOUNT (UGX)
04	2270010	Travel-inland	867,215,000
04	2270040	Fuel, Oils & Lubricants	315,000,000
04	2270020	Travel Abroad	416,500,000
04	2280010	Maintanance -Civil	142,975,000
04	2280020	Maintanance -Vehicle	436,824,000
04	2280030	Maintanance -Equip	113,960,000
04	22800420	Maintanance -Others	10,500,000
		Description	
51	2622010	Contributions to International Org.	1,800,000,000
51	2641010	Contributions Autonomous Inst.	44,000,000
		Description	
72		Non-Residential Buildings(INC. NARL CIVIL WORKS)	
72	2815010	Environmental Impact Assessment for Capital works	400,000,000
72	2815020	Feasibility Studies for Capital Works	517,500,000
72	2815030	Engineering and Design Studies for Capital works	517,500,000
72	2815040	Monitoring , Supervision & Appraisal of capital work	400,000,000
72	3121010	Non-Residential Buildings	7,794, 893,000
		Description	-
72	3121020	Residential buildings	1,629,400,000
		Description	-
72	3121040	other Structures	1,665,000,000
		Description	-
75	3122010	Transport Equipment	0
		Description	-
76	3122020	Purchase of Office and ICT Equipment, including Software	785,643,562
		Description	-
77	3122020	Machinery & Equipment	2,715,738,000
		Description	-
78	3122030	Furniture & Fixtures	487,000,000
GRAND TOTAL			37,472,994,562

Annex ii: Summary for GoU Recurrent budget for FY 2019/20

OUTPUT	ITEM CODE	ITEM DESCRIPTION	AMOUNT (UGX)
Vote output 01: Generation of agricultural technologies			
01	2111030	Allowances	292,300,000
01	2210010	Advertising and public relations	4,000,000
01	2210020	Workshops & Seminars	33,400,000
01	2210060	Committee, Council and Board expenses	227,700,000
01	2210070	Books, Periodicals & Newspapers	5,500,000
01	2210110	Printing, Stationery, Binding	32,400,000
01	2210120	Small office Equipment	5,000,000
01	2220010	Telecommunications	50,640,000
01	2230040	Guard and Security services	74,878,000
01	2230050	Electricity	125,750,000
01	2230060	Water	70,800,000
01	2240010	Medical & Veterinary supplies	856,800,000
01	2240040	Cleaning and Sanitation	6,000,000
01	2240060	Agricultural Supplies	1,519,870,000
01	2270010	Travel inland	401,870,000
01	2270040	Fuel, Lubricants & Oils	91,985,000
01	2280020	Maintenance - Vehicles	34,500,000
01	2280030	Maintenance - Machinery & Equipment	12,920,000
Total			3,846,313,000
Vote output 02: Research extension interface promoted and strengthened			
02	2210010	Advertising and public relations	295,412,800
02	2210020	Workshops & Seminars	363,150,000
02	2210070	Books, Periodicals & Newspapers	2,472,000
02	2210080	Computer Supplies & IT Service	18,650,000
02	2210110	Printing, Stationery, Binding	20,320,000
02	2240010	Medical & Veterinary supplies	32,000,000
02	2270010	Travel inland	223,000,000
Total			955,004,800

OUTPUT	ITEM CODE	ITEM DESCRIPTION	AMOUNT (UGX)
Vote output 03: Internal Audit			
03	2210020	workshops & seminars	31,200,000
03	2210030	Staff Training	5,600,000
03	2270010	Travel inland	93,200,000
Total			130,000,000
Vote output 04: Agricultural research capacity strengthened			
04	2111020	Contract staff salaries	22,472,228,449
04	2111030	Allowances	891,858,000
04	2121010	Social Security Contributions	2,230,117,545
04	2130010	Medical Expenses (Medical Insurance)	300,000,000
04	2130020	Incapacity, death benefit & Funeral costs workers compesation	150,000,000
04	2130040	Gratuity Payments	1,859,918,032
04	2210010	Advertising and public relations	510,828,747
04	2210020	Workshops & Seminars	571,750,000
04	2210030	Staff Training	50,940,000
04	2210060	Committee, Council and Board expenses	132,290,000
04	2210070	Books, Periodicals & Newspapers	23,934,200
04	2210080	Computer Supplies & IT Service	58,954,000
04	2210090	Welfare and Entertainment	361,830,000
04	2210110	Printing, Stationery, Binding	228,967,000
04	2210120	Small office Equipment	18,964,000
04	2210160	IFMS Recurrent Costs	160,000,000
04	2220010	Telecommunications	98,805,000
04	2220020	Postage and Courier	8,479,000
04	2220030	Information Communication Technology	59,967,000
04	2230040	Guard and Security services	269,594,000
04	2230050	Electricity	967,566,000
04	2230060	Water	106,659,000
04	2240010	Medical & Veterinary supplies	134,461,000
04	2240040	Cleaning and Sanitation	296,624,000

OUTPUT	ITEM CODE	ITEM DESCRIPTION	AMOUNT (UGX)
04	2240050	Uniforms, Beddings and Protective Gear	66,000,000
04	2240060	Agricultural Supplies	814,741,208
04	2250010	Consultancy services- short Term	327,349,510
04	2260010	Insurances	121,346,000
04	2270010	Travel inland	725,849,000
04	2270020	Travel Abroad	100,000,000
04	2270040	Fuel, Lubricants & Oils	753,166,732
04	2280010	Maintenance - Civil	1,201,519,000
04	2280020	Maintenance - Vehicles	650,053,000
04	2280030	Maintenance - Machinery & Equipment	347,893,888
04	2280040	Maintenance - Other	108,665,000
04	2731020	Incapacity, death benefits and Funeral costs	76,166,000
Total			37,257,484,311
GRAND TOTAL			42,188,802,111

Annex iii: Budget summary for Non-Tax Revenue by source per Institute for FY 2019/20

INSTITUTE	CODE	SOURCES OF REVENUE	AMOUNT (UGX)
Headquarters	1421010	Rent	3,600,000
		Sub-Total	3,600,000
MUZARDI	1421010	Rental income	4,920,000
	1421010	Rent and Rates (workshops)	816,000,000
	1416010	Sale of Farm Produce (Government properties or assets)Planting Materials - Seedling)	112,800,000
	1416010	Sale of Farm Produce (Seedlings, cows)	60,000,000
	1416010	Miscellenous income ie un identified receipts / revenues	6,818,200
		Sub-Total	1,000,538,200
NABUIN	1416010	Rental Income	5,520,000
	1416010	Sale of Farm Produce (Maize seeds)	5,000,000
	1421010	Sale of Farm Produce (Hay-bales Naphier grass etc)	13,500,000
	1416010	Sale of Farm Produce (Citrus & Eucalyptus seedlings)	3,195,000
	1416010	Sale of Farm Produce (Milk & honey)	5,400,000
	1416010	Sale of Farm Produce (Cows,Fish,Chicken etc)	10,000,000
	1416010	Sale of Farm Produce (Cassava cuttings,Mango & Citrus fruits)	32,000,000
		Sub-Total	74,615,000
NACORI	1416010	Sale of coffee powder	5,000,000
	1416010	Sale of coffee seed	18,000,000
	1416010	Sale of matooke	800,000
	1416010	Sale of firewood	1,600,000
	1416010	Sale of coffee seedlings	60,000,000
	1416010	Sale of shed tree seedlings	1,500,000
	1421010	House rent	3,720,000
	1450030	Miscellenous Income	2,095,900
		Sub-Total	92,715,900
NaCRRI	1411410	Interest earned from Project bank accounts	2,000,000
	1415010	House Rent Collection	90,000,000
	1416010	Farm produce - Sale of Produced Properties	127,171,000
		Workshops (Sale of non-produced goods/asstes)	45,000,000
		Laboratory Services(Sale of non-produced goods/asstes)	11,500,000
		Tractor Hire(Sale of non-produced goods/asstes)	2,000,000
		Canteen(Sale of non-produced goods/asstes)	19,080,000
	1416020	Mechanical Workshop(Market/Gate Charges)	-
		Golf Course(Market/Gate Charges)	14,000,000
	1422140	Study/Educational Tours(Market/Gate Charges)	4,600,000
		Sub-Total	315,351,000

INSTITUTE	CODE	SOURCES OF REVENUE	AMOUNT (UGX)
NAFIRRI	1416010	Sale of farm produce- Fish sales i.e Government properties or assets	357,800,000
	1416010	Sale of Seedlings - Fish Fry	65,800,000
	1421010	Rental income - House Rent, Guest House and Equipment Hire	101,309,700
	1422140	Gate Collections- Education Tours	38,000,000
	1450030	Miscellenous Income ie unidentified Revenues	3,200,000
		Sub-Total	566,109,700
NAFORRI	1421010	Rent Collection	32,000,000
	1421010	Workshops and seminars	42,000,000
	1416010	Sale of Produced Properties(seedlings)	62,361,400
	1416020	Sale of Non-Produced Assets	-
	1422140	Market/Gate Charges	-
	1411410	Interest Income	-
	1450030	Miscellaneous Income	-
		Sub-Total	136,361,400
NARL	1416010	Sale of farm produce i.e government properties or assets	290,592,500
	1421010	Sale of seedlings	48,640,000
	1416010	Rental income	317,340,000
	1416010	Revenue from Workshops	60,625,000
	1416010	Soil Analysis	99,710,000
	1422140	Gate collections	127,850,000
	1450030	Compensation from UEDCL	
		Sub-Total	944,757,500
NALIRRI	1415010	Rent and Rates	23,000,000
	1416010	Sale of animals	23,593,500
	1416010	Sale of Planting materials(Seeds & Cuttings)	118,000,000
	1416010	Sale of feeds(Hay & Silage)	95,813,000
	1416010	Sale of feed ingridients(Soya bean and Maize grain)	120,000,000
	1422140	Gate collections	4,000,000
		Sub-Total	384,406,500
NGETTA	1416010	Sale of fish	7,560,000
	1416010	Sale of Soya bean seeds	12,610,000
	1416010	Sale of rice Seeds	6,300,000
	1416010	Sale of Maize seeds	8,830,000
	1416010	Sale of Citrus Seedlings	7,560,000
	1416010	Sale of honey	13,870,000
	1416010	Sale of Milk	21,440,000
	1421010	Rental Income	7,560,000
	1422140	Gate Collection	5,670,000

INSTITUTE	CODE	SOURCES OF REVENUE	AMOUNT (UGX)
	1450030	Miscellaneous Collections	4,575,500
		Sub-Total	95,975,500
BULINDI	1421010	Rent	5,560,000
	1416010	Sale of produced properties	111,529,500
	1416020	Sale of non Produced Properties	12,000,000
	1450030	Miscellaneous Income	12,379,000
	1422140	Gate Charges	1,238,000
		Sub-Total	142,706,500.00
KACHWEKANO	1416010	Sale of Govt. Produced Properties:	
		a) Sale of Potato seed	55,200,000
		b) Sale of Apple Seedlings	43,200,000
		c) Sale of Milk	2,150,500
	1421010	Sale of Govt. Non- Produced Properties:	-
		a) Hall hire	2,000,000
		b) House rent	6,120,000
	1422140	c) Gate collection	1,250,000
	1450030	d) Miscellenous Income	5,000,000
		Sub-Total	114,920,500
MBAZARDI	1416010	Sale of farm produce i.e Government properties or assets	104,498,600
	1422140	Gate Collections	6,000,000
	1421010	Rental income	6,060,000
	1450030	Miscellaneous Income ie unidentified Revenues	16,000,000
		Sub-Total	132,558,600
RWEBITABA	1416010	Sale of farm produce i.e Government properties or assets	30,000,000
	1416010	Sale of seedlings	60,000,000
	1421010	Rental income	7,800,000
	1450030	Miscellaneous income i.e unidentified receipts/revenue	262,508
		Sub-Total	98,062,508
ABI	1421010	Workshops,Hall hire and Guest house facilities	55,600,000
	1416010	Agricultural supplies	53,220,000
	1421010	House Rent	9,000,000
	1450030	Miscellaneous Income	381,900
		Sub-Total	118,201,900
NaSARRI	1416010	Sale of farm produce i.e Government properties or assets	68,696,600
	1416010	Sale of Seedlings	30,000,000
	1421010	Rental income	60,000,000
	1422140	Gate collections	40,000,000
	1416010	Miscellaneous Income	50,000,000
		Sub-Total	248,696,600

INSTITUTE	CODE	SOURCES OF REVENUE	AMOUNT (UGX)
BUGINYANYA	1421010	Rent collection	6,571,300
	1416010	Sale of farm produce	56,004,800
	1416020	Sale of seedlings	43,210,800
		Sub-Total	105,786,900
GRAND TOTAL			4,575,364,208

OUTPUT	ITEM CODE	ITEM DESCRIPTION	AMOUNT (UGX)
Output 04: Agricultural Research Capacity Strengthened			
04	2111020	Contract Staff Salaries (Incl. Casual labourers)	720,805,000
04	2210010	Advertising and public relations	17,981,000
04	2210020	Workshops & seminars	510,550,000
04	2210030	Staff Training	6,940,000
04	2210060	Committee, Council and Board expenses	22,966,000
04	2210070	Books, Periodicals & Newspapers	1,711,000
04	2210080	Computer Supplies & IT Service	40,914,000
04	2210090	Welfare and Entertainment	135,234,000
04	2210110	Printing, Stationery, Binding	56,803,000
04	2210120	Small office Equipment	9,464,000
04	2210160	IFMS Recurrent Costs	-
04	2220010	Telecommunications	2,252,000
04	2220020	Postage and Courier	189,000
04	2220030	Information Communication Technology	48,392,000
04	2230040	Guard and Security services	57,894,000
04	2230050	Electricity	158,596,000
04	2230060	Water	18,259,000
04	2240010	Medical & Agric. Supplies	134,461,000
04	2240040	Cleaning and Sanitation	105,724,000
04	2240050	Uniforms	-
04	2240060	Agric. Supplies	719,191,208
04	2250010	Consultancy services- short Term	2,523,000
04	2260010	Insurances	2,776,000
04	2270010	Travel inland(Perdiem and Fuel)	245,066,000
04	2270020	Travel Abroad	-
04	2270040	Fuel, Lubricants & Oils(administration)	184,514,000
04	2280010	Maintenance - Civil	935,903,000
04	2280020	Maintenance - Vehicles	205,582,000
04	2280030	Maintenance - Machinery & Equipment	166,320,000
04	2280040	Maintenance - Other	58,045,000
04	2731020	Incapacity, death benefits and Funeral costs	6,309,000
Total			4,575,364,208

Annex C: GoU Development PARIs Detailed WorkPlans and Budgets for FY 2019/20

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Annex v: NaCRRRI GoU Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Input	Unit of measure	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
						Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Cereals, Root Crops, Legumes and Horticulture	Production of breeder and early generation seed for grain crops and seedlings of horticultural crops.	Generation of Agricultural Technologies (015101)	2111030: Allowances	Labour	Persons	Produce breeder and early generation seed for all parental materials and commercial varieties and produce and maintain Citrus mother garden at Kiige.	At least, 2,000kgs of maize, 1,000kgs of Beans, 1,000bags of Cassava and 5,000 assorted horticultural seedlings produced.	8,000	Isolated fields for early generation seed (EGS) of crop commodities established	2,000	Early generation seed fields and mother gardens certified and maintained	2,000	Early generation seed harvested and processed. Isolated EGS fields established	2,000	Early generation seed fields and citrus mother gardens maintained	2,000
			2210020 Workshops and seminars	Allowances	Persons			15,000						Training of farmers in citrus best management practices	15,000	
			2240060: Agricultural Supplies	Agricultural inputs	Assorted			20,000	Agricultural inputs procured	5,000	Agricultural inputs procured	5,000	Agricultural inputs procured	5,000	Agricultural inputs procured	5,000
Sub - Total								43,000		7,000		7,000		7,000		22,000
Administration	Research management and administration	Research extension interface promoted and strengthened (015102)	2210080: Computer Supplies and IT Services	Periodic subscriptions, computer accessories	Assorted	Periodic maintenance of LAN/WAN and Internet subscription	IT services and infrastructure maintenance and monthly subscription paid for.	8,800	Internet LAN maintained and subscription paid	5,000	Internet LAN maintained and subscription paid	2,000	Internet LAN maintained and subscription paid	1,800		-
Sub - Total								8,800		5,000		2,000		1,800		

Administ ration	Research manage ment and administ ration	Purcha se of Office and ICT Equip ment, includi ng Softwa re (76)	3122130: Office and ICT Equipment, including Software	Tele- conferen cing facility, Interco m extensio n, Printer, 4backup batteries and assorted related equipme nt	Assor ted	Procurement of assorted ICT software and equipment	ICT Equipment for enhanced Internet connectivity	35,000	ICT Equipmen t for enhanced Internet connectivit y procured	35,000		-		-		-
Sub - Total								35,000		35,000		-		-		-
Administ ration	Research manage ment and administ ration	Purcha se of Speciali sed Machin ery and Equip ment	3122020: Machinery and Equipment	Solar equipme nt and accessori es	Assor ted	Procurement of assorted solar equipment	Solar lighting on Institute premises installed, Solar power back up for Administrat ion and Legumes blocks	120,000	Solar lighting equipment procured and installed	30,000	Solar back up installed on Administ ration block	60,000			Solar back up installed on Legumes block	30,000
Sub - Total								120,000		30,000		60,000		-		30,000
Administ ration	Research manage ment and administ ration	Purcha se of Office Furnitu re and Fixtures	3122030: Furniture and Fixtures	Furnitur e and Fixtures	Assor ted	Equip offices and recreational facilities with assorted furniture and fixtures.	Offices and recreational facilities furnished	10,000	3 office desks, 3 office chairs and 2 office shelves	10,000		-		-		-
Sub - Total								10,000		10,000		-		-		-
Grand - Total								216,800		87,000		69,000		8,800		52,000

Annex vi: NaFIRRI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or Final Outputs	Budget ('000)	Interim or Final Outputs	Budget ('000)	Interim or Final Outputs	Budget ('000)	Interim or Final Outputs	Budget ('000)
NaFIRRI		Generation of agricultural technologies	2111030: Allowances	Facilitation in form of allowances for field staff and hired labour while collecting field data	Information packages and technologies status of fisheries and the aquatic environment	10,000	Data on status of fisheries and the water environment	2,500	Data on status of fisheries and the water environment	2,500	Data on status of fisheries and the water environment	2,500	Data on status of fisheries and the water environment	2,500
		Generation of agricultural technologies	2210020: Workshops and Seminars	i) Hold joint fisheries Research sector review and development plans for the short term and medium term and produce framework implementation plans. Conduct review and priority setting workshops. Show case fisheries developments in Agric shows/ open days and conferences	Strategic Fisheries Research developments plans, shared and effectively reviewed and framework implementation plans generated. Client oriented aquaculture development plans implemented.	20,000	1. Fisheries development plans effectively reviewed and framework implementation plans generated. 2 Fisheries products disseminated.	5,000	1. Fisheries development plans effectively reviewed and framework implementation plans generated. 2 Fisheries products disseminated.	5,000	1. Fisheries development plans effectively reviewed and framework implementation plans generated. 2 Fisheries products disseminated.	5,000	1. Fisheries development plans effectively reviewed and framework implementation plans generated. 2 Fisheries products disseminated.	5,000

	Generatio n of agricultura l technologi es	2210080: Computer & ICT Services	Wide area Network (WAN) and Local Area Network (LAN), Internet connectivity and ICT harmonisation set up. Collaboration with Other Researchers interms of research findings world wide.	Enhanced and unified NaFIRRI communication infrastructure (Internet, website, email,portals, Active directory, file services, replication and recovery services). NaFIRRI research developments shared on the diferrent communication networks.	8,000	Internet and net work connectivi ty maintaine d for easy and stable communi cation	2,000	Internet and net work connectivi ty maintaine d for easy and stable communi cation	2,000	Internet and net work connectivi ty maintaine d for easy and stable communi cation	2,000	Internet and net work connectivi ty maintaine d for easy and stable communi cation	2,000
		2220030: Informatio n Communic ation Technolog y	Information packaging and dissemination activities	Scientific information disseminated to end users	10,000	Scientific informati on dissemina ted to end users	2,500	Scientific informati on dissemina ted to end users	2,500	Scientific informati on dissemina ted to end users	2,500	Scientific informati on dissemina ted to end users	2,500
Total: Generation of Agric Research technologies					48,000		12000		12000		12000		12000
FIXE D ASSE TS		3121010: Non Residential Buildings	Procurement and fitting of translucent canvas in the NEW ADB Hatchery	Room temperatures regulated	5000	Room temperatu res regulated	5,000						
		3121010: Non Residential Buildings	Tiling of the sedimentation tanksin the NEW ADB Hatchery	sedimentation tanks completed	10000	sedimenta tion tanks Operational	10,000						
		3122020: Machinery & Equipment	Procurement of 3 phase submercible water pump installation for	Water for the hatchery pumped and used in the hatchery	20000	Water for the hatchery pumped and used	20,000						

				water supply to the hatchery			in the hatchery							
	015177	3122020: Machinery & Equipment	Replacement of spoilt solar pannels, and cleaning the existing ones and connection	Solar heating system completed	15000		Solar heating system completed	15,000						
		3122020: Machinery & Equipment	Procurement and installation of missing mortars	the pumping system completed and tested	10000		the pumping system completed and tested	10,000						
	015178	3122030: Furniture and Fixtures	Purchase of Board linen, Cutains, Conference Chairs, Office chairs and tables.	Availability of conference facilities for dissemination of research information.	18,000		Availabili ty of conferenc e facilities for dissemina tion of research informati on.	4,500	Availabili ty of conferenc e facilities for dissemina tion of research informati on.	4,500	Availabili ty of conferenc e facilities for dissemina tion of research informati on.	4,500	Availabili ty of conferenc e facilities for dissemina tion of research informati on.	4,500
	Total: Fixed Assets				78,000			64,500		4500		4500	0	4500
	Total: Development Budget				126,000			76,500		16,500		16,500		16,500



Annex vii: NaFORRI GoU-Development work plan and budget for FY 2019/20

Program / Directorate	Projects/Units	Vote Function/output	Code	Annual Outputs	Annual Budget (000)	Quarter 1 Plan	Budget (000)	Quarter 2 Plan	Budget (000)	Quarter 3 Plan	Budget (000)	Quarter 4 Plan	Budget (000)
						Interim or Final Outputs		Interim or Final Outputs		Interim or Final Outputs		Interim or Final Outputs	
NaFORRI		1	2210020	Recommendation and strategies for improvement developed	7,000	Recommendation and strategies for improvement developed	3,500			Recommendation and strategies for improvement reviewed	3,500		
		2	2210080	Computer and photocopier accessories availed for office use	10,900	Reliable internet availed for research and office computers protected with antivirus	3,000	Reliable internet availed for research and office computers protected with antivirus	3,000	Reliable internet availed for research and office computers protected with antivirus	2,900	Reliable internet availed for research and office computers protected with antivirus	2,000
		76	3122020	Research effectiveness and efficiency enhanced	23,000	2 laptop computers availed for use	6,000	2 laptop computers availed for use	6,000	2 laptop computers availed for use	6,000	2 laptop computers availed for use	5,000
		76	3122020	Functional tissue culture laboratory for production of quality germplasm (cultivars)	117,550		117,550						
		78	3122030	Offices/laboratories furnished with chairs, desks and filing cabinets	4,000	2 office tables acquired	2,000			3 filing cabinets acquired	2,000		-
Sub-total					162,450		132,050		9,000		14,400		7,000

Annex viii: NaLIRRI GoU-Development work plan and budget for FY 2019/20

Prog ram/ Dire ctor ate	Projects/ Units (A, B, etc)	Vote Functi on Outpu t	Annual Outputs	Annual Key Activities	Expendit ure Code/De scription	Annual Budget (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budg et (000)	Interim or Final Outputs	Budg et (000)	Interim or Final Outputs	Budg et (000)	Interim or Final Outputs	Budg et (000)
NaL IRRI man age men t	Adminis tration- Develop ment Costs	Genera tion of agricul tural techno logies	Contract Labour for workers is paid in throughout the year	Wages to contract workers paid throughout the year	211103: Allowan ces	10,000	QTR 1-Wages to contract workers paid during the first quarter	2,500	QTR 2-Wages to contract workers paid during the second quarter	2,500	QTR 3 Wages to contract workers paid during the third quarter	2,500	QTR 4- Wages to contract workers paid during the fourth quarter	2,500
			Annual planning and review meeting held	Conducting of annual review and planning workshop for all stake holders and Finance unit	2210020: Worksho ps and seminars	30,200	QTR 1-Annual planning and review meeting held	7,550	QTR 2-Annual planning and review meeting held	7,550	QTR 3- Annual planning and review meeting held	7,550	QTR43- Annual planning and review meeting held	7,550
			Institute supplied with electricity throughout the year	Pay electricity bills	2230050: Electricit y	35,000	Insttute supplied with electricity in quarter 1	9,000	Insttute supplied with electricity in quarter 2	8,000	Insttute supplied with electricity in quarter 3	9,000	Insttute supplied with electricity in quarter 4	9,000
			On-station experimental livestock at Serere Stations maintained	Procure drugs, acaricides and dewomers	224001: Medical & Veterinar y supplies	36,000	On station animals and poultry well maintained in quarter 1	9,000	On station animals and poultry well maintained in quarter 2	9,000	On station animals and poultry well maintained in quarter 3	9,000	On station animals and poultry well maintained in quarter 4	9,000
				Procurement of laboratory & field research consumables and feeds for both animal and poultry units.	2240060: Agric Supplies	30,000	Feeds for on station animals and poultry produced in quarter 1	9,000	On station animals and poultry well maintained in quarter 2, 1 and 3 tonnes of soya and maize produced	9,000	On station animals and poultry well maintained in quarter 3, 1 and 3 tonnes of soya and maize produced	6,000	On station animals and poultry well maintained in quarter 4	6,000

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Outputs	Annual Key Activities	Expenditure Code/Description	Annual Budget (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		Research extension interface promoted and strengthened	Regular updating of computers with antivirus and general computer servicing	Maintenance of Internet cabling, provision of antiviruses to 1 server and 15 desk computers plus their repair.	2210080: Computer Supplies & IT Service	3,800	Updating of 8 computers with antivirus and general computer servicing conducted in the 1st qtr	950	Updating of 8 computers with antivirus and general computer servicing conducted in the 2nd qtr	950	Updating of 8 computers with antivirus and general computer servicing conducted in the 3rd qtr	950	Updating of 8 computers with antivirus and general computer servicing conducted in the 4th qtr	950
		Agricultural research capacity strengthened	Staff Knowledge in Research Project Cycle Management, Laboratory management/ethics and on job training for administration staff enhanced.	Training of 5 Scientists, 10 Technicians and 15 Administration staff	2210030: staff training	10,000			5 Scientists Trained in Research Project Cycle Management, 10 Technicians Trained in Laboratory management/ethics and 15 Support staff had on job training in the 2nd qtr	10,000				
		76	ICT Items procured for the implementation of research and administrative activities	Procure 2 Laptops, a projector and one heavy duty printer	3122020: Office and ICT equipment including software	30,000	Institute staff facilitated with computer and printing services and well as research results presentation facilities	30,000						
		77	Machinery procured for implementation of research		3122020	20,000				20,000				
			Sub-Total			205,000		68,000		67,000		35,000		35,000

Annex ix: NaSARRI GoU-Development work plan and budget for FY 2019/20

Program/Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Item	Annual Budget	Interim or Final Outputs	Budget	Interim or Final Outputs	Budget	Interim or Final Outputs	Budget	Interim or Final Outputs	Budget
Cotton programme	Development of cotton varieties with long fibres, tolerant to drought, major insect pests and wilt diseases	Generation of Agricultural Technologies	Germplasm evaluation and characterization for oil quality and high protein content	50 cotton germplasm lines with high quality oil and high protein content identified	211030: Allowances	50,000,000	50 germplasm lines planted on-station for characterization	12,500,000	field data on agronomic parameters collected	12,500,000	post harvest data on yield related parameters collected	12,500,000	20 lines submitted for oil quality and protein profiling	12,500,000
					2210020: Workshops & seminars	14,418,000		3,606,000		3,604,000		3,604,000		3,604,000
					2240060: Agricultural supplies	10,665,000		2,667,000		2,666,000		2,666,000		2,666,000
					2270010: Travel inland	12,000,000		3,000,000		3,000,000		3,000,000		3,000,000
					2270040: Fuel, oils and lubricants	16,000,000		4,000,000		4,000,000		4,000,000		4,000,000
					Sub Total	103,083,000		25,773,000		25,770,000		25,770,000		25,770,000
Dryland cereals programme	Development of finger millet breeding pipeline suitable for semi-arid zones with resistance to drought striga and blast	Generation of Agricultural Technologies	collection of finger millet germplasm in all finger millet growing areas of Uganda	at least 300 finger millet accessions collected and conserved	211030: Allowances	27,000,000	200 finger millet germplasm from eastern and northern regions conducted by September 2019	6,750,000	Finger millet germplasm characterization and evaluation	6,750,000	100 finger millet germplasm from western and southern regions collected and conserved	6,750,000	Finger millet germplasm characterization and evaluation	6,750,000
					2210020: Workshops & seminars	14,416,000		3,604,000		3,604,000		3,604,000		3,604,000
					2240060: Agricultural supplies	9,617,000		2,404,600		2,404,400		2,404,000		2,404,000
					2270010: Travel inland	6,230,000		1,555,000		1,555,000		1,560,000		1,560,000
					2270040: Fuel, oils and lubricants	10,690,000		2,672,000		2,672,000		2,673,000		2,673,000
					Sub Total	67,953,000		16,985,600		16,985,400		16,991,000		16,991,000
Oil crops	Evaluation of conservation tillage and fertilizer microdose on sesame, groundnuts and sunflower	Generation of Agricultural Technologies	Evaluation of conservation tillage and fertilizer microdose on sesame, groundnuts and sunflower in the Teso, Karamoja,	at least one conservation tillage and microdose fertilizer type for evaluation	211030: Allowances	26,980,000	set trials on 3 conservation tillage methods and fertilizer microdose for each of the oil crops in the various sub ecologies	6,745,000	set trials on 3 conservation tillage methods and fertilizer microdose for each of the oil crops in the various sub ecologies	6,745,000	set trials on 3 conservation tillage methods and fertilizer microdose for each of the oil crops in the various sub ecologies	6,745,000	data collection analysis technical report on yield performance	6,745,000
					2210020: Workshops & seminars	10,416,000		2,604,000		2,604,000		2,604,000		2,604,000
					2240060: Agricultural supplies	6,668,000		1,667,000		1,667,000		1,667,000		1,667,000
					2270010: Travel inland	6,230,000		1,555,000		1,555,000		1,560,000		1,560,000
					2270040: Fuel, oils and	10,690,000		2,672,000		2,672,000		2,673,000		2,673,000

Program/D irectorate	Projects/U nits (A, B, etc)	Vote Functi on Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Item	Annual Budget	Interim or Final Outputs	Budget	Interim or Final Outputs	Budget	Interim or Final Outputs	Budget	Interim or Final Outputs	Budget
	in the Teso, Karamonj a, Bunyoro, Lango and Acholi regions		Bunyoro, Lango and Acholi regions		lubricants		ecologies							
					Sub Total	60,984,000		15,243,000		15,243,000		15,249,000		15,249,000
			Utility bills for electricity paid.		2230050: Electricity	25,300,000	Utility bills for electricity paid.	6,325,000	Utility bills for electricity paid.	6,325,000	Utility bills for electricity paid.	6,325,000	Utility bills for electricity paid.	6,325,000
SUB-TOTAL Generation of agricultural technologies						257,320,000		64,326,600		64,323,400		64,335,000		64,335,000
NaSARRI Administr ation	NaSARRI Administr ation	Researc h extensi on interfac e promot ed and strengt hened			2210020: Workshops & seminars	43,880,000	Workshops & seminars	10,970,000	Workshops & seminars	10,970,000	Workshops & seminars	10,970,000	Workshops & seminars	10,970,000
					2210080: Computer & IT services	8,800,000	Computer & IT services	2,200,000	Computer & IT services	2,200,000	Computer & IT services	2,200,000	Computer & IT services	2,200,000
SUB-TOTAL Research extension interface promoted and strengthened						52,680,000		13,170,000		13,170,000		13,170,000		13,170,000
NaSARRI Administr ation	NaSARRI Administr ation	Agricu ltural researc h capacit y strengt hened			3122020: Purchase of Office and ICT Equipment, including Software	35,000,000			Purchase of Office and ICT Equipment, including Software	17,500,000	Purchase of Office and ICT Equipment, including Software	17,500,000		
					3122030: Machinery & Equipment	30,000,000			Machinery & Equipment	15,000,000	Machinery & Equipment	15,000,000		
					3122030: Furniture and Fixtures	10,000,000			Furniture & Fixtures	5,000,000	Furniture & Fixtures	5,000,000		
SUB-TOTALAgricultural research capacity strengthened						75,000,000	-	-	-	37,500,000	-	37,500,000	-	-
TOTAL DEVELOPMENT BUDGET						385,000,000	-	77,496,600	-	114,993,400	-	115,005,000	-	77,505,000

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Annex x: NARL GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Project s/ Units (A, B, etc)	Vote Function Output	Description	Code	Description	Annual Plan and Budget			Quarter 1 plan		Quarter 2 plan		Quarter 3 plan		Quarter 4 plan	
						Annual Key Activities	Annual Outputs	Annual Budget (1000)	Interim or Final Outputs	Budget (1000)	Interim or Final Outputs	Budget (1000)	Interim or Final Outputs	Budget (1000)	Interim or Final Outputs	Budget (1000)
Research Programmes	Development of research technologies	01	Generation of Agricultural technologies	2111 030	Allowances	Staffs remunerated respective responsibilities	Responsibility allowances paid	9,700	Responsibility allowances paid	2,425	Responsibility allowances paid	2,425	Responsibility allowances paid	2,425	Responsibility allowances paid	2,425
				2210 020	workshops & seminars(Institutes)	Conducting review/planning workshops, Capacity building in Research proposal writing, finance & procurement management.	Research procedures, procurement and finance procedures guided and streamlined	28,000	Two workshops attended on research reviews & Planning, proposal writing, finance & procurement management in public Government entities	7,000	Two workshops attended on research reviews & Planning, proposal writing, finance & procurement management in public Government entities	7,000	Two workshops attended on research reviews & Planning, proposal writing, finance & procurement management in public Government entities	7,000	Two workshops attended on research reviews & Planning, proposal writing, finance & procurement management in public Government entities	7,000
				2230 010	Electricity	Procurement of Electricity services	Electricity provided for Institute usage	25,300	Electricity provided for Institute usage	6,325	Electricity provided for Institute usage	6,325	Electricity provided for Institute usage	6,325	Electricity provided for Institute usage	6,325

				2240 010	Medical & Veterinary supplies	Procurement of assorted farm inputs for research field trials	Research trials/ experiments evaluated and documented	8,160	Assorted farm inputs procured for research field trials	2,040	Assorted farm inputs procured for research field trials	2,040	Assorted farm inputs procured for research field trials	2,040	Assorted farm inputs procured for research field trials	2,040
				2240 060	Agricultural supplies	Purchase of assorted field supplies	Research samples/ experiments analysed in laboratory	47,040	Assorted farm inputs procured for research field trials	6,150	Assorted farm inputs procured for research field trials	6,150	Assorted farm inputs procured for research field trials	6,150	Assorted farm inputs procured for research field trials	6,150
				2210 010	Advertising and Public Relations	Facilitation for publicity through electronic and print media	Dissemination of research results through advertising	800	Advertising and public relations	200	Advertising and public relations	200	Advertising and public relations	200	Advertising and public relations	200
				2210 080	computer Supplies & IT Service	Procurement of computer accessories	Computers accessories procured	12,000	Computers accessories procured	3,000	Computers accessories procured	3,000	Computers accessories procured	3,000	Computers accessories procured	3,000
	Development of Infrastructure	76	ICT Equipment	3122 020	Purchase of Office and ICT Equipment , including Software	Purchase of ICT Equipment	Computers equipment acquired for data/information processing	14,000			4 Desk top Computer Procured	14,000			NIL	
		77	Machinery and equipment	3122 020	Machinery & Equipment	Purchase of Lab machinery	Purchase of Lab machinery	36,800	Xcel Statistical software procured	7,200	Lab machinery and Conference Conditioner Equipment procured	21,600				
Total								181,800		31,915		60,315		24,715		24,715

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Annex xi: NACORI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects /Units	Vote Function Output	Annual Key Activities	Annual Outputs	Code	Budget Item	Input	Annual Budget (000)	Q1 Budget (000)	Q2 Budget (000)	Q3 Budget (000)	Q4 Budget (000)
NACORI		01: Technonology Generation	Hold 1 annual review and planning workshop; participate in Scientific review workshop; participate in budget and financial planning meetings	Institute research management streamlined	2210020	Workshops and Seminars	DSA, transport refund	10,000	5,000		5,000	
					2210020	Workshops and Seminars	Teas, water, meals,DSA, transport refund	2,400	1,200		1,200	
					2210020	Workshops and Seminars	Hire of venue	7,600	3,800		3,800	
			Enhanced performance of research	Electricity bills settled	2230050	Electricity	Electrical energy	25,300	6,325	6,325	6,325	6,325
			Procurement of medical and agricultural supplies	Research of cocoa and coffee laboratories improved	2240010	Medical and agricultural supplies	Assorted laboratory consumables	25,000	6,250	6,250	6,250	6,250
			procurement of agriculatural supplies	Research cocoa and coffee fields improved	2240060	Agriculatural supplies	Shade nets, Forest soil, lakesand, manure, fungicides and insecticides, fertilizes, wheelbarrows,an d hoes	30,000	7,500	7,500	7,500	7,500
			Travel in land to other institutes and collaborators	Performance of research enhanced	2270010	Travel Inland	DSA, transport refund	10,000	2,500	2,500	2,500	2,500
			Preparing wages for contract staff	Institute staff motivated	2111030	Allowances	casual labour, machine hire,driver hire, tractor hire	9,700	2,425	2,425	2,425	2,425
		02: Research Extension interface promoted and strengthened	Procurement and maintenance of ICT accessories supplies / services	Capacity to generate reports, workplans and to access information enhanced	2210080	Computer and ICT supplies	pieces	5,000	1,250	1,250	1,250	1,250

Program/ Directorate	Projects /Units	Vote Function Output	Annual Key Activities	Annual Outputs	Code	Budget Item	Input	Annual Budget (000)	Q1 Budget (000)	Q2 Budget (000)	Q3 Budget (000)	Q4 Budget (000)
		04: Research coordination and management	Travel in land to other institutes and collaborators	Performance of research enhanced	2270010	Travel Inland	DSA, transport refund	10,000	2,500	2,500	2,500	2,500
		76: Procurement of computer supplies& IT services	Procurement of laptops	Enhanced research capacity	3122130	ICT		12,000	4,000	4,000	4,000	
		72: Procurement of computer supplies& IT services	Procurement of multipurpose printer (phtocopier; scanner and printer) for Bugusege and Farm Management	Enhanced research capacity	3122130	ICT		8,000	4,000			4,000
		77: Machinery & Equipment	Acquistion of power stabilizers	Enhanced research capacity	3122020	Value Additipn equipment for cocoa processing		30,000	30,000			
Grand total Development								185,000	76,750	32,750	42,750	32,750



Annex xii: ABI ZARDI GoU-Development work plan and budget for FY 2019/20

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Administration-GoU Dev	Research Management and administration	01: Generation of agricultural technologies	2210020: Workshops and meetings	Holding advisory committee, Review and planning meeting and Directors' Forum for policy decision making.	Institute decisions making guided	Workshop expenses	40,000	Hold planning meetings for strategic decision making.	2,500	Decisions and guidelines to steer research and administrative operations generated.	12,500	Operationalisation of the decisions and guidelines generated.	12,500	Operationalisation of the decisions and guidelines generated.	12,500
			2111030: Allowances	Design of management policies by institute directors and NAROSEC top management.	Management policies and guidelines generated.	Management policies and guidelines generated.	9,700	Hold planning meetings for strategic decision making.	3,000	Policies and guidelines generated.	2,235	Operationalisation of the decisions and guidelines generated.	2,235	Operationalisation of the decisions and guidelines generated.	2,230
			2230050: Electricity	Payment of electricity bills	Institute electricity bills paid	Electricity bill paid	25,300	Quarterly electricity bill paid	6,325	Quarterly electricity bill paid	6,325	Quarterly electricity bill paid	6,325	Quarterly electricity bill paid	6,325
			2240010: Medical & Veterinary supplies	Elite dairy herd maintained on-station	Community breeding schemes supported	Veterinary drugs and equipment	4,000	Drugs and equipment acquired	2,500	Drugs and equipment acquired	1,000	Drugs and equipment acquired	500		-
			2240010: Medical & Veterinary supplies	Elite Mubende goat herd maintained on-station	Community breeding schemes supported	Assorted drugs procured	3,000		-	Drugs and equipment acquired	1,500		-	Drugs and equipment acquired	1,500

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060: Agricultural supplies	Evaluation of newly released and pipeline varieties for adaptability and farmer preference in the high, mid and lowland areas of West Nile	At least four beans and two cassava varieties and	Assorted inputs	17,000	Agricultural inputs acquired for season 2019B	2,500	Agricultural inputs acquired for season 2019B	5,000	Agricultural inputs acquired for season 2020A	5,000	Agricultural inputs acquired for season 2020A	4,500
				Most efficacious shrub and appropriate integration rate with animal manure recommended	An efficacious indigenous shrub recommended for enhancing quality of manure for improved crop yield	Assorted inputs	10,000	Inputs acquired for on-station field for screening of indigenous shrubs	1,500	Different shrub and animal manure combinations tested nutrient composition	3,500	Different shrub and animal manure combinations tested nutrient composition	2,500	Different shrub and animal manure combinations tested nutrient composition	2,500
			2270010: Travel inland	Evaluation of agricultural technologies in crop and animal resources	Assorted agricultural technologies evaluated in West Nile region	Travel expenses to the fields	13,100	Travel expenses to the fields facilitated	3,500	Travel expenses to the fields facilitated	3,200	Travel expenses to the fields facilitated	3,200	Travel expenses to the fields facilitated	3,200
			Sub-Total- Generation of Agric Technologies				122,100	-	21,825	-	35,260	-	32,260	-	32,755
		02: Research-extension interface promoted and strengthened	2210080: Computer Supplies & IT Service	Procurement of assorted computer and IT services	Assorted computer and IT services procured	Computers and IT services	6,300	Assorted computer and IT services procured	1,000	Assorted computer and IT services procured	1,767	Assorted computer and IT services procured	1,767	Assorted computer and IT services procured	1,766

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		ened													
			2210110: Printing, Stationery, Binding	Facilitation of document processing	Document processing facilitated at the Institute		3,600	Document processing facilitated	900	Document processing facilitated	900	Document processing facilitated	900	Document processing facilitated	900
		Sub-total - Research-extension interface promoted and strengthened					9,900	-	1,900	-	2,667	-	2,667	-	2,666
		04: Research capacity strengthened	2210030: Staff training	In-house training of scientists and technicians on Data collection, management and analysis	All scientists and technicians of the institute training in data collection, analysis and management	Facilitation and refreshments	4,000	All scientists trained		All scientists trained	4,000				
				In-house training of scientists and technicians on Scientific writing skills	All scientists and technicians of the institute training in data collection, analysis and management	Personel costs and refreshments	4,000					All scientists trained	4,000		
				Staff training in Fire fighting	All staff trained in Fire fighting	Personel costs and refreshments	1,000	Personel costs and refreshments provided to train all staff	1,000						
				Staff supported towards professional development	At least one staff supported towards professional development	Public transport and professional fee	1,000	At least one staff supported	1,000						
		Sub- Total Research capacity strengthened					10,000	-	2,000	-	4,000	-	4,000	-	-

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		76: Procurement of office ICT Equipment	3122020- Procurement of office ICT Equipment	Procurement of office ICT Equipment	Office and ICT Equipment procured	Computers	10,000	ICT and computers procured and availed for institute operations.	2,500	ICT and computers procured and availed for institute operations.	5,000	ICT and computers procured and availed for institute operations.	2,500		-
		77: Machinery and Equipment	3122020: Machinery and Equipment	Procurement of office machinery and equipment	Institute machinery and equipment procured	Machinery & equipment	20,000			Institute machinery and equipment procured and availed for research and administrative operations.	20,000		-		-
GoU Dev - Value Addition	Exploiting Nutrient - Rich Cassava composites for Industrial	Machinery and Equipment	3122020: Machinery and Equipment	Procurement of office machinery and equipment Value Addition	Agro-processing centres equipped with cleaning, chipping and drying of cassava	Machinery & equipment	204,569			Agro-processing centres equipped with cleaning, chipping and drying of cassava	204,569				
	Application and stimulation of outgrower schemes		3122030: Furniture and fittings	Acquisition of assorted curtains	Curtains installed for at least one office block	Services	5,000			Curtains acquired and installed	5,000				
GRAND TOTAL- GOU DEVELOPMENT							381,569		28,225		276,496		41,427		35,421

Annex xiii: Buginyanya ZARDI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/ Output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Code	Description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
BugiZARDI	Facilitating an enabling environment for effective research and development	Agricultural research capacity strengthened	2210020	Workshops & seminars	Effective sensitization and improved visibility of BugiZARDI interventions	Participatory review and updating of activities in the zone	20,000	Review of program and department activities with stakeholders	5,000	Review of program and department activities with stakeholders and technology dissemination and agricultural shows	5,000	Review of program and department activities with stakeholders and capacity building	5,000	Review of program and department activities with stakeholders and world food day	5,000
			2240010	Medicinal and Veterinary supplies	Support to project implementation in the zone for various commodities	Effective implementation of research activities in the zone through provision of various inputs	10,000	Agro inputs to support the projects available	2,500	Agro inputs to support the projects available	2,500	Agro inputs to support the projects available	2,500	Agro inputs to support the projects available	2,500
			2240060	Agricultural Supplies			50,000		10,000		10,000		15,000		15,000
			2111030	Allowances			9,700		2,425		2,425		2,425		2,425
			2210080	Computer Supplies & IT Service	Maintenance and repair of ICT equipments and accessories ; computers, printers and photocopier.	ICT Infrastructure developed and services provided	5,000	Effective and functional ICT facilities for all stations	1,250	A functional ICT platform at all stations	1,250	Well functioning ICT Infrastructure	1,250	Well functioning ICT Infrastructure	1,250
			2220030	Provision of internet services			12,000		3,000		3,000		3,000		3,000

			3122020	Power stabilizer-serge protector	Regular information sharing and updates on project progress to staff, partners and stakeholders	ICT Infrastructure developed and services provided	5,000		-	ICT Infrastructure developed and services provided , procure power stabilizer	5,000	ICT Infrastructure developed and services provided, procure power inverter	-		-
				Power inverter			5,000		-		-		5,000		-
			3122020	tractor trailer		Machinery and Equipment to support research and extension linkage	8,000	Machinery and equipment to support research, tractor trailer procured	8,000	Research activities supported water harvesting system procured		Machinery and equipment to support research, tractor discs procured	-		
			3122020	Water pump			12,000		4,000		4,000		4,000		
			2270010	Travel inland	Regular information sharing and updates on project progress to staff, partners and stakeholders		13,000	Regular scientific, updates and information platform with stakeholders and partners	3,000	Regular scientific, updates and information platform with stakeholders and partners	4,000	Regular scientific, updates and information platform with stakeholders and partners	3,000	Regular scientific, updates and information platform with stakeholders and partners	3,000
			2270040	Fuel, lubricants and oils			10,000		2,500		2,500		2,500		2,500
			2230050	Electricity	Regular supply of electricity to the institute		25,300	Regular supply of electricity to the institute	6,325	Regular supply of electricity to the institute	6,325	Regular supply of electricity to the institute	6,325	Regular supply of electricity to the institute	6,325
TOTAL DEVELOPMENT							185,000	-	48,000	-	46,000	-	50,000	-	41,000

Annex xiv: Bulindi ZARDI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Crop and Natural Resource s Research program	Enhancing productivity of maize, Banana, rice, peas and fruit trees in the Lake Albert Crescent Zone (LACZ)	Generation of agricultural technologies	Trial establishment / maintenance, treatment (manure rates and plant density variation) application and Data collection and analysis	Optimum plant density under a specific manure rate that increases yield of banana by at least 50% in LACZ.	2240060	5,492	Ratoon yield data	2,511	Ratoon yield data	2,106	Optimum plant density under a specific manure rate that increases yield of banana by at least 50% in LACZ.	875		-
		Generation of agricultural technologies	isolation of microorganisms from different parts of banana and maize plants	At least 2 endophytes with a potential for use in plant disease management in maize and banana identified.	2240060	2,705	At least 2 endophytes with a potential for use in plant disease management in maize and banana identified.	2,705		-		-		-
		Generation of agricultural technologies	Trial establishment, development and evaluation of bird and pest management tools and treatments, data collection and analysis	At least one bird and pest management option for management of birds in rice and insect pests in crops.	2240060	2,205	At least one bird and pest management option for management of birds in rice and insect pests in crops.	2,205		-		-		-
		Generation of agricultural technologies	Sourcing and evaluation of the genotypes for growth, pest and disease resistance,	One zonal adapted pigeon pea variety identified	2240060	1,248	One zonal adapted pigeon pea variety identified	1,248		-		-		-
					2111030	2,424		2,424		-		-		-

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			maturity, yield and general adaptability											
		Generatio n of agricultur al technolog ies	Screenhouse Trial establishment, evaluation of various treatments, data collection and analysis	Atleast one effective management option for anthracnose in mangoes identified	22400 60	3,100	Atleast one effective management option for anthracnose in mangoes identified	3,100		-		-		-
		Generatio n of agricultur al technolog ies	Evaluation of the effectiveness of various options for control of FAW and Fruitfly	Atleast two effective control option against fruit fly species & FAW identified in LAZ	22400 60	3,235	Atleast two effective control option against identified fruit fly species in LAZ	3,235		-		-		-
					21110 30	1,617		1,617		-		-		-
		Generatio n of agricultur al technolog ies	Trial establishment, evaluation of various treatments, data collection and analysis	Atleast one soil amendment technology that increases productivity of citrus by 20% in LACZ	22400 60	1,144	Atleast one soil amendment technology that increases productivity of citrus by 20% in LACZ	1,144		-		-		-
Animal Resource s Research Program	Develop ment and promotio n of technolo gies for increased fish producti vity in	Generatio n of agricultur al technolog ies	• Construction and maintenance of fish ponds • Breeding experiments of Nile tilapia • Training farmers in mono sex technique	Alternative method for sex inversion of Nile tilapia recommende d	22400 60	10,308	Data on different methods evalauted	3,000	Sex reversal data of Nile tilapia fingerlings	5,308	Sex reversal data of Nile tilapia fingerlings	2,000	Alternativ e Nile tilapia Sex inversion method identified	
					21110 30	1,617		539		539		539		-

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	LACZ													
	Develop ment and Promotio n of Strategie s for increased producti vity of cattle in the Lake Albert Crescent Zone of Uganda	Generatio n of agricultur al technolog ies	Generation of appropriate safe and cost- effective feed ratio for poultry, pigs and cattle using locally available feed ingredients and evaluation of performance of alternative grass and legumes forage species in LACZ	Best performing grass and legumes recommende d	22400 60	16,322	Data on yield performanc e of grass and legume forage species	4,555	Data on yield performanc e of grass and legume forage species	3,923	Data on yield performanc e of grass and legume forage species	3,923	Best performin g grass and legumes recommen ded	3,923
	Develop ment and promotio n of technolog ies for increased producti vity of apiaries in LACZ	Generatio n of agricultur al technolog ies	Evaluating different methods for queen bee rearing	Appropriate method for queen bee rearing	22400 60	5,409	Data on queen bee rearing methods	1,654	Data on queen bee rearing methods	1,252	Data on queen bee rearing methods	1,252	Appropria te method for queen bee rearin	1,252
			Evaluating different periods for maximum venom collection	Appopriate period for maximum bee venom collection	21110 30	1,617		539		539		539		-
					22400 60	832	Data on period for venom collection from bee hive	255	Data on period for venom collection from bee hive	193	Data on period for venom collection from bee hive	193	Appopriat e period for maximum bee venom collection	193

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Development and Promotion of Strategies for increased productivity of cattle, goats and pigs in the Lake Albert Crescent Zone of Uganda	Generation of agricultural technologies	• Identification of major parasites and diseases of cattle • Evaluation of different management options against priority parasites and diseases in cattle pigs and goats	Appropriate management option for priority cattle, goat and pig parasitess and diseases	22400 10	12,000	Data on management options evaluated	4,000	Data on management options evaluated	4,000	Data on management options evaluated	4,000	Appropriate management option for priority cattle, goat and pig parasitess and diseases	
		Generation of agricultural technologies	• Generation of pig, poultry and dairy health & production enhancing designs	Appropriate housing designs		2,425		1,000.00		1,000		-		425
					21110 30									
Technology Promotion and Outreach Program	Technology awareness creation and promotion	Generation of agricultural technologies	Technology promotion shows (World Food day, Jinja agricultural show, Masindi and Hoima districts agricultural expos and farm clinics)	At least 3000 farmers skilled in improved agronomic, post-harvest and marketing practices	22100 20	7,757	At least 800 farmers skilled in improved agronomic, post-harvest and marketing practices	3,180	At least 700 farmers skilled in improved agronomic , post-harvest and marketing practices	1,180	At least 800 farmers skilled in improved agronomic, post-harvest and marketing practices	3,180	At least 700 farmers skilled in improved agronomic , post-harvest and marketing practices	217

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		Generatio n of agricultur al technolog ies	Establishment and maintenance of on-station demonstration sites for beans, maize, rice, groundnut, bananas, coffee, cassave and livestock forages	Increased access to improved agricultural technologies and information	22100 20	1,447	At least 200 farmers access to improved agricultural technologies and information	400	At least 200 farmers access to improved agricultur al technolog ies and informatio n	400	At least 200 farmers access to improved agricultural technologies and information	400	At least 200 farmers access to improved agricultur al technolog ies and informatio n	247
		Generatio n of agricultur al technolog ies	Establishment and maintenance of on-farm demonstration sites for bananas, coffee, cassave and livestock forages	Increased access to improved agricultural technologies and information	22100 20	868	At least 500 farmers access to improved agricultural technologies and information	200	At least 500 farmers access to improved agricultur al technolog ies and informatio n	200	At least 500 farmers access to improved agricultural technologies and information	200	At least 500 farmers access to improved agricultur al technolog ies and informatio n	268
	Communi cation and dissemin ation of research outputs	Generatio n of agricultur al technolog ies	Dissemination workshops, TV and radio talk shows	Increased awareness and knowledge of improved agricultural technologies and information	22100 20	4,168	Atleast two disseminatio n workshops, TV and radio talk shows conducted	1,000	Atleast two disseminat ion workshop s, TV and radio talk shows conducted	1,000	Atleast two dissemination workshops, TV and radio talk shows conducted	1,168	Atleast two disseminat ion workshop s, TV and radio talk shows conducted	1,000
	Monitori ng and evaluatio n of research projects	Generatio n of agricultur al technolog ies	Participatory meetings with beneficiaries, dissemination and sharing of evaluation findings	Projects efficiently implemented	22100 20	760					Atleast one PME workshop held	760		

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Administration	Electricity bills settled	Monthly utility invoices collected, processed and paid	Improvement in facilitating staff to deliver their planned targets		2230050	25,300		6,325		6,325		6,325		6,325
Sub-total		Generation of agricultural technologies				114,000		46,834		27,964		25,352		13,849
Communication and dissemination of research outputs	Computer Supplies & IT Service	Research extension interface promoted and strengthened	Acquired IT facilities for disseminating research outputs			8,000		4,000				4,000		
Sub-total		Research extension interface promoted and strengthened				8,000		4,000		-		4,000		-
Administration	Administration	Agricultural research capacity strengthened	Purchase of Office and ICT Equipment, including Software, Photocopier Intercom system CCTV and printers	CCTV Intercom system, printer procured	3122020	10,000	Phocopier, CCTV Intercom sysytem, printer procured	5,000.00				5,000		
			Procuring laboratory equipment	Labaratory capacity for research enhanced	3122020	2,500	Sealing machine and oven procured	2,500.00						

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Procurement of equipment	1 Nitrogen tank, Surgical & water testing kit procured	31220 20	5,000	One nitrogen flask, Surgical kit and water testing kit procured	5,000.00						
			Procurement of solar system of 6 pannels of 180wts	Upgrading of solar system power supply	31220 20	7,500			Atleast 6 pannels of solar pannels system of 180wts	7,500.00				
			Furniture & Fixtures - Procurement of lab stools	Improved human resource capacity to deliver research outputs	31220 30	7,500	Labaratory furniture procured	7,500.00						
			Furniture & Fixtures - Procurement of worktops benches	Assorted office equipment procured for the institute	31220 30	7,500				7,500				
Animal resources research program	Animal resources research program		Non-residential buildings (Goat disease management unit, Establish Pasture improvement unit, Establish goat breeding unit, Establish goat feed lot/fattening unit, and Demarcate and plot the site for industrial park	Goat feedlot unit comprising of a house, fenced paddocks and feeding and watering in place. A goat breeding unit established for raising mubende and boer goats. A pasture improvement	31220 20	70,000	Goat feedlot unit established, Goat breeding unit established, Pasture unit established, Goat disease management unit infrastructure established	70,000.00	Industrial park sited and demarcated					

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			at Bulindi ZARDI	unit established for supplying planting materials to farmers.										
			Machinery & Equipment (Procure equipment for establishment of the industrial park e.g scanner for pregnancy testing, weighing machines, insemination equipment, multipurpose forage choppers, disease management equipment)	Machinery & Equipment (Procure equipment for establishment of the industrial park e.g scanner for pregnancy testing, weighing machines, insemination equipment, multipurpose forage choppers, disease management equipment)		20,000	Machinery & Equipment (Procure equipment for establishment of the industrial park e.g scanner for pregnancy testing, weighing machines, insemination equipment, multipurpose forage choppers, disease management equipment)	10,000.0 0			Machinery & Equipment (Procure equipment for establishment of the industrial park e.g scanner for pregnancy testing, weighing machines, insemination equipment, multipurpose forage choppers, disease management equipment)	10,000		
			Furniture & Fixtures (e.g goat wing nets, feeding troughs, and watering troughs)	Furniture & Fixtures (e.g goat wing nets, feeding troughs, and watering troughs)		20,000	Furniture & Fixtures (e.g goat wing nets, feeding troughs, and watering troughs)	10,000.0 0			Furniture & Fixtures (e.g goat wing nets, feeding troughs, and watering troughs)	10,000		
Sub-total: Agricultural research capacity strengthened						150,000		110,000		15,000		25,000		-
Grand-Total						272,000		160,834		42,964		54,352		13,849

Annex xv: Kachwekano ZARDI GoU Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Livestock and fisheries	Development and promotion of fish species for enhanced productivity in diverse culture systems in SWHAEZ	Generation of agricultural technologies	2111030-Allowances	Maintenance of on station aquaculture facility fish ponds and Breeding of Nile tilapia	At least 6 onstation ponds rehabilitated and maintained in functional state.	1,000	At least 6 onstation ponds rehabilitated and breeding ponds prepared	250	At least 10,000 Nile tilapia fingerlings produced and availed to farmers	250	At least 10,000 Nile tilapia fingerlings produced and availed to farmers	250	At least 10,000 Nile tilapia fingerlings produced and availed to farmers	250
			2270010-Travel inland	Growth performance of the different fish species in the culture systems of SWHAEZ	At least best performing fish species identified	2,000	Site selection and experimental initiation	1,000	Preliminary information on the growth rates and the survival of the fish species generated	500	Growth rate and survival rates of the fish species generated	500	Yield of the Nile tilapia per unit volume of the production system. • Recommendations for the best fish species set	
			2270040-Fuel, oils and Lubricants			1,500		500		500		500		
			2111030-Allowances			500		500						
			2270010-Travel inland	Utilization and management of the available locally feed ingredients as alternative feeds for fish	One cost effective fish feed from the local fish feed ingredients formulated and evaluated	1,000	Nutritional compositions and prices determined		Profiling nutritional attributes for local ingredients, their availability and the prices		Formulation of the fish feed and its subsequent proximate analysis		On-farm experiments done, Development of the feeding guidelines of the formulated fish feeds	1,000
			2270040-Fuel, oils and Lubricants			1,500		500						1,000
			2111030-Allowances			500		250		250				
	Development of improved breeds of goats with enhanced	Generation of agricultural technologies	2240010-Medical and Veterinary Supplies	Evaluation of performance of F1 progenies for growth & worm resistance	At least 2 breeding bucks accessed and maintained for	26,624	At least 160 breeding goats maintained on-station	8,000	At least 160 breeding goats maintained on-station	6,000	At least 160 breeding goats maintained on-station	6000	At least 160 breeding goats maintained on-station	6,624
			224006-Agricultural supplies			1,000		1,000						

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	genetic value for early maturity and weight gain		2270010-Travel inland		improved breeding on-station	1,500	by provision of vaccines, drugs, acaricides and tools	500		1,000				
			2111030-Allowances	On-farm validation of FAMACHA system	FAMACHA worm control strategy validated on at least 4 districts of SWHAEZ	1,000	At least 16 on-farm trials established in 4 districts of SWHAEZ	250		250		250		250
	Sub - Total					38,124	-	12,750	-	8,750	-	7,500	-	9,124
Crops	Development and promotion of quality declared potato varieties for enhanced potato productivity in Uganda	Generation of technologies for priority commodities	2111030-Allowances	Production of quality nuclear seed potato	At least 80,000 plants of starter materials of farmer preferred varieties generated	1,500	At least 20,000 plantlets and cuttings	500	At least 20,000 plantlets and cuttings	500	At least 20,000 plantlets and cuttings	250	At least 20,000 plantlets and cuttings	250
			2230010-Electricity			10,000		2,500		2,500		2,500		2,500
			2111030-Allowances	Determining the effect of subculture intervals and frequency on the invitro performance of different potato varieties	Information on the effect of subculture frequency and interval on selected potato varieties generated and documented	1,000	At least 2 potato varieties initiated invitro	250	Test varieties subcultured at different intervals and frequency. Data collected on growth parameters	250	Test varieties subcultured at different intervals and frequency. Data collected on growth parameters	250	Data collected on growth parameters. Data analysed and preliminary results obtained	250
			2240060-Agricultural Supplies			6,680		2,000		2,000		1,680		1,000
			2230010-Electricity			15,300		5,000		2,500		2,500		5,300

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
					d									
			2270010- Travel inland	Evaluation of potato tuber moth management strategies .	Preliminary information on managemen t strategies for potato tuber moth in place.	3,000	Atleast1 storage and one field experim ents establish ed.	1,000	Preliminary information on effective potato tuber moth managemen t strategies known	1,000	Atleast1 storage and one field experiment s established.	500	Preliminary information on effective potato tuber managemen t strategies known	500
	9,700		2240060- Agricultural Supplies	Enhancing capacity of farmers to manage the Fall Army Worm in the zone	Proven Integrated Pest managemen t strategies for Fall army worm demonstrat ed and promoted to farmers	2,000	Atleast 5 demonst ration sites establish ed in the districts of Kanung u and Rukungi ri	1,000	Atleast 150 farmers mobilised and trained on integrated pest managemen t strategies of the fall army worm	1,000	Atleast 5 demonstrat ion sites established in the districts of Kanungu and Rukungiri		Atleast 150 farmers mobilised and trained on integrated pest managemen t strategies of the fall army worm	
			2270040- Fuel, oils and Lubricants			4,000		1,500		1,000		500		1,000
	Development and promotion of locally available organic materials to remedy soil fertility problems in SWHAEZ	Generation of technologies for priority commodities	2270010- Travel inland	Utilization of Ash-based extracts for optimum potato and apples production	Ash-based extract utilization strategy on potato and apples recommended	1,000	Atleast 1on- station ash-based experim ent with 3 replicate s establish ed for each of apples and potatoes		Nutrient profile of stock solutions determined and preliminary data set on potato and apples growth parameters collected from the 3 replicates	500	Preliminary results on performanc e of ash- based extracts/sto ck solutions on potato and apples obtained	500	Report on utilization of ash- based extract on potato to enhance productivit y produced, with recommend ations therein	
			2270040- Fuel, oils and Lubricants			1,000				500		500		
			2111030- Allowances			500		500						
			2240060- Agricultural Supplies			2,000		1,500		500				

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Determination of the best fertilizer type and rates of application for commercial apple production in SWHAEZ	Generation of Agricultural technologies	2111030-Allowances	At least 3 acres of the on station trial at Kachwekano maintained, managed, data collected and analyzed	Trial monitoring, Trial management, Growth data collection and analyzed for preliminary results	1,000	Trial weeding, bund maintenance, spraying and growth response data collected	250	Trial weeding, bund maintenance, spraying and flowering and fruiting data collected and analysed	250	Trial weeding, bund maintenance, spraying and yield data collected and analysed	250	Trial weeding, bund maintenance, spraying, defoliation and growth data collected and analysed	250
			2240060-Agricultural Supplies			3,000	Trial monitoring and collecting the second season first set of growth data collected	2,000				1,000		
	Screening apple cultivars against powdery mildew and testing new apple cultivars for performance and adaptability in Uganda	Generation of Agricultural technologies	2270010-Travel inland	At least 29 on farm trials in the districts of Kabale, Kanungu, Kisoro, Rukiga, Rukungiri, Isingiro, Mbarara and Buhweju involving the 6 promising apple cultivars monitored and data collected and analyzed against performance	Trials monitoring, Growth data collection and analyzed for preliminary results on cultivar performance	4,500	Trial monitoring and collecting the second season second set of growth data collected and analyzed	1,500	Trial monitoring and collecting the second season second set of growth data collected and analyzed	2,000	Trial monitoring and collecting the first season fruiting data collected and analyzed	500	Trial monitoring and collecting the first season second set of growth response data collected and analyzed	500
			2240060-Agricultural Supplies			3,000		1,000		1,000		1,000		
			2270040-Fuel, oils and Lubricants			3,182		2,182		500		500		

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Optimisation of apple orchard management for improved tree health and fruit yields	Generation of Agricultural technologies	2111030-Allowances	Orchard management practices optimised for improved tree health and yields	Orchard management practices optimised	1,700	Management practices optimised	500	Management practices optimised	500	Management practices optimised	200	Management practices optimised	500
			2240060-Agricultural Supplies			3,000		1,000		500		500		1,000
	Promotion of new potato varieties	Generation of Agricultural technologies	2240060-Agricultural supplies	At least 3 new potato varieties promoted	At least 4 demonstration sites established in 4 districts in SWHAEZ	3,000	At least 4 sites selected and prepared and seed and agricultural supplies procured	1,000	At least 4 demonstrations on new potato varieties planted	1,000	Yield performance data from 4 demo sites of new potato varieties collected, processed and analysed, recommendations made for farmers' adoption	1,000	At least 2 radio talk shows to popularise the use of potato varieties presented on each of the local FM radios in the 6 districts in the zone	
			2111030-Allowances			1,000		500		500				
			2240060-Agricultural Supplies			2,000		1,000		1,000				
			2270010-Travel inland			2,000		1,000		1,000				
			2270040-Fuel, oils and Lubricants			2,000		1,000		500		500		

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Facilitating farmer trainings, stakeholder planning and review workshops, Public and local agricultural shows and exhibitions	Generation of Agricultural technologies	2210020-Workshops and Seminars	Technology generation information shared between stakeholders for improved performance of priority commodities	At least 4 stakeholder's review and planning workshops, farmer field days, Institute based open days held, Agricultural shows and exhibitions attended and commodity based seminars conducted	15,020	At least 1 stakeholder's review and planning workshops held and commodity based seminars conducted	4,000	At least 1 stakeholder's review and planning workshops held and commodity based seminars conducted	5,000	At least 1 stakeholder's review and planning workshops held and commodity based seminars conducted	3,000	At least 1 stakeholder's review and planning workshops held and commodity based seminars conducted	3,020
	Dissimination and publishing released technologies			Publishing scientific papers in Journal	At least 2 publications supported		At least 1 publication supported		At least 1 publication supported		At least 1 publication supported		At least 1 publication supported	
	Sub - Total					92,382	-	32,682	-	26,000	-	17,630	-	16,070
	Total					130,506								
Research extension interface promoted and strengthened		Research extension interface promoted and strengthened	2210080 Computer Supplies and Information Technology	Updated information and communication systems	Institute computers Serviced	5,819	Periodic work servicing of institute computers to facilitate work plan and	1,454	Periodic work servicing of institute computers to facilitate work plan and management policies development	1,454	Periodic work servicing of institute computers to facilitate work plan and management policies development	1,454	Periodic work servicing of institute computers to facilitate work plan and management policies development	1,457

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
							management policies development		nt		ent		ent	
			2210110 Printing, Stationary and Binding	Preparation and submission of Human Resource & administrative, Financial and Audit reports	Institutes financial performance Vs Implementation of research activities ascertained	7,595	Assorted stationary procured	1,898	Assorted stationary procured	1,898	Assorted stationary procured	1,898	Assorted stationary procured	1,901
						13,414		3,352		3,352		3,352		3,358
Agricultural research capacity strengthened			2220030 Communication and Information Technology	Facilitation of Institute staff to access vital information over the internet and other communication channels	Information required by institute staff on internet and other communication channels secured	5,600	Internet services subscribed for	1,400	Internet services subscribed for	1,400	Internet services subscribed for	1,400	Internet services subscribed for	1,400
			2270010- Travel inland	Conducting monitoring and evaluation of research projects	Information generated on research progress against the planned outputs and activities	7,980	Projects progress tracked and corrective action agreed on major areas that require improvement	1,995	Projects progress tracked and corrective action agreed on major areas that require improvement	1,995	Projects progress tracked and corrective action agreed on major areas that require improvement	1,995	Projects progress tracked and corrective action agreed on major areas that require improvement	1,995

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2280020- Maintenance Vehicles	Servicing Vehicles for research and administratio n activities	11 vehicles and 6 motorcycles kept in good condition for timely implementa tion of Research activities	10,000	11 vehicles and 6 motorcyc les kept in good conditio n and insured to allow impleme ntation of research activities	2,500	11 vehicles and 6 motorcycles kept in good condition and insured to allow implementa tion of research activities	2,500	11 vehicles and 6 motorcycles kept in good condition and insured to allow implementa tion of research activities	2,500	11 vehicles and 6 motorcycles kept in good condition and insured to allow implementa tion of research activities	2,500
			2280030 Maintenance -Equipment	Servicing of Generators and Tractors	2 Generators and Tractors kept in good condition for timely implementa tion of Research activities	5,000	Generat ors and Tractors kept in good conditio n for timely impleme ntation of Research activities	1,250	Generators and Tractors kept in good condition for timely implementa tion of Research activities	1,250	Generators and Tractors kept in good condition for timely implementa tion of Research activities	1,250	Generators and Tractors kept in good condition for timely implementa tion of Research activities	1,250
			2280040 Maintenance -Other	Servicing of Generator and Tractors Vehicles for research and administratio n activities	Generator and tractors Maintained	2,500	Generat ors and Tractors kept in good conditio n for timely impleme ntation of Research activities	625	Generators and Tractors kept in good condition for timely implementa tion of Research activities	625	Generators and Tractors kept in good condition for timely implementa tion of Research activities	625	Generators and Tractors kept in good condition for timely implementa tion of Research activities	625

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
						31,080		7,770		7,770		7,770		7,770
Admin/ Operational Expenses		3122020 Purchase of office and ICT Equipment s, including Software	3122020 Purchase of office and ICT Equipments, including Software			10,000	2 Laptops , Anti virus package s, Internet Modems and External hard disks procure d	5,000	2 Computers procured	5,000				
						10,000		5,000		5,000				
						185,000	-	61,554	-	50,872	-	36,252	-	36,322

Annex xvi: Mbarara ZARDI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Outputs	Annual Key Activities	Expenditure code	Expenditure description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Crop & Natural Resources Research	Enhancing adaptation of bean production systems to climate change effects through effective soil moisture/ nutrients management and integrated management of bean pests and disease in the SWAEZ		Atleast two agroforestry species that improve bean productivity identified	Establish on- station experiments to determine the effect of different nitrogen fixing shrubs on bean productivity	2270010	Travel inland	2,000		1,000		-		1,000		-
					2111030	Allowances	1,000		300				350		350
					2210020	Workshops/ Seminars/ publications	4,500		1,500		1,000		1,000		1,000
					2240060	Agric supplies	31,400		10,000		15,000		2,250		4,150
			Atleast one prediction model for forecasting major bean pests developed	Establish on- station and onfarm experiments to determine the the occurrence of bean aphids in different bean farming systems	2270010	Travel inland	9,000		1,250		1,000		3,750		3,000
					2111030	Allowances	2,000		500		500		500		500
					2270040	Fuel lubricants and oil	1,100		350		250		250		250
Sub total							51,000		14,900		17,750		9,100		9,250
Crop & Natural Resources Research	Improvem ent of banana productivi ty through innovative integrated soil fertility/m oisture and banana bacterial wilt		Atleast one IDM innovations for effective control of banana bacterial wilt identified for promotion	Conducting participator y evaluation of selected IDM options to banana bacterial wilt on-farm	2240060	Agr supplies	24,000		7,700		11,300		5,000		-
					2270010	Travel inland	3,000		750		750		750		750
					2111030	Allowances	950		950		-		-		-
					2210020	Workshops/ Seminars/ publications	5,500		1,500		2,000		2,000		
			DRIS and CND nutrient norms for major soil	Characterisa tion of existing banana fields, soil	2111030	Allowances	1,000		500		500		-		-
					2270040	Fuel lubricants	1,000		350		150		250		250

Program/ Directorate	Projects/Units	Vote Function/output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Outputs	Annual Key Activities	Expenditure code	Expenditure description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	control in SWAEZ		types and soil fertility management practices are developed	sampling and leaf analysis. Participatory evaluation of soil fertility management.		and oil									
Sub total							35,450		11,750		14,700		8,000		1,000
Total							86,450		26,650		32,450		17,100		10,250
Animal Resources Research Program	Domestication of small catfish (Ensonzi)		A hormone induced technology for improved breeding of the small African Catfish developed	Conduct studies on the reproductive Behaviour of Small catfish ,conduct breeding trials under different culture systems	2111030	Allowances	1,000		1,000				-		-
					2270010	Travel inland	1,700		1,000		300		400		-
					2240010	Veterinary and Medical Supplies	8,500		2,000		2,500		1,500		2,500
					2270040	Fuel lubricants and oil	1,000		200		600		100		100
					2210020	Workshops and Seminar	4,000		1,000		1,000		1,000		1,000
Sub- Total							16,200		5,200		4,400		3,000		3,600
Animal Resources Research Program	Enhancing traditional ghee production and marketability in SW Uganda - to support the ghee cottage industry in the zone		At least one formula of starter culture (and its product platform) in SW Uganda developed	Evaluation of different formulae of lactating acid fermenting bacteria undertaken on-station and in the field	2240010	Medical and Veterinary supplies	13,500		5,000		4,000		2,500		2,000
					2210020	Workshops and Seminar	3,000		1,000		1,000		500		500
					2210110	Printing stationery,bi nding	-		-		-		-		-
					2270040	Fuel , Lubricants and Oils	2,000		500		500		500		500
					2270010	Travel inland	1,300		600		300		200		200

Program/ Directorate	Projects/Units	Vote Function/output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Outputs	Annual Key Activities	Expenditure code	Expenditure description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
					2111030	Allowances	1,500		500		500		500		
					2210080	Computer supplies and IT	-		-		-		-		-
Sub- Total							21,300		7,600		6,300		4,200		3,200
Sub- Total							37,500		12,800		10,700		7,200		6,800
Technology Promotion and Outreach	Factors influencing adoption of quality seed of improved varieties in SWAEZ: A value chain approach		A strategy for enhancing adoption of quality seed of improved varieties developed	Conducting a survey among the key actors along the seed value chain	2210020	Workshops, Seminars and publications	3,000		1,000		1,000		1,000		
					2270040	Fuel, lubricants and oils	1,500		400		400		400		300
					2111030	Allowances	2,250				1,000		1,000		250
					2270010	Travel inland	2,000		500		500		500		500
Sub total							8,750		1,900		2,900		2,900		1,050
Research and development programmes	Promoting and enhancing research		Provision of Electricity and alternative power sources for research	Utility serviced availed to improve research	223005	Electricity	25,300		6,325		6,325		6,325		6,325
Total output one							158,000		47,675		52,375		33,525		24,425
Technology Promotion and Outreach	Promoting the zonal appropriate technologies and innovations		Appropriate agricultural technologies promoted to atleast 2000 stakeholders in the SWAEZ	Disseminating agricultural technologies , innovations and management practices	2210020	Workshops & Seminars	-		-		-		-		-
					2210110	Printing, Stationery, Binding	8,000		2,000		2,000		2,000		2,000
					2210010	Advertising and Public Relations	1,000		-		1,000		-		-

Program/ Directorate	Projects/Units	Vote Function/output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Outputs	Annual Key Activities	Expenditure code	Expenditure description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				through appropriate uptake pathways	2210080	Computer supplies and IT	4,000		-		1,000		-		3,000
	Sub-Total						13,000	-	2,000	-	4,000	-	2,000	-	5,000
CAPACITY STRENGTHENING (ADMINISTRATION)	Strengthening agricultural research		Provision of consultancy services short term for research and development	Consultancy services availed to enhance research	2250010	Consultancy-short term	6,000		2,000		2,000		2,000		-
	Strengthening agricultural research	Strengthening agricultural research	Institute vehicles, motor cycles maintained in a good condition	Maintenance of institute research and admin. vehicles, motorcycles	2280020	Maintenance vehicles	8,000		2,000		2,000		2,000		2,000
	Sub -Total						14,000		4,000		4,000		4,000		2,000
Grand Total							185,000		53,675		60,375		39,525		31,425



Annex xvii: Mukono ZARDI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Administration	Facilitating an enabling environment for effective research and development	Agricultural research capacity strengthened	2210030	Staff Training	Continuous skills improvement for staff to implement quality research	Improved technical capacity of staff through short courses	17,260	MUZARDI staff knowledgeable in modern communication and reporting methods	7,260	Effective sub contracts committee for improved project implementation	5,000	Improved experimental design and implementation for publication capacity	-	Staff training on financial reporting, scientific writing and data management	5,000
			2270010	Travel inland	Participate in NARO Annual Budget and Financial work, monitoring and evaluation of research activities	Reports are prepared and submitted to NAROSEC .Research activities monitored	7,639	Reports are prepared and submitted to NAROSEC .Research activities monitored	3,820			Reports are prepared and submitted to NAROSEC .Research activities monitored	3,819		
					Sub - Total		24,899		11,080		5,000		3,819		5,000
Program 1: Technology Promotion and Outreach (Publicity)	Promote and enhancing research	Agricultural Extension Interface	2210020	Advertising & Public relations	Design and develop branded materials/products - notebooks, pens, brand pull-up banners, Branded brochures & seed packets	NARO branded materials/products	20,000	NARO branded materials/products	5,000	NARO branded materials/products	5,000	NARO branded materials/products	5,000	NARO branded materials/products	5,000

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210110	Printing , Stationery & Binding			2,820		705		705		705		705
			2210070	Books, Periodicals and newspapers			900		450				450		
			2210020	Advertising & Public relations	Create awareness about NARO to public, Radio announcements, Radio talk show, Media & Publicity NARO Science conference, Agriculture show & Represent Institute in meetings/conferences	Awareness created	12,000	Awareness created, Antivirus package procured & NARO representation meetings/ conferences	3,000	Awareness created, Antivirus package procured & NARO representation meetings/ conferences	3,000	Awareness created, Antivirus package procured & NARO representation meetings/ conferences	3,000	Awareness created, Antivirus package procured & NARO representation meetings/ conferences	3,000
			2210080	Computer Supplies & IT Service			1,150		288		288		287		287
			2270010	Travel inland			11,373		2,843		2,843		2,844		2,843
					Sub - total		48,243		12,286		11,836		12,286		11,835

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		Generation of Agriculture technologies	2270010	Travel inland	Monitoring of all institute projects on station and onfarm	Monitoring and evaluation conducted & power procured	1,200	Monitoring and evaluation conducted & power procured	300	Monitoring and evaluation conducted & power procured	300	Monitoring and evaluation conducted & power procured	300	Monitoring and evaluation conducted & power procured	300
			2270040	Fuel,Lub ricants & oils			800		200		200		200		200
			2230010	Electricity			17,571		4,393		4,392		4,392		4,394
			2270010	Travel inland	Assessment on NARO technologies among farmers around both institute stations	NARO technology assessed	1,600	NARO technology assessed	400	NARO technology assessed	400	NARO technology assessed	400	NARO technology assessed	400
			2270040	Fuel,Lub ricants & oils			800		200		200		200		200
					Sub - total		21,971		5,493		5,492		5,492		5,494
			2210020	Workshop & Seminars	Attending review workshops , seminars & field days (institute workshops) Director,Auditor , scientists Finance officer/Human Resource /admin ,Procurement workshops.	NARO Technologies Disseminated to stakeholders	14,507	NARO Technologies Disseminated to stakeholders	3,627	NARO Technologies Disseminated to stakeholders	3,627	NARO Technologies Disseminated to stakeholders	3,626	NARO Technologies Disseminated to stakeholders	3,627

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270010	Travel inland		Promotional outreach services to farmers provided	1,000	Promotional outreach services to farmers provided	250	Promotional outreach services to farmers provided	250	Promotional outreach services to farmers provided	250	Promotional outreach services to farmers provided	250
					Sub- total		15,507	-	3,877	-	3,877	-	3,876	-	3,877
Program 2: Animal Resources Research	Livestock on-station and Kamenyamiggo	Generation of technologies	2111030	Allowances	Cattle fence maintenance	cattle fence for Nganda maintained	700		175		175		175		175
			2240060	Agricultural supplies		feed ingredients for pigs at Kamenyamiggo and On- station purchased	3,000	purchase feed ingredients	750	purchase feed ingredients	750	purchase feed ingredients	750	purchase feed ingredients	750
			2240010	Medical & Agricultural Supplies	Assorted Medicines for cattle pigs and goats	medicines for cattle, pigs and goats bought	4,150	purchase medicines	1,038	purchase medicines	1,038	purchase medicines	1,038	purchase medicines	1,038
			2240060	Agricultural supplies			2,500		625		625		625		625
			2240010	Medical & Agricultural Supplies	Testing effects of DE on eliminating smell	Testing effects of DE on eliminating smell	4,000		1,000		1,000		1,000		1,000

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060	Agric supplies	Knapsack spray pump for Kamenyamiggo	purchase pump control ticks on livestock at Kamenyamiggo	2,000		500		500		500		500
			2111020	Allowances	repair milking parlor at Kamenyamiggo	safety of cows and handler ensured at milking	1,000		250		250		250		250
			2111030	Allowances	repair crush	safety of cattle and handler ensured by safe crush	1,000		250		250		250		250
			2240060	Agric supplies	Silage making and preservation	Feed conserved for dry period	1,170		293		293		293		293
			2270010	Travel inland			1,160		290		290		290		290
			2270040	Fuel and lubricant			627		300				327		
			2111030	Allowances			1,000		250		250		250		250
			2240060	Agric supplies	hay processing		1,000		250		250		250		250
			2111020	Allowances			800		200		200		200		200
					TOTAL LIVESTOCK		24,107	-	6,170	-	5,870	-	6,197	-	5,870

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Program 3: Crop and Natural Resources Research	Evaluation of performance of different apple varieties in the LVCAZ	Generation of technologies	2240060	Agricultural supplies	Establish experiments to evaluate different apple production agronomic practices at MUZARDI & Kamenyamigo	At least 60 apple trees established and managed	4,200	20 soil samples analysed in the lab	1,050	20 soil samples analysed in the lab	1,050	20 soil samples analysed in the lab	1,050	20 soil samples analysed in the lab	1,050
			2270010	Travel inland	Data collection on apple performance in Kamenyamigo	Two data sets collected and a progress report	1,440	Two data sets collected	360	Two data sets collected	360	Two data sets collected	360	Two data sets collected	360
			2270040	Fuel, Lubricants & oils			1,200		300		300		300		300
					Sub-total		6,840		1,710	-	1,710	-	1,710	-	1,710
	Effect of cassava intercropping systems on weed management in cassava production in the LVCAZ	Generation of technologies	2240060	Agricultural supplies	Establishment of the cassava intercrop trial	Efficacy of the different cassava intercroppings on weed infestation determined		aAssorted items procured & worked labour paid	935	aAssorted items procured & worked labour paid		aAssorted items procured & worked labour paid	935	aAssorted items procured & worked labour paid	
			2111030	Allowances			1,870								
			2111030	Allowances			50		25				25		
							600		450				150		

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270010	Travel inland	Planting and maintaining the cassava intercropping and weed management trials		1,260	Trials monitored at least two times	315	Trials monitored at least two times	315	Trials monitored at least two times	315	Trials monitored at least two times	315
			2270040	Fuel, Lubricants & oils			293		200		93				
			2240060	Agricultural supplies			50	10 sisal rolls procured	50				-		
			2111030	Allowances			786		393			Intercrop trial planted	393		
			2270010	Travel inland	Collecting and analysing soil samples collected and analysed	60 soil samples collected and analysed	580				290				290
			2270040	Fuel, Lubricants & oils			400				200				200
			2240060	Agricultural supplies			1,150				575				575
					Sub-total		7,039		2,368		1,473		1,818	0	1,380
	Evaluation of the efficacy of selected maize weed control herbicides in the LVCAZ	Generation of technologies	2240060	Agricultural supplies	Land preparation and trial planting and management at Kamenyamigo and Mukono	Most effective herbicide (s) for weed control in maize in the LVCAZ identified and recommended to farmers	760	4 litres of herbicide procures	380			4 litres of herbicide procures	380		

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2111030	Allowances			340			Labour for planting paid	170	Labour for planting paid	170		
			2270040	Fuel, Lubricants & oils			480			38 litres of fuel procured	150	38 litres of fuel procured	150	45 litres of fuel procured	180
			2270010	Travel inland			840			Per diems	280	Per diems	280	Per diems	280
					Sub-total		2,420		380		600		980		460
	Adaptation of promising bean genotypes to the LVCAZ	Generation of technologies	2111030	Allowances	Land preparation at Kamenyamigo and Mukono; procurement of inputs, planting & weeding	Performance of promising bean genotypes determined in at least two selected for upscaling	780	One acre of land prepared	390			One acre of land prepared	390		
			2240060	Agricultural supplies			360	One bag of NPK fertilizer procured	180			One bag of NPK fertilizer procured	180		
			2270040	Fuel, Lubricants & oils			320			40 litres of fuel procured	160			40 litres of fuel procured	160
			2270010	Travel inland			1,120			Per diems during trial monitoring paid	560			Per diems during trial monitoring paid	560
					Sub-total		2,580		570		720		570		720
	Adaptation of promising sweetpotato genotypes to the	Generation of technologies	2111030	Allowances	Land preparation, planting, weeding and trial monitoring	Performance of promising sweetpotato genotypes	1,350	1 acre of land ploughed and ridges raised	675	1 acre of land ploughed and ridges raised	675				

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	LVCAZ					determined and the best genotype(s) selected for upscaling									
			2270040	Fuel, Lubricants & oils			480			60 litres of fuel procured	240	60 litres of fuel procured	240		
			2270010	Travel inland			560			Per diems during trial monitoring paid	280	Per diems during trial monitoring paid	280		
							2,390		675		1,195		520		
	Evaluation of the performance of the seven KR-coffee lines under selected climate smart practices on Plinthosols and Ferralsols	Generation of technologies	2111030	Allowances	Establishment and management of on-station trials at Mukono and Kamenyamigo	Two trials for evaluation of Seven KR-coffee lines under selected climate smart practices established	1,294	One acre of land ploughed (first and second ploughing)	324		323		324		323
			2240060	Agricultural supplies			1,470	3 bags of Urea and 3 bags of SSP procured	1,470						

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270040	Fuel, Lubricants & oils			240			60 litres of fuel procured	240				
			2270010	Travel inland			1,000			Per deims for trial establishment and monitoring paid	1,000				
					Sub-total		4,004		1,794		1,563		324		323
					Total		86,858	0	23,037	0	22,500	0	21,487	0	19,834
		Generation Technologies for Priority Commodities	3122020	purchase of office & ICT Equipment	1 Desktop computers, 1 laptops, 1 projectors, 1 ups units, 1 router and 1 network kit	ICT Infrastructure developed and services provided	25,000	Effective and functional ICT facilities for all stations for the Istitute	6,250	A functional ICT platform at all stations,	6,250	Well functioning ICT Infrastructure	6,250	Well functioning ICT Infrastructure	6,250
TOTAL DEVELOPMENT							185,000		52,653		45,586		43,842		42,919

Annex xviii: Nabuin ZARDI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
1. Animal Resources Research	Multiplication and dissemination of technologies for livestock to enhance milk and meat productivity	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Pasture seed multiplication (<i>Chloris gayana</i> , Glycine, <i>Brachiaria</i> , Napier),	1,000 kgs of better performing pasture species (<i>Chloris gayana</i> , Glycine, <i>Brachiaria</i> , Napier), produced to increase availability to farmers	Pasture seeds	400	5 acres of pasture fields established and maintained	100	5 acres of pastures harvested, 500 kgs of pastures processed	100	5 acres of pastures harvested, 500 kgs of pastures processed	100	5 acres of pasture fields established and maintained	100
				Multiplication of Sahiwal and Friesian cattle	50 Sahiwal and 15 Friesian cattle multiplied on-station to increase availability to farmers	Drugs	400	40 Sahiwal and 10 Friesian cattle maintained on-station	100	40 Sahiwal and 10 Friesian cattle maintained on-station	100	40 Sahiwal and 10 Friesian cattle maintained on-station	100	50 Sahiwal and Friesian 15 cattle maintained on-station	100
				Multiplication of Mubende and Boer goats	80 Mubende and 3 Boer goats multiplied on-station to increase availability to farmers	Goats	660	60 Mubende and 2 Boer goats maintained on-station	330		-	70 Mubende and 2 Boer goats maintained on-station	330		-
				Multiplication of Cambrough pigs and superior performing	20 Cambrough pigs and 400 superior performing	Chickens	400	10 Cambrough pigs and 100 superior performing	100	20 Cambrough pigs and 100 superior performing indigenous	100	20 Cambrough pigs and 100 superior performing	100	20 Cambrough pigs and 100 superior performing	100

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				performing indigenous chicken	g indigenous chicken multiplied for availability to farmers			indigenous chicken maintained on-station		chicken maintained on-station		g indigenous chicken maintained on-station		indigenous chicken maintained on-station	
						Feeds	500		100	Feeds	100	Feeds	150	Feeds	150
					Sub-Total		2,360	-	730	-	400		780	-	450
	Evaluating alternative tick control options using promising indigenous plant species	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	In vitro assessment of the efficacy of three indigenous plant species against ticks	The efficacy of three indigenous plant species against the ticks <i>Rhipicephalus decoloratus</i> , <i>Rhipicephalus appendiculatus</i> and <i>Amblyomma variegatum</i> tested	Laboratory costs	2,000	Active chemical compounds extracted from three indigenous plant species for use as acaricide	500	In vitro efficacy of three indigenous plant species tested against <i>Rhipicephalus appendiculatus</i> ticks	500	In vitro efficacy of three indigenous plant species tested against <i>Rhipicephalus appendiculatus</i> ticks	500	In vitro efficacy of three indigenous plant species tested against <i>Rhipicephalus decoloratus</i> ticks	500
					Sub-total		2,000		500		500		500		500

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Determining the most adaptive, palatable and nutritive indigenous pasture (grass and browse) species utilised by ruminants in Karamoja rangelands	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Participatory field assessment and laboratory analysis of indigenous pasture species, for their preference by ruminants in the Karamoja rangelands and their nutritive value	Atleast 5 indigenous pasture species most utilised by ruminants in Karamoja rangelands determined, out of the 24 screened	Laboratory costs	1,000	Participatory assessment of the pasture species most utilised by ruminants with two groups of pastoralists. Ten (10) indigenous pasture species collected, identified and analysed in the laboratory for nutritive properties.	250	Participatory assessment of the pasture species most utilised by ruminants with two groups of pastoralists. Eight (8) indigenous pasture species collected, identified and analysed in the laboratory for nutritive properties.	250	Six (6) indigenous pasture species collected, identified and analysed in the laboratory for nutritive properties.	250	Six (6) indigenous pasture species collected, identified and analysed in the laboratory for nutritive properties.	250
					Sub-total		1,000		250		250		250		250
	Determine production and health performance of cattle and goats reared under various	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Evaluate weight gain, milk production and health (helminthiasis and tick-borne diseases) of	Weight gain, milk production and health of cattle and goats reared under various grazing regimens determined	Pasture seed	100	Weight gain, milk production and health (helminthiasis and tick-borne diseases) of goats and cattle under different grazing regimens	25	Weight gain, milk production and health (helminthiasis and tick-borne diseases) of goats and cattle under different grazing regimens	25	Weight gain, milk production and health (helminthiasis and tick-borne diseases) of goats and cattle under different	25	Weight gain, milk production and health (helminthiasis and tick-borne diseases) of goats and cattle under different grazing	25
						Drugs	100		25		25		25		25
						Feeds	100		25		25		25		25

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	grazing regimens			goats and cattle under different grazing regimens				determined in first three months		determined in the first six months		grazing regimens determined in the first 12 months		regimens determined in the first 12 months	
					Sub-total		300		75		75		75		75
	Enhanced quality and commercialisation for milk from farmers	77	3122020: Machinery & Equipment	Evaluate three formulations of Hay for commercialization	Procure 1 tractor mounted hay baler for mass production of hay onstation	Mini BPI Hay Baler	30,000	Procure 1 tractor mounted hay baler for mass production of hay onstation (BPI Baler)	30,000		-		-		-
					Sub-total		30,000		30,000		-		-		-
	Cost-effective feeds for chicken, pigs and cattle developed from locally available resources	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Formulating and packaging feeds for chicken, cattle and pigs from locally available resources	One cost-effective feed formulation for chicken, cattle and pigs determined from locally available resources. Animal performance determined	Forage seeds and pods	600	5 acres of plant resources for formulating feeds established	200	Feeds formulated and animal performance determined	200	Feeds formulated and animal performance determined	100	Animal performance determined and feeds packaged	100
						Storage bags	400		100		100		100		100
						Fertilizers	500		100		100		150		150
						Drugs	500		100		150		150		100
						Fuel	2,000		500		500		500		500
			2270040: Fuel, oils and lubricants												
					Sub-total										

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
							4,000		1,000		1,050		1,000		950
	Developing a standard harvesting protocol for apiary products (honey, bees wax, propolis, bee venom)	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Establishing and promoting a standard protocol for harvesting and processing apiary products	Establishing a standard and optimised harvesting protocol for apiary products	Honey jars	200	Current harvesting methods by beekeepers assessed. Two apiaries maintained on-station	50	60 samples of apiary products (20 of honey, 20 of bee venom and 20 propolis) collected and analysed for ash, moisture, viscosity and taste. Two apiaries maintained on-station	50	60 samples of apiary products (20 of honey, 20 of bee venom and 20 propolis) collected and analysed for ash, moisture, viscosity and taste. Two apiaries maintained on-station	50	Honey and other apiary products from Karamoja branded	50
						Air tight buckets	200		50		50		50		50
						Bee suit	200		50		50		50		50
						Propolis packing jars	100		50		50				
						Propolis packing bottles	100		50		50				
						Propolis strainers	140		70		70				
						Bee venom collection machine	1,000		500				500		
						Bee venom bottles	100		50						50
						Therapy honey bottle	100		50						50
					Sub-total		2,140		920		320		650		250
	Labour saving technologies of	01: Generation of agriculture	2240010: Medical & Veterinary	Training and field demonstrations of	Labour saving technologies of	Ox-drawn planter	600	50 farmers trained on labour saving	200	The technology of using conservation	200		150	50 farmers trained on using oxen for labour	50
						Ropes	100		50		50				

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	animal traction disseminated to farmers	ral technologies	y supplies	ration of labour saving animal traction technologies to farmers	animal traction disseminated to 200 farmers through training and field demonstrations	Spoke shave	100	animal traction technologies. One acre of cereal crops planted using the new Ox-plough planter	50	aagriculture and rip-line technology demonstrated to 50 farmers			50	and time saving	
						Bow saw	200		50		50		50		50
						Stationery	100		50		50				
						Adzee	200		50		50		50		50
						Chisel	100		50		50				
					Sub-total		1,400		500		450		300		150
	Evaluating and promoting pond fish farming management techniques for enhanced catfish productivity in Karamoja sub-region	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Stock, maintain and assess the survival and weight gain of catfish under different stocking and feeding regimes. Training farmers	One feeding regimen and one stocking regimen for optimum catfish production determined on-station. 100 farmers trained on appropriate fish farming techniques	Fish fingerlings	1,000	600 fish fingerlings stocked in 3 ponds and their survival and weight gain determined. 25 farmers trained	250	The weight gain of catfish in 3 ponds determined in the first 6 months. 25 farmers trained	250		250	The weight gain of catfish in 3 ponds determined in the first 12 months. 25 farmers trained	250
						Feeds	1,000		250		250		250		250
						Harvesting net	1,000		250		250		250		250
						Predator net	800		200		200		200		200
						Fuel	168		168						
					Sub-total		3,968		1118		950		950		950
					Total Animal Resources		47,168		35,093		3,995		4,505		3,575
2. Crop	Fruit tree seedling product	01: Generation of	2240060: Agric. Supplies	Establishing new	Atleast one new citrus and one	Chemicals	500	Seedlings of citrus and mango	200	Seedlings of citrus and mango	100		100	Citrus and mango mother	100
						seedling			200		200		150		150

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
and Natural Resources Research	on and multiplication	agricultural technologies		citrus and Mango mother gardens at Serere Satellite	mango mother garden established at Serere Satellite Station	gs seeds	700	varieties established		varieties established				gardens established	
						sign posts and labels	400		100		100		100		100
						Polythe ne bags	575		200		175		100		100
						Pesticid es (insecti cides and fungici des)	300		100		100		50		50
					Sub-Total		2,475		800		675		500		500
	Clonal Eucalyptus seedling production and multiplication	01: Generati on of agricultu ral technolo gies	2240060: Agric. Supplies	Establis hing eucalypt us mother garden at Serere satellite station	Atleast one acre of clonal eucalyptus mother garden and nursery established on- station	Chemic als	500	Seedlings of clonal eucalyptus varieties established	100	Seedlings of clonal eucalyptus varieties established	200		100	Clonal eucalyptus mother garden established	100
						seedlin gs seeds	700		200		200		150		150
						sign posts and labels	400		100		100		100		100
						Polythe ne bags	575		200		175		100		100
						Pesticid es (insecti cides and fungici des)	300		100		100		50		50
					Sub-Total		2,475		700		775		500		500
	Cereal and	01: Generati	2240060: Agric.	Evaluati ng new	At least 3 cereal	Chemic als	1,500	Evaluation trials	500	Evaluation trials	500	Evaluation trials	250	Adapted cereal and	250

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Interim or Final Outputs	Budget (000)	Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)			Interim or Final Outputs	Budget (000)
	pulse seed production and promotion	on of agricultural technologies	Supplies	cereal crops and pulses for adaptability and acceptability in North Eastern Agro-ecological zone (NEAZ)	crops and 2 pulse crops introduced and promoted for enhanced food security and poverty alleviation in NEAZ	Seeds	1,500	established	500	established	500	established	250	pulse crops for NEAZ identified	250
						sign posts and labels	500		150		150		100		100
						Polythene bags	575		200		175		100		100
						Pesticides (insecticides and fungicides)	800		200		200		200		200
			2270040: Fuel, lubricants and oils			Fuel	1,000		250		250		250		250
					Sub-Total		5,875		1,800		1,775		1,150		1,150
	Vegetable seed production and promotion	01: Generation of agricultural technologies	2240060: Agric. Supplies	Evaluating new vegetable crops for adaptability and acceptability in NEAZ	At least 2 vegetable crops introduced and promoted for enhanced food and nutrition security and poverty alleviation in NEAZ	Fertilizers	1,500	Vegetable seed production gardens established	500	Vegetable seed production gardens established	500	Vegetable seed production gardens established	250	Adapted vegetable crops identified	250
						seeds	1,500		500		500		250		250
						labels	400		100		100		100		100
						labour	600		200		200		100		100
						harvesting bags	575		200		175		100		100
						Pesticides (insecticides and fungicides)	800		200		200		200		200

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270040: Fuel, lubricants and oils			Fuel	1,000		250		250		250		250
					Sub-Total		6,375		1,950		1,925		1,250		1,250
					Total Crops and Natural Resources		17,200		5,250		5,150		3,400		3,400
3. Agri cultural Technology Promotion	Demonstrations of NARO proven Technologies for promotion	01: Generation of agricultural technologies	2240060- agric supplies	Procurement of Seeds , chemicals , sign ,posts , labels, Gunny bags , pesticides ,Fungicides &Herbicides , Management of Demonstrations , post harvest handling , packaging and branding items, media pages	Technology Demonstrations established and used for Farmer learning	Agric .sup.	6,300	Technology Demonstrations established and used for Farmer learning	2,000	Technology Demonstrations established and used for Farmer learning	1,150		1,150	Technology Demonstrations established and used for Farmer learning	2,000

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Mapping of selected Value chain commodity commercialisation	01: Generation of agricultural technologies	2240010-medical & Veterinary supplies	Mapping of selected Value chain commodity commercialisation	Commodity value chain MSIPS established	assorted	1,700	Commodity value chain MSIPS established	425	Commodity value chain MSIPS established	425		425	Commodity value chain MSIPS established	425
					Total		8,000		2,425		1,575		1,575		2,425
4. Strengthening of Research capacity	Support to management of research and development	01: Generation of agricultural technologies	2210020: Workshops and Seminars	Attending review workshops, seminars & field days (institute workshops) Director, Auditor, scientist, Finance officer/ Account Assistant, Procurement workshops.	Institute performance reviewed and documented	Per diem	7,000	Progress towards attaining NARO KPIs documented	2,000	Progress towards attaining NARO KPIs documented	2,000	Review Progress towards attaining NARO KPIs documented	2,000	i.) Annual performance assessed; ii.) Successes, failures and lessons to improve performance documented	1,000
						Venue hire	2,000		500		500		500		500
						Fuel	2,000		500		500		500		500
						Welfare	1,000		250		250		250		250
						Printing and stationery	500		200		200		50		50
			2270010: Travel-inland	Attending meetings		Fuel	500		200		200		50		50
						Per diem	1,500		500		500		250		250

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		02: Technology interface	2210110: Printing & Stationery	Printing reports, information material and office stationery			1,965		500		500		500		465
		01: Generation of agricultural technologies	2270040: Fuel,Lubricants and Oils			Fuel	4,167		1167		1000		1000		1000
					Sub-Total		20,632		5,817		5,650		5,100		4,065
		02: Technology interface	2210080: Computer supplies and Information Technology (IT)	Data processing and Information management and communication.	Subscription, Internet buddles ,antivirus, website maintenance ,courier servicesand repair and services of Computers	ICT recurrent expenses	4,000	Subscription , Internet buddles ,antivirus, website maintenance ,courier servicesand repair and services of Computers	1,000	Subscription, Internet buddles ,antivirus, website maintenance ,courier servicesand repair and services of Computers	1,000	Subscription, Internet buddles ,antivirus, website maintenance ,courier servicesand repair and services of Computers	1,000	Subscription , Internet buddles ,antivirus, website maintenance ,courier servicesand repair and services of Computers	1,000

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan				Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Inputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		ICT equipment	3122130: ICT Equipment	Processing the periodic, annual reports and information Technology	Purchase of solar equipment and batteries/inverters, for administration block, clock in machine, projector, lectern, directional guides and information boards	ICT equipment	20,600		-	Purchase of solar equipment and batteries/inverters, for administration block, clock in machine, projector, lectern, directional guides and information boards purchased	10,300		-	Purchase of solar equipment and batteries/inverters, for administration block, clock in machine, projector, lectern, directional guides and information boards purchased	10,300
					Sub-Total		24,600		1,000		11,300		1,000		11,300
	Seed processing and storage plat-form (CIVIL WORKS)	Non-Residential Buildings(INC. NARL CIVIL WORKS)	3121010: Seed processing and storage plat-form (CIVIL WORKS)	Construction of seed storage house and drying and threshing shade	Increased availability of quality germplasm for research and seed to farmers	A seed storage store, drying and threshing shed for crop harvest established	98,000	Bidding process initiated and award of contract done.	-	Construction of A seed storage store, drying and threshing shed for crop harvest initiated	58,000	Construction of A seed storage store, drying and threshing shed for crop harvest completed	40,000		-
					Sub-Total		98,000		-		58,000		40,000		-
					TOTAL		215,600		49,585		85,670		55,580		24,765

Annex xix: Ngetta ZARDI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Component	Vote Function/output	Annual output	Activity	Expend iture code	Expenditur e description	Inputs	Annual Cost '000	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Developing feeding strategies for cattle, goats and poultry to ensure sustainable nutrition of communities in the Northern Agro-ecological zone	Technology Identification and Development	1	Prototype on conservation of dairy forage feed resources developed	Evaluating the performance of the prototype	2111030	Contract Staff Salaries (Incl. Casual labourers)	Laboratory analysis	4,000	Laboratory analysis services procured	1,000	Laboratory analysis services procured	1,000	Laboratory analysis services procured	1,500	Laboratory analysis services procured	500
					2240060	Agric. Supplies	Solar hay dreier	5,000	1 solar hay dreier procured	5,000		-		-		-
							Wooden boards	1,500		-	10 wooden boards procured	1,500		-		-
			Effective post harvest handling technologies for shea butter identified.	Evaluating different postharvest technologies of shea butter	2240060	Agric. Supplies	Cold press machine	11,828	1 cold press machine procured	11,828						
Crop and Natural Resources Research Program	Technology Identification and Development		High yielding & disease tolerant crop varieties adapted	Planting and maintaining adaptive trials on-station	2240060	Agricultural supplies	Seed	4,000	Assorted agricultural inputs procured and adaptive trials established	1,000	Preliminary results from adaptive trials of newly released varieties	1,000	Preliminary results from adaptive trials of newly released varieties	1,000	Preliminary results from adaptive trials of newly released varieties	1,000
							Fertilizer	3,120		780		780		780		780
							Insecticide	600		150		150		150		150
							Signposts	600		150		150		150		150
							Motorised Spray Pump	8,000				8,000				
							Packaging materials	100		25		25		25		25

Program/ Directorate	Component	Vote Function/output	Annual output	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Effective fungicides for control of leaf & fruit spot diseases of citrus identified	Testing fungicides for control of leaf & fruit spot diseases of citrus identified	2240060	Agricultural supplies	Fungicide	2,000	Assorted fungicides procured and experimtns established	500	preliminary results on effectiveness of different fungicides	500	preliminary results on effectiveness of different fungicides	500	preliminary results on effectiveness of different fungicides	500
			High yielding & disease tolerant crop varieties adapted	Land preparation, planting maintenance, harvesting and post harvest handling of adaptive trials	2111030	Contract Staff Salaries (Incl. Casual labourers)	Contract Staff Salaries (Incl. Casual labourers)	800	Adaptive trials maintained and data collected	200	Adaptive trials maintained and data collected	200	Adaptive trials maintained and data collected	200	Adaptive trials maintained and data collected	200
								640		160		160		160		160
								640		160		160		160		160
								640		160		160		160		160
								720		180		180		180		180
								720		180		180		180		180
								720		180		180		180		180
								100		25		25		25		25
								720		180		180		180		180
			Electricity supplied to the insititute throughout the year	Payment for supply of electricity	2230050	Electricity	Electricity	25,300	Electricity bills paid	6,000	Electricity bills paid	6,000	Electricity bills paid	6,000	Electricity bills paid	7,300

Program/ Directorate	Component	Vote Function/output	Annual output	Activity	Expend iture code	Expenditur e description	Inputs	Annual Cost '000	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Research activities implemented.	Conducting field trials, Exchange visits, M & E and acquisition of research materials	2270010	Travel inland	Per diem	22,000	Staff travels for field activities facilitated	5,500	Staff travels for field activities facilitated	5,500	Staff travels for field activities facilitated	5,500	Staff travels for field activities facilitated	5,500
							Fuel	5,120		1,280		1,280		1,280		1,280
			Staff travels for workshops facilitated	Attending workshops and meetings	2210020	Workshops & seminars	Per diem	14,000	Staff facilitated to attend workshops	3,500	Staff facilitated to attend workshops	3,500	Staff facilitated to attend workshops	3,500	Staff facilitated to attend workshops	3,500
							Fuel	11,925		2,981		2,981		2,982		2,981
			Fuel, lubricants and oils procured for vehicles and machinery	Procuring fuel, lubricants and oils for vehicles and machinery	2270040	Fuel, Lubricants & Oils	Fuel	8,000	Fuel, lubricants and oils procured for vehicles and machinery	2,000	Fuel, lubricants and oils procured for vehicles and machinery	2,000	Fuel, lubricants and oils procured for vehicles and machinery	2,000	Fuel, lubricants and oils procured for vehicles and machinery	2,000
subtotal								132,793		43,119		35,791		26,792		27,091
Enhancing livelihood of communities around Ngetta ZARDI by improving access to information and production enhancing technologies.	Research and Extension interface promoted and strengthened	2	Research priorities for communities around Ngetta ZARDI identified	Identifying research priorities for communities around Ngetta ZARDI	2210020	Workshops & seminars	SDA	16,500	Staff facilitated to attend workshops	16,500						
							Fuel	3,680		3,680						
							Hall & Meal	1,350		1,350						
					2210110	Printing, Stationery, Binding	Flip chart	125	Assorted stationery procured and survey conducted	125	Assorted stationery procured and survey conducted					
							Marker pens	150		150						
							Maskin	50		50						

Program/ Directorate	Component	Vote Function/output	Annual output	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
							g tape				d					
							Printing paper	250		250						
							Tonner	650		650						
							Pencils	10				10				
							Rubber	10				10				
							Clear bags	20				20				
							Clip board	50				50				
			200 smallholder farmers trained on improved agronomic practices, SLM, Pest/disease management & PHH of prioritised enterprises	Training of farmers on agronomy, SLM, Pest/disease management & PHH of prioritised enterprises	2210020	Workshops & seminars	SDA	2,640			Assorted stationery procured and farmer training workshops conducted	1,540	Assorted stationery procured and farmer training workshops conducted	1,100		
							Fuel	704				544		160		
						Printing, Stationery, Binding	Brochure/ poster	500				500				
							Flip chart	100				100				
							Marker pens	60				60				
							Masking tape	20				20				
							Printing paper	25				25				

Program/ Directorate	Component	Vote Function/output	Annual output	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Dissemination of research outputs to farming communities in Lango and Achioli through radio talkshows	Research and Extension interface promoted and strengthened		3 radio talkshows conducted (Lango-1 & Achioli-2)	Disseminating research outputs to farming communities in Lango and Achioli through radio talkshows	2210010	Advertising and public relations	Radio fee	3,000			Research outputs disseminated	2,000			Research outputs disseminated	1,000
							DJ mention	160				120				40
Building capacity of LBS in Lango to produce & market quality seed	Research and Extension interface promoted and strengthened		2 LSBs trained on production & marketing of quality seed	Training LBS on production & marketing of quality seed	2210020	Workshops & seminars	Perdiem	1,920	Assorted stationery procured and LSBs trained on production and marketing of quality seed	960			LSBs trained on production and marketing of quality seed	960		
							Fuel	681		340.96				340		
					2210110	Printing, Stationery, Binding	Flip chart	50		50						
							Marker pens	30		30						
							Masking tape	10		10						
							Printing paper	125		125						
							Tonner	312		312						
							Brochures	50		50						
subtotal								33,232		24,633		4,999		2,560		1,040
	Research coordination and management	4	Training hall maintained in a habitable condition	Renovation of training hall	2280010		Training hall renovation	18,975	Training hall renovated	4,743	Training hall renovated	4,743	Training hall renovated	4,743	Training hall renovated	4,746
subtotal								18,975		4,743		4,743		4,743		4,746

Program/ Directorate	Component	Vote Function/output	Annual output	Activity	Expend iture code	Expenditure description	Inputs	Annual Cost '000	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
TOTAL								185,000		72,495		45,533		34,095		32,877

Annex xx: Rwebitaba ZARDI GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function / output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan			
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)		
Crops and Natural Resources Management Research Program me	Improvement of tea production and productivity in Uganda	01: Generation of agricultural technologies	2270010: Travel in land	Generating information from on farm trials on growth pests & disease tolerance to tea clones in Uganda	On-station and farm trials	Perdiem	5,500	Growth performance of tea clones, pests and disease tolerance collected and analysed	1,375	Growth performance of tea clones, pests and disease tolerance collected and analysed	1,375	Growth performance of tea clones, pests and disease tolerance collected and analysed	1,375	Findings on growth performance of tea clones, pests and disease tolerance documented	1,375		
					information generated on growth pests & disease tolerance to tea clones in Uganda	Fuel (Diesel, petrol, 2T oil)	1,600		400		400		400				
					Sub - Total		7,100				1,775				1,775		1,775
			2240060: Agricultural Supplies	Generating information from on farm trials on growth pests & disease tolerance to tea clones in Uganda	On farm trials information generated on growth pests & disease tolerance to tea clones in Uganda	Farm supplies, tools and equipment	11,500	Growth performance of tea clones, pests and disease tolerance collected and analysed	5,750	Growth performance of tea clones, pests and disease tolerance collected and analysed		Growth performance of tea clones, pests and disease tolerance collected and analysed	2,875	Findings on growth performance of tea clones, pests and disease tolerance documented	2,875		
						Fertilizers	8,000		4,000		2,000		1,000		1,000		
						Agrochemicals (Fungicides and Pesticides)	4,000		1,000		1,000		1,000		1,000		
						Labaratory reagents	5,000		2,000		1,000		1,000		1,000		
						Growth media	4,400		2,200		1,100		1,100				
						Sub - Total			32,900				14,950			5,100	

Program/ Directorate	Projects/Units	Vote Function / output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan			
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)		
Research	Improvement of agroforestry climate-smart technologies in WHAEZ	01: Generation of agricultural technologies	2240060: Agricultural Supplies	Generating information from on farm trials on performance of fruit trees in WHAEZ	Germplasm improvement technologies for priority fruit tree species strengthened and made accessible to stakeholders	Propagation materials (seeds, seedlings) agrochemicals	2,300	5,000 seedlings raised and made accessible to farmers	1,150	5,000 seedlings raised and made accessible to farmers	1,150	5,000 seedlings raised and made accessible to farmers		5,000 seedlings raised and made accessible to farmers			
						Agroinputs (Agrochemicals and fertilizers)	1,748		437		437					437	
						Soil sample analysis	750		375		375						
						Farm tools, equipment and other field supplies	1,250		625		625						
						Potting media (Lake sand, Forest Soil and Manure)	2,500		625		625					625	625
	Improvement of aquaculture technologies in WHAEZ			Generating information from on farm trials on Aquaculture technologies in WHAEZ	Aquaculture on station performance trial information generated and documented	Agroinputs (Aquaculture fish feeds procured)	2,250	Growth performance of aquaculture varieties data sets collected and analysed	750	Growth performance of aquaculture varieties data sets collected and analysed	500	Growth performance of aquaculture varieties data sets collected and analysed	500	Growth performance of aquaculture varieties documented	500		
	Improvement of livestock technologies in WHAEZ			Generating information from on farm trials on livestock technologies in WHAEZ	Livestock on station performance trial information generated and documented	Agroinputs (Animal feeds and acaricides procured)	2,000	Livestock performance data sets collected and analysed	500	Livestock performance data sets collected and analysed	500	Livestock performance data sets collected and analysed	500	Livestock performance documented	500		

Program/ Directorate	Projects/Units	Vote Function / output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Improvement of banana technologies in WHAEZ			Generating information of on-station banana performance evaluation trials	Banana on station performance trial information generated and documented	Agroinputs (Herbicides procured)	2,302	Banana performance data sets collected and analysed	802	Banana performance data sets collected and analysed	500	Banana performance data sets collected and analysed	500	Banana performance document ed	500
	Improvement of cassava technologies in WHAEZ			Generating information of on-station cassava performance evaluation trials	Cassava on station performance trial information generated and documented	Agroinputs (fertilizer and herbicides procured)	2,000	Cassava performance data sets collected and analysed	500	Cassava performance data sets collected and analysed	500	Cassava performance data sets collected and analysed	500	Cassava performance document ed	500
					Sub Total		17,100		5,764		5,212		3,062		3,062
Research	Improvement of fruit tree production and productivity in WHAEZ	01: Generati on of agricultural technologies	2111020: Contract staff salaries (Inc.casual labourers)	Maintenance of on-station fruit tress performance evaluation trials	Fruit Trees on station performance trial information generated and documented	Labour for fruit trees on-station performance evaluation trials	5,000	Growth performance of fruit trees varieties data sets collected and analysed	1,000	Growth performance of fruit trees varieties data sets collected and analysed	1,500	Growth performance of fruit trees varieties data sets collected and analysed	1,500	Growth performance of fruit trees varieties document ed	1,000
	Improvement of banana production and productivity in WHAEZ		2111020: Contract staff salaries (Inc.casual labourers)	Maintenance of on-station banana performance evaluation trials	Banana on station performance trial information generated and documented	Labour for banana on-station performance evaluation trials	5,000	Growth performance of banana varieties data sets collected and analysed	1,000	Growth performance of banana varieties data sets collected and analysed	1,500	Growth performance of banana varieties data sets collected and analysed	1,500	Growth performance of banana varieties document ed	1,000
	Improvement of Tea production and productivity in WHAEZ		2111020: Contract staff salaries (Inc.casual labourers)	Maintenance of tea on-station performance evaluation trials	Tea on station performance trial information generated and documented	Labour for tea on-station performance evaluation trials	5,000	Growth performance of tea varieties data sets collected and analysed	1,000	Growth performance of tea varieties data sets collected and analysed	1,500	Growth performance of tea varieties data sets collected and analysed	1,500	Growth performance of tea varieties document ed	1,000

Program/ Directorate	Projects/Units	Vote Function / output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Improvement of potato production and productivity in WHAEZ		2111020: Contract staff salaries (Inc.casual labourers)	Maintenance of potato on-station performance evaluation trials	Potato on station performance trial information generated and documented	Labour for Potato on-station performance evaluation trials	5,000	Growth performance of potato varieties data sets collected and analysed	1,000	Growth performance of potato varieties data sets collected and analysed	1,500	Growth performance of potato varieties data sets collected and analysed	1,500	Growth performance of potato varieties documented	1,000
	Improvement of cassava production and productivity in WHAEZ		2111020: Contract staff salaries (Inc.casual labourers)	Maintenance of cassava on-station performance evaluation trials	Cassava on station performance trial information generated and documented	Labour for Cassava on-station performance evaluation trials	5,000	Growth performance of cassava varieties data sets collected and analysed	1,000	Growth performance of cassava varieties data sets collected and analysed	1,500	Growth performance of cassava varieties data sets collected and analysed	1,500	Growth performance of cassava varieties documented	1,000
	Improvement of pasture production and productivity in WHAEZ		2111020: Contract staff salaries (Inc.casual labourers)	Maintenance of pasture on-station performance evaluation trials	Pasture on station performance trial information generated and documented	Labour for pasture on-station performance evaluation trials	5,000	Growth performance of pasture varieties data sets collected and analysed	1,000	Growth performance of pasture varieties data sets collected and analysed	1,500	Growth performance of pasture varieties data sets collected and analysed	1,500	Growth performance of pasture varieties documented	1,000
	Improvement of aquaculture production and productivity in WHAEZ		2111020: Contract staff salaries (Inc.casual labourers)	Maintenance of Aquaculture on-station performance evaluation trials	Aquaculture on station performance trial information generated and documented	Labour for aquaculture on-station performance evaluation trials	5,000	Growth performance of aquaculture varieties data sets collected and analysed	1,000	Growth performance of aquaculture varieties data sets collected and analysed	1,500	Growth performance of aquaculture varieties data sets collected and analysed	1,500	Growth performance of aquaculture varieties documented	1,000
					Sub - Total		35,000		7,000		10,500		10,500		7,000
			2270010:	Training of tree	100 nursery	Perdiem	2,500	100	2,500	100					

Program/ Directorate	Projects/ Units	Vote Function / output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Travel in land	nursery operators in tree propagation and nursery operations	operators trained on germplasm improvement technologies for 4 priority fruit tree species in the zone	Fuel (Diesel, petrol, 2T oil)	400	nursery operators trained on germplasm improvement technologies for 4 priority fruit tree species in the zone	400	nursery operators trained on germplasm improvement technologies for 4 priority fruit tree species in the zone					
					Sub - Total		2,900		2,900						
			2280040: Maintenance- Others	Servicing of the tractor, generator, moers, irrigation pump and water pump	Farm machinery and equipment in serviceable condition	Labour & Materials	8,000	Tractor, generator, moers, irrigation pump and water pump serviced	2,000	Tractor, generator , moers, irrigation pump and water pump serviced	2,000	Tractor, generator, moers, irrigation pump and water pump serviced	2,000	Tractor, generator, moers, irrigation pump and water pump serviced	2,000
					Sub - Total		8,000		2,000		2,000		2,000		2,000
			76- Purchase of Office and ICT Equipment, including Software	312213: Purchase of Office and ICT Equipment, including software	ICT equipment acquired for use in training of tree nursery operators in tree propagation and nursery operations	1 GPS procured	5,500	1 GPS procured	2,350	2 modems procured	50	2 external hard disc procured	550		
						GPS, Digital camera, modem, flash disc, external hard disc		1 Digital camera procured	2,500	1 flash disc procured	50				
					Sub-Total		5,500		4,850		100		550		
Research and administration	Administration/ Operating expenses	02: Strengthening agriculture	2210020: Workshops and seminars	Attending Annual review meeting scientific	Regular meetings and workshops for efficient	Perdiem		Progress review meetings, scientific	3,000	Progress review meetings, scientific	3,000	Progress review meetings, scientific	3,000	i.) Annual institute performance	3,000
						Fuel			1,500		1,500		1,500		1,500
							6,000								

Program/ Directorate	Projects/ Units	Vote Function / output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		ral research capacity		conference regular meeting and workshops at NAROSEC and PARIs	institute coordination and performance attended	Refreshme nts and Meals	2,000	conference s and other meetings attended	500	conferenc es and other meetings attended	500	conferenc es and other meetings attended	500	assessed; ii.) Institute review and planning meeting held for institute performa nce	500
					Sub-Total		20,000	-	5,000	-	5,000	-	5,000	-	5,000
Research and adminstra tion	Adminstra tion/ Operating expenses	02: Research extension interface promote d and strengthe ned	2210080: Computer Supplies	Maintenance of ICT & small office equipment including software at Rwebitaba and Kyembogo Research Stations	ICT equipment maintained to ensure efficient and effective staff perfomance	Routine computer and internet maintenan ce	1,000	40 computer and internet server routinely serviced	500	40 computer and internet server routinely serviced	250	40 computer and internet server routinely serviced	250		
						Internet data for ISP internet	5,500	Internet data for ISP internet connection	3,000	Internet data for ISP internet connectio n	2,500				
						Soft and hard ware (Data Analysis software - SPSS, SAS, STATA, GenStat), Anti-Virus software	3,500	30 User anti Virus (Kaspersky)	1,000	Soft ware (Data Analysis software - SPSS, SAS, STATA, GenStat)	2,500				
					Sub-Total		10,000		4,500		5,250		250		-
	Adminstra tion/ Operating expenses	76- Purchase of Office and ICT Equipme	312213: Purchase of Office and ICT Equipmen	Purchase of computers and Fire wall UPSes	ICT equipment maintained to ensure efficient &	Computers (Desk Tops) and Fire wall UPSs	11,000	2 Computers procured	2,500	1 Compute r procured	2,500	1 Computer procured	2,500	1 Compute r for firewall UPSs	3,500

Program/ Directorate	Projects/Units	Vote Function / output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		nt, including Software	t, including software	Purchase of small computer items and accessories	effective staff performance								procured	
					Air conditioner for the internet server room	9,000	1 Air conditioner installed in the internet server room	9,000						
					Printers	4,500	1 printer procured	1,500	1 printer procured	1,500	1 printer procured	1,500		
					Small computer items procured for regular computer and internet server maintenance	5,000	4 External Hard discs procured, 10 tins of screen cleaning foam, 10 extension cables, internet cables	1,350	10 flash discs procured, 10 extension cables, 3 VGA cable and 50 metres internet cables	1,350	10 modems procured, 1 projector screen	1,000	1 dust blower procured, 30 mouth pads	1,300
					Sub - Total			14,350		5,350		5,000		4,800
						29,500								
		77- Machine ry & Equipme nt	312202: Machiner y & Equipmen t	Purchase of farm machinery and equipment	Farm machinery and equipment procured for efficient farm management	17,000	20 hay baling boxes procured	1,000	3 Moeing machine for compoun d maintena nce procured	6,000	Horse pipe with tap and 8000 litres capacity water tank procured for agroforest	4,000	2 water tanks @ 10,000 litres capacity	6,000

Program/ Directorate	Projects/ Units	Vote Function / output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
												ry nursery operations			
					Sub - Total		17,000		1,000		6,000		4,000		6,000
					Grand Total		185,000		64,089		46,287		39,112		35,512

Annex D: GOU Development CGS Detailed Work Plans and Budgets for FY 2019/20

A handwritten signature in black ink, appearing to be "R. B. Smith", located in the bottom right corner of the page.

Annex xxi: GoU Development Work Plan and Budget for CGS Project CCGS/5/01/18 for FY 2019/20

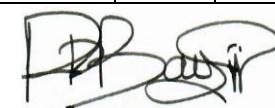
Program/ Directorate	Project s/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaLIRRI	Climate-smart and nutrient-rich forage varieties from increased income under Peri-urban dairy and poultry production systems (Siraje Ismail Kayondo)	01: Generation of agricultural technologies	211103 : Contract staff salaries	Determine agronomic characteristics of 60 lablab accessions,	High-sugar Lablab accessions identified & their ensiling properties of	9,606	Field collection of local algal species, characterisation of algal species & their morphological characteristics; Analysis of Nutrient profile analysis , Determine the proximate & nutritional composition of cattle slurry.	1,958	Nutrient utilisation & preparation; Protocol for mass production of Algal cultures developed, determine the appropriate dilution factor of organic slurry for use in raceway ponds for production	2,676	60 lablab accessions planted ; Promising / candidate lablab accessions multiplied; Periodic quality assessment of ensiled through laboratory silos; Lablab based TMR rations for dairy cattle developed and tested	2,356	Data analysis of high-sugar lablab performance data done; Data analysis of high-sugar lablab performance data done; Periodic quality assessment of ensiled through laboratory silos; Lablab based TMR rations for dairy cattle developed and tested;	2,616
		04: Agricultural research capacity strengthened	221002: Workshops & Seminars	sugar levels of lablab biomass, Periodic quality assessment of ensiled through laboratory silos; Conduct multi-location evaluation of promising genotypes (10 lablab accessories) to diverse ecologies,	determine d; Assess the effect of genotype by environment effects of lablab; Packaging dissemination materials.	12,750		2,907		3,379		3,162		3,302
		01: Generation of agricultural technologies	224001: Medical & Veterinary supplies			18,068		4,075		3,947		5,863		4,183
		02: Research extension interface promoted and strengthened	224006: Agricultural Supplies			33,369		8,237		10,853		6,985		7,294
		01: Generation of agricultural technologies	227001: Travel inland			6,223		1,020		1,186		1,965		2,052
		04: Agricultural research capacity strengthened	227004: Fuel, Lubricants & Oils			10,953		2,607		2,900		2,594		2,852
		04: Agricultural research capacity strengthened	221003: Staff training			8,686		2,285		3,237		-		3,164
		02: Research extension interface promoted and strengthened	221011: Printing and Stationery			345		-		-		345		-
			Sub-total			100,000		23,089	-	28,178	-	23,270	-	25,463

Annex xxii: GoU Development Work Plan and Budget for CGS Project CCGS/5/02/18 for FY 2019/20

Program/ Directorate	Projects /Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaLIRR I	Milk fortification to improve micronutrient status and alleviate common health problems (Swidiq Mugerwa)		227001: Travel inland	Field collection of plant materials, develop extract combinations, develop pre and post product procedures, conduct in-vitro and in-vivo efficacy trials.	Information on efficacy of different pharmaceutical compounds against clinical conditions of stomach ulcers, cancer and diabetic conditions documented	17,900	Pharmaceutical compounds for use in efficacy trials extracted and bulked	3,500	Efficacy of pharmaceutical compounds against cancer determined	3,500	Efficacy of pharmaceutical compounds against ulcers determined	5,450	Efficacy of pharmaceutical compounds against diabetes determined	5,450
				Constitute milk-based nutraceutical products, determine stability, shelf life and nutrient composition of fortified milk products, evaluate sensory and acceptability properties of milk products	Safe and stable milk based nutraceutical products with anti-ulcer, diabetes and cancer properties developed	-						At least 1 Anti-cancer Milk-based Nutritional product constituted and evaluated		At least 1 Anti-ulcer Milk-based Nutritional product constituted and evaluated
			227004: Fuel, Lubricants & Oils	Field collection of plant materials, develop extract combinations, develop pre and post product procedures, conduct in-vitro and in-vivo	Information on efficacy of different pharmaceutical compounds against clinical conditions of stomach ulcers, cancer and	8,850		2,063		2,063		2,363		2,363

Program/ Directorate	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				efficacy trials.	diabetic conditions documented									
				Constitute milk-based nutroceutical products, determine stability, shelf life and nutrient composition of fortified milk products, evaluate sensory and acceptability properties of milk products	Safe and stable milk based neutraceutical products with anti-ulcer, diabetes and cancer properties developed	-					At least 1 Anti-cancer Milk-based Neuroceutical product constituted and evaluated		At least 1 Anti-ulcer Milk-based Neuroceutical product constituted and evaluated	
			221002: Workshops & seminars(institute w/shops)(inc. Hire of venues)	Field collection of plant materials, develop extract combinations, develop pre and post product procedures, conduct in-vitro and in-vivo efficacy trials.	Information on efficacy of different pharmaceutical compounds against clinical conditions of stomach ulcers, cancer and diabetic conditions documented	9,500		1,750		1,750	Efficacy of pharmaceutical compounds against ulcers determined	3,000	Efficacy of pharmaceutical compounds against diabetes determined	3,000
				Constitute milk-based nutroceutical products, determine stability, shelf life and nutrient composition of	Safe and stable milk based neutraceutical products with anti-ulcer, diabetes and cancer properties	-					At least 1 Anti-cancer Milk-based Neuroceutical product		At least 1 Anti-ulcer Milk-based Neuroceutical product constituted	

Program/ Directorate	Projects /Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				fortified milk products, evaluate sensory and acceptability properties of milk products	developed						constituted and evaluated		d and evaluated	
		01: Generation of agricultural technologies	2111023: Contract Staff salaries	Field collection of plant materials, develop extract combinations, develop pre and post product procedures, conduct in-vitro and in-vivo efficacy trials.	Information on efficacy of different pharmaceutical compounds against clinical conditions of stomach ulcers, cancer and diabetic conditions documented	9,250		1,500		1,500	Efficacy of pharmaceutical compounds against ulcers determined	3,125	Efficacy of pharmaceutical compounds against diabetes determined	3,125
				Constitute milk-based nutraceutical products, determine stability, shelf life and nutrient composition of fortified milk products, evaluate sensory and acceptability properties of milk products	Safe and stable milk based nutraceutical products with anti-ulcer, diabetes and cancer properties developed	-					At least 1 Anti-cancer Milk-based Nutraceutical product constituted and evaluated		At least 1 Anti-ulcer Milk-based Nutraceutical product constituted and evaluated	
			224006: Agricultural supplies	Field collection of plant materials, develop extract combinations, develop pre and post product procedures, conduct in-vitro	Information on efficacy of different pharmaceutical compounds against clinical conditions of stomach ulcers,	50,020		5,000		5,000	Efficacy of pharmaceutical compounds against ulcers determined	19,020	Efficacy of pharmaceutical compounds against diabetes determined	21,000



Program/ Directorate	Projects /Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				and in-vivo efficacy trials.	cancer and diabetic conditions documented						d		d	
				Constitute milk-based nutraceutical products, determine stability, shelf life and nutrient composition of fortified milk products, evaluate sensory and acceptability properties of milk products	Safe and stable milk based nutraceutical products with anti-ulcer, diabetes and cancer properties developed	-					At least 1 Anti-cancer Milk-based Neuroceutical product constituted and evaluated		At least 1 Anti-ulcer Milk-based Neuroceutical product constituted and evaluated	
			221003: Staff training	Field collection of plant materials, develop extract combinations, develop pre and post product procedures, conduct in-vitro and in-vivo efficacy trials.	Information on efficacy of different pharmaceutical compounds against clinical conditions of stomach ulcers, cancer and diabetic conditions documented	19,430		4,108		4,108	Efficacy of pharmaceutical compounds against ulcers determined	5,608	Efficacy of pharmaceutical compounds against diabetes determined	5,608
				Field collection of plant materials, develop extract combinations, develop pre and post product procedures, conduct in-vitro	Information on efficacy of different pharmaceutical compounds against clinical conditions of stomach ulcers,	-								

Program/ Directorate	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				and in-vivo efficacy trials.	cancer and diabetic conditions documented									
				Constitute milk-based nutroceutical products, determine stability, shelf life and nutrient composition of fortified milk products, evaluate sensory and acceptability properties of milk products	Safe and stable milk based nutraceutical products with anti-ulcer, diabetes and cancer properties developed	-					At least 1 Anti-cancer Milk-based Nutroceutical product constituted and evaluated		At least 1 Anti-ulcer Milk-based Nutroceutical product constituted and evaluated	
			224001: Medical & Veterinary supplies	Field collection of plant materials, develop extract combinations, develop pre and post product procedures, conduct in-vitro and in-vivo efficacy trials.	Information on efficacy of different pharmaceutical compounds against clinical conditions of stomach ulcers, cancer and diabetic conditions documented	85,050		16,000		16,350	Efficacy of pharmaceutical compounds against ulcers determined	26,350	Efficacy of pharmaceutical compounds against diabetes determined	26,350
				Constitute milk-based nutroceutical products, determine stability, shelf life and nutrient composition of	Safe and stable milk based nutraceutical products with anti-ulcer, diabetes and cancer properties	-					At least 1 Anti-cancer Milk-based Nutroceutical product		At least 1 Anti-ulcer Milk-based Nutroceutical product constituted	

Program/ Directorate	Projects /Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				fortified milk products, evaluate sensory and acceptability properties of milk products	developed						constituted and evaluated		d and evaluated	
			Sub-total			200,000		33,920		34,270		64,915		66,895

Annex xxiii: GoU Development Work Plan and Budget for CGS Project CCGS/5/03/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaSARRI	Enhancing utilization of low tannins drought resilient improved coloured sorghum technologies for increased commercialization in food and feed value chains (Adikin Scovia)	01: Generation of agricultural technologies	211103: Contract Staff Salaries (Incl. Casual labourers)	Screening of existing germplasm for identification of sorghum lines that exhibit dual purpose characteristics	Sorghum line with dual purpose characteristics (feed / food) identified	12,000	Field trials established at NaSARRI and data collected	3,000	Field trials established at NaSARRI and data collected	3,000	Field trials established at NaSARRI and data collected	3,000	Field trials established at NaSARRI and data collected	3,000
		02: Research extension interface promoted and strengthened	224006: Agric. Supplies		Germplasm purity in field maintained	4,000	Trials established at NaSARRI are properly bagged	1,000	Trials established at NaSARRI are properly bagged	1,000	Trials established at NaSARRI are properly bagged	1,000	Trials established at NaSARRI are properly bagged	1,000
		01: Generation of agricultural technologies	227001: Travel inland	Evaluating selected low tanin sorghum lines with dual purpose trait for adaptability and tolerance to drought and striga in 3 locations. Conduct awareness on production of improved low tanin sorghum	Dual purpose low tanin sorghum tolerant to drought and striga identified. Awareness on production of improved sorghum created	27,000	Striga hotspot sites in eastern Uganda selected. Five (5) demonstration fields established and field days conducted	7,500	Striga hotspot sites in northern Uganda selected. Five (5) demonstration fields established and field days conducted	6,500	Multilocation Trials of selected sorghum dual purpose low tanin lines established. Five (5) demonstration fields established and	6,500	Data collection from MLT and report writing. Demonstration fields established and field days conducted	6,500

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
											field days conducted			
		01: Generation of agricultural technologies	224001: Medical & Veterinary supplies			10,000	Number of striga seed in the soil from different sites assessed	3,000	Number of striga seed in the soil from different sites assessed	3,000	Number of striga seed in the soil from different sites assessed	2,000	Number of striga seed in the soil from different sites assessed	2,000
		02: Research extension interface promoted and strengthened	221011: Printing, Stationery, Binding	Package information and dissemination	Information packages (technical reports, brochures, manuals, posters, manuscripts) for uptake developed and disseminated	15,000	Information on materials on low tanin sorghum production and utilisation developed and disseminated	3,000	Information on materials on low tanin sorghum production and utilisation developed and disseminated	4,000	Information on materials on low tanin sorghum production and utilisation developed and disseminated	4,000	Information on materials on low tanin sorghum production and utilisation developed and disseminated	4,000
		02: Research extension interface promoted and strengthened	221001: Advertising and public relations(Agricultural shows)			5,000	participate in agricultural shows	2,000	participate in at least 1 agricultural show	1,000	participate in at least 1 agricultural show	1,000	participate in at least 1 agricultural show	1,000

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
		02: Research extension interface promoted and strengthened	221002: Workshops & seminars(institute w/shops)(inc. Hire of venues)	Hold quarterly planning meetings	Quarterly planning meetings by research teams conducted	15,000	Quarterly planning meetings by research teams conducted	4,000	One review workshop to discuss research plan on low tanin sorghum	4,000	One review workshop to discuss research plan on low tanin sorghum	3,500	One review workshop to discuss research plan on low tanin sorghum	3,500
		03: Agricultural research capacity strengthened	228002: Maintenance - Vehicles	Conduct repairs and service of vehicles	Vehicles maintained in good working condition	12,000	One motor vehicle serviced and repaired	3,000	One motor vehicle serviced and repaired	3,000	One motor vehicle serviced and repaired	3,000	One motor vehicle serviced and repaired	3,000
			Sub-total			100,000	-	26,500	-	25,500	-	24,000	-	24,000



Annex xxiv: GoU Development Work Plan and Budget for CGS Project CCGS/5/04/18 for FY 2019/20

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaCRRI	Ensuring sustainable food and nutrition security through fruits and vegetable breeding in Uganda (Gabriel Ddamulira)	01: Generation of agricultural technologies	2111020: contract staff labor	Advance selected tomato lines into national performance trials for potential release	Tomato lines selected advanced to national performance trials	24,000		8,000		8,000		8,000		-
			224002: Workshops & seminars	Develop improved agronomic practices for enhanced tomato yield	Two Improved agronomic practices for enhanced tomato yield developed	10,000		-		-		-		10,000
			224006: Agricultural supplies	Develop tomato post harvest practices and value-added product	One post harvest practices and value-added product produced	50,650		15,650		5,000		25,000		5,000
			227001: Travel inland	value-added products develop	Information materials on released varieties developed	42,000		13,500		6,500		15,500		6,500
			227004: Fuel, oil & lubricants	informtion materials for candidate varieties which are due for release		24,000		16,000		5,000		1,500		1,500
			TOTAL			150,650	-	53,150	-	24,500	-	50,000	-	23,000

Annex xxv: GoU Development Work Plan and Budget for CGS Project CCGS/5/05/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
Buginya ZARDI	Development of sustainable innovations for improved highland maize productivity in Uganda (Frank Kagoda)	01: Generation of agricultural technologies	211103: Contract Staff Salaries (Incl. Casuals, Temporary)	1. Develop highland maize varieties with resistance to MLN and other common stresses. 2. Advance and release bio-fortified maize varieties for the highland areas of Uganda. 3. Strengthen highland maize seed systems.	1. Three hybrids with MLN resistance and adaptability to highland conditions developed. 2. Three bio-fortified varieties adapted to the highland areas released with 9-12 t/ha yield. 3. Production and supply of 1 ton early generation seed for highland ecologies strengthened	31,100	100 single cross F1 hybrids developed	7,600	Best 10 SC F1 hybrids selected	8,500	32 three way cross hybrids developed	6,500	5 most promising 3WC hybrids selected at PYT	8,500
			221002: Workshops and Seminars			13,700		3,500		3,500		3,200		3,500
			224001: Medical & Veterinary supplies			38,500	50 promising biofortified hybrids at vegetative growth stage	8,500	Ten biofortified maize hybrids selected and recommended for AYT's	8,500	5 biofortified maize hybrids selected and recommended for NPT's	12,000	Three bio-fortified maize hybrids adapted to the highland areas released with 9-12 t/ha yield.	9,500
			221001: Advertising and Public Relations			5,100		1,200		1,200		1,200		1,500
		02: Research extension interface promote	221011: Printing, Stationery, Binding			4,400		1,200		1,000		1,200		1,000

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
		and strengthened												
			227001: Travel inland			25,281		3,581		6,000		7,300		8,400
			227004: Fuel, Lubricants and Oils			32,802	Seed of parental materials maintained & increased	7,600		7,500	Seed production for highland harmonised with over 60 stakeholders	8,202	1 ton of breeder biofortified seed produced	9,500
			Total			150,883		33,181		36,200		39,602		41,900

Annex xxvi: GoU Development Work Plan and Budget for CGS Project CCGS/5/06/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaFIRR I	The treasure of microalgae in effluent management (Angela Nankabirwa)		227001: Travel inland	Field data collection, isolation of dominant species	Dominant species identified and isolated, Lake Victoria algal bloom database updated	19,966	1) Partner industries and companies established 2) Algal bloom species composition, abundance and occurrence in Napoleon Gulf and Murchison Bay documented	5,054	Algal bloom species composition, abundance and occurrence in Napoleon Gulf and Murchison Bay updated	5,054	Algal bloom species composition, abundance and occurrence in Entebbe waters documented	5,054	Algal bloom species composition, abundance and occurrence in non-lake areas (random pools, ponds) documented	4,804
			227004: Fuel, Lubricants & Oils			9,200	Efficient effluent filtering algal bloom species characterised, culture protocols generated	2,300	Efficient effluent filtering algal bloom species characterised, culture protocols generated	2,300		2,300	Algae culture protocols updated	2,300
			211103: Contract staff salaries			29,240		13,590		6,550		6,550		2,550

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				Molecular characterisation of species, cell culturing, testing of the species for effluent filtration, generating of protocols		-	Knowledge and skills in algae culturing attained				Efficient effluent filtering algal bloom species characterised, culture protocols generated			
			224001: Medical & Agricultural supplies			72,380		20,875		20,605		25,200		5,700
			221003: Staff training			30,812		30,812						
			221011: Printing, stationery and binding			10,000		4,000		2,000		2,000		2,000
			Total			171,598	-	76,631	-	36,509	-	41,104	-	17,354



Annex xxvii: GoU Development Work Plan and Budget for CGS Project CCGS/5/07/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaCOR I	Enhancing cocoa productivity through connecting farmers to sustainable strategic research interventions (Job Alunga Chemutai)		221002: Workshops and seminars	Develop best bet GAPs for use by cocoa farmers in Uganda	Cocoa rehabilitation package and vegetative propagation protocol developed	38,350	Progress report and Feedback towards project progress	30,400	Progress report and feedback towards project progress	7,950	Progress reporting and Feedback towards project progress		Progress reporting and Feedback towards project progress	
							Rehabilitated on station cocoa fields and demo plots in study areas							
							Catalogue of best bet pectinolyase producing yeast from fermenting cocoa							
					Catalogue of yeast involved in cocoa fermentation ; Prototype of a single	-	Catalogue of best bet pectinolyase producing yeast from fermenting		Isolates tried for on-farm efficiency					

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					fermentation box and juice extraction tank		cocoa							
		01: Generation of agricultural technologies	211102: Contract Staff salaries (Inc. casual labour)	Develop best bet GAPs for use by cocoa farmers in Uganda	Cocoa rehabilitation package and vegetative propagation protocol developed	18,920	Rehabilitate d on station cocoa fields and demo plots in study areas	5,580	Rehabilitate d on station cocoa fields and demo plots in study areas	5,580	Rehabilitate d on station cocoa fields and demo plots in study areas	3,380	Rehabilitate d on station cocoa fields and demo plots in study areas	4,380
				Develop best bet GAPs for use by cocoa farmers in Uganda	Catalogue of yeast involved in cocoa fermentation ; Prototype of a single fermentation box and juice extraction tank	-	Catalogue of yeast involved in cocoa fermentation		Catalogue of yeast involved in cocoa fermentation					
			227001: Travel- inland	Develop best bet GAPs for use by cocoa farmers in Uganda	Cocoa rehabilitation package and vegetative propagation protocol developed	14,780	Monitoring and supervision of activities in the 3 demo plots (Bundibugy	1,400	Monitoring and supervision of activities in the 3 demo plots	8,880	Monitoring and supervision of activities in the 3 demo	2,600	Monitoring and supervision of activities in the 3 demo	1,900

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
							o, Kasawo and Kagadi)		(Bundibugyo, Kasawo and Kagadi)		plots (Bundibugyo, Kasawo and Kagadi)		plots (Bundibugyo, Kasawo and Kagadi)	
				Develop best bet GAPs for use by cocoa farmers in Uganda	Cocoa rehabilitation package and vegetative propagation protocol developed									
				Develop best bet GAPs for use by cocoa farmers in Uganda	Catalogue of yeast involved in cocoa fermentation ; Prototype of a single fermentation box and juice extraction tank	-			Farmers trained on use of improved single fermentor		External Laboratory activities		External Laboratory activities	
			227004: Fuel, oils and Lubricants	Develop best bet GAPs for use by cocoa farmers in Uganda	Cocoa rehabilitation package and vegetative propagation protocol developed	5,450	Monitoring and supervision of activities in the 3 demo plots (Bundibugyo, Kasawo	1,100	Monitoring and supervision of activities in the 3 demo plots (Bundibug	2,150	Monitoring and supervision of activities in the 3 demo plots	1,100	Monitoring and supervision of activities in the 3 demo plots	1,100

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
							and Kagadi)		yo, Kasawo and Kagadi)		(Bundibu gyo, Kasawo and Kagadi)		(Bundibu gyo, Kasawo and Kagadi)	
				Develop best bet GAPs for use by cocoa farmers in Uganda	Catalogue of yeast involved in cocoa fermentation ; Prototype of a single fermentation box and juice extraction tank	-			Farmers trained on use of improved single fermentor					
			225001: Consultancy short term	Develop best bet GAPs for use by cocoa farmers in Uganda	Catalogue of yeast involved in cocoa fermentation ; Prototype of a single fermentation box and juice extraction tank	5,500			Prototype of a single fermentati on box and juice extraction tank	5,500				
			221003: Staff training	Develop best bet GAPs for use by cocoa farmers in Uganda		6,000			Strengthened capacity of cocoa extension	4,000			Strengthened capacity of cocoa	2,000

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
									workers				extension workers	
			221001: Advertisement and PR	Develop best bet GAPs for use by cocoa farmers in Uganda		11,000	Visibility for generated technology	3,200	Increased visibility for the generated technologies	4,600	Increased visibility for the generated technologies	2,600	Increased visibility for the generated technologies	600
			Total			100,000	-	41,680	-	38,660	-	9,680	-	9,980

Annex xxviii: GoU Development Work Plan and Budget for CGS Project CCGS/5/08/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
Rwebitaba ZARDI Rwebitaba ZARDI	Enhancing Tea productivity for increased income along the value chain in Uganda (Ronald	01: Generation of agricultural technologies	211103: Contract staff labor	Tea accession tissue sample collection and preservation DNA isolation (400 tea accessions from Uganda and Kenya) DNA marker primer synthesis (for 23 primer pairs) Tea clone leaf samples collection; Determination of biochemical parameters of 10	Genetic Diversity between Uganda and Kenya Tea Germplasm Compared and Determined. Biochemical characteristics and cup quality of selected clones in Uganda and Kenya elite	24,000		6,000		6,000		6,000		6,000
			221002: Workshops & seminars			8,000						4,000		4,000
			224006: Agricultural supplies			78,720		44,455		11,455		9,455		13,355
			227001: Travel			49,500		12,375		12,375		12,375		12,375

Program/ Directorate/Institution	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
	Kawooya)		inland	clones; Determination of cup tea quality from specific clones; Determination of cup tea quality from specific clones; Survey of tea companies and farmers for specialized teas Introducing specialized tea clones in Nursery; Tea stakeholders workshop on new specialty teas	clones compared and determined. Production of specialty teas (Green, white, silver, yellow) in Uganda enhanced. Dissemination of information on the technologies for adding value to tea packaged.									
			227004: Fuel, oil & lubricants			9,280		2,320		2,320		2,320		2,320
		02: Research extension interface promoted and strengthened	221011: Printing, Stationery, Binding			16,100		850		250		7,250		7,750
			Total			185,600	-	66,000	-	32,400	-	41,400	-	45,800

Annex xxix: GoU Development Work Plan and Budget for CGS Project CCGS/5/09/18 for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaLIRR I	Domestication of Stingless Bees in Uganda (Patrice	01: Generation of agricultural technologies	211103: contract staff labor	Design stingless beekeeping technologies; Establish bee forage ; Source for stingless bee colonies; Establish experimental	Four planning and review meetings conducted; Bee hive types designed and tested for stingless bee keeping in Uganda; The performance of three (03) stingless	14,000		1,500		3,500		7,000		2,000
			221002: Workshops & seminars			9,000		2,000		2,000		2,500		2,500
			224001:											

	Kasangaki)		Medical & Veterinary Supplies	meliponaries; Develop protocols for harvesting and post harvest handling of different stingless bee products; Evaluation of stingless bee product of commercial value; Laboratory analysis of stingless bee products: Development of dissemination materials; Monitor and evaluation.	bee species evaluated and appropriate technologies designed for their domestication; Stingless bee products (honey, pollen and propolis) developed and promoted for commercialization in Uganda; All the information and technologies generated from the project appropriately packaged and disseminated to the different stakeholders through various pathways	15,000		-		15,000		-		-
			224006: Agricultural supplies			10,000		5,000		2,000		3,000		-
			227001: Travel inland			11,000		-		4,000		2,500		4,500
			227004: Fuel, oil & lubricants			16,000		3,500		4,500		3,500		4,500
			221011: Printing, Stationery, Binding			11,000		2,500		2,500		2,000		4,000
			225001: Consultancy services Short-term			14,000		6,000		8,000		-		-
			Total			100,000	-	20,500	-	41,500	-	20,500	-	17,500

Annex xxx: GoU Development Work Plan and Budget for CGS Project CCGS/5/10/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function Output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NARL	Out scaling NARO Polycyclic Aromatic Hydrocarbon-safe smoking technologies for increased market competitiveness of fish value chain actors (Candia Alphonse)		224006: Agricultural Supplies	Design, fabrication and evaluation of 2nd generation NARO PAH-safe kiln	Second prototype of Second generation NARO PAH-safe smoking kiln	36,010	2nd prototype of second generation NARO PAH-Safe smoking kiln ready for on-station evaluation	20,010	Information on technical performance of 2nd prototype of second generation NARO PAH-Safe smoking kiln	16,000		-		-
				Design, fabrication and evaluation of NARO PAH-safe liquid smoke distiller	Second prototype of NARO PAH-safe liquid smoke distiller		2nd prototype of NARO PAH-Safe liquid smoke distiller ready for on-station evaluation		Information on technical performance of 2nd prototype of NARO PAH-Safe liquid smoke distiller					
				Collection of cassava chipps, fresh fish and other materials	Packaging options for smoked fish		Partial information on effectiveness of packaging options for		Partial information on effectiveness of packaging options for smoked	-	Information on effectiveness of packaging options for	-		-

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
							smoked fish		fish		smoked fish			
				Fabrication of and deployment of technologies for Competitive smoked fish processing enterprises	2 private sector managed Competitive smoked fish processing enterprises				NARO PAH-Safe technologies for establishing Competitive smoked fish processing enterprises		2 private sector managed Competitive smoked fish processing enterprises			
			211103: Labour	Design, fabrication and evaluation of 2nd generation NARO PAH- safe kiln	Second prototype of Second generation NARO PAH- safe smoking kiln	14,620		5,350		6,370		2,900	-	-
				Design, fabrication and evaluation of NARO PAH- safe liquid smoke distiller	Second prototype of NARO PAH- safe liquid smoke distiller		3rd prototype of NARO PAH-Safe liquid smoke distiller ready for on-station evaluation		Information on technical performance of 2nd prototype of NARO PAH-Safe liquid smoke distiller					-

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				Assessing efficacy of the generated liquid smoke/Assessing nutrition loss	Information on effectiveness and consumer acceptability of the processed NARO liquid smoke		Partial information on effectiveness of liquid smoke			-		-		-
				Collection of cassava chipps, fresh fish and other materials	Packaging options for smoked fish		Partial information on effectiveness of packaging options for smoked fish		Partial information on effectiveness of packaging options for smoked fish	-	Information on effectiveness of packaging options for smoked fish	-		-
		01: Generation of agricultural technologies		Fabrication of and deployment of technologies for Competitive smoked fish processing enterprises	3 private sector managed Competitive smoked fish processing enterprises					-	3 private sector managed Competitive smoked fish processing enterprises	-		-

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
			224001: Medical & Veterinary supplies	Assessing efficacy of the generated liquid smoke/Assessing nutrition loss	Information on effectiveness and consumer acceptability of the processed NARO liquid smoke	5,980	Partial information on effectiveness of liquid smoke		Information on effectiveness and consumer acceptability of the processed NARO liquid smoke	2,990		2,990		-
				Sensory evaluation	Packaging options for smoked fish	51,049	Partial information on effectiveness of packaging options for smoked fish	3,592	Partial information on effectiveness of packaging options for smoked fish	2,690	Information on effectiveness of packaging options for smoked fish	20,461		24,306
				Development of Business Plans for smoked fish processing enterprises	Business Plans for smoked fish processing enterprises		Partial information on effectiveness of packaging options for smoked fish		Partial information on effectiveness of packaging options for smoked fish		Business Plans for 6 private-sector led smoked fish processing enterprises			
			221002: Workshop											

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				Training of Entrepreneurs on processing high quality smoked fish	Participating entrepreneurs have demonstrable knowledge on processing PAH-safe smoked fish products						Partial information on economic viability of NARO PAH-Safe smoking technologies		Participating entrepreneurs have demonstrable knowledge on processing PAH-safe smoked fish products	
				Project Planning, Monitoring, Evaluation Learning and Reporting	Improved project performance									
			227001: Travel inland	Fabrication of and deployment of technologies for Competitive smoked fish processing enterprises	4 private sector managed Competitive smoked fish processing enterprises	34,613		8,923		8,620	4 private sector managed Competitive smoked fish processing enterprises	8,845		8,225

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				Assessing economic viability of generated PAH-safe technologies	Information on economic viability of NARO PAH-Safe smoking technologies		Partial information on economic viability of NARO PAH-Safe smoking technologies				Partial information on economic viability of NARO PAH-Safe smoking technologies		Information on economic viability of NARO PAH-Safe smoking technologies	
				Collection of cassava chipps, fresh fish and other materials	Packaging options for smoked fish		Partial information on effectiveness of packaging options for smoked fish		Partial information on effectiveness of packaging options for smoked fish		Information on effectiveness of packaging options for smoked fish			
			227004: Fuel, oils & lubricants	Administrative costs	Improved project performance	7,600		1,900		1,900		1,900		1,900
			221011: Printing, Binding			2,120				1,120				1,000
			Total			151,992	-	39,775	-	39,690	-	37,096	-	35,431

Annex xxxi: GoU Development Work Plan and Budget for CGS Project CCGS/5/11/18 for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NARL	An instant and nutritional enhanced maize product (Kefa Nowokunda/StevenTumwesigye)		224001: Medical & Veterinary supplies	Formulate and optimise nutritious and health-supporting AroNutro instant maize snack	AroNutro Instant Maize Snack Prototypes	20,800	A profile of consumer preferences and actual production (processing) costs for Snack formulations (protocepts)	7,300	Optimal and certified formulations (protocepts) technical parameters for production of AroNutro Instant Maize Snack prototypes	6,000	Optimal and certified formulations (protocepts) technical parameters for production of AroNutro Instant Maize Snack prototypes	4,000	AroNutro Instant Maize prototypes and their production protocols	3,500
						-			Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization		Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization		Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization	
		01: Generation of agricultural technologies	211103: Contract Staff salaries			20,560		6,000	Optimal and certified formulations (protocepts) technical parameters for production of AroNutro Instant Maize Snack	6,000	Optimal and certified formulations (protocepts) technical parameters for production of AroNutro Instant Maize Snack	6,000	AroNutro Instant Maize prototypes and their production protocols	2,560

Program/ Directorate	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan											
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000										
			225001: Consultancy services			31,000		8,000	prototypes	8,000	prototypes	15,000												
						-			Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization		Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization		Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization											
			8,440			3,000		Optimal and certified formulations (protocepts) technical parameters for production of AroNutro Instant Maize Snack prototypes	2,500	Optimal and certified formulations (protocepts) technical parameters for production of AroNutro Instant Maize Snack prototypes	1,500	AroNutro Instant Maize prototypes and their production protocols	1,440											
			-					Cordinated project activities																
		227001: Travel inland																						
															227004: Fuel, Lubricants & Oils									

Program/ Directorate	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
									for production of AroNutro Instant Maize Snack prototypes					
						-			Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization		Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization		Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization	
			221011: Printing, Stationery, Binding			5,000		-	Optimal and certified formulations (protocepts) technical parameters for production of AroNutro Instant Maize Snack prototypes	-	Optimal and certified formulations (protocepts) technical parameters for production of AroNutro Instant Maize Snack prototypes	-	AroNutro Instant Maize prototypes and their production protocols	5,000
			221002: Workshops & seminars(institute w/shops)(inc. Hire of venues)			6,200		-	Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization	6,200	Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization	-	Submitted AroNutro Instant Maize snack prototypes to the incubator for development and commercialization	-

Program/ Directorate	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
									ation		ation		ation	
			Sub-total			100,000		24,300		30,700		28,500		16,500

Annex xxxii: GoU Development Work Plan and Budget for CGS Project CCGS/5/12/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
Kachwekano ZARDI	Development of potato varieties adaptable to unique environments (Prossy Namugaga)	01: Generation of agricultural technologies	211103 Contract staff salaries	Conducting multilocation trials	Two potato genotypes resistant to Phytophthora infestans with good processing qualities and high yields selected for release	58,000	Five multilocation trials established in different agroecologies	14,500	Trials monitored, inspected, data collected and harvested	14,500	Five multilocation trials established in different agroecologies	14,500	Trials monitored, inspected, data collected and harvested. Farmer participatory evaluation	14,500
				On station multiplication and evaluation of elite potato clones	At least five highly yielding, early maturing and resistant potato clones selected for further evaluation		Two trials established in Kachwekano and Kalengyer research stations		Trials monitored, inspected, data collected and harvested		Two trials established in Kachwekano and Kalengyer research stations		Trials monitored, inspected, data collected and harvested	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				Breeding potato genotypes for heat and drought tolerance	At least 10 potato clones with heat and drought tolerant traits identified		Two trials established in Kihikihi and Kabale		Trials monitored, inspected, data collected and harvested		Two trials established in Kihikihi and Kabale		Trials monitored, inspected, data collected and harvested	
				Assessing the productivity of different starter materials in the production of early generation seed	Information generated on performance of each starter material		Trials established		Trials monitored and data collected		Trials established		Trials monitored and data collected	
				Optimizing field and laboratory protocols	Field and laboratory protocols developed		Laboratory and field experiments set up		Laboratory and field experiments set up, monitored and data collected		Laboratory and field experiments set up		Laboratory and field experiments set up, monitored and data collected	
		01: Generation of agricultural technologies	227001 Travel inland		Two potato genotypes resistant to Phytophthora infestans with good processing	38,000	Trials established, in different agro ecologies	9,500	Trials monitored, inspected, data collected and harvested	9,500	Trials established, in different agro ecologies	9,500	Trials monitored, inspected, data collected and harvested	9,500

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					qualities and high yields selected for release									
				Breeding potato genotypes for heat and drought tolerance	At least 10 potato clones with heat and drought tolerant traits identified		Two trials established in diverse agroecologies		Trials monitored, data collected and harvested		Two trials established in diverse agroecologies		Trials monitored, data collected and harvested	
				On station multiplication and evaluation of elite potato clones	At least five highly yielding, early maturing and resistant potato clones selected for further evaluation		Two trials established,		Trials monitored, inspected, data collected and harvested		Two trials established,		Trials monitored, inspected, data collected and harvested	
				Optimizing field and laboratory protocols	Field and laboratory protocols developed		Materials for initiation collected		Trials monitored		Trials monitored		Trials monitored	
				Assessing the productivity of different starter materials	Information generated on performance of each starter material		Trials established		Data collected on agronomic performance		Trials established		Data collected on agronomic performance and report writing	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				in the production of early generation seed										
		02: Research extension interface promoted and strengthened	224006 Agricultural supplies	On station multiplication and evaluation of elite potato clones	At least five high yielding, early maturing and resistant potato clones selected for further evaluation	34,000	Field and laboratory supplies procured	8,500	Field and laboratory supplies procured	8,500	Field and laboratory supplies procured	8,500	Field and laboratory supplies procured	8,500
				Breeding potato genotypes for heat and drought tolerance	At least 10 potato clones with heat and drought tolerant traits identified		Field and laboratory supplies procured		Field and laboratory supplies procured		Field and laboratory supplies procured		Field and laboratory supplies procured	
				Assessing the productivity of different starter materials in the production of early generation seed	Information generated on performance of each starter material		Field and laboratory supplies procured		Field and laboratory supplies procured		Field and laboratory supplies procured		Field and laboratory supplies procured	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				Optimizing field and laboratory protocols	Field and laboratory protocols developed		Field and laboratory supplies procured		Field and laboratory supplies procured		Field and laboratory supplies procured		Field and laboratory supplies procured	
					Two potato genotypes resistant to Phytophthora infestans with good processing qualities and high yields selected for release		Field and laboratory supplies procured		Field and laboratory supplies procured		Field and laboratory supplies procured		Field and laboratory supplies procured	
			221011 Printing, Stationery, Binding	Optimizing field and laboratory protocols	Field and laboratory protocols developed	650	Stationary procured	650						
			Total			130,650		33,150		32,500		32,500		32,500



Annex xxxiii: GoU Development Work Plan and Budget for CGS Project CCGS/5/13/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function Output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
Bulindi ZARDI	Harnessing the domino effect for transformative technology promotion and outreach Zardi wide (Dickson Baguma)	01: Generation of agricultural technologies	221002: Workshop & Seminars (Institute)	Characterizing the farms, typologies, farmers and other key actors around the PARIs	Characteristics of famers around PARIs determined	59,755	Tools for Characterizing the farms, typologies, farmers and other key actors around the institutes developed and pre-tested	20,619	Tools used to develop online data collection application ; enumerators trained in mobile data collection; and tools fine-tuned	8,089	Characterizing the farms, typologies, farmers and other key actors around the institutes	20,443	Farm and farmer Characterisation study conducted; data cleaned up and analysed and interpreted; report written	10,604
			221001: Advertisement & Public relations			5,394		-		-		-		5,394
			227001: Travel inland			94,568		30,527		21,992		20,314		21,735
			225001: Consultancy short term			28,237		11,024		-		-		17,213
			221003: Staff Training			70,124		40,092		-		-		30,032
			224001: Medical & Veterinary supplies			34,221		11,577		-		-		22,644
			224006: Agricultural supplies			90,289		30,200		-		-		60,089
			227004: Fuels, oils and Lubricants			39,413		10,923		4,030		4,003		20,458
			Total			422,000		154,962		34,110				188,168

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
												44,760		

Annex xxxiv: GoU Development Work Plan and Budget for CGS Project CCGS/5/14/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaFORRI	Propagation and Commercialisation of Sandal Wood (Santalum album L) in Uganda: This project operationalised the CGS project on Refurbishment of NaFORRI labs (Hillary Agaba)		224001: Medical & Veterinary supplies	Importation of sandal wood seeds	Commercial quantities of sandal wood seedlings generated	3,000	Import permit for sandal wood secured and 30 kg of sandal wood	1,000		2,000	Additional 15 kgs red sandal wood seed procured			
					Adaptability of sandal wood in various agroecologies documented	-			Data analysis					
			224006: Agricultural Supplies	Acquisition of planting media, Establishing sandal wood tree nursery using both conventional and	Commercial quantities of sandal wood seedlings generated	39,000		3,000		20,000		8,000		8,000

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				biotechnology means										
				Acquisition of planting media, Establishing sandal wood tree nursery using both conventional and biotechnology means	Commercial quantities of sandal wood seedlings generated	-					Additional 15kgs white sandal wood seed procured			
				Acquisition of planting media, Establishing sandal wood tree nursery using both conventional and biotechnology means	Commercial quantities of sandal wood seedlings generated	-	Sandal wood tree production protocols developed		Sandal wood tree nursery infrastructure established					
				Acquisition of planting media, Establishing sandal wood tree nursery using both conventional and biotechnology means	Commercial quantities of sandal wood seedlings generated	-			Laboratory supplies for tissue culture production of sandal wood		Sandal wood Tissue culture production trials commenced		5000 sandal wood plantlets produced	

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
			211103: Contract staff salaries	Acquisition of planting media, Establishing sandal wood tree nursery using both conventional and biotechnology means	Commercial quantities of sandal wood seedlings generated	33,000		8,000				9,000		16,000
				Identifying and raising of sandal wood host plants	Adaptability of sandal wood in various agroecologies documented	-	Data on distribution of Sandal wood and associated host plants in various AEZ collected						sandal wood belts in Uganda mapped	
			227001: Travel inland	Acquisition of planting media, Establishing sandal wood tree nursery using both conventional and biotechnology means	Commercial quantities of sandal wood seedlings generated	18,000				15,000		3,000		
				Hold workshops and seminars on	Partnerships and	-								

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				developing sandal wood production and commercialisation	networks for sandal wood production and commercialisation									
				Hold workshops and seminars on developing sandal wood production and commercialisation	Partnerships and networks for sandal wood production and commercialisation	-								
				Identifying and raising of sandal wood host plants	Adaptability of sandal wood in various agroecologies documented	-								
			221002: Workshop and seminars	Hold workshops and seminars on developing sandal wood production and commercialisation	Partnerships and networks for sandal wood production and	4,600			Stakeholder capacities for production and commercialisation of	1,600		2,000		1,000



Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					commercialisation				sandal wood enhanced					
				Hold workshops and seminars on developing sandal wood production and commercialisation	Partnerships and networks for sandal wood production and commercialisation	-								
					Adaptability of sandal wood in various agroecologies documented	-			Write-shops for data analysis and compilation		Draft report on adaptability of Sandal wood in various AEZs produced		Final report on adaptability of Sandal wood in various AEZs produced and disseminated	
				Training of stakeholders on sandal wood production technologies	Stakeholder capacities for sustainable	-								

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					production and management of sandalwood improved									
			227004: Fuel, lubricants and oils	Hold workshops and seminars on developing sandalwood production and commercialisation	Partnerships and networks for sandalwood production and commercialisation	400				400				
				Field trials in various agroecologies	Adaptability of sandalwood in various agroecologies documented	-								
			225001: Consultancy services-short Term		Adaptability of sandalwood in various agroecologies documented	2,000					Distribution maps for Sandalwood developed	2,000		
			Sub-total			100,000	-	12,000	-	39,000	-	24,000	-	25,000

Annex xxxv: Work Plan and Budget for CGS Project CCGS/5/15/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
Nabuin ZARDI	General Screen house capacity at Nabuin (Vallence Nsaba)		312203: Fixtures	Installing irrigation system	Irrigation system installed in 2 screenhouses	65,000	Irrigation system installed	65,000						
				Installing Fertigation system	Fertigation system installed in 2 screenhouses	-	Fertigation system installed							
				Installing steel and concrete research benches	A number of Steel and concrete research benches installed in 2 screen houses	-	Steel and concrete research benches installed							
			224001: Agric supplies	Availing assorted screenhouse tools and equipments (Planting containers-pots and plastic buckets of various sizes, watering cans, plastic and metallic trays Soil PhD and moisture meters, digital	A number of screenhouse tools and equipments availed	20,000	Assorted screenhouse tools and equipments availed	20,000						

Program/ Directorate/Institute	Projects /Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				thermometers, porometer)n										
			221002: Workshop & Seminars (CGS)	Attending workshops to present project progress	A number of workshops and seminars attend to present project progress	5,000	CGS workshop /and seminar attend and progress report presented	1,250	CGS workshop/ and seminar attend and progress report presented	1,250	CGS workshop /and seminar attend and progress report presented	1,250	CGS workshop /and seminar attend and progress report presented	1,250
		01: Generatio n of agricultura l technologi es	211102: Casual labour for screen house experiment s	Establishing and managing various screen house experiments	A number of screen house crop evaluation experiments established and managed	10,000	Screenho use evaluatio n trials establishe d	2,500	Screenhous e evaluation trials established	2,500	Screenho use evaluatio n trials establishe d	2,500	Technologi es from screen house evaluatio n trials identified	2,500
Total						100,000		88,750		3,750		3,750		3,750



Annex xxxvi: GoU Development Work Plan and Budget for CGS Project CCGS/5/16/18 for FY 2019/20

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
National Invasive Species Coordination Unit (NISCU)	Emerging Issues: Kariba weed management (James Ogwang)		227001: Travel-inland	Assessing magnitude and distribution of Kariba weed	Occurrence and infestation levels of Kariba weed in water bodies mapped	50,500	Kariba weed incidence data collected in water bodies in eastern and northern Uganda	14,000	Kariba weed incidence data collected in water bodies in eastern and northern Uganda	13,500	Kariba weed incidence data collected in water bodies in eastern and northern Uganda	11,800	Kariba weed incidence data collected in water bodies in eastern and northern Uganda	11,200
				Assessing magnitude and distribution of Kariba weed	Occurrence and infestation levels of Kariba weed in water bodies mapped	-	Information on levels of infestation of Kariba weed in water bodies		Information on levels of infestation of Kariba weed in water bodies		Information on levels of infestation of Kariba weed in water bodies		Information on levels of infestation of Kariba weed in water bodies	
				Monitoring weevil impact at release sites in water bodies	Levels of weevil established	-	Information on field population build up of salvinia weevils and level of		Information on field population build up of salvinia weevils and level of damage on Kariba weed in		Information on field population build up of salvinia weevils and level of		Information on field population build up of salvinia weevils and level of	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
							damage on kariba weed in water bodies		water bodies		damage on kariba weed in water bodies		damage on kariba weed in water bodies	
				Monitoring trends in physico-chemical and biological parameters on Lakes Kyoga, Albert and Albert Nile	Trends in physico-chemical and biological water parameters on Lakes Kyoga, Albert and Albert Nile determined	-	Baseline information on physico-chemical and biological water parameters on Lake Albert		Baseline information on physico-chemical and biological water parameters on River Nile		Baseline information on physico-chemical and biological water parameters on Albert Nile		Baseline information on physico-chemical and biological water parameters in wetlands	
				Determine level of fish catches and associated benefits	Trends in fish catches and livelihood indices in riparian communities (Lakes Kyoga	-	Baseline information on fish catches and livelihood indices in Lake Albert		Baseline information on fish catches and livelihood indices in River Nile		Baseline information on fish catches and livelihood indices in Albert Nile		Baseline information on fish catches and livelihood indices in wetlands	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					and Albert and the Albert Nile) determined									
			224006: Agricultural supplies	Assessing magnitude and distribution of Kariba weed	Biological control agents established in Kyoga complex and Albert fish production systems	61,000	2 fishing villages trained in weevil rearing and inlake releases	16,000	Weevils mass produced from namulonge and 4 lakeshore rearing facilities	15,000	Weevils mass produced from namulonge and 4 lakeshore rearing facilities	16,000	Weevils mass produced from namulonge and 4 lakeshore rearing facilities	14,000
				Assessing magnitude and distribution of Kariba weed	Biological control agents established in Kyoga complex and Albert fish production systems	-	Weevils mass released in 20 sites in salvinia infested water bodies in eastern and northern Uganda		Weevils mass released in 15 sites in salvinia infested water bodies in eastern and northern Uganda		Weevils mass released in 15 sites in salvinia infested water bodies in eastern and northern Uganda		Weevils mass released in 15 sites in salvinia infested water bodies in eastern and northern Uganda	

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					on systems									
				Refurbishment of weevil production facilities	Lakeshore rearing facilities rehabilitated and fully functional	-	Materials procured for refurbishment of 2 lakeshore weevil rearing stations		2 lakeshore rearing stations refurbished		Materials procured for refurbishment of 2 lakeshore weevil rearing stations		2 lakeshore rearing stations refurbished	
			221002: Workshops & seminars	Hold quarterly planning meetings	Quarterly planning meetings by research teams conducted	11,000	One review workshop to discuss research plan on kariba weed	3,000	One review workshop to discuss research plan on kariba weed	3,000	One review workshop to discuss research plan on kariba weed	3,000	One review workshop to discuss research plan on kariba weed	2,000
			221011: Printing and stationery	Package information and dissemination	Information packages (technical reports, brochures, manuals)	15,000	Packaging information on kariba weed management and dissemination	3,750	Packaging information on kariba weed management and dissemination	3,750	Packaging information on kariba weed management and dissemination	3,750	Packaging information on kariba weed management and dissemination	3,750

Program/ Directorate/Institute	Projects /Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	
					, posters, manuscripts) for uptake developed and disseminated		tion					tion		tion	
			227004: Fuel, lubricants and oils	Conduct repairs and service of vehicles	Vehicles maintained in good working condition	12,500	One motor vehicle and one water pump serviced and repaired	3,125	One motor vehicle and one water pump serviced and repaired	3,125	One motor vehicle and one water pump serviced and repaired	3,125	One motor vehicle and one water pump serviced and repaired	3,125	
Total						150,000	-	39,875		38,375		37,675		34,075	



Annex xxxvii: GoU Development Work Plan and Budget for CGS Project CCGS/5/17/18 for FY 2019/20

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaFOR RI	Developing Sustainable Options to the control of the Red gum Lerp Psyllid and Bronze bug affecting Eucalyptus plantations in Uganda (Peter Kiwuso)		224001: Agricultural supplies	Sourcing seed, planting and maintaining the E.camaldulensis seedlings	1000 E.camaldulensis raised to host Bronze bug and Red gum lerp psyllid in screen house	26,000	Adequate numbers of E.camaldulensis seedlings established for rearing C.nockae and P.bliteus bio-agents	6,500	Adequate numbers of E.camaldulensis seedlings established for rearing C.nockae and P.bliteus bio-agents	6,500	Adequate numbers of E.camaldulensis seedlings established for rearing C.nockae and P.bliteus bio-agents	6,500	Adequate numbers of E.camaldulensis seedlings established for rearing C.nockae and P.bliteus bio-agents	6,500
		01: Generation of agricultural technologies	211103: Contract staff salaries	Collect Bronze bug and Red gum Lerp Psyllid (host pests)	5000 Bronze bug and 3000 Red gum lerp psyllid	58,000	Adequate numbers of Bronze bug and Red Lerp Psyllid to host	12,800	Adequate numbers of Bronze bug and Red Lerp Psyllid to host C.nockae	12,800	Adequate numbers of Bronze bug and Red Lerp Psyllid to host	12,800	Adequate numbers of Bronze bug and Red Lerp Psyllid to host	19,600

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				from infested sites and rear in screen house	pests reared in screen house to host bio- agents		C.nockae and P.bliteus bio- agents		and P.bliteus bio-agents		C.nockae and P.bliteus bio- agents		C.nockae and P.bliteus bio- agents	
			224001: Medical & Agric supplies	Collect and rear C.nockae and P.bliteus in screen house	5000 C. nockae and 3000 P.bliteus reared in screen house	61,280	Adequate numbers of C.nockae and P.bliteus reared for release	24,980	Adequate numbers of C.nockae and P.bliteus produced for release	10,000	Adequate numbers of C.nockae and P.bliteus produced for release	15,650	Adequate numbers of C.nockae and P.bliteus produced for release	10,650
			228002: Vehicle maintainace	Release P.bliteus and C.nockae bioagents in the field	5000 C. nockae and 3000 P.bliteus released in 6 AEZs, Perform ance of C. nockae and P.bliteus determi ned in the field	13,500	agasint Bronze bug and Red Lerp Psyllid	3,000	Bronze bug and Red Lerp Psyllid.	3,500	agasint Bronze bug and Red Lerp Psyllid.	3,500	agasint Bronze bug and Red Lerp Psyllid.	3,500

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
			227004: Fuel & lubricants	Silvicultural treatments	Host pest resistance identified	12,800	Adequate numbers of C. noackae and P.bliteus released against Bronze bug and Redgum Lerp Psyllid respectively	3,800	Adequate numbers of C. noackae and P.bliteus released against Bronze bug and Redgum Lerp Psyllid respectively	3,000	Adequate numbers of C. noackae and P.bliteus released against Bronze bug and Redgum Lerp Psyllid respectively	3,000	Adequate numbers of C. noackae and P.bliteus released against Bronze bug and Redgum Lerp Psyllid respectively	3,000
			221003: Staff training	Select resistant and non resistant plants		10,000	Establishment, dispersal and effectiveness of C. noackae and P.bliteus determined	5,000	Establishment, dispersal and effectiveness of C. noackae and P.bliteus determined	-		5,000	Establishment, dispersal and effectiveness of C. noackae and P.bliteus determined	-
			227002: Travel outside	Genetic diversity		1,500		1,500		-		-		-
			227001: Travel inland	Bio-control rearing facility established at	A robust institutional infrastructural framework	66,920	Eucalyptus species/hybrids resistant to Bronze	16,880	Eucalyptus species/hybrids resistant to Bronze bug/red	20,520	Eucalyptus species/hybrids resistant to Bronze	14,520	Eucalyptus species/hybrids resistant to Bronze	15,000

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				NaFORRI	rk to enhance sustainable research capacity for manage		bug/red gum Lerp Psyllid identified for future breeding programs		gum Lerp Psyllid identified for future breeding programs		bug/red gum Lerp Psyllid identified for future breeding programs		bug/red gum Lerp Psyllid identified for future breeding programs	
				1 Msc student facilitated at Tertiary institution	ment of emerging forest pests and diseases in Uganda develop ed		Capacity to manage Bronze bug and Redgum lerp Psyllid and other noxious pests enhanced		Capacity to manage Bronze bug and Redgum lerp Psyllid and other noxious pests enhanced		Capacity to manage Bronze bug and Redgum lerp Psyllid and other noxious pests enhanced		Capacity to manage Bronze bug and Redgum lerp Psyllid and other noxious pests enhanced	
				Field activities effectively monitored										
	Total					250,000	-	74,460	-	56,320	-	60,970	-	58,250

Annex xxxviii: GoU Development Work Plan and Budget for CGS Project CCGS/5/18/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaFIRRI	Strategic mechanism to advance resilient Tilapia (SMART) in Uganda	01: Generation of agricultural technologies	211103: Contract staff salaries	Developing Diagnostic capacity and control strategies for emerging aquatic diseases	1) one diagnostic kit prototype standardized one emerging aquatic diseases in Uganda; 2) Database and geospatial distribution of emerging diseases updated; 3) One biocontrol agent developed and packaged; 4) Emergency	31,504	1) candidate diagnostic kit identified; 2) epidemiological report for Central AEZ on emerging pathogens characterized; 3) On-farm (Hatcheries) results for selected biocontrol control agent (Plant N); 4) Capacity of National Fish Health Task Force	7,876	1) candidate diagnostic kit optimised and standardized; 2) epidemiological report for Eastern AEZ on emerging pathogens characterized; 3) On-farm (Cage farms) results for selected biocontrol control agent (Plant N); 4) Capacity of Fish health Staff in disease preparedness strengthen	7,876	1) candidate diagnostic kit standardized; 2) epidemiological report for Eastern AEZ on emerging pathogens characterized; 3) On-farm (Cage farms) results for selected biocontrol control agent (Plant N); 4) Draft reporting system for emerging aquatic diseases	7,876	1) one diagnostic kit prototype standardized one emerging aquatic diseases in Uganda; 2) Database and geospatial distribution of emerging diseases updated; 3) One biocontrol control agent developed and packaged; 4) Emergency preparedness Protocols for policy	7,876
	Diagnostic tools and geospatial modeling of TILV		221003: Staff Training-Student Research costs			6,000		1,500		1,500		1,500		1,500
			224001: Medical & Agricultural supplies			50,884		12,721		12,721		12,721		12,721
	control (John Walakira)		227001: Travel inland			-		-		-		-		-

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					ence prepare dnes system for emergin g diseases establish ed		strenghte ned;		ned;		for develope d;		considera tion	
						-								
			221001: Advertising and Public Relations		1) Publicati ons: manuscr ipt, brochur es, poster Policy briefs; 2) one awarene ss campaig ns/semi nars; 3) one stakehol der training worksho p conduct ed;	12,602	one awarenes s campaign s/semina rs;	4,534	one stakeholde r training workshop conducted;	8,068				



Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
			228002: Maintenance - Vehicle		One fish diagnostic laboratory	-								
			312101: Non- Residential Buildings			133,893	partial completion laboratory	33,474	partial completion laboratory	66,945	Equiped and functional laboratory	33,474		-
			227004: Fuel, Oils & Lubricants			-								
			221002: Workshops & seminars(institute w/shops)(inc. Hire of venues)			-								
			228002: Maintenance - Vehicles			20,024		5,006		5,006		5,006		5,006
Total						254,907	-	65,111	-	102,116	-	60,577	-	27,103



Annex xxxix: GoU Development Work Plan and Budget for CGS Project CCGS/5/19/18 for FY 2019/20

Progra m/ Director ate/Inst itue	Projects /Units	Vote Functionoutput	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
DRC	Buildin g an evidenc e-based agricult ural research and develop ment agenda: Toward s an effective M&E system in NARO (Lukwa go George)	02: Strengthening agricultural research capacity	221002: Workshops and seminars	Conduct a baseline for the NARO M&E System	Situatio n analysis and needs assesme nt of the NARO M&E system determi ned	70,000	Inception workshop for the Task Force Team (TFT) held and stakehold er mapping conducte d	21,310		20,200		16,690	Feedback and input to the draft report integrated	11,800
			221002: Workshops and seminars			-	Tools for the Baseline Study develope d	Report on situation analysis and needs assessment of the NARO M&E system compiled		Draft Situation analysis and needs assessment report shared for input and validated		Final situationa l analysis and needs assessment report on M&E system in NARO published and dissemina ted		
			227001: Travel- inland			50,000	Data on the current status of M&E system in NARO collected	50,000						
	Sub-total							120,000		71,310		20,200		16,690

Annex xl: GoU Development Work Plan and Budget for CGS Project CCGS/5/20/18 for FY 2019/20

Program/ Directorate/Institution	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaFIRR I	Commercialization of Nile perch oil Products (Namulawa Victoria Tibenda)		225001: Consultancy services - short term	Designing architectural structure of Nile perch oil extraction and processing plant	Design of architectural structure of Nile perch oil extraction and processing plant	5,000	Design of architectural structure of Nile perch oil extraction and processing plant	5,000	-	-	-	-	-	-
			312202: Machinery & Equipment	Fabricating and acquisition of equipment and equipment for Nile perch oil extraction and processing	Equipment for Nile perch oil extraction and processing	40,000	Partial acquisition of equipment for Nile perch oil extraction and processing	20,000	Equipment for Nile perch oil extraction and processing	20,000	-	-	-	-
			312101: Non-residential building	Construction and assembling Nile perch oil	Nile perch oil extraction and processing	32,000	Nile perch oil extraction and processing	20,000		12,000				

Program/ Directorate/Institution	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				extraction and processing plant	ing plant		g plant							
			224006: Agricultural Supplies	Acquisition of raw material, Nile perch oil extraction, purification, stabilization, Micro-nutritional profiling of Nile perch oil (fatty acid, amino acid, vitamins A,D,E,K and mineral analysis), Purchase of Consumables, Microbial analysis, Benchmark the nutrient	Nile perch oil nutritional profile	80,200	Partial completion of Nile perch oil nutritional profile	3,000	Partial completion of Nile perch oil nutritional profile	22,000	Partial Completion of Nile perch oil nutritional profile	20,000	Completion of Nile perch oil nutritional profile	35,200
			227004: Fuel, oils & lubricants			4,800		1,150		1,100		1,400		1,150
		01: Generation of agricultural technologies	211103: Casual Labour			2,000		500		500		500		500
			227001: Travel inland			9,160		1,040		1,640		1,040		5,440

Program/ Directorate/Institution	Projects /Units	Vote Functionoutput	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				profile of Nile perch oil against the dietary requirements for the different age groups										
			221002: Workshops and seminars	Project planning, monitoring and evaluation , plus Report writing, Sensory evaluation		6,640	Project plans, project reports, sensory evaluation reports	2,870	Project plans, project reports, sensory evaluation reports	1,200	Project plans, project reports, sensory evaluation reports	1,095	Project plans, project reports, sensory evaluation reports	1,475
			228002: Maintenance - vehicles			2,000		500		500		500		500
			222001: Telecommunication			200		-		-		-		200
Sub-total						182,000	-	54,060	-	58,940	-	24,535	-	44,465

Annex xli: GoU Development Work Plan and Budget for CGS Project CCGS/5/21/18 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
Abi ZARDI	Improvement of Landrace Sorghum 'Godo' and Enhancing Varieties in the West Nile Agro-Ecological Zone Adoption of Newly Released Sorghum (Eres Awori Kutesa)			Maintainance and data collection on the established screen house and on-station performance trial for F1, F2, F3 and parental population for phenotyping	Phenotypic characterisation	35,560		7,640		8,640		9,640		9,640
						-								
					5 farmer groups trained in sorghum seed production, packging and marketing in the region	-								
		01: Generation of agricultural technologies	211102: Contract labour			-								
			224006: Agric supplies	Maintainance and data collection on the established screen house and on-station performance trial for F1, F2, F3 and parental population for	Phenotypic characterisation	2,250		750		500		500		500

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				phenotyping										
				Establishment of demos with newly released varieties(Narosorg 1-4) and conducting PVS with the farmers	4 farmer groups trained in sorghum seed production, packing and marketing in the region	-								
			221011: Printing, stationary and binding	Maintainance and data collection on the established screen house and on-station performance trial for F1, F2, F3 and parental population for phenotyping	Phenotypic characterisation	1,000		1,000						
				Follow up and data collection on establishment	Phenotypic characterisation	31,640		9,500		7,340		7,500		7,300
			227001: Travel inland											

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				of on farm (RPTs) in 5 locations for F1, F2, F3, F4s and parental population for phenotyping										
				DNA extraction, obtaining and submission of samples for genotyping and following procurement of genotyping services	Molecular Characterisation and nutritional profiling									
				Establishment of demos with newly released varieties(Naro sorg 1-4) and conducting PVS with the farmers	6 farmer groups trained in sorghum seed production, packaging and marketing in the region									
				Training the groups in group										

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				dynamic, roles and responsibilities, dynamic in seed production, strategies for resource mobilisation in seed production, linkages and opportunities in production and marketing										
			224001: Medical & Agric. Supplies (LTV)	Submission of seed samples for nutritional profiling, procurement of nutritional profiling services	Molecular Characterisation and nutritional profiling	23,000		7,000		7,000		7,000		2,000
				Training the groups in group dynamic, roles and responsibilities, dynamic in seed production, strategies for resource	10 farmer groups trained in sorghum seed production, packaging and marketing in the region									

Program/ Directorate/Institute	Projects /Units	Vote Functionoutput	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
			221002: Workshops and Seminars	mobilisation in seed production, linkages and opportunities in production and marketing		1,600		800				800		
			227004: Fuel, Lubricants & Oils			950		250		200		250		250
			228002: Maintenance - Vehicles			4,000		1,000		1,000		1,000		1,000
Total						100,000	-	27,940	-	24,680	-	26,690	-	20,690



Annex xlii: GoU Development Work Plan and Budget for CGS Project CCGS/6/1/19 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
MuZAR DI	On-site air-to- fertilizer mini- plants relegated by sensor- based ICT technology to foster African agriculture (Stella Kabiri)	01: Generation of agricultural technologies	224001: Medical & Agric supplies	Procurement of installation materials, invoices compiled and suppliers identified for procurements for mini- fertilizer	Mini- fertilizer test plant installed at MUZAR DI's Kamenya amigo Station, Lwengo district	140,000	Mini- fertilizer test plant installed at MUZAR DI's Kamenya migo Station, Lwengo district	140,000	-	-	-	-	-	-
	Total					140,000								

Annex xliii: GoU Development Work Plan and Budget for CGS Project CCGS/6/2/19 for FY 2019/20

Program/ Directorate/Institute	Projects /Units	Vote Function/output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
DRC - CGS	Monitoring CGS projects (Julius Mukalazi)		227 001 : Travel inland	Monitoring CGS projects		69,719	CGS projects monitored	15,519	CGS projects monitored	13,800	CGS projects monitored	14,700	CGS projects monitored	25,700
			Sub-total			69,719		15,519		13,800		14,700		25,700

Annex xlv: GoU Development Work Plan and Budget for CGS Project CCGS/6/3/19 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaFIRR I	Development of unextruded floating fish feed for sustainable aquaculture production in Uganda (Margret Aanyu)		221002: Workshops & seminars	Developing technology for mass production of insects for use in fish feed development	1. Database of the Nutritional composition of insects with potential for use in fish feed development	9,100	Inception meeting for the project held	4,100					Results dissemination workshop held	5,000
			224006: Agricultural supplies		2. Insect larvae & Insect meal for use in fish feeds produced and packaged for use by farmers	15,000	Consolidation of available information on the nutritional composition of insects with potential for use in fish feed determined	2,000	Feed trials to assess the most appropriate insect meal to provide maximum Nile tilapia growth	10,000			Insect larvae and insect meals packaged for use by farmers and popularised/advertised	3,000

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
			224001: Medical & Veterinary supplies		3. Best performing insect- based fish feed formula for Nile tilapia growth	21,000	Feed trails to assess the most appropriate insect meal to provide maximum Nile tilapia growth	9,000	Feed trails to assess the most appropriate insect meal to provide maximum Nile tilapia growth	9,000	Facilities and substrates for mass production of insects tested and cost effective ones setup for commercial production of insects	1,000	Guidelines for cost- effective mass production of insects for use as a protein source in fish feeds developed and dissiminated	2000
			221011: Printing and stationery		4. Manual for cost- effective mass production of insects for use as a protein source in fish feeds developed and dissiminated	2,000							Business model for mass production of insects for use in fish feed developed and dissiminated to fish feed producers	2000

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
			227001: Travel inland		4. Enterprise budget for mass production of insects for use in fish feed developed for investors	8,500	Project team mobilised and experimental sites selected	2500	Data on insect meal production collected	2,000	Data on insect meal production collected	2,000	Feed producers backstopped to produce insect-based fish feed	2000
			228002: Maintenance - Vehicle			7,300	Project team mobilised and experimental sites selected	1800	Data on insect meal production collected	1,500	Data on insect meal production collected	2,000	Data on insect meal production collected	2,000
			228003: Maintenance equipment			6,500	Feed meal machines and equipment maintained	2000	repair of machines and equipment	1,500	repair of machines and equipment	1,000	repair of machines and equipment	2,000
			312101: Non-Residential Buildings			24,500	Materials and equipment for rearing	24500		-		-	-	0

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
							insects procured							
			211103: Contract staff salaries			6,100			Contracted labour hired and paid	2,100	Contracted labour hired and paid	2,000	Contracted labour hired and paid	2,000
			Sub-total			100,000	-	45,900	-	26,100	-	8,000	-	20,000

Annex xlv: GoU Development Work Plan and Budget for CGS Project CCGS/6/4/19 for FY 2019/20

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaCOR I	Developing Arabica coffee breeding pipeline: Profiling biochemical and biophysical factors for regional specific Arabica coffee products in Uganda (Godfrey Kagezi)	01: Generation of agricultural technologies	227001: Travel-inland	Determine the distribution of Arabica coffee varieties in the diverse altitudes in Mt. Elgon, Nebbi-Zombo, Ntoroko-Kasese and Kisoro	Distribution maps of Arabica Coffee Varieties in Uganda	35,750	Data on Arabica coffee distribution collected from Kisoro, Kasese and Zombo regions	23,950		11,800				
		01: Generation of agricultural technologies		Determine farmers knowledge on Arabica coffee varieties and production practices	An inventory of Arabica coffee varieties in targeted regions of Uganda		Arabica coffee variety inventory developed for Kisoro, Kasese and Zombo regions		Arabica coffee variety inventory developed for Elgon and Ntoroko regions					

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
		01: Generation of agricultural technologies	224006: 'Agricultural Supplies	Determine the climatic parameters, altitude, soil - chemical and physical properties, incidence and damage of pests and diseases, yield and physical and liquor parameters	Profile of climatic parameters, altitude, soil - chemical and physical properties, incidence and damage of pests and diseases, yield and physical and liquor parameters in the diverse Arabica coffee growing regions of Uganda	32,950	Inventories of incidences of pests and diseases, climatic, altitude, soils as well as yield and quality parameters,	27,250	Data on Arabica coffee distribution collected from Elgon and Ntoroko regions	1,700	Nursery plant multiplication materials	2,000	Nursery plant multiplication materials	2,000

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
							Nursery plant multiplication materials		Arabica coffee variety inventory developed for Elgon and Ntoroko regions					
						0			Inventories of incidences of pests and diseases, climatic, altitude, soils as well as yield and quality parameters					
						0			Nursery plant multiplication materials					
		01: Generation of agricultural technologies	211103: Contract staff salaries	Develop Arabica coffee planting materials for the proposed field	An inventory of Arabica coffee varieties in targeted	13,300	3 technicians involved multiplication of planting materials	4,000	3 technicians involved multiplication of planting materials	3,900	3 technicians involved multiplication of planting materials	2700	3 technicians involved multiplication of planting materials	2700

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				studies	regions of Uganda									
			225001: Consultancy	Relate the biophysical factors to yield and quality parameters	Distribution map and catalogue of biophysical drivers of population dynamics of coffee stem borers in Uganda	18,000		3,000	Model predicting the effects of biophysical factors on yield and quality of Arabica coffee in the diverse growing regions	15,000		0		0
Total						100,000		58,200		32,400		4,700		4,700

Annex xlvii: GoU Development Work Plan and Budget for CGS Project CCGS/6/5/19 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
Ngetta ZARDI	Development of value added products from shea fruit pulp and nuts for commercialization (Moses Okao)		221002: Workshops and seminars	Holding of planning workshops and meetings	Four products from Shea fruit pulp and Shea nuts developed for commercialization	25,000	Inception workshop for project team held	7,490	Sensitization meeting with target communities held	5,680	Review and planning meeting held	6,620	Guidelines for post harvest handling of Shea nuts produced for validation	5,210
			221003: Staff training	Developing capacity of Ngetta ZARDI to produce Shea products		5,610	Training on oil extraction and soap making held	5,610						
			224006: Agric supplies	Materials for Shea fruit/nut processing and post harvest handling acquired and		46,790	1 Cold press machine; 1 solar drier prototype; 2 Blenders, 1 refrigerator	35,690	Processing and post-harvest equipment validated on-station.	1,200	At least two Shea nut based products produced and evaluated	9,900		

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				validated			tor; 1 Shea nut dehuskin g machine; fresh Shea fruits; 1 dried pulp crushing machine; 2000 units packagin g materials and 10 tarpauline s acquired							
				Acquiring assorted chemicals and reagents		-	Acquisitio n of processin g reagents				Acquisitio n of processin g reagents			
			211103: Contract staff salaries	Two pulp based products produced and phyto- chemical analysis done		12,000	Atleast one pulp based product produced and phtyoche mical analysis done	6,000					Atleast one pulp based product produced and phtyoche mical analysis done	6,000

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
			2270010: Travel-inland	6 farmer groups selected and trained on handling of fresh Shea fruits for processing		10,600	3 farmer groups trained on Shea fruits handling for processing	5,300			3 farmer groups trained on Shea fruits handling for processing	5,300		
Sub- total						100,000	-	60,090	-	6,880	-	21,820	-	11,210



Annex xlvii: GoU Development Work Plan and Budget for CGS Project CCGS/6/6/19 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaFOR RI	Pharmaceutical products development and commercialisation from key trees and shrubs of Uganda (Moren Uwimbabazi)	01: Generation of Agricultural Technologies	227004: Fuel, Lubricants & Oils	Acquisition of permits and licences for exploring medicinal tree and shrub species in protected areas	Inventory of trees and shrubs with high medicinal potential in Uganda	15,500	Traditional Knowledge on use of medicinal trees and shrubs documented	5,500	Distribution maps of medicinal trees and shrubs	2,000	Database for priority medicinal tree and shrubs	2,750	Herbarium of priority medicinal tree and shrub species	5,250
				Collecting germplasm for propagation of priority medicinal trees and shrubs	Genebank of priority medicinal trees and shrubs established	-					Planting material for medicinal and shrubs raised in the nursery			
				Developing agreements with key partners on priority medicinal trees and		-								

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				shrubs										
			227001: Travel inland	Surveying and mapping to identify common medicinal trees and shrubs and curable ailments.		39,500		14,000		7,000		13,000		5,500
		01: Generation of Agricultural Technologies		Consultative meetings with stakeholders on priority medicinal trees and shrubs	Effective partnerships and linkages for identifying and developing pharmaceutical products established.	-	Inception workshop : Key partners in use and conservation of medicinal trees and shrubs identified		Stakeholder networks for use and conservation of medicinal trees and shrubs developed		Capacity of stakeholders enhanced in propagation and management of medicinal trees and shrubs		Partnership agreements with key partners	
			221011: Stationery, printing and binding	Creating stakeholder networks for conservation and use of		4,000		2,000				2,000		

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				priority medicinal trees and shrubs										
			211103: Contract staff salaries	Nursery propagation of priority medicinal trees and shrubs		10,000		5,000		3,000				2,000
			221002: Workshops and seminars			25,500		11,500		4,000		9,000		1,000
			224006: Agric. Supplies	Planting out priority medicinal trees and shrubs		5,500						5,500		
		Sub- total				100,000		38,000		16,000		32,250		13,750



Annex xlviii: GoU Development Work Plan and Budget for CGS Project CCGS/6/8/19 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaSARI	Rhizobium bio-fertilizer application and extrusion technology for increased production and utilization of pigeonpea in Uganda (Robert Amayo)	01: Generation of agricultural technologies	211103: Contract Staff Salaries (Incl. Casual labourers)	Production of mother-culture through purification and proper storage of selected rhizobia strains	High quality and productive mother-culture produced and kept for further use	8,100	Two effective rhizobia strains re-isolated and purified	2,040	Mother-cultures for purified rhizobia strains produced and kept for further use	2,600		1,730		1,730
				Production of carrier-based and liquid bio-fertilizer	Prototype rhizobia fertilizer produced for pre-testing and further production	-	Two effective rhizobia strains re-isolated and purified		Development of protocol for production initiated		Protocol and formulations for production of bio-fertilizer developed and production materials assembled		A few samples of bio-fertilizer produced for mass production	
				Production of extruded value-added		-							Samples of market accepted value-added products	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				products									produced for mass production	
			224001: Medical & Veterinary supplies	Production of mother-culture through purification and proper storage of selected rhizobia strains	High quality and productive mother-culture produced and kept for further use	15,820	Two effective rhizobia strains re-isolated and purified	2,620	Mother-cultures for purified rhizobia strains produced and kept for further use	3,480		3,460		6,260
				Production of carrier-based and liquid bio-fertilizer	Prototype rhizobia fertilizer produced for pre-testing and further production	-	Two effective rhizobia strains re-isolated and purified		Development of protocol for production initiated		Protocol and formulations for production of bio-fertilizer developed and production materials assembled		A few samples of bio-fertilizer produced for mass production	



Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				Production of extruded value-added products	Samples of market accepted value-added products produced for mass production	-							Samples of market accepted value-added products produced for mass production	
			227004: Fuel, Lubricants & Oils	Production of mother-culture through purification and proper storage of selected rhizobia strains	High quality and productive mother-culture produced and kept for further use	7,260	Two effective rhizobia strains re-isolated and purified	2,770	Mother-cultures for purified rhizobia strains produced and kept for further use	1,690		1,500		1,300
				Production of carrier-based and liquid bio-fertilizer	Prototype rhizobia fertilizer produced for pre-testing and	-			Development of protocol for production initiated		Protocol and formulations for production of bio-fertilizer developed and production		A few samples of bio-fertilizer produced for mass production	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					further production						n materials assembled			
				Production and dissemination of farmer user-friendly application guide	Recipes and protocols for production of valued added products developed and pre-tested	-								
				Establishment of MoU with project partners		-	MoU developed and signed between partners							
				Testing acceptability value added products	Initial acceptability and farmer-preferences for pigeon pea value-added product	-								
				Project management and implementation meetings		-	Project inception (multi-stakeholder) and project		Participation in project quarterly meeting		Participation in project quarterly meeting		Participation in project quarterly meeting	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				(inception meeting)	(s) determined		quarterly meeting facilitated		facilitated		facilitated		facilitated	
				Project monitoring and evaluation (including baseline study)		-	Project baseline information generated		Project quarter 2 implementation activities monitored		Project quarter 3 implementation activities monitored		Project quarter 4 implementation activities monitored	
			227001: Travel inland	Production of mother-culture through purification and proper storage of selected rhizobia strains	High quality and productive mother-culture produced and kept for further use	23,080	Two effective rhizobia strains re-isolated and purified	11,320	Mother-cultures for purified rhizobia strains produced and kept for further use	4,180		2,600		4,980
				Production and dissemination of farmer user-friendly application guide		-							Farmer user-friendly bio-fertilizer application guide produced and pre-tested	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				Testing acceptability value added products		-								
				Project management and implementation meetings (inception meeting)		-	Project inception (multi-stakeholder) and project quarterly meeting facilitated		Participation in project quarterly meeting facilitated		Participation in project quarterly meeting facilitated		Participation in project quarterly meeting facilitated	
				Testing market acceptability bio-fertilizers	Initial acceptability and farmer-preferences for rhizobia product (s) determined	-							Initial acceptability and farmer-preferences for rhizobia product (s) determined	
				Establishment of MoU with project partners		-	MoU developed and signed between partners							
				Project monitoring and		-	Project baseline information		Project quarter 2 implementation		Project quarter 3 implementation		Project quarter 4 implementation	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				evaluation (including baseline study)			on generated		ation activities monitored		tation activities monitored		tation activities monitored	
				Procurement of protect items		-	Project specialized machine procured and machines and equipment maintained		Project small office equipment procured and machines and equipment maintained		Project machines and equipment maintained		Project machines and equipment maintained	
			221001: Advertising and public relations(Agric shows)			2,340							Initial acceptability and farmer- preferences for rhizobia product (s) determined	2,340
				Production and dissemination of farmer user-		-							Farmer user- friendly bio- fertilizer application guide	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				friendly application guide									produced and pre-tested	
			221011: Printing, Stationery, Binding	Production and dissemination of farmer user-friendly application guide		4,605		1,325		1,540		200	Farmer user-friendly bio-fertilizer application guide produced and pre-tested	1,540
				Establishment of MoU with project partners		-	MoU developed and signed between partners							
				Production and dissemination of farmer user-friendly application guide		-								
				Project report development and submission	All project reports developed and	-	Quarter 1 reported developed and		Quarter 2 reported developed and		Quarter 3 reported developed and		Quarter 4 reported developed and	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				n	submitted		submitted		submitted		submitted		submitted	
			221003: Staff Training	Building capacity of staff for research and development		6,350	Staff training facilitated	1,500	Staff training facilitated		Staff training facilitated	1,600	Staff training facilitated	3,250
				Building capacity of staff for research and development		-			Staff training supervision facilitated				Staff training supervision facilitated	
			221002: Workshops & seminars (institute w/shops) (inc. Hire of venues)	Project management and implementation meetings (inception meeting)		4,350	Project inception (multi-stakeholder) and project quarterly meeting facilitated	4,350	Participation in project quarterly meeting facilitated		Participation in project quarterly meeting facilitated		Participation in project quarterly meeting facilitated	
			231005: Purchase of Specialised Machinery & Equipment	Procurement of protect items		20,000	Project specialized machine procured and machines and equipment	20,000	Project small office equipment procured and machines and equipment		Project machines and equipment maintained		Project machines and equipment maintained	

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
							t maintained		maintained					
			312202: Small office Equipment			3,000	Project specialized machine procured and machines and equipment maintained		Project small office equipment procured and machines and equipment maintained	3,000	Project machines and equipment maintained		Project machines and equipment maintained	
			228003: Maintenance - Machinery & Equipment			2,460	Project specialized machine procured and machines and equipment maintained	620	Project small office equipment procured and machines and equipment maintained	600	Project machines and equipment maintained	620	Project machines and equipment maintained	620
			221008: Computer Supplies & IT Service(Administration)	Project administration	Project implementation well facilitated by administration	2,635	Project implementation well facilitated by administration	1,123	Project implementation well facilitated by administration	815	Project implementation well facilitated by administration	432	Project implementation well facilitated by administration	265

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
					ration		ation				ation		ation	
Sub- total						100,000	-	47,668	-	17,905	-	12,142	-	22,285

Annex xlix: GoU Development Work Plan and Budget for CGS Project CCGS/6/9/19 for FY 2019/20

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaCRRI	Enhancing the nutrition and health of smallholder farmers in East Africa through increased productivity of	01: Generation of agricultural technologies	211103: Causal Labour	1. Produce seed of biofortified beans, 2) Assess the physical purity of seed collected during oHH surveys	Quality seed of biofortified bean varieties produced for on-farm demonstrations	25,200	Land Prepared for seed production	7,000	On-farm trials weeded and harvested (if planted timely)	10,000	Seed of biofortified beans sorted and cleaned	8,200		-
			227001: Travel inland			23,096	Seed production sites identified and farmers selected	5,691	Germination, disease and harvest data collected from on-farm trials	5,691	Seed of biofortified beans collected from production sites	3,794		-
								2,160		2,880		2,880		

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
	biofortified common bean and improved postharvest handling (Pamela Paparu)		224001: Agric supply			16,000	Chemicals required for production of clean seed purchased	16,000		-		-		-
		02: Research extension interface promoted and strengthened	221002: Workshop costs	Train Farmer Field School Facilitators	ToTs trained to lead farmer field schools at on-farm demonstration locations	3,400		-	ToTs trained at NaCRRI	3,400		-		-
			221011: Stationery			704		-		704		-		-
		4: Agricultural research capacity strengthened	225001: Short term Consultancy			1,600		-		1,600		-		-
		Sub-total				70,000		30,851	-	24,275	-	14,874	-	-



Annex I: GoU Development Work Plan and Budget for CGS Project CCGS/6/10/19 for FY 2019/20

Program/ Directorate/Institute	Projects /Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget ('000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
NaLIRR I	Coupling dairy circular systems with surface fish production through utilization of Algal based feeds (Siraje Ismail Kayondo)	01: Generation of agricultural technologies	211103: Contract staff salaries	Field collection of local algal species, characterisation of algal species & their morphological characteristics, Nutrient utilisation & preparation, microbial community analysis; Analysis of Nutrient profile analysis, Protocol for mass production of Algal cultures developed, agents of potential negative & positive feedback identified, cultivation of algal communities in small raceway ponds;	Diverse microalgae germplasm characterized, microalgae strains cultured, isolated & identified; Microalgae growth and nutrient composition on different substrates designed; Optimal quantity & rate of application of algal biogas slurry & harvesting methods determined; Production of dissemination materials.	12,853	Analysis of Nutrient profile analysis; Determine the proximate & nutritional composition of cattle slurry	3,001	Determine the appropriate dilution factor of organic slurry for use in raceway ponds for production	3,302	Agents of potential negative & positive feedback identified; Assess the effect of drying duration on nutritional composition of Algae	3,200	Cultivation of algal communities in small raceway ponds; Determine the appropriate pH & conditions for raceway substrate replenishment,	3,350
			221002: Workshops & Seminars			12,730		3,009		3,461		3,137		3,124
			224001: Medical & Veterinary Supplies			28,381		8,169		7,551		6,302		6,358
			224006: Agricultural Supplies			31,163		7,647		7,687		7,928		7,900
			227001: Travel inland	composition of cattle slurry, determine the appropriate dilution factor of organic slurry for use in raceway ponds for production, assess the effect of drying duration on nutritional composition		14,874		4,199		4,575		3,500		2,600

				of Algae, Determine the appropriate pH & conditions for raceway substrate replenishment,										
Sub- total						100,000	-	27,872		28,757	-	24,067	-	23,332

Annex li: GoU Development Work Plan and Budget for CGS Project CCGS/6/11/19 for FY 2019/20

Program/ Directorate/Institute	Projects /Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
Buginyanya ZARDI	Improving Wheat for Improved Food Security , Income and Climate Change Adaptability in Uganda (Bosco Chemayek)	01: Generation of agricultural technologies	211103: Contract staff salaries	Develop biotic/abiotic stress resistant/tolerant wheat varieties adapted to different agroecologies in Uganda and with desired end-use qualities; Develop cost effective weed management technologies for improved wheat productivity	Promising elite wheat lines with acceptable levels of tolerance to the different stresses; Most appropriate weed management approach documented and recommended to the farmers; Quality seed available	17,730	Experiments established both onstation and onfarm; Wheat management experiments established and Treatment applied; Seed multiplications established	4,865	Data on field performance and response to disease collected and preliminary selections of promising lines made; Data on experimental responses to the different treatments collected; Multiplication gardens maintained	3,750	Final selections made and promising lines harvested and seed processed . Site selection and land prepared for first season experiments; Yield data collected, Experiments harvested and sites for technology demo plots identified and	4,535	First season experiments for 2020 established; Performance of different treatments collected participatorily with the farmers; Multiplication fields identified and prepared for first season	4,580
			221002: Workshops & Seminars			19,330		4,300		4,950		5,060		5,020
			224001: Medical & Veterinary Supplies			13,770		3,560		3,520		3,060		3,630
			227001:Travel inland			16,880		4,000		4,110		4,460		4,310
			227004: Fuel, Lubricants & Oils			9,250		2,300		2,520		2,100		2,330
			221003: Staff training			17,040		4,530		4,500		3,350		4,660
			225001: Consultancy Short-term			4,000		1,000		1,000		1,000		1,000
			221011: Printing and Stationery			2,000		500		500		500		500

Program/ Directorate/Institute	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000	Interim or final report	Budget '000
				ty; Enhance wheat productivity through sustainable access and utilization of breeders seed in Uganda	to uptake pathways and sufficient seed of pipeline materials generated						prepared			
Sub- total						100,000	-	25,055	-	24,850	-	24,065	-	26,030



**Annex E: GoU Development Support for Relocation of NaLIRRI,
Vaccine Development, In-Vitro Fertilisation Laboratory, and
Renovation of NaSARRI**

A handwritten signature in black ink, appearing to be 'R. B. Singh', located in the bottom right corner of the page.

Annex lii: Relocation of NaLIRRI to Maruzi via Nakyesasa GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key ¹³ Activities	Annual Outputs ¹⁴	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
NaLIRRI Management	Relocation of NaLIRRI to Maruzi and Nakyesasa	Generation of agricultural technologies	2111030	Contract staff salaries (Labour costs)	Annual wages to contract workers paid throughout the year	Payment of contract staff salaries	182,000	Quarter 1- Annual wages to contract workers paid throughout the year	45,000	Quarter 2- Annual wages to contract workers paid throughout the year	45,000	Quarter 3- Annual wages to contract workers paid throughout the year	47,000	Quarter 4- Annual wages to contract workers paid throughout the year	45,000
			2210020	workshops and seminars	Various annual review and planning workshop and other workshops for all stakeholders held	Conducting of annual review and planning workshop and other workshops for all stakeholders held	50,000	Various annual review and planning workshop and other workshops for all stakeholders held	11,000	Various annual review and planning workshop and other workshops for all stakeholders held	15,000	Various annual review and planning workshop and other workshops for all stakeholders held	14,000	Various annual review and planning workshop and other workshops for all stakeholders held	10,000
			2240010	Medical & Veterinary supplies	Assorted agric inputs for the institute procured	Procurement of assorted agric inputs for the institute	60,000	Assorted agric inputs for the institute procured	15,000	Assorted agric inputs for the institute procured	15,000	Assorted agric inputs for the institute procured	15,000	Assorted agric inputs for the institute procured	15,000
			2240060	Agric Supplies	Assorted Veterinary inputs for the institute procured	Procurement of assorted Veterinary inputs for the institute	200,000	Assorted Veterinary inputs for the institute procured	100,000	Assorted Veterinary inputs for the institute procured	40,000	Assorted Veterinary inputs for the institute procured	30,000	Assorted Veterinary inputs for the institute procured	30,000

¹³ Annual key activity is one square mile of forage and feed production fields established and maintained (2,940 tons of silage and hay, 180 tons of grain produced)

¹⁴ Overall annual output is to establish and maintain production fields for silage, hay and other feed ingredients (Soya and Maize)

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key ¹³ Activities	Annual Outputs ¹⁴	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270010	Travel inland	Various field travels and coordination activities executed	Carrying out Various field travels and coordination activities	35,000	Various field travels and coordination activities executed	20,000	Various field travels and coordination activities executed	10,000	Various field travels and coordination activities executed	5,000	Various field travels and coordination activities executed	
			2270040	Fuel, Lubricants & Oils	Vehicles fueled and lubricated	Procure Fuel, Lubricants and oils	150,000	Vehicles fueled and lubricated	40,000	Vehicles fueled and lubricated	35,000	Vehicles fueled and lubricated	40,000	Vehicles fueled and lubricated	35,000
			2280020	Maintenance - Vehicles	Institute/project vehicles maintained	Payment for Institute vehicle maintenance	100,000	Institute/project vehicles maintained	25,000	Institute/project vehicles maintained	25,000	Institute/project vehicles maintained	25,000	Institute/project vehicles maintained	25,000
		Agricultural research capacity strengthened	222003	Information Communication Technology	Recurrent costs of information and communication technology, Internet, Email, LAN maintenance paid	Payment for recurrent costs of information and communication technology, Internet, Email, LAN maintenance paid	60,000	Recurrent costs of information and communication technology, Internet, Email, LAN maintenance paid	15,000	Recurrent costs of information and communication technology, Internet, Email, LAN maintenance paid	15,000	Recurrent costs of information and communication technology, Internet, Email, LAN maintenance paid	15,000	Recurrent costs of information and communication technology, Internet, Email, LAN maintenance paid	15,000
			2230050	Electricity	Electricity bills paid	Payment for Functional electricity bills	40,000	Electricity bills paid	10,000	Electricity bills paid	10,000	Electricity bills paid	10,000	Electricity bills paid	10,000

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key ¹³ Activities	Annual Outputs ¹⁴	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270010	Travel inland	Various field and other official travels and coordination activities executed	Travel to fields to monitoring, supervision and evaluation and to various stations for official work	40,000	Various field and other official travels and coordination activities executed	40,000	Various field and other official travels and coordination activities executed		Various field and other official travels and coordination activities executed		Various field and other official travels and coordination activities executed	
			2280010	Maintenance - Civil	Rehabilitating/repairing of Infrastructural capacity for feed storage and research operationsrehabilitated/repared	Infrastructural capacity for feed storage and research operationsrehabilitated/repared	100,000	Rehabilitating/repairing of Infrastructural capacity for feed storage and research operationsrehabilitated/repared		Rehabilitating/repairing of Infrastructural capacity for feed storage and research operationsrehabilitated/repared	100,000	Rehabilitating/repairing of Infrastructural capacity for feed storage and research operationsrehabilitated/repared		Rehabilitating/repairing of Infrastructural capacity for feed storage and research operationsrehabilitated/repared	

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key ¹³ Activities	Annual Outputs ¹⁴	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		72	3121010	Non-residential buildings	Hay barn, grain silos established at Maruzi and light duty tarmac road for easy movement of sophisticated machinery established at Nakyesasa, Experimental fields attendant office space established at Maruzi	Construct assorted infrastructure at Maruzi and Nakyesasa	811,000	Hay barn, grain silos established at Maruzi and light duty tarmac road for easy movement of sophisticated machinery established at Nakyesasa, Experimental fields attendant office space established at Maruzi		Hay barn, grain silos established at Maruzi and light duty tarmac road for easy movement of sophisticated machinery established at Nakyesasa, Experimental fields attendant office space established at Maruzi	161,000	Hay barn, grain silos established at Maruzi and light duty tarmac road for easy movement of sophisticated machinery established at Nakyesasa, Experimental fields attendant office space established at Maruzi	650,000	Hay barn, grain silos established at Maruzi and light duty tarmac road for easy movement of sophisticated machinery established at Nakyesasa, Experimental fields attendant office space established at Maruzi	
		76	3122020	Machinery and equipment	Capacity for mechanised farm operation strengthened	Acquire forage production and livestock handling and monitoring machinery and equipment	200,000	Capacity for mechanised farm operation strengthened	75,000	Capacity for mechanised farm operation strengthened	125,000	Capacity for mechanised farm operation strengthened		Capacity for mechanised farm operation strengthened	
Total							2,028,000		396,000		596,000		851,000		185,000

Annex liii: Development of Anti-tick and ECF vaccine GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Livestock Health program	Development of broad spectrum anti-tick and ECF vaccine	Generation of agricultural technologies				Efficacious Broad spectrum and specific anti tick vaccine molecules validated		1. Three months Anti tick vaccine field based clinical evaluation data generated 2. Vaccine molecular structure of vaccine molecules determined		1. six months Anti tick vaccine field based clinical evaluation data generated 2. Mode of action of anti-tick vaccine molecules determined		1. Nine months Anti tick vaccine field based clinical evaluation data generated 2.Safe dose and vaccine safety profile determined		Annual Anti tick vaccine field based clinical evaluation data generated	
			2111 030	Pay contract labour	Payment of contract staff salaries	Annual wages to contract workers paid throughout the year	42,000	wages to contract workers paid in quarter 1	12,000	wages to contract workers paid in quarter 2	10,000	wages to contract workers paid in quarter 3	10,000	wages to contract workers paid in quarter 4	10,000

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210 020	Workshops & seminars	Conducting of annual review and planning workshop and other workshops for all stake holders	Various annual review and planning workshop and other workshops for all stake holders held	40,000	Various quarterly review and planning workshop and other workshops for all stake holders held	10,000	Various quarterly review and planning workshop and other workshops for all stake holders held	10,000	Various quarterly review and planning workshop and other workshops for all stake holders held	10,000	Various quarterly review and planning workshop and other workshops for all stake holders held	10,000
			2240 010	Medical & Veterinary supplies	Procurement of assorted medical inputs for the vaccine development	Assorted Medical inputs for the institute procured	87,000	Assorted Medical inputs for the institute procured	27,000	Assorted Medical inputs for the institute procured	20,000	Assorted Medical inputs for the institute procured	20,000	Assorted Medical inputs for the institute procured	20,000
			2270 010	Travel inland(Per diem and Fuel)	Carrying out Various field travels and coordination activities	Various field travels and coordination activities executed	15,000	Various field travels and coordination activities executed	5,000	Various field travels and coordination activities executed	3,000	Various field travels and coordination activities executed	5,000	Various field travels and coordination activities executed	2,000
						Candidate viral-vector vaccine molecule against viral diseases i.e ASF constituted									

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240 010	Medical & Veterinary supplies	Procurement of assorted medical inputs for the vaccine development	Assorted Medical inputs for the institute procured	39,600			Assorted Medical inputs for the institute procured	10,000	Assorted Medical inputs for the institute procured	10,000	Assorted Medical inputs for the institute procured	19,600
			2111 020	Pay contract labour	Payment of contract staff salaries	Annual wages to contract workers paid throughout the year	10,000	Annual wages to contract workers paid tin quarter 1	2,500	Wages to contract workers paid quarter 2	2,500	Wages to contract workers paid quarter 3	2,500	Wages to contract workers paid quarter 4	2,500
			2270 010	Travel inland(Per diem and Fuel)	Carrying out Various fiel travels and coordination activities	Various fiel travels and coordination activities executed	10,000			Various fiel travels and coordina tion activities executed	6,000	Various fiel travels and coordination activities executed	4,000		
						Efficacious multi strain FMD candidate vaccine developed and evaluated									
			2111 030	Pay contract labour	Payment of contract staff salaries	Annual wages to contract workers paid throughout the year	14,000	Wages to contract workers paid in quarter 1	3,000	Wages to contract workers paid in quarter 2	3,000	Wages to contract workers paid in quarter 3	4,000	Wages to contract workers paid in quarter 4	4,000

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210 020	Workshops & seminars	Conducting of annual review and planning workshop and other workshops for all FMD stake holders	Various annual review and planning workshop and other workshops for all stake holders held	30,000	Various annual review and planning workshop and other workshops for all stake holders held	7,000	Various annual review and planning workshop and other workshops for all stake holders held	9,000	Various annual review and planning workshop and other workshops for all stake holders held	7,000	Various annual review and planning workshop and other workshops for all stake holders held	7,000
			2240 010	Medical & Veterinary supplies	Procurement of assorted medical inputs for the vaccine development	Assorted Medical inputs for the institute procured	52,800	Assorted Medical inputs for the institute procured	12,800	Assorted Medical inputs for the institute procured	10,000	Assorted Medical inputs for the institute procured	15,000	Assorted Medical inputs for the institute procured	15,000
			2270 010	Inland travel	Carrying out Various fiel travels and coordination activities	Various fiel travels and coordination activities executed	15,000	Various fiel travels and coordination activities executed	4,000	Various fiel travels and coordination activities executed	4,000	Various fiel travels and coordination activities executed	3,000	Various fiel travels and coordination activities executed	4,000
					Carry out efficacy evaluation of isolated active ingredients for the herbal dewormer and herbal acaricides	Intergrated on-farm novel disease control approaches developed									

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2111 030	Pay contract labour	Conducting of annual review and planning workshop and other workshops for all stake holders	Annual wages to contract workers paid throughout the year	20000	Wages to contract workers paid in quarter 1	5000	Wages to contract workers paid in quarter 2	5000	Wages to contract workers paid in quarter 3	5000	Wages to contract workers paid in quarter 4	5000
			2210 020	Workshops & seminars	Procurement of assorted medical inputs	Various annual review and planning workshop and other workshops for all stake holders held	30000	Various annual review and planning workshop and other workshops for all stake holders held	7000	Various annual review and planning workshop and other workshops for all stake holders held	7000	Various annual review and planning workshop and other workshops for all stake holders held	9000	Various annual review and planning workshop and other workshops for all stake holders held	7000
			2240 010	Medical & Veterinary supplies	Carrying out Various field travels and coordination activities	Assorted Medical inputs for the institute procured	19600	Assorted Medical inputs for the institute procured	5000	Assorted Medical inputs for the institute procured	4600	Assorted Medical inputs for the institute procured	5000	Assorted Medical inputs for the institute procured	5000
					Maintain vaccine validation herd at Nakyesasa (viking Jersey and Fresian crosses), Serere (Zebu) and Kamenyami	Capacity for validation and rapid assessment of livestock Vaccines strengthened									

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
					go (Nganda)										
			2111 030	Pay contract labour	Pay annual wages	Annual wages for herdsmen and contract workers paid	20,000	Wages to contract workers paid in quarter 1	5,000	Wages to contract workers paid in quarter 2	5,000	Wages to contract workers paid in quarter 3	5,000	Wages to contract workers paid in quarter 4	5,000
			2240 010	Medical & Veterinary supplies	Procure veterinary supplies	Veterinary supplies procured	66,000	Veterinar y supplies procured	20,000	Veterinar y supplies procured	10,000	Veterinary supplies procured	16,000	Veterinar y supplies procured	20,000
		Research extension interface promote d and strengthe ned	2210 010	Advertisin g and public relations	Technologies disseminate d through radio/tv talkshow, exhibition, publications, leaflets and brochures	Generated technologie s disseminate d through various media	6,000	Technolo gies dissemin ated through radio/tv talkshow , exhibition, publicati ons, leaflets and brochure s	1,500	Technolo gies dissemin ated through radio/tv talkshow , exhibition, publicati ons, leaflets and brochure s	1,500	Technologi es disseminat ed through radio/tv talkshow, exhibition, publicati ons, leaflets and brochures	1,500	Technolo gies disseminat ed through radio/tv talkshow , exhibition, publicati ons, leaflets and brochure s	1,500

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210 080	Computer Supplies & IT Service	Facilitate technical staff with computers and Monitor and supervise of the project implementation	Technical staff equiped with ICT tools, effectively guided and reliable institutes ensured	24,000	Technical staff equiped with ICT tools, effectively guided and reliable institutes ensured	6,000	Printer catriges procured in quarter 2	6,000	Printer catriges procured in quarter 3	6,000	Printer catriges procured in quarter 4	6,000
			2210 110	Printing, Stationery, Binding	Document institute activities	Institute activities documente d	20,000	Institute activities documen ted	5,000	Dissemin ation materials produce d in quarter 2	5,000	Disseminat ion materials produced in quarter 3	5,000	Dissemin ation materials produce d in quarter 4	5,000
		Agricultural research capacity strengthened	2210 030	Staff Training (stipend)	Staff trained at PhD level	Staff capacity built in recombinant vaccine development	72,000	PhD stipend paid in the first quarter	18,000	PhD stipend paid in the second quarter	18,000	PhD stipend paid in the third quarter	18,000	PhD stipend paid in the fourth quarter	18,000
			2220 050	Electricity	Pay electricity bills	Institute supplied with power throughout the year	15,000	Electricit y bills paid in quarter 1	4,000	Electricit y bills paid in quarter 2	3,000	Electricity bills paid in quarter 3	4,000	Electricit y bills paid in quarter 4	4,000



Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270 040	Fuel, Lubricants & Oils(administrat ion)	implement, Monitoring and supervision of the project implementat ion, produce livestock feeds	implement, Monitoring and supervision of the project implementa tion, livestock feeds produced	97,000	impleme nt, Monitori ng and supervisi on of the project impleme ntation, livestock feeds produce d	25,000	impleme nt, Monitori ng and supervisi on of the project impleme ntation, livestock feeds produce d	25,000	implement, Monitoring and supervision of the project implement ation, livestock feeds produced	25,000	impleme nt, Monitori ng and supervisi on of the project impleme ntation, livestock feeds produce d	22,000
			2270 020	Travel Abroad	Staff trained at PhD level	Staff capacity built in recombinan t vaccine development	8,000	Student air ticket paid for	4,000			Student air ticket paid for	4,000		
			2280 020	Maintanan ce -Vehicle	Service and maintain vehicles	Technical staff facilitated with transport facility	56,000	NaLIRRI vehicles well serviced and maintain ed in quarter 1	15,000	NaLIRRI vehicles well serviced and maintain ed in quarter 2	15,000	NaLIRRI vehicles well serviced and maintained in quarter 3	15,000	NaLIRRI vehicles well serviced and maintain ed in quarter 4	11,000
		72	3121 010	Civil works	Establsih vaccine research facility and calf validation platform	Infrastructu ral capacity for vaccine research developed	826,900					Vaccine research facility validation platform established	826,900		

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			3121 010	Civil works	Establish calf / heifer validation platform established	Calf / heifer validation platform established	300,000					Calf / heifer validation platform established	300,000		
	Total						1,935,900		203,800		192,600		1,335,900		203,600

Annex liv: In-Vitro Fertilisation (IVF) GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Livestock breeding	Development and production of quality bovine embryos	Generation of agricultural technologies	2111030	Pay contract labour	Annual wages paid	Pay monthly salaries to contractors	24,000	Quarter 1 wages paid	6,000	Quarter 2 wages paid	6,000	Quarter 3 wages paid	6,000	Quarter 4 wages paid	6,000
			2210020	Workshops & seminars	Various annual review and planning workshop and other workshops for all stake holders held	Conducting of annual review and planning workshop and other workshops for all stake holders	40,000	Conducting of quarter 1 review and planning workshop and other workshops for all stake holders	10,000	Conducting of quarter 1 review and planning workshop and other workshops for all stake holders	10,000	Conducting of quarter 1 review and planning workshop and other workshops for all	10,000	Conducting of quarter 1 review and planning workshop and other workshops for all	10,000

Program/ Directorate	Projects /Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
												stake holders		stake holders	
			2240010	Medical & Veterinary supplies	Laboratory equipped with reagents and consumables	Procure laboratory reagents and consumables	95,000	Laboratory equipped with reagents and consumables in quarter 1	15,000	Laboratory equipped with reagents and consumables in quarter 2	25,000	Laboratory equipped with reagents and consumables in quarter 3	25,000	Laboratory equipped with reagents and consumables in quarter 4	30,000
			2270010	Travel- inland	Various field travels and coordination activities executed	Carrying out Various field travels and coordination activities	15,000			Various field travels and coordination activities executed in quarter 2	5,000	Various field travels and coordination activities executed in quarter 3	5,000	Various field travels and coordination activities executed in quarter 4	5,000
		Research extension interface promoted and strengthened	2210010	Advertising and Public Relations	Undertake visibility, promotional and technology dissemination activities	Number of exhibitions participated in, number of staff & stakeholder meetings held and number of technologies disseminated and	4,000	Undertake visibility, promotional and technology dissemination activities in quarter 1	1,000	Undertake visibility, promotional and technology dissemination activities in quarter 2	1,000	Undertake visibility, promotional and technology dissemination activities in quarter 3	1,000	Undertake visibility, promotional and technology dissemination activities in quarter 4	1,000

Program/ Directorate	Projects /Units	Vote Function/output t	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
						people reached.									
			2210080	Computer supplies and IT Services	Procurement of computer accessories	Computers accessories procured	6,000	Procurement of computer accessories in quarter 1	1,500	Procurement of computer accessories in quarter 2	1,500	Procurement of computer accessories in quarter 3	1,500	Procurement of computer accessories in quarter 4	1,500
			2210110	Printing, Stationery, Photocopying and Binding	Procurement of printing materials, stationery	Documentation of Institute activities	5,000	Documentation of IVF activities in quarter 1	2,000	Documentation of IVF activities in quarter 2	1,000	Documentation of IVF activities in quarter 3	1,000	Documentation of IVF activities in quarter 4	1,000
		Agricultural research capacity strengthened	2210030	Staff Training	Staff trained in IVF Techniques and methods	Training for Staff in IVF techniques and methods	53,000	staff trained in IVF techniques	53,000						
			2250010	Consultancy - Short term	Functional IVF platform established	Procure consultancy services on IVF lab setup and technical backstopping	260,000	Functional IVF platform established	260,000						
			2270040	Fuel, Oils & Lubricants	Vehicles fueled and lubricated	Procure Fuel,Lubricants and oils	18,000	Vehicles fueled and lubricated	4,000	Vehicles fueled and lubricated	4,000	Vehicles fueled and	4,000	Vehicles fueled and	6,000

Program/ Directorate	Projects /Units	Vote Function/output t	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Codes	Codes description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		72		nts								lubricate d		lubricate d	
			2270020	Travel Abroad	Regional IVF labs bench marked and staff trained	Procure airtickets and pay per diem	17,000	Regional IVF labs bench marked and staff trained	17,000						
			2280020	Maintan ance - Vehicle	Institute/pro ject vehicles maintained	Payment for Institute vehicle maintainanc e	4,000	Institute/pro ject vehicles maintained	1,000	Institute/pr oject vehicles maintained	1,000	Institute /project vehicles maintain ed	1,000	Institute /project vehicles maintain ed	1,000
			3121010		Lab structural design constructed and bull stud constructed	Laboratory structural design changed and construct bull stud		Embryology lab modified, bull stud established and three staff skilled in embryo management and processig	150,000	Functional embryology , andrology and endocrinolo gy labs established					
				Civil works			150,000								
		77	3122020	Machine ry and equipme nt	IVF laboratory installed with equipment	Procure IVF equipment	500,000			IVF laboratory installed with equipment	500,000				
	Total						1,191,000		520,500		554,500		54,500		61,500

Annex Iv: NaSARRI Rehabilitation GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Directorate of Corporate Services	Rehabilitation of NaSARRI	72	312101: Non-residential buildings	Improve Infrastructure at NaSARRI	Infrastructure improvement at NaSARRI	1,553,000	Construction of office blocks at NaSARRI	776,500	Glass house installed	776,500				
Total: Infrastructural development NaSARRI						1,553,000	-	776,500	-	776,500	-		-	-

Annex F: GoUDevelopment NAROSEC Detailed Work plans and Budgets for FY 2019/20

A handwritten signature in black ink, appearing to be 'P. B. Singh', located in the bottom right corner of the page.

Annex lvi: DG's Office GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
NARO SEC	Office of the Director General	1	2210020: Workshops and Seminars	Facilitate DG to Participate in national Workshops and Seminars	Strategic positioning of NARO communicate d. NARO's achievement, challenges& focus publicized	18,000	Strategic positioning of NARO communicate d. NARO's achievement ts, challenges & focus publicized	4,000	Strategic positioning of NARO communicated. NARO's achievements, challenges& focus publicized	5,000	Strategic positioning of NARO communicated . NARO's achievements, challenges& focus publicized	5,000	Strategic positionin g of NARO communic ated. NARO's achieveme nts, challenges & focus publicized	4,000
		1	2210060: Committee, Council and Board Expenses	Facilitate NARO Top management activities and DG's meetings.	Operations reviewed and Policies developed & adopted	32,000	Operations reviewed and Policies developed & adopted	8,000	Operations reviewed and Policies developed & adopted	8,000	Operations reviewed and Policies developed & adopted	8,000	Operations reviewed and Policies developed & adopted	8,000
		4	2270010: Travel inland	Conduct back- stopping visits to PARIs and other official field activities. Conduct management- institute to institute visits	Coordinated oversight, supervision and evaluation of research operations	24,000	At least 1 PARI visited to back-stop manageme nt of research and quarterl field report developed	6,000	At least 1 PARI visited to back- stop management of research and quarterl field report developed	6,000	At least 1 PARI visited to back-stop management of research and quarterl field report developed	6,000	At least 1 PARI visited to back-stop manageme nt of research and quarterl field report developed	6,000
				Engagement with universities and industry	collaboration s strengthened with universities & industry	3,000	collaboratio ns strengthene d with universities & industry	1,500	collaborations strengthened with universities & industry	1,500	collaborations strengthened with universities & industry			

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		4	2270020: Travel abroad	Represent NARO at international forums	Strategic positioning of NARO communicated. NARO's achievements, challenges & focus publicized and benchmarked	95,000	Strategic positioning of NARO communicated. NARO's achievements, challenges & focus publicized and benchmarked	24,000	Strategic positioning of NARO communicated. NARO's achievements, challenges & focus publicized and benchmarked	23,500	Strategic positioning of NARO communicated. NARO's achievements, challenges & focus publicized and benchmarked	24,000	Strategic positioning of NARO communicated. NARO's achievements, challenges & focus publicized and benchmarked	23,500
	Overall Office the DG's expenses					172,000	-	31,500	-	31,000	-	30,000	-	29,500



Annex lvii: DRC M&E GoU Development Work Plan and Budget 2019/20

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DRC	PMERL	04: Agricultural research capacity strengthened	2270010: Travel-inland	Conduct the planning, monitoring and evaluation of agricultural research	NARO Performance Reports generated	90,000	NARO Q1 Performance/ Status Report submitted to GOU/TPM	22,500	NARO Q2 Performance Report submitted to GOU/TPM	22,500	NARO Q3 Performance Report submitted to GOU/TPM	225,000	NARO Q4 Performance Report submitted to GOU/TPM	22,500
			2210020: Workshops & seminars(NAROSEC)	Monitoring workplan implementation in PARIs	Annual Implementation report generated	90,000	NARO Q1 research status reports submitted to GOU/TPM	22,500	NARO Q2 research status reports submitted to GOU/TPM	22,500	NARO Q3 research status reports submitted to GOU/TPM	22,500	NARO Q4 research status reports submitted to GOU/TPM	22,500
DRC	Biometrics		2270010: Travel-inland	Interface with scientists in NARO	Biometric support extended to 12 PARIs	10,000	Status report on Biometrics management in 3 PARIs	2,500	Status report on Biometrics management in 3 PARIs	2,500	Status report on Biometrics management in 3 PARIs	2,500	Status report on Biometrics management in 3 PARIs	2,500
			2210020: Workshops & seminars(NAROSEC)	Train scientists in SCPRO for data collection and analysis	Biometric skills to collect and analyse data for 12 PARIs improved	10,000	status report on improvement of Biometrics skills for 6 PARIs	5,000	status report on improvement of Biometrics skills for 6 PARIs	5,000				
				Total		200,000		47,500		47,500		250,000		47,500

Annex lviii: DRC Project Proposal Writing GoU Development Work Plan and Budget 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DRC	PMERL	02: Research extension interface promoted and strengthened	2210020 :Workshops & seminars (NAROSEC)	Project Proposal Writing	New NARO Project Proposals developed	25000	Project concept and profile develop ed	5,000	Prefeasi bility report develop ed	15,000	project feasibility developed	5,000	Track project through approval process	
			2270010: Travel-inland	Solicit project ideas and priorities		25000		5,000		15,000		5,000		
			2255001: Short-term consultancy	Support to Project Developm ent team		50000		15,000		15,000		10,000		10,000
Total						100,000		25,000		45,000		20,000		10,000

Annex lix: DRC: Baseline Survey and and Developing a Medium Term Plan (MTP) for NARO Strategic Plan GoU Development Work Plan and Budget 2019/20

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DRC	PMERL	01: Generation of agricultural technologies	2210020: Workshops and seminars	Conduct a baseline for the NARO Strategic Plan 2018/19 - 27/2028	Medium Term Plan (2018/19 - 2022/23) for NARO Strategic Plan 2018/19 to 27/2028 developed	17,909	Tools for the Baseline Study developed	17,909						
			2270010: Travel- inland			100,000	Data to guide establishment of targets for NARO Strategic Plan indicators and MTP collected	81,560	Final MTP shared with PARIs and key stakeholders	18,440				
			2210020: Workshops and seminars			19,150	PARI level MTPs presented and compiled	19,150						
			62,941			Data analysed and draft MTP compiled	37,508	Draft Mid-Term Plan shared with management and NARO council for input; feedback integrated; and final copy produced	25,433					
TOTAL						200,000		156,127		43,873		-		-

Annex lx: DRC: NARO WIDE Workshop GoU Development Work Plan and Budget 2019/20

Projects /Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
PMERL	04: Agricultural research capacity Strengthened	2210020: Workshops and seminars	Convene NARO-Wide quarterly performance review workshops	Annual performance of NARO documented	Per diem	120,000	Progress towards attaining NARO KPIs documented	30,000	Progress towards attaining NARO KPIs documented	30,000	Progress towards attaining NARO KPIs documented	30,000	i.) Annual performance assessed; ii.) Successes, failures and lessons to improve performance documented	30,000
					Fuel	40,000		10,000		10,000		10,000		
					Hall and Meals	160,000		40,000		40,000		40,000		
PMERL	04: Agricultural research capacity Strengthened	2210020: Workshops and seminars	M&E technical backstopping, review and planning workshops	Capacity to implementation M&E Function in NARO enhanced		80,000	M&E plans generated	40,000					M&E status report generated	40,000
				Sub-Total		400,000	-	120,000	-	80,000	-	80,000	-	120,000

Annex lxi: DRC: GoU Development ECAAT Project Development Activities work plan and budget for FY 2019/20

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Directorate of Research Coordination (DRC)- NAROC	Development of ECAAT project	'02: Research extension interface promoted and strengthened	2210020 Workshops & Seminars	Develop detailed Project Proposal	Project Proposal Developed	55,000	Developing Project Proposal	30,000	Project Proposal Developed	25,000				
			2270010 Travel Inland	Data collection through stakeholder consultation	Stakeholder consulted and their views mainstreamed in the proposal	65,000	Stakeholder consultations in different zones	30,000	Stakeholder consulted and their views mainstreamed in the proposal	35,000				
			2270010 Travel Inland	Conduct a Pre- feasibility study for the project	Different available intervention options that can be undertaken to achieve the project objectives identified and appraised	75,000	Pre feasibility studies conducted	35,000	Best option to implement the project and Pre feasibility report	40,000				
			2270010 Travel Inland	Conduct a Feasibility study for the best option identified and approved	Requirements, relevance, costs, impact of the investment and contribution to the economy of the selected option determined	60,000					Requirements, relevance, costs, impact of the investment and contribution to the economy of the selected option determined	60,000		
			2270020 Travel Abroad	Benchmarking in other implementing Countries	Other Interventions benchmarked	45,000	Other Interventions benchmarked	45,000						
			TOTAL DEVELOPMENT			300,000		140,000		100,000		60,000		

Annex lxii: Agricultural Technology Promotion – Database Management GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Agricultural Technology Promotion	Database Management	04- Agricultural Research Capacity strengthened	2250010 Consultancy -Short term	Developing Knowledge and Data Management policy	Knowledge Management policy for NARO developed	50,000			Knowledge Management policy for NARO developed	50,000				
			2250010 Consultancy -Short term	Designing, developing and operationalizing feedback management system	Feedback management system for strengthening agricultural technologies and innovations utilization designed, developed and operationalized	50,000	Status accessed and process requirements gathered	10000	User and System requirements gathered and validated	10000	System and user manuals developed Sub- system modules developed and tested	20000	End-user sensitized and trained on access and utilization	10000
		02 - Research extension interface promoted and strengthened	2210010 Advertising and Public Relations	Developing and popularising Knowledge and Data Management policy	KMD policy developed and popularised	65,000	TORs for the consultancy developed and consultant identified	10,000	Stakeholder consultations on KMD policy conducted	35,000			KMD policy popularised in PARIs	20,000
			2210020 Workshops & seminars	Implementing CABI research platforms and supporting database systems in PARIs	CABI Research platforms installed, configured and made available for access by scientists.	25,000	PARI networks configured to allow access	8,000	Development environment installed and configured for data dictionary production	10,000	Scientists sensitized & trained on its access and utilization	7,000		

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
					All existing database systems maintained and supported in good working conditions	15,000	Turning for optimal performance	2,000	User access control and security provided	5,000	Modification of systems feature	3,500	Backups and recovery systems put in place	4500
			2210020 Workshops & seminars	Developing and maintaining a technology promotion and transfer database	A database on technology promotion and transfer activities developed and maintained	15,000			Guidelines and tools for collecting data developed	5,000	KM champions trained to use the guidelines and tools	10,000		
		Sub-Total				220,000		30,000		115,000		40,500		34,500



Annex lxiii: Agricultural Technology Promotion - Knowledge Management GoU-Development work plan and budget for FY 2019/20

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Agricultural Technology Promotion	Knowledge Management	02 - Research extension interface promoted and strengthened	2210020 Workshops & seminars	Popularizing of the Communication and Knowledge Management (CKM) Strategy		33,000	CKM Strategy popularized and implementation checklist developed	21,000	CKM Strategy popularized and implementation checklist developed	12,000				
			2210010 Advertising and Public Relations	Collecting and packaging content for the NARO Information Hub	Content for the NARO Information Hub collected and packaged	56,000	Guidelines and data collection templates revised and training plan developed	18,000	Content collection and packaging activities conducted at 2 PARIs	12,000	Content collection and packaging activities conducted at 2 PARIs	13,000	Content collection and packaging activities conducted at 2 PARIs	13,000
			2210110 Printing & Stationery	Publishing policy, guidelines and training materials for content packaging	Policy, guidelines and training materials for capacity building printed	50,000			Guidelines and training materials for capacity building printed	15,000	KMD policy printed	35,000		
			2210020 Workshops & seminars	Maintaining NARO's digital e-repositories	NARO's e-repository systems managed and populated	20,000	Publications identified and digitized	5,000	Publications identified and digitized	5,000	Publications identified and digitized	5,000	Publications identified and digitized	5,000
			2210020 Workshops & seminars	Participating in KM conferences and networking events	KM networks and partnerships	32,000			KM networks and partnerships	22,000			KM networking event attended	10,000

				strengthened				strengthened					
		2210070 Books, Periodicals and Newspapers	Coordinating and managing the publication of UJAS volumes	2 UJAS issues for 2018 and published	60,000	Paper articles solicited, screened and cleared by the editorial board.	4,000	Review of issue articles finalized.	15,000	Paper articles solicited , screened and cleared by the editorial board.	4,000		
						Articles for volume 1 st issue reviewed.	5,000	First journal issue edited, typeset, designed and printed	6,000	Articles for volume 2 nd issue reviewed.	5,000	Review of issue articles finalized .	5,000
												Second journal issue edited, typeset, designed and printed	16,000
		Sub-Total			251,000		48,000		81,000		57,000		28,000

Annex lxiv: Agricultural Technology Promotion - Development Communication GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Agricultural Technology Promotion	Development Communication	02 - Research extension interface promoted and strengthened	2210070 Books, Periodicals and Newspapers	Developing and producing an Annual Report	NARO 2018/19 Annual Report produced	40,000	2018/19 annual report data collected and collated	8,000	Report drafts developed and validated.	10,000				
							Report template developed.	7,000	Report edited, designed and printed.	15,000				
			2210020 Workshops & seminars	Developing Standard Operating Procedures (SOPs) for IEC material production	SOPs for production of IEC materials prepared and approved	25,000					Needs assessment conducted and Drafts of SOPs developed	10,000	SOPs validated, finalized, designed and printed	15,000
			2210110 Printing & Stationery	Coordinating development and publishing of articles for impact creation	IEC materials development coordinated	90,000	Criteria and tools for IEC development developed	10,000	IEC materials on agreed upon technologies produced and published/ distributed	35,000	IEC materials on agreed upon technologies produced and published/ distributed	30,000	IEC materials on agreed upon technologies produced and published/ distributed	15,000
		Sub-Total				155,000		18,000		45,000		40,000		30,000

Annex lxv: Agricultural Technology Promotion – Outreach GoU-Development work plan and budget for FY 2019/20

Program / Directorate	Project / Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Agricultural Technology Promotion	Outreach	02 - Research extension interface promoted and strengthened	2210010 Advertising and Public Relations	Documenting the status and progress of agricultural MSIPs	Status, progress and functionality determined, and appropriate interventions implemented	45,000	Records/ data on existing agricultural MSIPs generated and analyzed	10,000	NARO's intervention areas in various MSIPs identified and accordingly implemented	10,000	NARO's intervention areas in various MSIPs identified and accordingly implemented	15,000	Performance of MSIPs with NARO interventions monitored for improvements and technical	10,000
			2210010 Advertising and Public Relations	Organizing and coordinating NARO technology showcasing initiatives	Showcasing of NARO technologies showcasing organized and level of awareness determined	134,000	Preparatory activities for world food day conducted	22,000	World Food Day organized	42,000	Preparatory activities for National Agricultural Show conducted	25,000	National Agricultural Show in Jinja organized	45,000
			2210020 Workshops & seminars	Coordinating Early Generation Seed activities	Records / data of EGS production and distribution compiled and analyzed	40,000	Data on seed demand and pre-booking system coordinated	6,000	Seed suppliers profiled and Data on seed demand generated and pre-booking coordinated	6,000	Data on Production and distribution compiled and analyzed	11,000	Data on seed demand generated and pre-booking coordinated	10,000
							Data on Production and distribution compiled and analyzed	7,000						
		Sub-Total				219,000		38,000		58,000		51,000		65,000

Annex lxvi: Agricultural Technology Promotion – Technology incubation GoU-Development work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Agricultural Technology Promotion	Technology incubation	02 - Research extension interface promoted and strengthened	2210110 Printing & Stationery	Finalizing the Commercialization and incubation guidelines	Incubation and commercialization guidelines finalized and disseminated	60,000	Incubation and commercialization guidelines validated, approved and printed	38,000	Popularization of the incubation and commercialization guidelines for deployment conducted	22,000				
			2210020 Workshops & seminars	Identifying and incubating technologies for product development	At least four products identified and incubated with focus on commercialization	95,000	Technologies with commercial potential identified and aligned for incubation and potential commercialization partners engaged	15,000	Technologies with commercial potential identified and aligned for incubation and potential commercialization partners engaged	25,000	Selected technologies incubated	15,000	Selected technologies incubated	15,000
											Technology marketing information coordinated and produced	15,000	Technology marketing information coordinated and produced	10,000
		Sub-Total				155,000		53,000		47,000		15,000		15,000

Annex lxvii: Agricultural Technology Promotion - Central Intellectual Property Licensing GoU Development 2019/20

Program/ Directorate	Projects/ Units	Vote Function/ Output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Agricultural Technology Promotion	Intellectual Property Management	04 - Agricultural Research capacity strengthened	2260020 Licences	Identifying and protecting generated technologies	Generated technologies with IP potential identified and protected in various routes (National, ARIPO and PCT routes)	85,000	Scouting and evaluation of Technology disclosure forms conducted to determine technologies with IP potential for protection	18,000	IPR applications for technologies as approved by the IPMC drafted for filing (patents, trademarks, utility models, PVP)	20,000	IPR applications for technologies as approved by the IPMC drafted for filing (patents, trademarks, utility models, PVP)	13,000	Completed IPR applications filed through the approved routes (PCT, ARIPO and national)	17,000
											Completed IPR applications filed through the approved routes (PCT, ARIPO and national)	17,000		
			2260020 Licences	Developing technology specific commercialization strategies	Technology specific commercialization strategies developed and approved	65,000	Commercial ization strategies for IP enabled technologies developed	20,000	Commercialization strategies for IP enabled technologies developed	18,000	Popularization of IP enabled protected technologies under there commercialization strategies among industry players	15,000	Commercial partners identified and Licenses negotiated and approved	12,000

			226002 Licenses	Maintaining NARO IP portfolio	A portfolio of NARO protected and non- protected IPs maintained		Research and Laboratory notebooks developed finalized and approved.	10,000	Research and Laboratory notebook copies designed, printed and distributed	10,000	Laboratory and field data Superintenden ts trained on use and rationale for the research and lab notebook	8,000	IPMC planning meetings and supervis ory visits conducted	4,000
													Granted payment s for IPR applicati ons made	3,000
						50,000	Granted payments for IPR applications made	6,000	Laboratory and field data Superintende nts trained on use and rationale for the research and lab notebooks	5,000				
									Market surveys conducted to determine market performance and infringements	4,000				
		Sub- Total				200,000		48,000		53,000		53,000		33,000

Annex lxviii: Agricultural Technology Promotion- National Stakeholders Events- staff participation GoU Development 2019/20

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Agricultural Technology Promotion	Outreach	02 - Research extension interface promoted and strengthened	2210010 Advertising and Public Relations	NARO staff participating in key technology promotion events and National stakeholder meetings	NARO's visibility enhanced through participation in key national stakeholder meetings and technology promotion events	290,000	National Jinja show participated in by NARO staff	45,000	World Food Day, World AIDS Day and Independent Day participated in by NARO staff	70,000	National liberation Day and other national events participated in by NARO staff	30,000	Nationals Science week, labour day, heroes day and other national events participated in by NARO staff	55,000
							Publicity materials printed (t- shirts , caps, banners, etc)	25,000	Publicity materials printed (t- shirts , caps, banners, etc)	35,000	Publicity materials printed (t- shirts , caps, banners, etc)	15,000	Publicity materials printed (t- shirts , caps, banners, etc)	15,000
			2210010 Advertising and Public Relations	Strengthening partnerships and collaborations	Technology promotion partnerships and collaborations strengthened	60,000	NARO partners profiled and categorized	15,000	Joint planning meetings with technology promotion Partners coordinated	13,000	Joint planning and review meetings with Partners in technology promotion organized	17,000	Joint planning and review meetings with Partners in technology promotion organized	15,000
		Sub- Total				350,000		60,000		83,000		47,000		70,000

Annex lxix: Agricultural Technology Promotion- ATP-Main (DDG-ATP) GoU Development 2019/201

Program/ Directorate	Project s/Units	Vote Function output	Expenditure Code/D description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DATP	ATP- Outreach Operations	04 - Agricultural Research capacity strengthened	2270010 Travel- inland	Identifying stakeholder technology needs and liaise with NARO for interventions	Community technology needs and NARO available technologies linked.	50,000	Community technology needs identified	10,000	Feedback to communities on available technologies and to NARO on their application provided.	15,000	Availability of ready to apply technologies identified	12,500	Feedback to communities on available technologies and to NARO on their application provided.	12,500
	Sub-total					50,000		10,000		15,000		12,500		12,500
	ATP- Main	02 - Research extension interface promoted and strengthened	2210020 Workshops & seminars	Strengthening performance of the technology promotion function in NARO	Technology promotion function in NARO strengthened	70,000	Routine technology promotion planning workshops conducted	9,000	Engagements with policy makers and other stakeholders held	8,000	Routine technology promotion planning workshops conducted	9,000	Engagements with policy makers and other stakeholders held	10,000
							Engagements with policy makers and other stakeholders held	9,000	Routine technology promotion planning workshops conducted	9,500	Engagements with policy makers and other stakeholders held	8,000	Routine technology promotion planning workshops conducted	7,500
			2270010: Travel inland	Undertaking supervisory and monitoring visits for technology promotion and transfer	Technology promotion and transfer activities monitored and policy guidance provided	50,000	Issues affecting technology promotion services identified and intervention measures put in place	10,000	Issues related to technology promotion, and Partnerships activities supervised and backstopped	12,500	Performance of Demos, MSIPs, EGS activities and other ATP activities supervised, and recommendations made	15,000	Performance of the ZARDI realigned Technology Promotion programmes monitored and recommendations on strengthening made	12,500

Program/ Directorate	Project s/Units	Vote Function output	Expendi ture Code/D escripti on	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210020 Worksh ops & seminar s	Managing NARO information and records	Access and retrieval of NARO records and informatio n managed appropriately	30,000	Periodic NARO File Plan rolled out	7,000	Capacity development for selected relevant staff on use of new file plan conducted	8,000	Records management and information audit conducted in selected PARIs to identify gaps.	6,000	The gaps identified addressed accordingly.	5,000
							Records and newspapers maintained	2,000			Records and newspapers maintained	2,000		
		Sub- Total				150,000		28,000		38,000		32,000		27,500
		Grand Total		Grand Total		200,000		38,000		53,000		44,500		40,000



Annex lxx: DHR GoU Development Work Plan and Budget 2019/20

Program/ Directorate	Projects/ Units	Vote Function/ Output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DHR	DHR	01: Generation of Agricultural Technologies	2210020: Workshops Seminars (Reward / Discipline and Counselling)	Developing Reward and Sanction Tools	Reward and Recognition Tools Developed	10,000	Reward and Recognition Tools Developed	10,000						
				Facilitating the Reward and Recognition Committee Meetings	Reward and Recognition Committee Meeting held	30,000	Reward and Recognition Committee Meeting held	15,000	Reward and Recognition Committee Meeting held	15,000				
				Conduct an Annual Staff Recognition Meeting	Annual Reward and Recognition Event conducted	40,000			Annual Reward and Recognition Event conducted	40,000				
				Hold Disciplinary and Counselling Committee Meetings	Disciplinary and Counselling Committee meetings held	30,000			Disciplinary and Counselling Committee Meetings held	15,000			Disciplinary and Counselling Committee Meetings held	15,000
				Supervision visit on staff discipline	Supervision visits conducted	20,000			Supervision visits conducted	10,000			Supervision visits conducted	10,000
				Investigation of Disciplinary Complaints	Investigations conducted	20,000	Investigations conducted	10,000			Investigations conducted	10,000		
				Sub-Total Reward Discipline and Counselling		150,000		35,000		80,000		10,000		25,000

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DHR	DHR	01: Generation of Agricultural Technologies	2210020: Workshops Seminars (Performance Management)	Coordinating Performance Planning and Target Setting	Performance Planning and Target Setting conducted	20,000	Performance Planning and Target Setting conducted	20,000						
				Coordinating Mid Term Review of Staff Performance	Mid Term Review of Performance Conducted	20,000			Mid Term Review of Performance Conducted	20,000				
				Coordinating End of Year Performance Appraisal	End of Year Performance Appraisal conducted	40,000							End of Year Performance Appraisal conducted	40,000
				Evaluation of End of Contract Performance for Programme Leader and Directors	End of Contract Performance Evaluation conducted	20,000	End of Contract Performance Evaluation conducted	20,000						
				Sub-Total Performance Management				40,000		20,000				40,000
DHR	DHR	04: Agricultural Research Capacity Strengthened	2210020: Workshops Seminars (HR MAIN)	Conduct Workshops to Develop and Review HR Policies	HR policies developed and reviewed.	40,000	HR policies developed and reviewed.	10,000	HR policies developed and reviewed.	10,000	HR policies developed and reviewed.	10,000	HR policies developed and reviewed.	10,000
				To hold Stakeholder Consultative Meetings to Review HR Policies	Stakeholder Consultative meetings to review policies held	40,000	Stakeholder Consultative meetings to review policies held	20,000					Stakeholder Consultative meetings to review policies held	20,000

Program/ Directorate	Projects/ Units	Vote Function/ Output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				Human Resource Mid-Term performance Review Performance	HR Mid-term performance review meeting held.	30,000			HR Mid term performance review meeting held.	30,000				
				Attending Meetings, conferences and Events	Meeting, conferences and events attended.	20,000	Meeting, conferences and events attended.	5,000	Meeting, conferences and events attended.	5,000	Meeting, conferences and events attended.	5,000	Meeting, conferences and events attended.	5,000
				To hold Monitoring and Evaluation Meetings for PhD and MSc students	Monitoring and Evaluation Meetings conducted	20,000					Monitoring and Evaluation Meetings conducted	20,000		
				To hold Human Resource Annual Review and Planning meeting	HR workshops conducted	30,000							HR Annual workshop conducted	30,000
				Sub-total: Workshops Seminars HR Main		180,000	0	35,000	0	45,000	0	35,000	0	65,000
DHR	DHR	04: Agricultural Research Capacity Strengthened	2210020: Workshops Seminars (HR Manual Review)	Review of Human Resource Manual	HR manual review meetings held	20,000	HR manual review meeting held	20,000						
				To hold Stakeholder Consultative Meetings to Review of Human Resource Manual	Stakeholder Consultative Meetings to Review of Human Resource Manual held	30,000			Stakeholder Consultative Meetings to Review of Human Resource Manual held	15,000	Stakeholder Consultative Meetings to Review of Human Resource Manual held	15,000		

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210020: Workshops Seminars (Rationalization)	To Hold Stakeholder Consultative Meetings	Stakeholder Consultative Meetings held	50,000	Stakeholder Consultative Meetings held	50,000						
				Sub-total: HR Review Manual and Rationalisation			0	70,000	0	15,000	0	15,000	0	0
DHR	DHR	04: Agricultural Research Capacity Strengthened	2210030: Staff Training (Central)	To conduct Short-term functional skills improvement program	Short-term training targeting particular categories undertaken	100,000			Short-term training targeting particular categories undertaken	35,000	Short-term training targeting particular categories undertaken	30,000	Short-term training targeting particular categories undertaken	35,000
				To conduct Leadership and Management Development courses	Directors and Programme Leaders trained	70,000			Directors and Programme Leaders trained	70,000				
				To Induct Staff into NARO operations	Newly appointed employees inducted	70,000			Newly appointed employees inducted	70,000				
				Sub-total Training Central			0	0	0	175,000	0	30,000	0	35,000
DHR	DHR	04: Agricultural Research Capacity Strengthened	2210030: Staff Training (Capacity Development)	Support NARO staff to undertake short term skills for specialized course	Short-term training targeting specialized programs undertaken	200,000	Short-term training targeting specialized programs undertaken	50,000	Short-term training targeting specialized programs undertaken	50,000	Short-term training targeting specialized programs undertaken	50,000	Short-term training targeting specialized programs undertaken	50,000

Program/ Directorate	Projects/Units	Vote Function/output ened	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				To support staff who are students to undertake long term training programs	Course work completed, thesis submitted, course completed	200,000	Students pursuing long term courses supported	50,000	Students pursuing long term courses supported	50,000	Students pursuing long term courses supported	50,000	Students pursuing long term courses supported	50,000
				To conduct Capacity Development and Mentoring Programs	Capacity Development and Mentoring (CDM) Programs Undertaken	300,000	Capacity Development and Mentoring (CDM) Programs Undertaken	100,000			Capacity Development and Mentoring (CDM) Programs Undertaken	100,000	Capacity Development and Mentoring (CDM) Programs Undertaken	100,000
				Sub-total Training Capacity Development		700,000	0	200,000	0	100,000	0	200,000	0	200,000
DHR	DHR	04: Agricultural Research Capacity Strengthened	2210040: Recruitment and appointment	Recruitment, replacement of new staff in accordance with government regulations	Recruited new staff in place	100,000	30 positions advertised	10,000	30 Staff Recruited and appointed in accordance with staff establishment	40,000	30 Staff Recruited and appointed in accordance with staff establishment	50,000	30 Staff Recruited and appointed in accordance with staff establishment	
				Staff transferred/posted in accordance with government regulations	Staff relocated and settled in new stations	100,000	Staff posting on First appointment and payment of settlement allowance on rotation	50,000			Staff posting on First appointment and payment of settlement allowance on rotation	50,000		
				Sub-total Recruitment Expenses		200,000	0	60,000	0	40,000	0	100,000	0	0

Program/ Directorate	Projects/ Units	Vote Function/ Output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DHR	DHR	04: Agricultural Research Capacity Strengthened	2210170: Annual Professional Subscription	Payment of subscription and membership fees to certified professional bodies and associations	Staff membership obtained and maintained	50,000	Annual subscriptions fees for members in professional bodies paid	10,000	Annual subscriptions fees for members in professional bodies paid	10,000	Annual subscriptions fees for members in professional bodies paid	10,000	Annual subscriptions fees for members in professional bodies paid	20,000
				Facilitate staff who are members of Professional bodies to acquire professional skills	Workshops, conferences and Seminars for professional bodies attended	50,000	Attending seminar, meetings and workshops organized by professional bodies	25,000			Attending seminar, meetings and workshops organized by professional bodies	25,000		
				Support Staff for continuous professional development (CPD)	Staff acquired professional qualifications	50,000	Support staff to complete professional courses.	10,000	Support staff to complete professional courses.	10,000	Support staff to complete professional courses.	10,000	Support staff to complete professional courses.	20,000
				Sub-total Professional Subscription			0	45,000	0	20,000	0	45,000	0	40,000
DHR	DHR	04: Agricultural Research Capacity Strengthened	2270010: Travel Inland (HR Main)	Monitoring Compliance with Labour Laws	Adherence to NSSF Act and other labours laws enforced	20,000			Adherence to NSSF Act and other labours laws enforced	10,000			Adherence to NSSF Act and other labours laws enforced	10,000
				Inspection and adherence of HR Procedures and practices at PARIs	HR systems and practices inspected	10,000	HR systems and practices inspected	5,000			HR systems and practices inspected	5,000		

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				Advisory and Backstopping Visits	Advisory and Backstoppi ng visits conducted	10,000			Advisory and Backstopping visits conducted	5,000			Advisory and Backstoppi ng visits conducted	5,000
				Monitoring Staff Attendance and Engagement	Staff Attendance and engagemen t monitored	10,000	Staff Attendance and engagemen t monitored	5,000			Staff Attendance and engagement monitored	5,000		
				Support the Implementati on of Performance Management function	Implementa tion of the new performanc e system supported	20,000	Implementa tion of the new performanc e system supported	10,000					Implemen tation of the new performan ce system supported	10,000
				Monitoring Training and Development Intervention	Training and Developme nt Interventio ns monitored	10,000			Training and Development Interventions monitored	5,000			Training and Developm ent Interventi ons monitored	5,000
				Attending to Institute Events and Functions	Institutes events and functions attended	10,000	Institutes events and functions attended	5,000	Institutes events and functions attended	5,000				
				Strengthenin g HR Information Management System	HR information manageme nt system at PARI strengthened	10,000	HR information manageme nt system at PARI strengthened	5,000			HR information managemen t system at PARI strengthened	5,000		
				Sub-total Travel Inland (HR Main)			0	30,000	0	25,000	0	15,000	0	30,000



Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DHR	DHR	04: Agricultural Research Capacity Strengthened	2270020: Travel Abroad	Facilitate staff to attend international meetings, workshops, conferences	International meetings, workshops, conference and study tours attended to enhance agricultural capacity supported	150,000	Staff supported and attend International Workshops and Conferences.	50,000	Staff supported and attend International Workshops and Conferences.	50,000	Staff supported and attend International Workshops and Conferences.	25,000	Staff supported and attend International Workshops and Conferences.	25,000
				Facilitate staff to attend international study tours for benchmarking purposes	Study tours attended	100,000	Staff supported to attend study tours	25,000	Staff supported to attend study tours	25,000	Staff supported to attend study tours	25,000	Staff supported to attend study tours	25,000
				Sub-total Travel Abroad			250,000		75,000		75,000		50,000	
TOTAL DHR DEVELOPMENT BUDGET						2,170,000		590,000		595,000		500,000		485,000

Annex lxxi: Directorate of Finance GoU Development Work plan and Budget for FY 2019/20

Program / Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Directorate of Finance (DF)	DF Development expenditure budget	02:Research extension interface promoted and strengthened	2210020 Workshops & Seminars	Consolidation of different periodical Reports and accounts	Periodical financial reports produced-	60,000			Six months' financial reports produced-	15,000	Nine months' financial reports produced	15,000	Annual Accounts produced	30,000
			2210020 Workshops & Seminars	Sensitization workshop for Finance staff about integration of Stores keeping function into Directorate of Finance	Changes on the new structure of Directorate of Finance at PARI'S and NAROSEC clarified.	15,000	Changes on the new structure of Directorate of Finance at PARI'S and NAROSEC clarified	15,000						
			2210020 Workshops & Seminars	Conducting NARO Finance End of Year Workshop	Finance End of Year Workshop Conducted	95,000							Finance End of Year Workshop Conducted	95,000
			2210020 Workshops & Seminars	Tracking status of budget performance and work plan 2019//2020	Work plan and budget 2019/2020 performance report	30,000	Budget and work plan implementation progress	10,000	Budget and work plan implementation progress	10,000	Budget and work plan implementation progress	10,000		
			2270010 Travel Inland	Following Up on 2% Overhead Remittances	Sensitization of staff at 8 institutes on the Overhead levy policy	10,000	4 institutes sensitized	2,500	2 institutes sensitized	2,500	2 institutes sensitized	2,500		2,500
			2270010 Travel Inland	Conducting supervisory and streamlining of	Storekeeping activities and processes stream lined	30,000	Storekeeping activities and processes stream lined	10,000	Storekeeping activities and processes stream	10,000	Storekeeping activities and processes stream	5,000	Storekeeping activities and processes	5,000

				storekeeping activities at the institutes					lined		lined		stream lined	
			2270010 Travel Inland	Conducting supervisory and backstopping visits by Directorate of Finance at 16 PARIs	Financial management system strengthened	60,000		Financial Management System in 6 PARIs strengthened	15,000		Financial Management System in 4 PARIs strengthened	15,000	Financial Management System in 6 PARIs strengthened	15,000
		04	2210160 IFMS- Recurrent costs	Preparation and collection of data for use in preparation of the GOU AND entity financial statements	Central Database updated and Reports for GOU and donors produced	50,000		Central Database updated and Reports for GOU and donors produced	10,000		Central Database updated and Reports for GOU and donors produced	15,000	Central Database updated and Reports for GOU and donors produced	15,000
		04	2210160 IFMS- Recurrent costs	Backstopping in IFMS compliance and appropriate application of IFMS requirements in line with the institute budgets and general Budgetary monitoring & Evaluation exercises	IFMS Periodical NARO wide budget performance and general budgetary monitoring and evaluation in institutes reports prepared	50,000		IFMS Periodical NARO wide budget performance and general budgetary monitoring and evaluation in 3 institutes reports prepared	10,000		IFMS Periodical NARO wide budget performance and general budgetary monitoring and evaluation in 5 institutes reports prepared	15,000	IFMS Periodical NARO wide budget performance and general budgetary monitoring and evaluation in 3 institutes reports prepared	10,000
TOTAL DEVELOPMENT						400,000		72,500			77,500		77,500	172,500

Annex lxxii: Internal Audit GOU Development Work plan and Budget for F/Y 2019/2020

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Internal Audit	INTERNAL AUDIT	4: Agricultural Research Capacity Strengthened	221002 Workshop & Seminars	Preparing Annual Audit report which summarizes the activities of the Internal Audit and including specified components as outlined in this work plan	1 meeting and report on internal Audit annual performance produced	38,000		-		-		-	1 report on internal Audit annual performance produced	38,000
	INTERNAL AUDIT		221003 Staff Training	Review of Budget performance	2 reports on budget performance produced	6,000		-	1 report on budget performance produced	3,000		-	1 report on budget performance produced	3,000
			221003 Staff Training	Prepare Mid-year audit report	1 meeting and report on midyear internal audit performance produced	15,324		-	1 report on midyear internal audit performance produced	15,324		-		-
			227001 Travel Inland	Carrying out procurement audit to determine the extent of effectiveness and efficiency of the controls and advise management on areas of improvement	2 reports on the efficiency and effectiveness of procurement controls produced	12,900		-	1 report on the efficiency and effectiveness of procurement controls produced	5,983		-	1 report on the efficiency and effectiveness of procurement controls produced	6,917

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			227001 Travel Inland	Information technology	1 report on organization's internal controls over management administration and operation of IT systems and applications produced	14,000	1 report on organization's internal controls over management administration and operation of IT systems and application produced	14,000		-		-		-
			227001 Travel Inland	Carry out assessment key elements of human resource practices to advise management	1 report on human resource management produced	14,900		-		-	1 report on human resource management produced	14,900		-
			227001 Travel Inland	Estates and Assets management	1 report on the effectiveness of the process of estates and asset management produced	12,000	1 report on the effectiveness of the process of estates and asset management produced	12,000		-		-		-
			227001 Travel Inland	Carry out core Research (Value for Money) audit to guide management	2 reports on value for money in research programs produced	24,876		-	1 reports on value for money in research programs produced	12,438	1 reports on value for money in research programs produced	12,438		-
			227001 Travel Inland	Carry out audit of off budget projects to assure quality of project management	2 report on off budget projects audit produced	20,000	1 report on off budget projects audit produced	10,000		-	1 report on off budget projects audit produced	10,000		-

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Total						158,000		36,000		36,745		37,338		47,917

Annex lxxiii: Risk Management GOU Development Work plan and Budget for F/Y 2019/2020

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Internal Audit	RISK MANAGEMENT	4: Agricultural Research Capacity Strengthened	221002 Workshops & Seminars	Develop a Control Self- Assessment tool(CSA) for assessing the effectiveness of controls and scoring matrix	A tool for control self- assessment and scoring matrix produced	1,000	A tool for control self- assessment and scoring matrix produced	1,000	0	-	-	-	-	-
			221002 Workshop & Seminars	Conduct a Policy gaps analysis	1 report on policy gaps analysis produced	6,480		-	-	3,240	1 report on policy gaps produced		1 report on policy gaps produced	3,240
			221003 Staff Training	Review and report on Risks and mitigation controls at NAROSEC and PARI's for assurance	4 reports on high risk areas. produced	9,162	Review routine meetings and report on Risks and mitigation controls at NAROSEC and PARI's held	2,291	Review routine meetings and report on Risks and mitigation controls at NAROSEC and PARI's held	2,291	Review routine meeting and report on Risks and mitigation controls at NAROSEC and PARI's held	2,291	Review routine meeting and report on Risks and mitigation controls at NAROSEC and PARI's held	2,291
			221003 Staff Training	Validation meetings on the control environment (COSO) at PARI's and NAROSEC for advise to	2 reports on controls environment produced	8,358			1 report on controls environment produced	4,179			Report1 on controls environment produced	4,179

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				management										
			221003 Staff Training	Carry out Continuous Professional Development	20 Internal Audit staff participate in ICPAU and IIA conference and Re-tooling on risk management	47,000	20 Internal Audit staff participate in ICPAU and IIA conference	9,000	2 Audit staff Re- tooled on Risk management and reporting	20,000		-	20 Internal Audit staff participate in ICPAU and IIA conference	18,000
			227001 Travel Inland	Review and report on Risks and mitigation controls	4 reports on high risk areas. produced	5,000	Review report on Risks and mitigation controls at NAROSE EC and PARI's produced	1,250	Review report on Risks and mitigation controls at NAROSE C and PARI's produced	1,250	Review report on Risks and mitigation controls at NAROSE C and PARI's produced	1,250	Review report on Risks and mitigation controls at NAROSE C and PARI's produced	1,250
Total						77,000		13,541		30,960		3,541		28,960

Annex Ixxiv: Directorate of Corporate Services - Committees GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/ Output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Directorate of Corporate Services	Governance Council and committee meetings and management interventions	4	221006 : Committee, Council and Board Expenditures	Ensure committees (Council Committees, diligently carry out their duties that foster research, governance and management	Agricultural research policies, manuals, standards and guidelines streamlined. Work plans, Budgets and governance plans and reports approved	120,000	Agricultural research policies, manuals, standards and guidelines streamlined. Work plans, Budgets and governance plans and reports approved	30,000	Agricultural research policies, manuals, standards and guidelines streamlined. Work plans, Budgets and governance plans and reports approved	30,000	Agricultural research policies, manuals, standards and guidelines streamlined. Work plans, Budgets and governance plans and reports approved	30,000	Agricultural research policies, manuals, standards and guidelines streamlined. Work plans, Budgets and governance plans and reports approved	30,000
				Ensure committees (Council Committees, diligently carry out their duties that foster research, governance and management	Agricultural research and guidelines streamlined. Technical guidance provided to PARIs and recommendations implemented	38,000	At least two PARIs visited and report approved. Technical guidance provided to PARIs and recommendations implemented	9,000	Audit Committee monitoring report from visit to 3 institutes	9,000	At least two PARIs visited and report approved. Technical guidance provided to PARIs and recommendations implemented	15,000	At least two PARIs visited and report approved. Technical guidance provided to PARIs and recommendations implemented	5,000
	Evaluation of Council's performance			Ensure committees (Council Committees, diligently carry out their duties that foster research,	Evaluation tools and Council performance report developed. Performance Evaluation Report	20,000		-		-	Evaluation tools developed, reviewed and approved. Council performance report developed	5,000	Council performance evaluated, performance gaps identified and recommendations made	15,000

				governance and management								for effective governance	
	Council retreat					20,000				Strategic decisions on mid-term plan, management interventions	20,000		
	PARI Advisory Committees meetings			ensure that advisory committees carry out their duties diligently	technical guidance provided PARIs	80,000			40,000		40,000		
	Governan ce training for the Council			Ensure Council Committees receive re-orientation for carrying out their duties diligently to foster research, governance and management	Performance of Council & Committees enhanced	20,000		-	-	governance training reports	20,000		-
	Task force committee s meetings and facilitation			taskforce committee meetings facilitated to carry out their duties	reports developed and approved	40,000	reports developed and approved	10,000	reports developed and approved	10,000	reports developed and approved	10,000	reports developed and approved
	Facilitatio n of training committee meetings			Ensure Training committees , meetings are facilitated to deligently carry out their duties	Training plans and reports evaluated and approved	30,000	Training plans and reports evaluated and approved	10,000	Training plans and reports evaluated and approved	7,000	training plans and reports evaluated and approved	7,000	Training plans and reports evaluated and approved
Overall 2210060: Committee, Council and Board Expenses						368,000		59,000		96,000		147,000	

Annex lxxv: Directorate of Corporate Services- Contribution to International Org. and Autonomous institutions GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Projects /Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS	Contribution to International Org. and Autonomous institutions	51	262201: Contribution to International Org.	Contribute to international organisations (CGIAR, ASERECA, FARA, CABI WADRA) obligations	National commitment to international organisations' obligations upheld	1,800,000	Contributions to international organisations (CGIAR, ASERECA, FARA, CABI WADRA, BeCA etc.) honoured	400,000	Contributions to international organisations (CGIAR, ASERECA, FARA, CABI WADRA, BeCA) honoured	600,000	Contributions to international organisations (CGIAR, ASERECA, FARA, CABI WADRA, BeCA) honoured	600,000	Contributions to international organisations (CGIAR, ASERECA, FARA, CABI WADRA, BeCA) honoured	200,000
		51	264101: Contribution to Autonomous institutions	Contribute to autonomous institutions obligations	National commitment to Autonomous institutions' obligations upheld	44,000	Contributions to autonomous institutions obligations honoured	11,000	Contributions to autonomous institutions obligations honoured	11,000	Contributions to autonomous institutions obligations honoured	11,000	Contributions to autonomous institutions obligations honoured	11,000
	Overall Contribution to International Org. and Autonomous institutions					1,844,000	-	411,000	-	611,000	-	611,000	-	211,000

Annex Ixxvi: Directorate of Corporate Services - Short-term consultancy GOU Development Workplan & Budget for 2019/20

Program/ Directorate	Projects /Units		Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
		Vote Function/ output		Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS	Short-term consultancies conducted	4	225001: Consultancy-shortterm	Conduct consultancies to improve functionality and operations of NARO management units	At least 5 short-term consultancies for improving operations and functionality of management units conducted	60,000			HR consultancy to review effect of training on NARO's performance since 1994.	30,000			Consultancies for ICT and agricultural information hubs	30,000
						140,000	Consultancies on legal and other issues for NARO conducted	80,000	Consultancies for reviewers of CGS project proposals	20,000	Consultancies for evaluation of NARO council performance	20,000	Consultancies for IP issues and commodity value chains	20,000
Total: 2250010: Consultancy-shortterm						200,000	-	80,000	-	50,000	-	20,000	-	50,000

Annex Ixxvii: Directorate of Corporate Services - Information Communication Technology GOU Development Workplan & Budget for 2019/20

Progra m/ Direct orate	Projects/ Units	Vote Function/ output	Expenditur e Code/Desc ription	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget t (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Enhance ment of ICT capacity	2	222003: Informatio n Communic ation Technology	Connect NARO institutes to e- government infrastructure	NARO- wide connection to e- governme nt infrastru cture	60,000	Two (2) Insitutes connecte d to e- gov infrastru cture	15,000	Two (2) Insitutes connecte d to e- gov infrastru cture	15,000	Two (2) Insitutes connecte d to e- gov infrastru cture	15,000	Two (2) Insitutes connecte d to e- gov infrastru cture	15,000
				Secure cloud hosting and disaster recovery services	Disaster Managem ent Mitigation	100,000	Disaster manage ment plan	20,000	Hosting and recovery services for Corpora te email and NARO info hub for 3 years	35,000	Hosting and recovery services for NARO data manage ment systems	45,000		
				Expand the limited ICT Infrastructure for improved connectivity	NARO- wide LAN,WA N and VoIP	176,000	WAN extende d to three (3) Insitutes	45,000	WAN extende d to four (4) Insitutes	41,000	WAN extende d to three (5) Insitutes	45,000	WAN extende d to three (3) Insitutes	45,000
	Overall 2220030: Information Communication Technology						336,000	-	80,000	-	91,000	-	105,000	-

Annex Ixxviii: Directorate of Corporate Services - Procurements of capital and ICT equipment GOU Development Workplan & Budget for 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Output s	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Output s	Budget (000)
Procurement of capital and ICT equipment	Procurement of office and ICT equipment	77	Machinery & Equipment	Purchase equipment	machinery and equipment provided	115,494	machinery and equipment provided	25,000	machinery and equipment provided	30,494	machinery and equipment provided	35,000	machinery and equipment provided	25,000
	Installation of WAN for connectivity		312202: Purchase of ICT equipments	WAN purchase and allocation	interconnectivity	210,000								
	Procurement of agricultural equipment	77	223002: Machinery and equipment	Procure a tractor for NaSARRI	One tractor procured	150,000	One tractor procured	0		150,000				
			312202: Machinery and equipment	procurement and installation of solar security lights in ZARDIs	solar security lights installed in ZARDIs	900,000			solar security lights installed in 5 ZARDIs	500,000	solar security lights installed in 4 ZARDIs	400,000		
			312202: Machinery and equipment	procurement a water pump for Namalere	water pump procured & installed at Namalere	10,000			water pump procured & installed at Namalere	10,000				
	Furniture and fixtures for new laboratories	78	312203: Furniture and Fixtures	Purchase furniture and fixtures for new laboratories and other buildings	Furniture and fixtures provided	320,000	Furniture and fixtures provided for Secretariat	20,000	Furniture and fixtures provided for laboratories & other buildings	150,000	Furniture and fixtures provided for laboratories & other buildings	150,000		
	Overall 2220030: Information Communication Technology					1,705,494	-	45,000	-	840,494	-	585,000	-	25,000

Annex Ixxix: Directorate of Corporate Services - Computer Supplies & IT Service GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Provision of computer supplies and IT services	2	221008: Computer Supplies & IT Service	Service support for ICT equipment and Information systems	Adoption of ICT tools	40,000			ICT tools for service delivery and informati on manage ment	20,000	ICT tools for service delivery and informati on manage ment	20,000		
				Procurement of backup equipment and services	Effective backup and restoration of corporate data/inform ation	30,000	Backup policy	15,000	Backup equipme nt and services	15,000				
	Overall 2210080: Computer Supplies & IT Service						70,000	-	15,000	-	35,000	-	20,000	-

Annex lxxx: Directorate of Corporate Services – Strengthening Procurement Unit (Operations Expenses) GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Projects /Units	Vote Function/ output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS	Strengthening of Procurement Function	1	227001: Procurement Monitoring Support to Institutes	Ensure support to all Institutes is implemented in relation to the procurement function	Procurement performance and Back-to- office Reports prepared	64,000	Procurement assessment report developed and submitted to Management	16,000	Procurement assessment report developed and submitted to Management	16,000	Procurement assessment report developed and submitted to Management	16,000	Procurement assessment report developed and submitted to Management	16,000
		1	221006: Support to Procurement Committee Meetings at Institutes	Ensure facilitation of Subcontracts Committees, Evaluations exercises at Institutes	Evaluation Reports and Sub Contracts Committee Minutes developed	166,000	Approved Evaluation Reports and Sub contracts committee minutes confirmed	41,500	Approved Evaluation Reports and Sub contracts committee minutes confirmed	41,500	Approved Evaluation Reports and Sub contracts committee minutes confirmed	41,500	Approved Evaluation Reports and Sub contracts committee minutes confirmed	41,500
Total: DEVELOPMENT -Strengthening of Procurement Function						230,000		56,500		56,500	-	56,500		56,500

Annex lxxxi: Directorate of Corporate Services - Advertising and Public Relations GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Project s/Units	Vote Function/ Output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS	Public Relations	2	221001: Advertising and Public Relations	Media partnerships: Utilizing existing Media Partnerships for relaying of weekly Agric Research Content on different research programs	48 TV Programs, 12 radio programs, 2 Uganda Media Centre briefs, 1 Uganda Radio Network brief conducted	175,000	12 TV programs on Bukedde TV+ TV West& 1 Media Centre Appearance conducted	127,000	12 TV programs on Bukedde TV+ TV West conducted	-	12 TV programs on Bukedde TV+ TV West, 8 Radio programs on CBS & Megha FM conducted	30,000	12 TV programs on Bukedde TV+ TV West, 4 radio programs on Open Gates, 1 Uganda Radio Network brief, 1 Uganda Media centre brief conducted	18,000
				Promoting NARO Brand in NARO institutes and beyond	75% NARO Institutes appreciating the NARO Brand achieved	50,000	NARO merchandise: shirts, magic cups, executive pens, umbrellas, stickers, keyrings& jute bags procured	50,000	Sales of NARO merchandise	-	sales of NARO merchandise	-	Application of revenue earned from sales	-
				Strategic Online Engagement: Engagement with Ugandan Online community through institute tours, panel discussions& promotion on high traffic website linkages	Visibility of NARO online platforms increased.	20,000	Promotion of online platforms on community radio, high traffic websites and other online links conducted	7,500	Online media& personalities tour, Semi-annual panel discussion conducted	12,500	Regular updates and engagements online with different groups conducted	-	Speaking opportunities for online panels held	-

Program/ Directorate	Project s/Units	Vote Function/ Output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				Multimedia Production: production of various multimedia clips for various audiences; online (video clips and podcasts), radio and TV	52 TV and Online videos produced and circulated, 16 podcasts delivered and circulated, 12 radio magazines produced and delivered,	60,000	12 Radio Magazines produced, 16 podcasts produced, 12 TV Documentaries and 12 vlogs produced	60,000		-		-		-
				Monitoring and Evaluation: independent surveys assessing the impact of the NARO communication activities on the overall brand reputation	1 cycle of the IPSOS NARO Brand Reputation Survey conducted and results delivered	45,000			1 cycle of NARO Brand Reputation survey conducted and results delivered	45,000				
				Total: 2210010: Advertising and Public Relations			-	244,500	-	57,500	-	30,000	-	18,000



Annex lxxxii: DCS - Coordination of Gender and equity/equal opportunity GOU Development Workplan & Budget for FY 2019/20

Progr am/ Direc torate	Project s/Units	Vote Functio n/output t	Expendit ure Code/De scription	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Gender and equity /equal opport unity	4	227001: Travel inland	Undertake visits to PARIs to assess how gender issues are mainstream ed in operational /research activities	Genders issues mainstream ed in NARO's operations	10,000	3 PARIs visited to mainstrea m Gender issues in their operations . Report on gender mainstrea ming produced	2,500	3 PARIs visited to mainstrea m Gender issues in their operations. Report on gender mainstrea ming produced	2,500	3 PARIs visited to mainstream Gender issues in their operations. Report on gender mainstreami ng produced	2,500	3 PARIs visited to mainstream Gender issues in their operations. Report on gender mainstreamin g produced	2,500
			225001: Consulta ncy- shortterm	Engage consultanci es to assess how gender issues are complied with in NARO	Genders issues compliance assessment in NARO	20,000	Consultan cy to assess how gender issues are complied with in NARO secured	12,000	Genders issues complianc e assessment Report	8,000				
			221001: Staff training	NARO staff trained on gender issues as related to operations and the NARO Gender Strategy 2017-2022	Gender skills imparted on NARO staff and gender sensitive research technologie s & processes developed	20,000			Gender skills training manual for NARO staff	8,000	staff trained on gender and gender sensitive research technologies & processes developed	12,000		
	Total: Gender and equity/equal opportunity						50,000	-	14,500	-	18,500	-	14,500	-

Annex lxxxiii: Directorate of Corporate Services - NARO Land Management GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS	Land surveying and titling	1	211103: contract salaries	Hire labour to clear land for proper identification	Labour hired to clear land for proper identification	60,000	land cleared for proper identification and labour paid	15,000	land cleared for proper identification and labour paid	15,000	land cleared for proper identification and labour paid	15,000	land cleared for proper identification and labour paid	15,000
		2	221001: Advertising and public relation	Adverts and Public Relations activities on land matters	adverts and public relations activities for NARO land executed	20,000	adverts and public relations activities for NARO land executed	5,000	adverts and public relations activities for NARO land executed	5,000	adverts and public relations activities for NARO land executed	5,000	adverts and public relations activities for NARO land executed	5,000
		4	227001: Travel inland	Ground truthing visits to NARO land & land registry offices by a designated land committee	Surveyed land and its boundaries verified by land committee. Visits to Land registry offices to secure land titles	120,000	Back to office reports and Status Reports on land submitted	30,000	Back to office reports and Status Reports on land submitted	30,000	Back to office reports and Status Reports on land submitted	30,000	Back to office reports and Status Reports on land submitted	30,000
		4	225001: Consultancy- shortterm	Survey , open boundaries and secure titles for all NARO land	Boundaries opened, titles secured	500,000	Unsurveyed NARO land surveyed and consultancy survey reports produced	150,000	Unsurveyed NARO land surveyed and consultancy survey reports produced	150,000	land titles of NARO surveyed land secured and boundaries opened	100,000	land titles of NARO surveyed land secured and boundaries opened	100,000
		72	312104:other structures	Construct Wall fence around Surveyed and titled land	Wall fence constructed around Surveyed and titled land	300,000			Wall fence constructed around Surveyed and titled land	150,000	Wall fence constructed around Surveyed and titled land	150,000		
	Total: Land surveying and titling of NARO land					1,000,000	-	180,000	-	330,000	-	280,000	-	130,000

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Annex Ixxxiv: Directorate of Corporate Services - Replacement of asbestos roofs with ironsheets on residential and non-residential buildings GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS	Replacement of asbestos sheets with iron sheets on residential and non-residential buildings at Kajjansi ARDC and Buginyanya ZARDI	72	312101: Civil works : Non-residential buildings	Roof renovation of administrative/office buildings at Kajjansi ARDC and Buginyanya ZARDI	Asbestos roofs replaced and safely disposed off	595,600			Removal and replacement of asbestos roof for the Kajjansi ARDC Guest house and buildings in other PARIS	552,800	Removal and replacement of asbestos roof for Research Experimental Block at Kajjansi ARDC	42,800		
			312102: Civil works : residential buildings	Roof renovation of staff quarter buildings at Kajjansi ARDC and Buginyanya ZARDI	Asbestos roofs replaced and safely disposed off	729,400			Asbestos roofs of Kajjansi ARDC Staff quarters (Camp residential houses) removed and replaced with ironsheets	200,000	Asbestos roofs of Buginyanya and Namulonge Staff quarters removed and replaced with ironsheets	365,000	Asbestos roofs of PARI Staff quarters (servants quarters) removed and replaced with ironsheets	164,400
	Total: Replacement of asbestos roofs with ironsheets on residential and non-residential buildings					1,325,000	-	-	-	752,800	-	407,800	-	164,400

Annex lxxxv: Directorate of Corporate Services - Infrastructure development of Non-residential buildings civil works GOU Development Workplan & Budget for FY 2019/20

Program/ Direct orate	Projects/ Units	Vote Function/ output	Expenditu re Code/Desc ription	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interi m or Final Outp uts	Budg et (000)
	Infrastru cture develop ment	72	312101: Non- residential buildings	Enhance Kigumba irrigation capacity	Operational Kigumba irrigation scheme	500,000			improve ment of the Kigumba irrigation capacity	300,000	improvement of the Kigumba irrigation capacity	200,000		
				Completion of a seed facility at Mbarara ZARDI	Operational seed facility at Mbarara ZARDI	300,000	50% Constructi on progress of the seed facility at Mbarara ZARDI achieved	150,000	70% Constructi on progress of the seed facility at Mbarara ZARDI achieved	100,000	Seed facility constructio n at Mbarara ZARDI completed	50,000		
				Improve Infrastructure at NaSARRI	Infrastructure improvement at NaSARRI	1,553,000	Constructi on of office blocks at NaSARRI	776,500	Glass house installed	776,500				
				construction of a multipurpose building at NaCORI	a multipurpose building at NaCORI	2,825,000					a multipurp ose building constructe d at NaCORI	2,825,000		
	Total: Infrastructural development (non-residential buildings)						5,178,000	-	926,500	-	1,176,500	-	3,075,000	-

Annex lxxxvi: Directorate of Corporate Services - Infrastructure development of Residential civil works GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Output s	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Output s	Budget (000)	Interim or Final Output s	Budget (000)
	Infrastructural development (Residential buildings)	72	312102: Residential buildings	Extension of a power line to Buginyanya ZARDI staff quarters	Electricity coverage and access at Buginyanya ZARDI resolved	50,000			Electricity coverage and access at Buginyanya ZARDI resolved	50,000				
				Rehabilitation of Bugusege satellite research station	Renovated Bugusege civil works	200,000			Renovated Bugusege civil works	200,000				
				Rehabilitation of Abi ZARDI staff houses and Laboratory	Upgraded Abi ZARDI staff houses and Laboratory	350,000			Upgraded Abi ZARDI staff houses and Laboratory	200,000	Upgraded Abi ZARDI staff houses and Laboratory	150,000		
				Rehabilitation of Kigumba satellite staff houses	Renovated Kigumba staff houses	300,000			Renovated Kigumba staff houses	100,000	Renovated Kigumba staff houses	100,000	Renovated Kigumba staff houses	100,000
			Total: Infrastructural development (Residential buildings)			900,000	-	-	-	550,000	-	250,000	-	100,000

Annex lxxxvii: Directorate of Corporate Services - Infrastructure development of other structures GOU Development Workplan & Budget for FY 2019/20

Progra m/ Direct orate	Projects/Units	Vote Function/ output	Expenditu re Code/Desc ription	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interi m or Final Outp uts	Budg et (000)
DCS	infrastructure development/ improvement	72	312104: Other structures	construction of a water pump structure at Namalere, NARL	a water pump structure constructed at Namalere	10,000			water pump structure construct ed at Namaler e	10,000				
				fencing experimental field sites at Nabuin ZARDI	Experimenta l field sites at Nabuin fenced	165,000			Experime ntal field sites at Nabuin fenced	165,000				
				Wall fence constructed around Nakyesasa	Complete wall fence at Nakyesasa	700,000	70% wall fence at Nakyesasa completed	500,000	90% wall fence at Nakyesa sa complete d	100,000	Wall fence at Nakyesasa completed	100,000		
	Total: Infrastructural development (Other structures)					875,000	-	500,000	-	275,000	-	100,000	-	

Annex lxxxviii: Directorate of Corporate Services Centrally controlled items - GOU Development Workplan & Budget for FY 2019/20

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS			227001: Travel inland	Conduct back-stopping visits to PARIs and other official field activities	Coordinate d oversight, supervision and evaluation of research operations	50,000	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500
			221011: Printing stationery, binding	Printing and binding services for dissemination materials and Public relations efforts	stationery procured Printing and binding services provided	130,000	Policy documents, calendars, brochures, fact sheets, notebooks, pens and manuals made	25,000	Policy documents, brochures, fact sheets, notebooks, pens and manuals made	35,000	Policy documents, brochures, fact sheets, notebooks, pens and manuals made	35,000	Calenders, brochures, fact sheets, notebooks , pens and manuals made	35,000
	Provision of Books, periodicals and newspapers	2	221007: Books Periodicals & Newspaper	Obtain books, periodicals and newspapers for staff and library	Books, periodicals and newspapers for staff and library purchased	8,000	Books, periodicals and newspapers for staff and library purchased	2,000	Books, periodicals and newspapers for staff and library purchased	2,000	Books, periodicals and newspapers for staff and library purchased	2,000	Books, periodicals and newspapers for staff and library purchased	2,000
	administration		227004: Fuel, Lubricants & Oils	Ensure provision of fuel & lubricants	Official staff travel facilitated	100,000	Official staff travel facilitated	25,000	Official staff travel facilitated	25,000	Official staff travel facilitated	25,000	Official staff travel facilitated	25,000
	Ground rate	4	223002: Rates	Payment of Ground rent for NARO Land	Ground rent for NARO Land paid	50,000	Payment of Ground rent for NARO Land	50,000						
	Ground rate accrued by NaFIRRI paid	4	223002: Rates	Payment of Ground rent to Jinja Municipality accrued by NaFIRRI	Ground rent to Jinja Municipality accrued by NaFIRRI paid	50,000	Ground rent to Jinja Municipality accrued by NaFIRRI paid	50,000						

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS			227001: Travel inland	Conduct back- stopping visits to PARIs and other official field activities	Coordinate oversight, supervision and evaluation of research operations	50,000	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500
	Marine vessel Insurance paid	4	226001: insurance	Annual payment of insurance for two NaFIRRI marine Vessels: IbIS and Hermacorp	Annual insurance cover for two NaFIRRI marine Vessels: IbIS and Hermacorp paid	100,000			Annual insurance cover for two NaFIRRI marine Vessels: IbIS and Hermacorp paid	100,000				
	Marine vessel maintenance costs paid	4	228003: maintenance - Equipment	Overhaul of NaFIRRI 's marine vessel- Cormorant	NaFIRRI 's marine vessel- Cormorant overhauled and operational	100,000	NaFIRRI 's marine vessel- Cormorant overhauled and operational	60,000	NaFIRRI 's marine vessel- Cormorant overhauled and operational	40,000				
	Destruction of expired chemicals	1	223001: Property expenses	Destroy and safely dispose of expired chemicals at various PARIs	Expired chemicals destroyed and safely disposed off	300,000	Expired chemicals from PARIs identified, appropriately packed and collated at one destruction center for safe disposal	300,000	Expired chemicals from PARIs identified, appropriately packed and collated at one destruction center for safe disposal					

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS			227001: Travel inland	Conduct back- stopping visits to PARIs and other official field activities	Coordinate d oversight, supervision and evaluation of research operations	50,000	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500
	Environmental Impact Assessment for capital works	4	281501: Environmental Impact Assessment for capital works	Conduct EIA for all civil works to be commissioned in 2019/20	EIA for all civil works to be commissioned in 2019/20 conducted, EISA reports generated.	400,000	EISA reports upcoming civil works namely : Asbestos replacement, infrastructure renovation at Bugusege and Kigumba satellites, power extension at Buginyanya	150,000	EISA reports for upcoming civil work namely seed facility at MbaZARDI , irrigation at Kigumba and security light installations at ZARDIs	250,000				
	Feasibility studies for capital works	4	281502: Feasibility studies for capital works	Conduct feasibility studies for capital works that will start in 2020/21	Feasibility Reports for capital works projected for 2020/21	517,500	Feasibility Reports for capital works projected for 2020/21 at Nakyesansa and Maruzi	150,000	Feasibility Reports for capital works projected for 2020/21 at NARIs	217,500	Feasibility Reports for capital works projected for 2020/21 at ZARDIs	150,000		
	Engineering and design studies	4	281503: Engineering and design studies	Make engineering and designs for capital works projected for 2020/22	Engineering and designs for capital works projected for 2020/22 made	517,500	Engineering and designs for capital works projected for 2020/21 at Nakyesansa and Maruzi	150,000	Engineering and designs for capital works projected for 2020/21 at NARIs	217,500	Engineering and designs for capital works projected for 2020/21 at NARIs	150,000		

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS			227001: Travel inland	Conduct back- stopping visits to PARIs and other official field activities	Coordinate oversight, supervision and evaluation of research operations	50,000	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500
	Monitoring, Supervision & Appraisal of capital works	4	281504: Monitoring, Supervision & Appraisal of capital work	Ensure scope, spec and design fulfillment, cost control and certification of works, adherence to project time lines, quality control, monitoring of defects period and value for money.	Variations/ addendums in contracts at different sites and emergencies on ongoing civil works handled effectively and promptly	400,000	Variations/ addendums in contracts at different sites and emergencies on ongoing civil works handled effectively and promptly	150,000	Variations/ addendums in contracts at different sites and emergencies on ongoing civil works handled effectively and promptly	150,000	Variations/ addendums in contracts at different sites and emergencies on ongoing civil works handled effectively and promptly	100,000		
	Licenses	4	226002: Licenses	Software management	Microsoft annual license	50,000			Software acquisition and management	50,000				
	Workshops and seminars	4	221002: Workshops and seminars	Conduct planning and review meetings to budget and focus implementable activities for 2020-21.	Progress against budget lines and expenditure codes reviewed quarterly focused workplans ICT policy reviewed and	80,000	ICT policy Review workshop conducted for update	20,000	Activity and budget expenditure Progress Review Workshop conducted	20,000	Budgetary Planning and review workshop conducted	20,000	Activity and budget expenditure Progress Review Workshop conducted	20,000

Program/ Directorate	Projects /Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS			227001: Travel inland	Conduct back- stopping visits to PARIs and other official field activities	Coordinate d oversight, supervision and evaluation of research operations updated	50,000	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500	At least 4 PARIs visited to back-stop management of research	12,500
Total: Centrally controlled expenditure items						2,853,000	-	1,144,500	-	1,119,500	-	494,500	-	94,500



Annex lxxxix: PRiDe project GoU Development Work Plan and budget for FY 2019/20

Program/ Directorate	Projects/ Unit	Vote Function Output	Code	Annual Key Activities	Annual Output	Input	Unit Cost (UG X'000)	SITES					Total by site (UGX'000)					Total Budget
								NaC RRI- Namul onge	Abi ZA RDI	Rwebit aba ZARDI	Ikul we - ZAR DI	Nget ta - ZAR DI	NaCR RI- Namul onge	Abi ZAR DI	Rwe bitab a ZAR DI	Ikul we - ZAR DI	Ngett a - ZAR DI	
NaCRRI	Cereals program	Generat ion of improv ed rice technol ogies	3122020	Detection of pathogens in seeds, storage and tracking of QTLs/genes	Rice breedin g for RYMV resistan ce (Resear ch lab require ments and varietal improv ement for resistan ce against RYMV)	Deep freezer, clean bench, autoclave and gel electrophoresis system	34,800	1	-	-	-	-	34,800	-	-	-	-	34,800
			2111030	Land opening (first and second land preparation)		Labour 800,000 per site	800	1	-	-	-	-	800	-	-	-	-	800
			2270010	Travel to plant		Travel allowanace	500	-	3	1	1	2	-	1,500	500	500	1,000	3,500
			2270010	Travel to collect data		Travel (fuel and allowance)- ((130,000 per person*3 persons*2nights) +(110liters*3500 ugx per litre))	500	-	3	-	1	2	-	1,500	-	500	1,000	3,000
			2270040	Using agricultural machine		Engine: Petrol, 7 to 8 Hp- (1,200,000 per site)	1,360	1	-	-	-	-	1,360	-	-	-	-	1,360
			2210110	Training materials		Print paper- 240,000per training x 1training	240	-	1	-	-	-	-	240	-	-	-	240
	Improv ed extensio n and research service delivery in Zonal manage ment				Refresh er Trainin g of trainers (R-ToT)													

Program/ Directorate	Projects/ Unit	Vote Function Output	Code	Annual Key Activities	Annual Output	Input	Unit Cost (UG X'000)	SITES					Total by site (UGX'000)					
								NaC RRI- Namul onge	Abi ZAR RDI	Rwebit aba ZARDI	Ikul we - ZAR DI	Nget ta - ZAR DI	NaCR RI- Namul onge	Abi ZAR RDI	Rwe bitab a ZAR DI	Ikul we - ZAR DI	Ngett a - ZAR DI	Total Buget
		Improv ed extensio n and research service delivery through ICT	2210080	Install in Internet network system	Enhanc ing ICT of Trainin g unit	3,000,000 per institute												
						3,000	1	1	1	1	-	3,000	3,000	3,000	3,000	-	12,000	
			2210080	Developing farmer monitoring app.		Outsourcing	10,000	1	-	-	-	-	10,000	-	-	-	-	10,000
		2210080	Monitoring app. maintenance	Outsourcing	6,000	1	-	-	-	-	6,000	-	-	-	-	6,000		
		2240060	Fertilizer	Farm input	NPK and rice specific ferlizer - 20 at 170,000 @	3,400	1	-	-	-	-	3,400	-	-	-	-	3,400	
			2240060		Jumbo bags, gunny sacks, rope, KOH	100 kg bags, rolls of rope, liters of KOH-200 * 1000 @	200	1	-	-	-	-	200	-	-	-	-	200
		2220010	Telephone, email, courier	Communi cation	Telephone, email, courier- 700,000 per season	700	1	-	-	-	-	700	-	-	-	-	700	
		2280010	Renovating research structures	Civil maintai nance	Screen house, Irrigation chanel, Compost house	3,000	3	2	1	1	1	9,000	6,000	3,000	3,000	3,000	24,000	
Total											60,260	6,240		4,000	2,000	100,000		

Annex G: GOU Recurrent PARI Detailed Workplans and Budgets for FY 2019/20

A handwritten signature in black ink, appearing to be 'R. B. Singh', located in the bottom right corner of the page.

Annex xc: NaCRRRI GoU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Key Activities	Annual Outputs	Expenditure Code/ Description	Input	Annual Budget (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
								Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Administration	Research management and Administration	Generation of Agricultural Technologies (015101)	Payment of hired labour	Citrus fields, Institute grounds and infrastructure maintained	2111030: Allowances	Labour	68,000	Citrus fields, Institute grounds and infrastructure maintained	17,000	Citrus fields, Institute grounds and infrastructure maintained	17,000	Citrus fields, Institute grounds and infrastructure maintained	17,000	Citrus fields, Institute grounds and infrastructure maintained	17,000
			Procurement of agricultural inputs for citrus fields maintenance	Increased production of citrus fruits	2240060 Agricultural supplies	Assorted inputs	135,000	Agricultural inputs procured	33,750	Agricultural inputs procured	33,750	Agricultural inputs procured	33,750	Agricultural inputs procured	33,750
			Undertaking research related activities through activity tracking and overall monitoring	Research activities undertaken and monitored	2270010: Travel Inland	DSAs	49,000	Research monitoring & evaluation conducted	12,250	Research monitoring & evaluation conducted	12,250	Research monitoring & evaluation conducted	12,250	Research monitoring & evaluation conducted	12,250
Cereals, Root crops, Horticulture, Legumes and Administration		Research extension interface promoted and strengthened (015102)	Training of stakeholders under different programs, end of year finance workshops and attending review workshops	Capacity of stakeholders strengthened and attending key workshops	2210020 Workshops and seminars	Training of stakeholders done and attending workshops	98,400			Training of stakeholders done and attending workshops	49,200			Review workshops and end of finance workshop	49,200

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Key Activities	Annual Outputs	Expenditure Code/ Description	Input	Annual Budget (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
								Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Procurement of Institute calendars for the year 2020	Printed Institute calendars	2210110 Printing, Stationery, Binding	2020 year Institute calendars	8,800					Institute calendars printed and delivered	8,800		
			Participating in Jinja Agricultural show	Participated in Jinja Agricultural show	2270010 Travel inland	Persons	20,000	Institute participation in Annual Agricultural show	20,000						
		Agricultural Research Capacity Strengthened (015104)	Payment of hired labour	Citrus fields, Institute grounds and infrastructure maintained	2111030: Allowances	Labour	17,553	Institute grounds and infrastructure maintained	4,388	Institute grounds and infrastructure maintained	4,389	Institute grounds and infrastructure maintained	4,388	Institute grounds and infrastructure maintained	4,388
			Undertake visibility, promotional and technology dissemination activities	Number of exhibitions participated in, number of staff & stakeholder meetings held and number of technologies disseminated and people reached.	2210010: Advertising and public relations	Dissemination materials: bulletins, brochures, publications, radio Talk Shows	5,000	At least 1 Exhibition during the Annual Ag. show conducted, staff & stakeholder meetings held	3,000	At least 1 Exhibition during the World Food Day conducted, staff & stakeholder meetings held	2,000	-	-	-	-
			Committee, council and board meetings expenses	Contracts awarded to successful bidders	2210060: Committee, Council and Board expenses	DSA, transport refund	10,000	Meetings held to award contracts to successful bidders during the quarter	2,500	Meetings held to award contracts to successful bidders	2,500	Meetings held to award contracts to successful bidders during the quarter	2,500	Meetings held to award contracts to successful bidders	2,500

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Key Activities	Annual Outputs	Expenditure Code/ Description	Input	Annual Budget (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
								Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
										during the quarter				during the quarter	
			Supply of newspapers and journals	Number of newspaper and scientific journals produced	2210070: Books, Periodicals and Newspapers	Books, production of newsletters, research articles, research policy briefs, journal articles	1,000	Newspaper and scientific journals produced	250		250	Newspaper and scientific journals produced	250	Newspaper and scientific journals produced	250
			Procurement of computer accessories	Computers accessories procured	2210080 Computer Supplies & IT Service	Assorted	4,000	Computers accessories procured	1,000	Computers accessories procured	1,000	Computers accessories procured	1,000	Computers accessories procured	1,000
			Routine availability of staff teas	Motivated and productive workforce maintained	2210090 Welfare and Entertainment	Assorted	5,800	Staff teas provided to staff for July 2019 to September 2019	1,450	Staff teas provided to staff for October 2019 to December 2019	1,450	Staff teas provided to staff for January 2020 to March 2020	1,450	Staff teas provided to staff for April 2020 to June 2020	1,450
			Procurement of printing materials, stationery	Documentation of Institute activities	2210110: Printing, Stationery, Binding	Assorted stationery items and printing materials	6,000	Assorted office stationery procured	1,500	Assorted office stationery procured	1,500	Assorted office stationery procured	1,500	Assorted office stationery procured	1,500

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Key Activities	Annual Outputs	Expenditure Code/ Description	Input	Annual Budget (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
								Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Procurement of heavy duty stapplers and heavy duty punching machines	Small office equipments procured	2210120 Small office equipments	Heavy duty stappler and heavy duty punching machines	1,500							Heavy duty stappler and heavy duty punching machine	1,500
			Payment of telephone bills	Telephone services supplied to the Institute throughout the year	2220010: Telecommunications	Prepaid Airtime	4,200	Telephone bills paid	1,050	Telephone bills paid	1,050	Telephone bills paid	1,050	Telephone bills paid	1,050
			Hire of security and guard services for Institute assets and activity sites	Institute assets and activity sites secure	2230040: Guard and Security Services	Labour	10,000	Institute assets and activity sites secured	2,500	Institute assets and activity sites secured	2,500	Institute assets and activity sites secured	2,500	Institute assets and activity sites secured	2,500
			Payment of electricity bills	Electricity supplied to the Institute throughout the year	2230050: Electricity	Units	64,000	Purchase of Yaka units	16,000	Purchase of Yaka units	16,000	Purchase of Yaka units	16,000	Purchase of Yaka units	16,000
			Cleaning and sanitation of Institute buildings	Office premises' hygiene maintained	2240040: Cleaning and Sanitation	Cleaning equipment	6,000	Office premises cleaned	1,500	Office premises cleaned	1,500	Office premises cleaned	1,500	Office premises cleaned	1,500
			Consultant developing institute strategic plan	Institute strategic plan in place	2250010 Consultancy services - Short term	Services	25,000				12,500	Draft Institute strategic plan developed		Final Institute strategic plan developed	12,500

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Key Activities	Annual Outputs	Expenditure Code/ Description	Input	Annual Budget (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
								Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Payment for 3rd party insurance services	Institute vehicles insured	2260010: Insurances	Insurance Stickers	2,280	Institute vehicles insured	1,140	Institute vehicles insured		Institute vehicles insured	1,140	Institute vehicles insured	
			Institute vehicles and generator served with fuel	Fuel provided for staff travels and operations	2270040 Fuel, Lubricants & Oils	7856 litres of fuels and oils purchased for institute use	33,000	1964 litres of fuels and oils purchased for institute use	8,250	1964 litres of fuels and oils purchased for institute use	8,250	1964 litres of fuels and oils purchased for institute use	8,250	1964 litres of fuels and oils purchased for institute use	8,250
			2 Residential houses habitable	2 Residential houses renovated	2280010 Maintenance -Civil	Assorted	30,000			1 Residential house renovated	15,000			1 Residential house renovated	15,000
			Servicing and repair of vehicles	Roadworthiness of Institute vehicles ensured	2280020: Maintenance - Vehicles	Spare parts, Tyres, Servicing and labour	34,870	Institute vehicles serviced and repaired	8,717	Institute vehicles serviced and repaired	8,717	Institute vehicles serviced and repaired	8,717	Institute vehicles serviced and repaired	8,719
			Repairing of machinery, equipment and furniture	Machinery, equipment and furniture in serviceable condition	2280030: Maintenance - Machinery and equipment	Materials, spare parts and labour	14,547	Machinery, furniture and farm equipment maintained	3,636	Machinery, furniture and farm equipment maintained	3,636	Machinery, furniture and farm equipment maintained	3,636	Machinery, furniture and farm equipment maintained	3,639
TOTAL							653,950		139,881		194,442		125,681		193,946

Annex xci: NaFIRRI GoU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
NaFIRRI	Development of unextruded floating fish feed for sustainable aquaculture production in Uganda	01: Generation of agricultural technologies	2111030 Allowances	Hire, Contract and pay casual labour allowances	Contracted labour hired and paid	7,200	Contracted labour hired and paid	1,800	Contracted labour hired and paid	1,800	Contracted labour hired and paid	1,800	Contracted labour hired and paid	1,800
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	01: Generation of agricultural technologies	2111030 Allowances	Quality assured fish seed produced	Allowances for casual workers	24,000		6,000		6,000		6,000		6,000
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2210060: Committee, Council & Board expenses	Conduct Advisory Committee, Procurement sub-contract committee, Scientific, Finance and other management meetings	Improvement in Institute management through better decisions and linkages with staff, Partners and collaborators.	10,000	i)One Sub Contract Committee, scientific and finance meeting held ii) Three meetings held with collaborators and one staff meeting	2,500	i)One Sub Contract Committee meeting held ii) Three meetings held with collaborators and one staff meeting	2,500	i)One Sub Contract Committee meeting held ii) Three meetings held with collaborators and one staff meeting	2,500	i)One Sub Contract Committee meeting held ii) Three meetings held with collaborators and one staff meeting	2,500

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2210110: Printing Stationery & Binding	Procurement & provision of materials and stationery items for research and management of research activities. Printing and binding of research	Printing services and stationery provided for Institute usage for reporting and operational activities during the year	3,000	Assortment of stationery items (photocopying papers, counter books, pens etc) provided for office usage for three months	1,000	Assortment of stationery items (photocopying papers, counter books, pens etc) provided for office usage for three months	1,000	Assortment of stationery items (photocopying papers, counter books, pens etc) provided for office usage for three months	1,000		
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2220010: Telecommunications	Procurement of telecommunication for efficient communication within and outside the institute	Coordination of research activities within and outside the Organisation. Institute research operations and administrative work effectively implemented	8,200	Telephone services provided to the Institute to enhance better communication & linkage.	2,000	Telephone services provided to the Institute to enhance better communication & linkage.	2,000	Telephone services provided to the Institute to enhance better communication & linkage.	2,000	Telephone services provided to the Institute to enhance better communication & linkage.	2,200
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2230040: Guard and Security Service	Hire of security guards and facilitation of institute own guards on	Institute Assets, premises and staff safeguarded from	5,878	Institute premises and properties safeguarded from	1,500	Institute premises and properties safeguarded from	1,500	Institute premises and properties safeguarded from	1,500	Institute premises and properties safeguarded from	1,378

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		es		public holidays and weekends	Burglary and thefts		burglary and theft		ed from burglary and theft		burglary and theft		burglary and theft	
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2230050: Electricity	Procurement of electricity services to run institute powered installations	Institute research operations in laboratories, freshwater aquarium, feedmill, hatchery and administrative work effectively implemented	14,000	Over 8,000 watts of electricity supplied to the Institute for lighting and use in laboratory and offices	3,500	Over 7,000 watts of electricity supplied to the Institute for lighting and use in laboratory and offices	3,500	Over 7,000 watts of electricity supplied to the Institute for lighting and use in laboratory and offices	3,500	Over 6,000 watts of electricity supplied to the Institute for lighting and use in laboratory and offices	3,500
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2230060: Water	Institute research operations and administrative work effectively implemented	Procurement of water supply and sewerage services for smooth running of institute laboratory and sanitary installations	10,000	Over 1,000 litres of water supplied to the Institute for use including laboratory and office use.	2,500	Over 1,000 litres of water supplied to the Institute for use including laboratory and office use.	2,500	Over 1,000 litres of water supplied to the Institute for use including laboratory and office use.	2,500	Over 1,000 litres of water supplied to the Institute for use including laboratory and office use.	2,500

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Procurement of fish feed ingredients and additives	Fish feed ingredients and packaging material for fish feeds procured	150,000	Fish feed ingredients procured	55,000	Fish feed ingredients procured	40,000	Fish feed ingredients procured	30,000	Fish feed ingredients procured	25,000
Competitive Grant Scheme (CGS)	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Local feed ingredients profiled	Nutritional composition of feed ingredients determined	10,000	Nutritional composition of feed ingredients determined	5,000			Nutritional composition of feed ingredients determined	5,000		
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Quality assured fish seed produced	Improved Nile tilapia and African catfish seed (faster growing) produced	40,000	Wild parental stocked collected and acclimated in ponds on-station and used for selective breeding	12,000	Wild parental stocked collected and acclimated in ponds on-station and used for selective breeding	12,000	Wild parental stocked collected and acclimated in ponds on-station and used for selective breeding	8,000	Wild parental stocked collected and acclimated in ponds on-station and used for selective breeding	8,000
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Quality assured fish seed produced	Selective breeding consumables - tags, hoppers, chest waders, hormones, graders	13,000	Selective breeding programmes for Nile tilapia and the African catfish enhanced	10,000	Selective breeding programmes for Nile tilapia and the African catfish enhanced	3,000				

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	01: Generation of agricultural technologies	2240010: Medical & Veterinary supplies	Quality assured fish seed produced	Broodstock feed ingredients for maintaining broodstock on-station	16,000	Broodstock maintained on-station	16,000						
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2240060 Agricultural Supplies	Conduct analysis of key biological specimens fish, micro and macro flora and fauna	Inventory of endangered species produced and their status updated	44,030	Procurement of one microscope illuminator and its accessories	10,000	Procurement of digital data storage tags for telemetry	20,000	Procurement of digital fish finder with its accessories	7,000	Procurement of one echosounder with its digital display unit	7,030
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2270010: Travel Inland	Conduct agricultural dissemination and scientific review meetings, field assessment visits, monitoring and evaluation activities.	Management, coordination and dissemination of research findings enhanced	7,000	Reports on networking benefits, team building, current tools and technologies evaluation, future tools and technologies exploration produced	1,500	Reports on networking benefits, team building, current tools and technologies evaluation, future tools and technologies exploration produced	1,500	Reports on networking benefits, team building, current tools and technologies evaluation, future tools and technologies exploration produced	1,500	Reports on networking benefits, team building, current tools and technologies evaluation, future tools and technologies exploration produced	2,500

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	1-Research Coordination, Collaboration & partnership	01: Generation of agricultural technologies	2270040: Fuel, Lubricants & Oils	Procurement of Fuels, Oils & lubricants for out board engines	Institute operations and research activities smoothly managed	6,000	300 litres of outboard fuels, Oil and lubricants provided for small boat operations	1,500	300 litres of outboard fuels, Oil and lubricants provided for small boat operations	1,500	300 litres of outboard fuels, Oil and lubricants provided for small boat operations	1,500	300 litres of outboard fuels, Oil and lubricants provided for small boat operations	1,500
					Total: Generation of agricultural technologies	368,308	-	131,800	-	98,800	-	73,800	-	63,908
	2-Research Coordination, Collaboration & partnership	02: Research extension interface promoted and strengthened	2210010: Advertising & Public relations	NaFIRRI research developments shared on the different communication networks. Erecting and repairs of sign posts and directional guides.	Institute visibility and operations enhanced	1,000	Easy accessibility and visibility of institute location enhanced	500	Easy accessibility and visibility of institute location enhanced	500				
	Development of unextruded floating fish feed for sustainable aquaculture production in Uganda	02: Research extension interface promoted and strengthened	2210010: Advertising & Public relations	Developing technology for mass production of insects for use in fish feed development	1. Product development and marketing	5,000	Fish feeds based on insect meal produced	5,000						

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	2-Research Coordination, Collaboration & partnership	02: Research extension interface promoted and strengthened	2210020: Workshops & Seminars	Hold internal review workshops to streamline harmonize and update research techniques	Research techniques updated and key outputs verified	15,000	Research techniques updated and key outputs verified	5,000	Research techniques updated and key outputs verified	5,000	Research techniques updated and key outputs verified	3,000	Research techniques updated and key outputs verified	2,000
Competitive Grant Scheme (CGS)	2-Research Coordination, Collaboration & partnership	02: Research extension interface promoted and strengthened	2210110: Printing Stationery & Binding	Procurement & provision of materials and stationery items for research and management of research activities. Printing and binding of research	Printing services and stationery provided for Institute usage for reporting and operational activities during the year	8,000	Assortment of stationery items (photocopying papers, counter books, pens etc) provided for office usage for three months	2,000	Assortment of stationery items (photocopying papers, counter books, pens etc) provided for office usage for three months	2,000	Assortment of stationery items (photocopying papers, counter books, pens etc) provided for office usage for three months	2,000	Assortment of stationery items (photocopying papers, counter books, pens etc) provided for office usage for three months	2,000
Competitive Grant Scheme (CGS)	Development of unextruded floating fish feed for sustainable aquaculture production in Uganda	02: Research extension interface promoted and strengthened	2240010: Medical & Veterinary supplies	Developing technology for mass production of insects for use in fish feed development	3. Feeding experiments to evaluate effects of feeding insects on performance Tilapia and African catfish	32,000	Ingredients and supplies procured and experiments on feed development set up	10,000	Feeding experiments and data collection	15,000	Continuation of feeding experiment	7,000		

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
					Total: Research extension interface promoted and strengthened	61,000	-	22,500	-	22,500	-	12,000	-	4,000
	2- Improvement of Human Resource Management and capability	04: Agricultural research capacity strengthened	2111030: Allowances	Payment to locally sourced labour to support under staffed areas of research and management	Improved and better managed ponds, cage sites, office and research activities.	11,000	12 members of staff working in the pond,cage site and office paid salaries/w ages.	2,750	12 members of staff working in the pond,cage site and office paid salaries/ wages.	2,750	12 members of staff working in the pond,cage site and office paid salaries/wa ges.	2,750	12 members of staff working in the pond,cage site and office paid salaries/w ages.	2,750
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2210010: Advertising & Public relations	Feed development technologies disseminated	Dissemination of technologies at agricultural shows/exhibitions to promote the commercial feed	1,893	Developed technologies disseminated	500	Developed technologies disseminated	500	Developed technologies disseminated	500	Developed technologies disseminated	393
	2- Improvement of Human Resource Management and capability	04: Agricultural research capacity strengthened	2210060: Committee, Council & Board expenses	Conduct Advisory Committee, Procurement sub-contract committee, Scientific, Finance and other	Improvement in Institute management through better decisions and	10,000	i)One Sub Contract Committee, scientific and finance meeting held	2,500	i)One Sub Contract Committee meeting held ii) Three meetings held with	2,500	i)One Sub Contract Committee meeting held ii) Three meetings held with collaborator	2,500	i)One Sub Contract Committee meeting held ii) Three meetings held with collaborator	2,500

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				management meetings	linkages with staff, Partners and collaborators.		ii) Three meetings held with collaborators and one staff meeting		collaborators and one staff meeting		s and one staff meeting		rs and one staff meeting	
	2-Improvement of Human Resource Management and capability	04: Agricultural research capacity strengthened	2210070: Books & Periodicals	Procurement of books, newspapers, Journals etc, for improved scientific and current information appreciation	Provision of reading materials on ways of improving fish production and research management	1,000	200 copies of newspapers, 4 books journal & brochures purchased and put in Library for information needs	250	200 copies of newspapers, 4 books journal & brochures purchased and put in Library for information needs	250	200 copies of newspapers, 4 books journal & brochures purchased and put in Library for information needs	250	200 copies of newspapers, 4 books journal & brochures purchased and put in Library for information needs	250
	3-Research dissemination and linkages	04: Agricultural research capacity strengthened	2210090: Welfare & Entertainment	Procurement and provision of teas and refreshments to staff and institute guests and collaborators	Staff motivation and performance enhanced	8,000	Break Teas and refreshments provided to staff, guests and collaborators during the quarter.	2,000	Teas and refreshments provided to staff, guests and collaborators during the quarter.	2,000	Teas and refreshments provided to staff, guests and collaborators during the quarter.	2,000	Teas and refreshments provided to staff, guests and collaborators during the quarter.	2,000
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2230050: Electricity	Payment of outstanding electric bills	Electric bill arrears cleared	9,000	Electric bill arrears cleared	9,000						

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2230060: Water	Water connection works and plumbing for tilapia hatchery	Water works completed and tested	10,000	Water works completed and tested	10,000						
	8-Institute maintenance	04: Agricultural research capacity strengthened	2240040: Cleaning & sanitation	Procurement of cleaning services for compounds, offices and laboratories	An healthy and Hyegine working environment for staff maintained	16,000	Institute premises maintained	4,000	One Institute Office building, one laboratory and Compound Cleaned	4,000	One Institute Office building, one laboratory and Compound Cleaned	4,000	One Institute Office building, one laboratory and Compound Cleaned	4,000
	Development of unextruded floating fish feed for sustainable aquaculture production in Uganda	04: Agricultural research capacity strengthened	2240060: Agricultural supplies	Developing technology for mass production of insects for use in fish feed development	2. Insect larvae & Insect meal for use in fish feeds development produced	55,000	Nutritional composition of insects with potential for use in fish feed development determined	15,000	Facilities and substrates for mass production of insects procured and set up	15,000	Facilities and substrates for mass production of insects tested and cost effective ones setup for commercial production of insects	15000	New feed with insects as the main source of protein developed and disseminated	10,000
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2250010: Consultancy services-short Term	Here consultancy services for fabrication, serialization and connection of backup power and	Standby and back up connection of hatchery system serialized and	30,000	Standby and back up connection of hatchery system serialized and	30,000						

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				linkage to the main line	maintained		maintained							
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2250010: Consultancy services-short Term	Consultancy from the company that installed existing equipment to carryout pre-testing and trials including training on operation and maintenance	the hatchery system tested, operation manuals provided and training on operation and management done	60,000	the hatchery system tested, operation manuals provided and training on operation and management done	60,000						
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2250010: Consultancy services-short Term	Hire consultancy services for installation, testing and training users in hatchery aeration system	Functional hatchery aeration system installed and capacity of users built	60,000	Functional hatchery aeration system installed and capacity of users built	60,000						
Competitive Grant Scheme (CGS)	4-Institute Operational activities	04: Agricultural research capacity strengthened	2260010: Insurance Vehicles	Procurement of third party Insurance for motor vehicles	Institute motor vehicles insured against third party risks and adhering to traffic regulations.	2,080	3 Institute vehicles insured against third party risks	600	3 Institute vehicles insured against third party risks	600	3 Institute vehicles insured against third party risks	400	3 Institute vehicles insured against third party risks	480

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	4-Institute Operational activities	04: Agricultural research capacity strengthened	2270010: Travel Inland	Attend meetings with collaborators and partners, monitor research activities, disseminate key findings to diverse array of stakeholders	Research collaborative linkages strengthened, Research activities monitored and validated, key findings delivered to uptake pathways	15,000	Research collaborative linkages strengthened, Research activities monitored and validated, key findings delivered to uptake pathways	5,000	Research collaborative linkages strengthened, Research activities monitored and validated, key findings delivered to uptake pathways	5,000	Research collaborative linkages strengthened, Research activities monitored and validated, key findings delivered to uptake pathways	3,000	Research collaborative linkages strengthened, Research activities monitored and validated, key findings delivered to uptake pathways	2,000
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2270010: Travel Inland	Quality assured fish seed produced	Travel inland for collection of broodstock for selective breeding	13,000		4,000		3,000		3,000		3,000
	4-Institute Operational activities	04: Agricultural research capacity strengthened	2270040: Fuel, Lubricants & Oils	Procurement of Fuels, Oils & lubricants for Institute Vehicles, Generators and marine vessels	Institute operations and research activities smoothly managed	20,000	1000 litres of heavy fuels, Oil and lubricants provided for vehicles, generators and research vessels	5,000	1000 litres of heavy fuels, Oil and lubricants provided for vehicles, generators and research vessels	5,000	1000 litres of heavy fuels, Oil and lubricants provided for vehicles, generators and research vessels	5,000	1000 litres of heavy fuels, Oil and lubricants provided for vehicles, generators and research vessels	5,000
	Enhancement of fish seed and feed production	04: Agricultural research capacity	2270040: Fuel, Lubricants & Oils	Quality assured fish seed produced	Fuel, oils and lubricants for	9,000	600 litres of outboard fuels, Oil	3,000	600 litres of outboard fuels, Oil	3,000	600 litres of outboard fuels, Oil and	1,500	600 litres of outboard fuels, Oil	1,500

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	and productivity at NaFIRRI - ARDC	strengthened			selective breeding and feed mill operation		and lubricants provided for small boat operations		and lubricants provided for small boat operations		lubricants provided for small boat operations		and lubricants provided for small boat operations	
	4-Institute Operational activities	04: Agricultural research capacity strengthened	2280010: Maintenance - Civil	Repair and maintenance of NaFIRRI Parking yard	Institute parking yard maintained	9,000	Portion of lowerNaFIRRI Parking yard repaired and maintained	3,000	Portion of lowerNaFIRRI Parking yard repaired and maintained	2,000	Portion of upper NaFIRRI Parking yard repaired and maintained	2,000	Portion of upper NaFIRRI Parking yard repaired and maintained	2,000
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2280010: Maintenance - Civil	Pump house reconstruction	Pump installed, functional and protected	16,000	Pump installed, functional and protected	16,000						
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2280010: Maintenance - Civil	Repair of ponds	12 Ponds repaired	40,000	4 production and research ponds repaired	20,000	4 production and research ponds repaired	10,000	4 production and research ponds repaired	10,000		
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2280010: Maintenance - Civil	Repair of concrete tanks	20 concrete tanks rehabilitated	60,000	Research concrete tanks repaired	60,000						

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	4-Institute Operational activities	04: Agricultural research capacity strengthened	2280020: Maintenance - Vehicles	Procurement of tyres, and vehicle repairs and maintenance	Institute motor vehicle fleet maintained to support Research and management activities	20,670	2 Institute vehicles repaired, serviced and fitted with tyres to support Institute activities	10,000	2 Institute vehicles repaired, serviced and fitted with tyres to support Institute activities	5,000	3 Institute vehicles repaired, serviced and fitted with tyres to support Institute activities	3,000	3 Institute vehicles repaired, serviced and fitted with tyres to support Institute activities	2,670
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2280020: Maintenance - Vehicles	Vehicle maintenance	Study project Vehicles serviced and repaired	20,000	Study project Vehicles serviced and repaired	5,000	Study project Vehicles serviced and repaired	5,000	Study project Vehicles serviced and repaired	5,000	Study project Vehicles serviced and repaired	5,000
	4-Institute Operational activities	04: Agricultural research capacity strengthened	2280030: Maintenance - Machinery & Equipment	Repair and maintenance NaFIRRI Research vessels (winch, motors, anchors)	Research vessels maintained and functional	4,577	Research vessels maintained and functional	2,000	Research vessels maintained and functional	2,577				
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2280030: Maintenance - Machinery & Equipment	Repair of excavator for use in pond repairs	Excavator repaired and serviced	10,000	Excavator repaired and serviced	10,000						

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	04: Agricultural research capacity strengthened	2280030: Maintenance - Machinery & Equipment	Feed mill maintained	worn out machinery parts replaced	44,000	Feed mill repaired and maintained	18,000	Feed mill repaired & maintained	15,000	Feed mill repaired & maintained	5,500	Feed mill repaired & maintained	5,500
	4-Institute Operational activities	04: Agricultural research capacity strengthened	2731020: Incapacity	Provision of medical & Other support to staff affected by illness or loss of life	Staff members supported in cases on death or incapacitation	2,372	Staff members supported in cases on death or incapacitation	593	Staff members supported in cases on death or incapacitation	593	Staff members supported in cases on death or incapacitation	593	Staff members supported in cases on death or incapacitation	593
Total: Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC						557,592	-	162,193	-	56,770	-	38,993	-	27,743
Total: Recurrent Budget						986,900	-	316,493	-	178,070	-	124,793	-	95,651

Annex xcii: NaFORRI GoU Recurrent work plan and budget for FY 2019/20

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		01: Generation of Agricultural technologies	Holding contract, advisory, Report writing, management and finance and budget committee meetings	2210060	Improved governance through 4 contract, 4 advisory, 4 report writing, 4 management committee, 4 finance and budget committee meetings	4,000	Filed and off Institute activities kept on track	1,000	Filed and off Institute activities kept on track	1,000	Filed and off Institute activities kept on track	1,000	Filed and off Institute activities kept on track	1,000
			Field monitoring and reports submission	2270010	Value for money ascertained through onspot visits in experiment / trial areas and various financial/administrative reports submitted for decision making	12,000	Assorted herbicides procured	3,000	Assorted herbicides procured	3,000	Assorted herbicides procured	3,000		3,000
			Herbicides	2240060	Management of research trials at Kifu research forest improved	17,450		10,000		-	Information on effect of resin tapping from pine availed	7,450		-
				2240060	Effect of resin tapping on productivity and profitability of pine plantations determined	17,250		-		-		17,250		
			Branding and packaging materials	2240060		3,100	2000 packets of improved fire lighters from sawdust produced and	900	2000 packets of improved fire lighters from sawdust produced and	700	2000 packets of improved fire lighters from sawdust produced and	1,500		

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
							disseminated		disseminated		disseminated			
			Raw materials (Sawdust, wax, packaging materials)	2240060		4,500	2 Wood waste products produced	2,300	2 Wood waste products produced			2,200	2 Wood waste products produced	
			Raw materials (Wood waste,	2240060		3,700	200 Leaf/tissue samples of 10 priority beneficial tree species collected	900	200 Leaf/tissue samples of 10 priority beneficial tree species collected	1,900				900
			Collect tree leaf/tissue samples of 10 priority tree species	2270010	200 samples of priority tree species collected	8,100	Assorted inputs for collecting and processing leaf samples procured	8,100	Assorted inputs for collecting and processing leaf samples procured	-		-		-
				2240060		6,600		6,600		-		-		-
			Genetic fingerprinting	2240060	Genetic diversity and molecular variation determined	8,500		-		8,500		-	Nursery supplies for operations available	-
			Collect nursery materials for greenhouse/general nursery/Tree Biotechnology nursery	2240060	Number of greenhouses and nurseries functional by quarter 2	7,400		-		3,900		-	Erect nursery structure	3,500
			Construction of nursery beds/sheds/tunnels/benches	2111030		13,000	Healthy growing plants in the nurseries		Healthy growing plants in the nurseries	6,500	Healthy growing plants in the nurseries		Healthy growing plants in the nurseries	6,500

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Watering in the general nursery/ greenhouse/TBP	2111030		12,500	400 cubic metres of soil mixed	3,125	400 cubic metres of soil mixed	3,125	400 cubic metres of soil mixed	3,125	500,000 pots filled with soil	3,125
			Soil mixing, pot filling and sowing	2111030		5,000	500,000 plantlets transferred for hardening off in the nurseries	800	500,000 plantlets transferred for hardening off in the nurseries	1,600		1,200	500,000 plantlets transferred for hardening off	1,400
			Transferring to pots	2111030		8,700	Plants in the nurseries free of pests and diseases	4,350	Plants in the nurseries free of pests and diseases		Plants in the nurseries free of pests and diseases		Plants in the nurseries free of pests and diseases	4,350
			Pest and disease management	2240060		3,900	Plant parts selected collected for tissue culture	1,025	Plant parts selected collected for tissue culture	1,025	Plant parts selected collected for tissue culture	1,025	Plant parts selected collected for tissue culture	825
			Selecting germplasm/samples	2270010		8,450	10 culture samples prepared for testing	1,250	10 culture samples prepared for testing	4,700	10 culture samples prepared for testing	1,250	10 culture samples prepared for testing	1,250
				2240060		8,000		2,000		2,000		2,000		2,000
				2111030		11,650		3,000		3,062		3,606		1,982
			Preparing cultures	2240060		14,500	500,000 tissues cultured	4,900	500,000 tissues cultured	3,200	500,000 tissues cultured	3,200	500,000 tissues cultured	3,200
			Culturing the tissues	2240060		10,850	500,000 plants placed in the growth chambers	4,350	500,000 plants placed in the growth chambers	2,500	500,000 plants placed in the growth chambers	2,200	500,000 plants placed in the growth chambers	1,800
			Growing the plantlets	2240060		11,750	500,000 plantlets of priority species	4,500	500,000 plantlets of priority species	2,375	2222 seedlings of priority species	2,775	2222 seedlings of priority species	2,100
			Hardening-off of plantlets	2240060		11,575		3,850		2,675		2,500		2,550

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
							hardened for second season planting		hardened for second season planting		hardened for second season planting		hardened for second season planting	
				2111030		2,250	5 acres of land cleared for planting		5 acres of land cleared for planting		5 acres of land cleared for planting	1,125		1,125
			Land clearing	2111030	Number of mother gardens of priority tree species established by quarter 4	3,400	priority tree species seedlings		priority tree species seedlings		priority tree species plantlets	3,400		
				2270010		1,000					1,000			
				2240060		11,700	Plants growing definite line	8,300	Plants growing definite line		Plants growing definite line	3,400		
			Lining out Pitting and planting out	2111030		2,000	arrangement in the mother garden		arrangement in the mother garden		arrangement in the mother garden	2,000		
				2270010		1,250					1,250			
				2240060		7,500	Plants in mother garden free of bushes and pests and diseases	5,000	Plants in mother garden free of bushes and pests and diseases		Plants in mother garden free of bushes and pests and diseases	2,500		
				2111030		1,500		-				1,500		
				2270010		1,200		-				1,200		
				2240060		7,725	Assorted fuels and lubricants acquired	5,000	Assorted fuels and lubricants acquired		assorted lubricants and fuels acquired	2,725		
				2270040		12,000		6,000				6,000		
					Total: Generation of agric. Technologies	264,000		90,250		51,762		81,381		40,607
		02: Research Extensi		2210070		1,472		368		368		368		368
				2210020		4,750		3,000		1,750				

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		on Interface Enhanced		2210020		5,000	2 news letter articles produced and published	2,500	2 news letter articles produced and published	2,500	3 news letter articles produced and published			
				2210010		11,000	Materials for literature review recorded and backed up	5,000	Materials for literature review recorded and backed up		6,000			
			Preparing propagation protocols	2210080		9,500		4,500		5,000				
					Total: Extension Interface	31,722		15,368		9,618		6,368		368
		04: Agricultural Research Capacity Strengthened	Organising and participating in public events; Publications	2210010	NaFORRI visibility and partnerships enhanced	6,000	One committee meeting held and recommendation made	1,500	One committee meeting held and recommendation made	1,500	One committee meeting held and recommendation made	1,500	One committee meeting held and recommendation made	1,500
			Holding contract, advisory, Report writing, management and finance and budget committee meetings	2210060	Improved governance through 4 contract, 4 advisory, 4 report writing, 4 management committee, 4 finance and budget committee meetings	10,000	Assorted stationery(photocopying papers, pens, counter books etc) purchased	2,500	Assorted stationery(photocopying papers, pens, counter books etc) purchased	2,500	Assorted stationery(photocopying papers, pens, counter books etc) purchased	2,500	Assorted stationery(photocopying papers, pens, counter books etc) purchased	2,500
			Procuring of assorted printing/stationary for office and field use	2210110	Various reports availed for improved decision taking	6,000	Telephone connectivity provided for Institute usage	1,500	Telephone connectivity provided for Institute usage	1,500	Telephone connectivity provided for Institute usage	1,500	Telephone connectivity provided for Institute usage	1,500

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Procuring of airtime and maintenance of communication hardware	2220010	Efficient communication maintained with 2 functional telephones lines and 30 intercom network	2,000	Internet connectivity maintained	500	Internet connectivity maintained	500	Internet connectivity maintained	500	Internet connectivity maintained	500
			Subscribing for internet and software updates and maintenance	2220030	Reliable internet available for research and support services	1,528	Institute Assets and Staff safeguarded from thefts and burglary	382	Institute Assets and Staff safeguarded from thefts and burglary	382	Institute Assets and Staff safeguarded from thefts and burglary	382	Institute Assets and Staff safeguarded from thefts and burglary	382
			Provision of security services to protect Institute assets and activity sites	2230040	Safety of Institute assets and activity sites ensured	12,000	Electricity provided for Institute usage	3,000	Electricity provided for Institute usage	3,000	Electricity provided for Institute usage	3,000	Electricity provided for Institute usage	3,000
			Procuring of electricity units	2230050	Reliable power supplied for running institute operations	49,450	Clean and healthy work environment maintained	12,362	Clean and healthy work environment maintained	12,363	Clean and healthy work environment maintained	12,363	Clean and healthy work environment maintained	12,362
			Compound and office cleaning	2240040	10000sq meters of compound maintained	14,000	Fuel provided for Institute travels and operations	3,500	Fuel provided for Institute travels and operations	3,500	Fuel provided for Institute travels and operations	3,500	Fuel provided for Institute travels and operations	3,500
			Procuring fuel, oils and other lubricants for coordination of research activities	2270040	8,000 lts of fuel available to facilitate Staff mobility	12,000	Institute vehicles maintained	3,000	Institute vehicles maintained	3,000	Institute vehicles maintained	3,000	Institute vehicles maintained	3,000
			Repair and service of vehicles	2280020	8 vehicles kept in road worthy condition and insured	10,000	Institute Equipments maintained	2,500	Institute Equipments maintained	2,500	Institute Equipments maintained	2,500	Institute Equipments maintained	2,500

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Repairing and servicing of office equipment	2280030	4 computers, 3 servers, 1 scanner, 2 network switches, photocopiers, 3 projectors fully functional and carpentry machinery	5,050		1,263		1,263	An improved cooking stove that can efficiently utilise charcoal dust developed	1,263		1,263
			Moulding and fabricating materials (hardware)	2240060		18,000				11,000		7,000		
			Scions	2240060		4,500	16 acres of land ploughed	1,125	16 acres of land ploughed	1,125	16 acres of shea tree orchard weeded	1,125		1,125
			Ploughing/harrowing	2240060	Shea tree breeding seed orchards established at Ngetta ZARDI and NaSARRI	4,550	42,000 clonal eucalypt plantlets produced	1,800	42,000 clonal eucalypt plantlets produced	1,400	42,000 clonal eucalypt plantlets produced	1,350	42,000 clonal eucalypt plantlets produced	
			Root hormones, polythene tubes, agric seeds, forest soils, fertilizers, grafting knives etc	2240060	168,000 high quality clonal eucalypt plantlets raised	8,000	100,000 seedlings of various plantation species and trees for other use values produced under nursery conditions	2,000	100,000 seedlings of various plantation species and trees for other use values produced under nursery conditions	2,000	100,000 seedlings of various plantation species and trees for other use values produced under nursery conditions	2,000		2,000

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Seeds, polythene tubes, fertilizers, soil, and other nursery inputs	2240060	200,000 seedlings of various plantation species and trees for other use values produced under nursery conditions	5,500	Lab and carpentry machinery maintained	2,500	Lab and carpentry machinery maintained	1,500	Lab and carpentry machinery maintained	1,500	Lab and carpentry machinery maintained	
			Services	2280030	Lab and Carpentry machinery functional	30,950	10 families of key Pest and Pathogens collected	9,000	10 families of key Pest and Pathogens collected	9,500	10 families of key Pest and Pathogens collected	7,000		5,450
			Collect Key pests and diseases of priority tree species under multiplication	2111030	Tree pests and disease protocols and diagnostic kits developed	2,000		1,000				1,000		
				2240060		-		-		-		-		-
				2270010		3,000		1,500				1,500	10 families of Key Pest and Pathogens identified	
			Identifying Key pests and diseases of priority tree species	2240060		-		-		-		-	50 Specimens Preserved	-
			Preserving Specimens	2240060		-		-		-		-	Database of Key pests and diseases	-
			Developing a database of Key pests and diseases	2250010		4,000				2,000			Diagnostic kits for Key pests and pathogens developed	2,000

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Develop a disease and pest diagnostic kit	2250010		7,000								7,000
			DNA extraction	2250010	DNA profile of priority tree species generated	26,000		-		26,000				-
			Training of staff in use of diagnostic kits	221003		7,000				7,000			Key pest/pathogen identification manuals	
			Development of identification manuals for key pests	2210110		3,000	Rearing Cages established		Rearing Cages established				Production of protocols for managing the key pests and pathogens	3,000
			Culturing/Rearing Pests and Pathogens for production of protocols	2240060		-		-		-		-		-
				2111030		2,000		1,000					Host Pests/Pathogens for control trials	1,000
				2240060		-		-		-		-		-
				2111030		3,500				2,000	Appropriate Control options for Pests and Pathogens		Appropriate Control options for Pests and Pathogens	1,500
			Conduct tests to manage the pests and pathogens	2270010		10,000	Per-diem and fuel		Per-diem and fuel			5,000		5,000
				2270010		8,000				4,000		4,000		
				2240060		-		-		-		-		-
				2210060		-								
				2270010		2,000								2,000
				2270010			Research		Research		Research		Research	

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
						4,700	and management Agenda coordinated and implemented	2,175	and management Agenda coordinated and implemented	1,425	and management Agenda coordinated and implemented	1,100	and management Agenda coordinated and implemented	-
			Attend management meetings and coordinate research Agenda	2111030	Research and management Agenda coordinated and implemented	3,500	Functional computers availed for research work	1,000	Functional computers availed for research work	1,000	Functional computers availed for research work	1,000	Functional computers availed for research work	500
			Provide Computers accessories, Anti Viruses and maintenance	2210080	Functional computers availed for research work	4,000	Stationery /printing and information provided to support Institute functions	1,000	Stationery /printing and information provided to support Institute functions	1,000	Stationery /printing and information provided to support Institute functions	1,000	Stationery /printing and information provided to support Institute functions	1,000
			Procure stationary and printing services for reporting and management operations	2210110	Stationery /printing and information provided to support Institute functions	4,000	Research and institute activities better coordinated	1,000	Research and institute activities better coordinated	1,000	Research and institute activities better coordinated	1,000	Research and institute activities better coordinated	1,000
			Provision of vehicle repairs to support fuels, oils and lubricants to support management and coordination of research	2280020	Research and institute activities better coordinated	13,500	Functional greenhouse	3,500	Functional greenhouse	3,500	Functional greenhouse	4,000		2,500
			Repair and maintenance of greenhouses	2280010		5,500	Functional clonal tree nursery	3,000	Functional clonal tree nursery	1,000	Functional clonal tree nursery	1,500		

Programme/Directorate	Projects/Units	Vote Function Output	Annual Key Activities	Code	Annual Outputs	Annual Cost (000)	Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
							Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Repair and maintenance of clonal tree nursery	2280010		5,500	Functional general nursery	3,000	Functional general nursery	1,000	Functional general nursery	1,500	Functional general nursery	
			Repair and maintenance of general nursery	2280010		1,000	Lab. Fixtures		Lab. Fixtures	500	Lab. Fixtures	500	Lab. Fixtures	
			Preparing tissue samples	2280030		18,000		4,000		5,500		5,000		3,500
				2270040		3,000	Research management improved	750	Research management improved	750	Research management improved	750	Research management improved	750
			Total: Agric. Capacity Strengthened			349,728		73,857		118,708		83,333		73,832
			Total: Recurrent			645,450		179,475		180,088		171,082		114,807

Annex xciii: NaLIRRI GoU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Outputs	Annual Key Activities	Codes	Codes description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
NaLIRRI- Administration		Generation of agricultural technologies	Institute staff connected to telecommunication services throughout the year	Pay telecommunication services	2220010	Telecommunications	2,000	Institute staff connected to telecommunication services in quarter one	500	Institute staff connected to telecommunication services in quarter two	500	Institute staff connected to telecommunication services in quarter three	500	Institute staff connected to telecommunication services in quarter four	500
			Institute property kept secure throughout the year	Pay for security services	2230040	Guard and Security services	4,000	Institute property kept secure in quarter one	1,000	Institute property kept secure in quarter two	1,000	Institute property kept secure in quarter three	1,000	Institute property kept secure in quarter four	1,000
			Various field travels and coordination activities executed	Travel to fields to monitoring, supervision and evaluation and to various stations for official work	2270010	Travel inland	7,000	Various coordination activities including attending workshops and meetings executed in quarter 2	1,750	Various coordination activities including attending workshops and meetings executed in quarter 2	1,750	Various coordination activities including attending workshops and meetings executed in quarter 3	1,750	Various coordination activities including attending workshops and meetings executed in quarter 4	1,750
			Vehicles fueled and lubricated	Procure Fuel, Lubricants and oils	2270040	Fuel, Lubricants & Oils	6,560	Vehicles fueled and lubricated in quarter 1	1,500	Vehicles fueled and lubricated in quarter 2	1,500	Vehicles fueled and lubricated in quarter3	1,500	Vehicles fueled and lubricated in quarter 4	2,060
		Agricultural Research	Payment of contract staff salaries	Wages to contract workers paid	2111030	Contract labour	11,000	Wages to contract workers paid	3,000	Wages to contract workers paid	3,000	Wages to contract workers paid	3,000	Wages to contract workers paid during	2,000

Program/ Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Outputs	Annual Key Activities	Codes	Codes description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		rch capacity strengthened		throughout the year				during the first quarter		during the second quarter		during the third quarter		the fourth quarter	
			Institute products and services needed advertised and institute image improved	Advertising and public relations	2210010	Advertising and public relations	2,000	Institute products and services needed advertised and institute image improved in quarter 1	500	Institute products and services needed advertised and institute image improved in quarter 2	500	Institute products and services needed advertised and institute image improved in quarter 3	500	Institute products and services needed advertised and institute image improved in quarter 4	500
			Advisory committee and other institute committee meetings expenses paid for throughout the year	Payment for advisory committee meeting expenses	2210060	Committee, Council and Board expenses	6,000	Advisory committee and other institute committee meetings expenses paid for quarter one	1,500	Advisory committee and other institute committee meetings expenses paid for quarter two	1,500	Advisory committee and other institute committee meetings expenses paid for quarter three	1,500	Advisory committee and other institute committee meetings expenses paid for quarter four	1,500
			Books, periodicals and Newspapers procured	Books, periodicals and Newspapers procured	2210070	Books, Periodicals & Newspapers	240	Books, periodicals and Newspapers procured	60	Books, periodicals and Newspapers procured	60	Books, periodicals and Newspapers procured	60	Books, periodicals and Newspapers procured	60
			Institute staff supplied with computer consumables	Procure computer accessories including toner, diskettes,	2210080	Computer Supplies & IT Service	4,000	Institute staff supplied with computer consumables in	1,000	Institute staff supplied with computer consumables in	1,000	Institute staff supplied with computer consumables in	1,000	Institute staff supplied with computer consumables in quarter	1,000

Program/ Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Outputs	Annual Key Activities	Codes	Codes description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				memory sticks and extra drives				quarter 1		quarter 2		quarter 3		4	
			Printing,stationary and binding services provided and maintained	Printing,stationery and binding services provided and maintained	2210110	Printing, Stationery, Binding	6,000	Printing,stationery and binding services provided and maintained	1,500	Printing,stationery and binding services provided and maintained	1,500	Printing,stationery and binding services provided and maintained	1,500	Printing,stationery and binding services provided and maintained	1,500
			Institute tools procured and supplied	Procure small equipment for office maintenance	2210120	Small Office Equipment	3,000	Institute tools procured and supplied	1,500	Institute tools procured and supplied		Institute tools procured and supplied	1,500	Institute tools procured and supplied	
			Institute connected to internet throughout theyear	Pay monthly internet services , E-mail and LAN services	2220030	Information Communication Technology	6,850	Internet services , E-mail and LAN services paid for in quarter 1	1,700	Internet services , E-mail and LAN services paid for in quarter 2	1,700	Internet services , E-mail and LAN services paid for in quarter 3	1,700	Internet services , E-mail and LAN services paid for in quarter 4	1,750
			Institute offices and environment maintained clean	Maintaining of a clean working environment at the institute	2240040	Cleaning and Sanitation	4,000	Sanitary materials procured and paid for	1,000	Sanitary materials procured and paid for	1,000	Sanitary materials procured and paid for	1,000	Sanitary materials procured and paid for	1,000
			Insurance for institute	10 Institute vehicle	2260010	Insurances	1,280	Institute vehicle insured	384	Institute vehicle insured	640	Institute vehicle insured		Institute vehicle insured	256



Program/ Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Outputs	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Codes	Codes description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			vehicles	insured											
			Institute compound , road verges and administrative blocks maintained	Institute compound and administrative blocks maintained	2280010	Maintenance - Civil	4,000	Institute compound and administrative blocks maintained	1,000	Institute compound and administrative blocks maintained	1,000	Institute compound and administrative blocks maintained	1,000	Institute compound and administrative blocks maintained	1,000
			2 institute vehicles maintained	Payment for Institute vehicle maintenance	2280020	Maintenance - Vehicles	8,070	3 Institute vehicles maintained	2,000	2 Institute vehicles maintained	2,000	01 Institute vehicles maintained	2,070	02 Institute vehicles maintained	2,000
							76,000		19,894		18,650		19,580		17,876



Annex xciv: NaSARRI GoU Recurrent work plan and budget for FY 2019/20

Program /Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Workplan and Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Item code	Budget item	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Cotton	Development of cotton varieties with long fibres, tolerant to drought, major insect pests and wilt diseases	Generation of agricultural technologies	evaluation of advanced cotton lines for yield and fibre quality attributes	15 lines evaluated at multilocation sites for yield and quality attributes	2270010	Travel inland	8,000	first data collection set on agronomic parameters collected (days to aquaring and days to flowering)	2,000	second data collection set on agronomic parameters collected (boll size and shape, gossypol pigmentation days to boll barst)	2,000	post harvest data on yield related parameters collected . Data analysis and presentation of results	2,000	Experiments on screening of sorghum germplasm against stemborer established onstation / screenhouse / Laboratory b). Data on the effect of seed dressing insecticides against shootflies collected and analysed	2,000
					2270040	Fuel, Lubricants & Oils	3,000		750		750		750		
			Sub Total - cotton				11,000		2,750		2,750		2,750		2,750
Dry land grain legumes programme	Development of drought tolerant and early maturing greengram varieties and integrated crop management options that increase productivity		Maintaining and cleaning of greengram stores and laboratories	Greengram stores and laboratories well maintained and kept cleaned	2270010	Travel inland	8,000	Greengram stores and laboratories well maintained and kept cleaned	2,000	Greengram stores and laboratories well maintained and kept cleaned	2,000	Greengram stores and laboratories well maintained and kept cleaned	2,000	Greengram stores and laboratories well maintained and kept cleaned	2,000
					2270040	Fuel, Lubricants & Oils	3,000		750		750		750		
			Sub Total -grain legumes				11,000		2,750		2,750		2,750		2,750
SUB-TOTAL Generation of agricultural technologies							22,000	-	5,500	-	5,500	-	5,500	-	5,500

Program /Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Workplan and Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Item code	Budget item	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
NaSARRI Administration	NaSARRI Administration	Agricultural research capacity strengthened	Compound and offices kept clean	At least 14 acres of compound mowed and 12 office blocks cleaned	2111020	contract casual labour	8,000	wages paid to contracted staff	2,000	wages paid to contracted staff	2,000	wages paid to contracted staff	2,000	wages paid to contracted staff	2,000
			Procurement of sanitation items	A clean environment for research activities	2260040	Sanitation & cleaning	4,000	A clean environment for research activities	1,000	A clean environment for research activities	1,000	A clean environment for research activities	1,000	A clean environment for research activities	1,000
			Placement of pullout news supplements in both local and national media, acquisition of airtime to disseminate positive information about the Institute activities and achievements	Informed stakeholders maintained and NaSARRI's Corporate Image protected	2210010	Advertising & public relations	4,000	Informed stakeholders maintained, public relations and the institute's corporate image protected.	1,000	Informed stakeholders maintained, public relations and the institute's corporate image protected.	1,000	Informed stakeholders maintained, public relations and the institute's corporate image protected.	1,000	Informed stakeholders maintained, public relations and the institute's corporate image protected.	1,000
			Acquisition of stationery for office use	enhanced office operations	2210110	Printing & stationery	4,000	enhanced office operations	1,000	enhanced office operations	1,000	enhanced office operations	1,000	enhanced office operations	1,000
			Acquisition of books; periodicals and newspapers	An informed society	2210070	Books, Periodicals & Newspapers	2,000	An informed society	500	An informed society	500	An informed society	500	An informed society	500
			Telephone bills paid	Telephone bills paid	2220010	Telecommunication	4,000	Telephone bills paid	1,000	Telephone bills paid	1,000	Telephone bills paid	1,000	Telephone bills paid	1,000
			Utility bills for electricity paid.	Electricity bills paid.	2230050	Electricity	8,000	Electricity bills paid.	2,000	Electricity bills paid	2,000	Electricity bills paid	2,000	Electricity bills paid	2,000

Program /Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Workplan and Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Item code	Budget item	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			settlement of security services for the institute	guarding services	2230060	Guard & security services	5,000	Guard & security bills settled	1,250	Guard & security bills settled	1,250	Guard & security bills settled	1,250	Guard & security bills settled	1,250
			Strategic and operational decisions enhanced	At least two advisory meetings conducted, 16 committee meetings conducted	2210060	committee, council and board meetings	5,000	One committee meeting conducted	2,500			One committee meeting conducted	2,500		
			Procurement of welfare items for staff	Productivity of staff enhanced	2210090	Welfare & Entertainment	4,000	tea items provided to staff	1,000	tea items provided to staff	1,000	tea items provided to staff	1,000	tea items provided to staff	1,000
			Vehicles provided with third party insurance to ensure adherence to regulations	transport services provided without interference	2260010	Insurance cover	1,200	Insurance cover	300	Insurance cover	300	Insurance cover	300	Insurances	300
			General servicing and repairs of vehicles and motorcycles	Enhanced capacity to conduct and monitor research	2280020	Maintenance - Vehicles	4,800	Institute vehicles repaired and serviced	1,200	Institute vehicles repaired and serviced	1,200	Institute vehicles repaired and serviced	1,200	Institute vehicles repaired and serviced	1,200
			procurement of burial services to deceased staff and next of kin	Deceased staff provided with decent burial	2731020	Incapacity, death benefits and Funeral costs	4,000	Deceased staff provided with decent burial	1,000	Deceased staff provided with decent burial	1,000	Deceased staff provided with decent burial	1,000	Deceased staff provided with decent burial	1,000
SUB-TOTAL Agricultural research capacity strengthened							58,000	-	15,750	-	13,250	-	15,750	-	13,250
TOTAL RECURRENT BUDGET							80,000		21,250		18,750		21,250		18,750

Annex xcv: NARL GoU Recurrent work plan and budget for FY 2019/20

Directorate/ Program	Project Name	Vote function/ Output	Expenditure Code/ description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key activities	Annual Outputs	Budget '000	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)
NARL		Generation of agricultural Technologies	2111030: Allowances	Payment of hired labour	Smooth management of contract staff	25,000	Contract wages paid for July 2019 to September 2019	6,250	Contract wages paid for July 2019 to September 2019	6,250	Contract wages paid for July 2019 to September 2019	6,250	Contract wages paid for July 2019 to September 2019	6,250
			2220010: Telecommunications	Procurement of telephone services	Telephone connectivity provided for Institute usage	3,040	Telephone connectivity maintained for July 2019 to September 2019	760	Telephone connectivity maintained for October 2018 to December 2019	760	Telephone connectivity maintained for Jan 2020 to March 2020	760	Telephone connectivity maintained for April 2020 to June 2020	760
			2230050: Electricity	Procurement of Electricity services	Electricity provided for Institute usage	15,000	Electricity supplied for July 2019 to September 2019	3,750	Electricity supplied for October 2018 to December 2019	3,750	Electricity supplied for January 2020 to March 2020	3,750	Electricity supplied for April 2020 to June 2020	3,750
			2230060: Water	Procurement of water services	Water Supplied for Institute usage	12,000	2500 litres of water supplied for Institute use	3,000	2500 litres of water supplied for Institute use	3,000	2500 litres of water supplied for Institute use	3,000	2500 litres of water supplied for Institute use	3,000
			2240060: Agric Supplies	Standardize extraction method for bio-preservatives	Experimental Materials	68,000	Experimental Materials	17,000	Experimental Materials	17,000	Experimental Materials	17,000	Experimental Materials	17,000
			2270010: Travel Inland	Travel inland on field monitoring and verification of research activities	Field and off station activities kept on track	34,100	Filed and off Institute activities kept on track	8525	Filed and off Institute activities kept on track	8525	Filed and off Institute activities kept on track	8525	Filed and off Institute activities kept on track	8525

Directorate/ Program	Project Name	Vote function/ Output	Expenditure Code/ description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key activities	Annual Outputs	Budget '000	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)
			2270040: Fuels, Oils 7 Lubricants	Institute vehicles and generator served with fuel and running	Fuel provided for Institute travels and operations	3,996	litres of fuels and oils purchased for institute use	1000	litres of fuels and oils purchased for institute use	1000	litres of fuels and oils purchased for institute use	1000	litres of fuels and oils purchased for institute use	996
			2280030: maintenance - equipment	Maintenance and repair of 2 water pumps and other equipment	Institute equipment maintained	10,000	Institute equipment maintained	2500	Institute equipment maintained	2500	Institute equipment maintained	2500	Institute equipment maintained	2500
				Sub- Total		171,136	-	42,785	-	42,785	-	42,785	-	42,781
Admin	Institute Operations and management	Research Extension Interface Promoted and Strengthened	2210010: Advertising and Public Relations	Undertake visibility, promotional and technology dissemination activities	Number of exhibitions participated in, number of staff & stakeholder meetings held and number of technologies disseminated and people reached.	800	At least 1 Exhibition during the Annual Ag. show conducted, staff & stakeholder meetings held	200	At least 1 Exhibition during the World Food Day conducted, staff & stakeholder meetings held	200	staff & stakeholder meetings held and number of technologies disseminated and people reached.	200	staff & stakeholder meetings held and number of technologies disseminated and people reached.	200
			2210020: Workshops & seminars+ D18:N18+D18:M18	Training of stakeholders under different programs, end of year finance workshops and attending review workshops	Capacity of stakeholders strengthened and attending key workshops	1,000	Capacity of stakeholders strengthened and attending key workshops	250	Capacity of stakeholders strengthened and attending key workshops	250	Capacity of stakeholders strengthened and attending key workshops	250	Capacity of stakeholders strengthened and attending key workshops	250

Directorate/ Program	Project Name	Vote function/ Output	Expenditure Code/ description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key activities	Annual Outputs	Budget '000	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)
			2210110: Printing, Stationery & binding	At least 5 Paper shredders procured for Finance, Procurement and Directors office, Office scanners, adding machines & Office locks, Printed staff IDs, Photocopier repair	Printing services and stationery items procured/ provided	1,000	Assorted stationery (photocopying papers, pens, counter books etc) purchased	250	Assorted stationery (photocopying papers, pens, counter books etc) purchased	250	Assorted stationery (photocopying papers, pens, counter books etc) purchased	250	Assorted stationery (photocopying papers, pens, counter books etc) purchased	250
				Sub- Total		2,800	0	700	0	700	0	700	0	700
		Agricultural Research Capacity Strengthened	2111030: Allowances	Payment of hired labour	Smooth management of contract staff	17,500	Contract wages paid for July 2019 to September 2019	4,375	Contract wages paid for October 2019 to December 2019	4,375	Contract wages paid for January 2020 to March 2020	4,375	Contract wages paid for April 2020 to June 2020	4,375
			2210030: Staff Training	Facilitating technical staff for professional trainings in specialised skills and Refresher courses especially on CPD	Staff with improved Skills and knowledge	10,000		2,500	2 Technician, 3 support staff and Finance & Audit staff facilitated for training on Professional courses for CPD	2,500	0	2,500		2,500
			2210060: Commissions & related Charges	Hold, Advisory, Procurement Sub-contract	Research, management and Governance	2,450	One committee meeting held and recommendat	615	One committee meeting held and recommendati	610	One committee meeting held and recommendati	615	One committee meeting held and recommend	610

Directorate/ Program	Project Name	Vote function/ Output	Expenditure Code/ description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key activities	Annual Outputs	Budget '000	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)
				committee Finance and scientific committees other management meeting	streamlined		ion made		on made		on made		ation made	
			2210070: Books, Periodicals & Newspapers	Supply of newspapers and journals	Number of newspaper and scientific journals produced	2,247	Number of newspaper and scientific journals produced	562	Number of newspaper and scientific journals produced	562	Number of newspaper and scientific journals produced	562	Number of newspaper and scientific journals produced	561
			2210080: Computer Supplies & IT Service	Procurement of small computer accessories	Small computer accessories procured	2,040	Small computer accessories procured	510	Small computer accessories procured	510	Small computer accessories procured	510	Small computer accessories procured	510
			2210090: Welfare & Entertainment	Routine availability of staff teas, Monthly staff meetings and End of Year get together and reward sessions for excellent and outstanding performance	Motivated and productive workforce maintained	4,400	Staff teas and meals provided to staff for July 2019 to September 2019	1,100	Staff teas and meals provided to staff for October 2019 to December 2019	1,100	Staff teas and meals provided to staff for January 2020 to March 2020	1,100	Staff teas and meals provided to staff for April 2020 to June 2020	1,100
			2210110: Printing, Stationery & binding	At least 5 Paper shredders procured for	Printing services and stationery items procured/pr	3,240	Assorted stationery(photocopying papers, pens, counter books	810	Assorted stationery(photocopying papers, pens, counter books	810	Assorted stationery(photocopying papers, pens, counter books	810	Assorted stationery(photocopying papers, pens,	810

Directorate/ Program	Project Name	Vote function/ Output	Expenditure Code/ description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key activities	Annual Outputs	Budget '000	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)
				Finance, Procurement and Directors office., Office scanners, adding machines & Office locks, Printed staff IDs, Photocopier repair	provided		etc) purchased		etc) purchased		etc) purchased		counter books etc) purchased	
			2220020: Postage and Courier	Payment for postage & courier services	Postage & Courier services bills paid	800	Postage & Courier services bills paid	200	Postage & Courier services bills paid	200	Postage & Courier services bills paid	200	Postage & Courier services bills paid	200
			2230040: Guard and Security services	Procure guarding services from security companies/ persons	Institute Assets and Staff safeguarded from thefts and burglary	5,200	Assets and staff secured from July 2019 to September 2019	1300	Assets and staff secured from October 2019 to December 2019	1300	Assets and staff secured from January 2020 to June 2020	1300	Assets and staff secured from April 2020 to June 2020	1300
			2230050: Electricity	Procurement of Electricity services	Electricity provided for Institute usage	11,200	Electricity supplied for July 2019 to September 2019	2,800	Electricity supplied for October 2018 to December 2019	2,800	Electricity supplied for January 2020 to March 2020	2,800	Electricity supplied for April 2020 to June 2020	2,800
			2240040: Cleaning and sanitation	maintain laboratories and screen houses, Rehabilitation and renovation of office blocks and residential houses	Clean and healthy work environment maintained	5,460	Office compounds, offices and surroundings slashed and maintained hygienic	1,365	Office compounds, offices and surroundings slashed and maintained hygienic	1,365	Office compounds, offices and surroundings slashed and maintained hygienic	1,365	Office compounds, offices and surroundings slashed and maintained hygienic	1,365

Directorate/ Program	Project Name	Vote function/ Output	Expenditure Code/ description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key activities	Annual Outputs	Budget '000	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)	Interim or final report	Budget (000)
			2250010:Consultancy Services-Short term	Engaging a Consultant to developing institute strategic plan and other consultancies	Institute strategic plan and other Documetaries in place	11,500	Initial work on Institute strategic plan and other Documetaries done	2,875	Continued work on Institute strategic plan and other Documetaries in place	2,875	Drafts of Institute strategic plan and other Documetaries in place	2,875	Final Institute strategic plan and other Documetaries in place	2,875
			2270010: Travel Inland	Travel inland on field monitoring and verification of research activities	Field and off station activities kept on track	14,760	Filed and off Institute activities kept on track	3,690	Filed and off Institute activities kept on track	3,690	Filed and off Institute activities kept on track	3,690	Filed and off Institute activities kept on track	3,690
			2270040: Fuel, Oils & lubricants	Monitoring and field verification	Fuel provided for Institute travels and operations	24,798	350 litres of fuels & oils purchased	6,200	350 litres of fuels & oils purchased	6,200	350 litres of fuels & oils purchased	6,200	350 litres of fuels & oils purchased	6,198
			2280020: maintenance Vehicles	Maintenance and repair of vehicles	Institute vehicles maintained	5,169	2 motor vehicle repaired and serviced	1,292	2 motor vehicle repaired and serviced	1,292	2 motor vehicle repaired and serviced	1,292	2 motor vehicle repaired and serviced	1,292
			2280030: maintenance Equipment	Maintain office, lab and workshop equipment of the institute	Institute Equipment maintained	2,250	1 Generator and office equipment repaired	563	1 Generator and office equipment repaired	563	1 Generator and office equipment repaired	562	1 Generator and office equipment repaired	562
				Sub-Total		123,014	0	30,757	0	30,752	0	30,756	0	30,748
			GRAND TOTAL			296,950	0	74,242	0	74,237	0	74,241	0	74,229

Annex xcvi: NaCORI GoU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Outputs	Annual Key Activities	Code	Budget Item	Input	Annual Budget ('000)	Q1 Budget ('000)	Q2 Budget ('000)	Q3 Budget ('000)	Q4 Budget ('000)
NACORI		Generation of Agricultural Technologies	Enhanced performance of research	Travel in land to other institutes and collaborators	2270010	Travel Inland	DSA, transport refund	6,000	1,500	1,500	1,500	1,500
	Coffee Value Addition		Chemical sand laboratory consumable for preparation of samples for cup quality procured	Payment of hired labour	2111020	Wages/allowances	Hired labour	6,600	1,650	1,650	1,650	1,650
				Chemicals and laboratory consumables for preparation of samples for cup quality assay	2240060	Agricultural supplies	Assorted laboratory inputs	10,840	2,710	2,710	2,710	2,710
			Research papers published in Science journals	Paying for publication of research papers	2210070	Books, Periodicals & Newspapers	Publication of research papers	5,500	1,375	1,375	1,375	1,375
			By-products from coffee developed.	Develop coffee by-products	2270010	Travel Inland	Per diem, transport refund and fuel	14,820	3,705	3,705	3,705	3,705
			Enhanced research capacity	Procuring fuel for staff van, generator, water pumps, tractors and mowers	2270040	Fuel, Lubricants & Oils	Diesel, petrol, 2T oil, and other oils	4,000	1,000	1,000	1,000	1,000
			Sub Total output 1					47,760	11,940	11,940	11,940	11,940
		Research Extension interface promoted and strengthened	Procurement and maintenance of ICT accessories supplies / services	Enhanced capacity to generate reports, workplans and to access information	2210080	Computer supplies and IT services	Internet subscriptions	2,400	600	600	600	600
			Assessing on-farm practices of small holder farmers for development of specialty coffees through standardized procedures	Determining the physical and cup quality of coffee cultivars	2210110	Printing, stationery and binding	Printer Cartridges	320	160		160	

Program/ Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Outputs	Annual Key Activities	Code	Budget Item	Input	Annual Budget ('000)	Q1 Budget ('000)	Q2 Budget ('000)	Q3 Budget ('000)	Q4 Budget ('000)
	Sub Total output 2							2,720	760	600	760	600
	ADMINISTRATION	Agricultural research capacity strengthened	streamlined institute research management.	Preparing salary statement and paying the salaries for 17 contract staff	2111030	Allowances	casual labour, machine hire,driver hire, tractor hire	11,000	2,750	2,750	2,750	2,750
			streamlined institute research management.		2210010	Advertisement and public relations	newspaper adverts, journals; shows	2,500	1,250		1,250	
			streamlined institute research management.	Hold Advisory committee meetings	2210060	Committee, Council & Board expenses	Meals subsistence and transport expenses for the committee members	3,600	900	900	900	900
			Enhanced capacity to conduct research	Procurement of nspapers	2210010	Books,Periodic als & Newspapers	books, periodicals, newspapers, journals articles	2,400	600	600	600	600
			Enhanced capacity to conduct research	Break tea and refreshments during meetings	2210090	Staff Welfare	meals	4,550	1137.5	1137.5	1137.5	1137.5
			Timely reporting throughout the year	Procurement of stationery,printing and binding of quarterly reports	2210110	Printing, Stationery Binding	Reams of paper, books, colored toner, pens, markers,	3,000	750	750	750	750
			Efficient use; dissemination and management of information	Acquisition of telecommunications and internet services	2220010	Telecommunic ations	Air time	3,000	750	750	750	750
			Disseminated research information	postage	2220020	Postage & Courier	posting and receiving research pacels, mails and letters	1,000	250	250	250	250
			Secure office premises and	Monthly payment of security personnel	2230040	Guard and security	Security guards	9,500	2,375	2,375	2,375	2,375

Program/ Directorate	Projects/Units (A, B, etc)	Vote Function Output	Annual Outputs	Annual Key Activities	Code	Budget Item	Input	Annual Budget ('000)	Q1 Budget ('000)	Q2 Budget ('000)	Q3 Budget ('000)	Q4 Budget ('000)
			property			services						
			Enhanced performance of research	Settlement of electricity bills	2230050	Electricity	Electrical energy	12,000	3,000	3,000	3,000	3,000
			Enhanced performance of research	Procurement of cleaning and sanitation material	2240040	Cleaning and sanitation	Materials and labour	4,000	1,000	1,000	1,000	1,000
			Enhanced performance of research	Paying insurance cover	2260010	Insurance coverage to institute fleet	Insurance	2,000	500	500	500	500
			Enhanced capacity to conduct and monitor research	General servicing and repairs of vehicles and motorcycles	2280020	Maintenance - Vehicles	Materials and labour	6,000	1,500	1,500	1,500	1,500
			Improved research environment	General servicing and repairs of tractors, mowers, tractor slasher, and computers	2280030	Maintenance - Machinery & Equipment	Materials and labour	2,000	500	500	500	500
			1. Contaminant profiles of coffee under different production and storage conditions, 2. Cup profile of coffee accessions from different production zones determined	1. Determine the contaminants in coffee production and storage (post harvest) conditions, 2. Determine the cup quality of coffee accessions from difference production zones (Zombo, Kapchorwa, Kisoro, Ntoroko)	2250010	Consultancy services, short term	Coffee Cupping services of 736 samples	56,920	14,230	14,230	14,230	14,230
		2270040			Fuel, Lubricants & Oils	Diesel, petrol, 2T oil, and other oils	3,500	875	875	875	875	
			streamlined institute research management.	Management of unforeseeable staff welfare	2731020	Incapacity, death benefit and funeral costs	coffin, burial cloth, cement, food, bricks, sand, transport	2,550	637	637	637	639
	Sub Total output 4							129,520	33,005	31,755	33,005	31,757
GRAND TOTAL RECURRENT BUDGET								180,000	45,705	44,295	45,705	44,297

Annex xcvi: Abi ZARDI GoU Recurrent work plan and budget for FY 2019/20

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
RECURRENT BUDGET	Research Management and administration	01- Generation of Agricultural Technologies	2210010: Advertising and public relations	Show casing, profiling Abi Research outputs and sharing agric research experiences.	Research outputs show cased, profiled and experiences shared	Perdieu	4,000	Exhibition materials for field days prepared.	1,000	Field days and Agric shows organised.	1,000	Atleast one Agric training conducted.	1,000	Participate in atleast one agric show	1,000
			2210060: Committee, Council and Board Expenses	Holding advisory and insititute committee meeting, Review and planning meeting and Directors' Forum for policy decision making.	Governance, policy design and guidance of research activities at Abi ZARDI developed.	Allowances	8,700	Hold planning meetings for strategic decision making.	2,175	Decisions and guidelines to steer research and administrative operations generated.	2,175	Decisions and guidelines generated operationalised.	2,175	Decisions and guidelines generated operationalised.	2,175
			2220010: Telecommunication	Provision of utility services like water, telephone, and eletricity	Utility services provided for normal institute operations	Utility services	800	Utility services like water, telephone, and eletricity provided	200	Utility services like water, telephone, and eletricity provided	200	Utility services like water, telephone, and eletricity provided	200	Utility services like water, telephone, and eletricity provided	200
		Sub-total for Generation of agricultural technologies - Research management and administration					13,500		3,375		3,375		3,375		3,375
RECURRENT BUDGET - Value Addition	Exploiting Nutrient - Rich Cassava composites for	01- Generation of Agricultural Technologies	2240060: Agricultural Supplies	Formulating and testing of various composites for food and feed	At least two Cassava composites developed	Cassava composites	66,000	At least 10 samples analysed for nutritive quality	16,500	Materials acquired for cassava composites acquired and analysed	16,500	Materials acquired for cassava composites acquired and analysed	16,500	Materials acquired for cassava composites acquired and analysed	16,500

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Industrial Application and stimulation of outgrower schemes		2270010: Travel inland	Leadership and governance of the nutrition platform institutionalised	At least four meetings conducted for leader and governance	Nutrition platform	73,650	Leadership and governance meetings conducted	18,000	Leadership and governance meetings conducted	19,000	Leadership and governance meetings conducted	18,400	Leadership and governance meetings conducted	18,250
		Sub-total for Generation of Agric Technologies - Value addition													
							139,650	-	34,500	-	35,500	-	34,900	-	34,750
		Total for Generation of agricultural technologies													
							153,150	-	37,875	-	38,875	-	38,275	-	38,125
	Exploiting Nutrient - Rich Cassava composites for Industrial Application and stimulation of outgrower schemes	02: Research-extension interface promoted and strengthened	2210010: Advertising and public relations (Agric shows)	Dissemination of project results and products	Project results and products disseminated	Dissemination	3,000							Participate in at least one dissemination event	3,000
			2210020: Workshops & seminars (institute w/shops) (inc. Hire of venues)	A number of seminars conducted on nutrition	At least six seminars conducted on nutrition	Nutrition seminars	21,000	Two seminars conducted on nutrition	5,250	Two seminars conducted on nutrition	5,250	Two seminars conducted on nutrition	5,250	Two seminars conducted on nutrition	5,250
			2210080: Computer Supplies & IT Service(DTIPS)	Procurement of assorted Computer accessories like toner, diskettes, memory sticks, extra drives, back-up tapes etc .	Assorted Computer accessories like toner, diskettes, memory sticks, extra drives, back-up tapes etc procured	Computer accessories	5,000	Assorted computer accessories procured/acquired	1,250	Assorted computer accessories procured/acquired	1,250	Assorted computer accessories procured/acquired	1,250	Assorted computer accessories procured/acquired	1,250
			2210110: Printing, Stationery, Binding	Processing of project documents	Projected documents processed for appropriate functions		2,000	Assorted stationery acquired	500	Assorted stationery acquired	500	Assorted stationery acquired	500	Assorted stationery acquired	500
		Total for Research-extension interface promoted and strengthened													
							31,000	-	7,000	-	7,000	-	7,000	-	10,000

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Research Management and administration	04 Research capacity strengthened	2270040: Fuel and Lubricants	Procurement of fuel, lubricants and oils	Institute vehicles and machinery maintained to support administrative and research activities	Fuel and lubricants	6,000	Ensure appropriate service of institute vehicles and machinery.	1,500	Fuel for administrative and research activities procured.	1,500	Fuel for administrative and research activities procured.	1,500	Fuel for administrative and research activities procured.	1,500
			2210020: Work shops and seminars	Finance, Audit, procurement and other administrative meetings and workshops to be held.	Staff capacity built in finance, audit, procurement and other management activities	Perdieu m	1,200	Organise one planning meetings for suitable management of finance and procurement operations.	300	Operationalise the decisions and guidelines generated.	300	Organise one planning meetings for suitable management of finance and procurement operations.	300	Operationalise and monitor the decisions and guidelines generated.	300
			2210080: Computer supplies & IT Services	Servicing of computers and ICT equipment	Institute computers and other IT services maintained	Laptops and desktops	4,000	Assorted computer and IT services maintained	2,000	Assorted computer and IT services maintained	1,000	Assorted computer and IT services maintained	1,000	Guided on the asset disposal process.	
			2130020: Incapacity, death and funeral costs.	Support to death and incapacitated staff and close family members	Staff supported during periods of death occurrence and other hardships.		2,000	Staff supported towards burial expenses.	500	Staff supported towards burial expenses.	500	Staff supported towards burial expenses.	500	Staff supported towards burial expenses.	500
			2230040: Guard and security services	Enhance security services at the institute.	Safety of institute assets guaranteed	labour	6,000	Safety of institute assets guaranteed.	1,500	Safety of institute assets guaranteed.	1,500	Safety of institute assets guaranteed.	1,500	Safety of institute assets guaranteed.	1,500
			2240040: Cleaning and Sanitation	Provided adequate labour to maintain the compound and office blocks.	Enhancement of an appropriate clean working environment	labour	4,000	Ensured a good working environment for staff.	1,000	Ensured a good working environment for staff.	1,000	Ensured a good working environment for staff.	1,000	Ensured a good working environment for staff.	1,000

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2280020: Maint. Vehicles	Administrative Overheads - Vehicle service and repairs.	Ensured institute vehicle are well maintained.	Repair and service	11,000	Ensured institute vehicle are well maintained.	2,750	Ensured institute vehicle are well maintained.	2,750	Ensured institute vehicle are well maintained.	2,750	Ensured institute vehicle are well maintained.	2,750
			2270010: Travel Inland	Preparation and submission of the institute mandatory reports	Prepared and submitted the mandatory reports.	Reports	8,000	Prepared and submitted the annual accounts.	2,000	Prepared and submitted the 1st quarter financial reports.	2,000	Prepared and submitted the bi-annual accounts.	2,000	Prepared and submitted the nine months accounts.	2,000
			2270010: Travel Inland	Monitoring value for money and verifications	Value for money monitoring and verification conducted by administration and institute committees	Per diem	9,199	At least one value for money and verification conducted on-farm	3,199	At least one value for money and verification conducted on-farm	3,000			At least one value for money and verification conducted on-farm	3,000
			2280010: Maint. Civil	Maintenance of institute buildings and other farm structures	Institute buildings and other farm structures maintained	Labour for maintenance	1,000	Institute buildings renovated and maintained.	250	Institute buildings renovated and maintained.	250	Institute buildings renovated and maintained.	250	Institute buildings renovated and maintained.	250
			2220010: Telecommunication	Provision of utility services like water , telephone , and electricity	Basic utilities availed and the station well managed.	Utility services	800	Basic utilities availed and the station well managed.	200	Basic utilities availed and the station well managed.	200	Basic utilities availed and the station well managed.	200	Basic utilities availed and the station well managed.	200
			2230050: Electricity	Provision of utility services like water , telephone , and electricity	Basic utilities availed and the station well managed.	Utility services	2,000	Basic utilities availed and the station well managed.	500	Basic utilities availed and the station well managed.	500	Basic utilities availed and the station well managed.	500	Basic utilities availed and the station well managed.	500
			2230060: Water	Provision of utility services like water ,	Basic utilities availed and the station well managed.	Utility services	400	Basic utilities availed and the station	100	Basic utilities availed and the station	100	Basic utilities availed and the station	100	Basic utilities availed and the station	100

Program / Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				telephone , and eletricity				well managed.		well managed.		well managed.		well managed.	
			2111030: Allowances	Labour for office and copmpound maintenance.	Enhancement of an appropriate clean working enviroment	labour	9,000	Ensued a good working enviroment for staff.	2,250	Ensued a good working enviroment for staff.	2,250	Ensued a good working enviroment for staff.	2,250	Ensued a good working enviroment for staff.	2,250
			2210090: Staff welfare	Provision of welfare services for staff.	Enhance and support of staff welfare	Break tea	4,000	Supported staff to work for longer hours.	1,000	Staff motivated to work.	1,000	Staff motivated to work.	1,000	Staff motivated to work.	1,000
			2260010: Insurance	Acquisition of services like vehicle 3rd party	Transport fully provided	Licencing	400	Ensued transport availalability	100	Ensued transport availalability	100	Ensued transport availalability	100	Ensued transport availalability	100
			2280030: Maint. Machinery	Repairing of machinery, equipment and furniture	Availability of working tools.	Tools	1,700	Working tools availed to staff.	400	Working tools availed to staff.	450	Working tools availed to staff.	450	Working tools availed to staff.	400
		Sub-total Research capacity strengthened - Research management					70,699		19,549		18,400		15,400		17,350
RECURRENT BUDGET - Value Addition	Exploiting Nutrient - Rich Cassava composites for Industrial Application and stimulation of outgrower schemes	Research capacity strengthened	2270040: Fuel and Lubricants	Procurement of fuel, lubricants and oils for research activities	Fuel and lubricants provided for research activities		23,281	Fuel and lubricants provided	5,766	Fuel and lubricants provided	5,838	Fuel and lubricants provided	5,838	Fuel and lubricants provided	5,838
Sub-total Research capacity strengthened - Value addition							23,281	-	5,766	-	5,838	-	5,838	-	5,838
Total Research Capacity Strengthened							93,980		25,315		24,238		21,238		23,188
Total for Research management and administration							84,199		22,924		21,775		18,775		20,725
Total for Value Addition under Recurrent Budget							193,931	-	47,266	-	48,338	-	47,738	-	50,588

Program / Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	
Grand Total for Recurrent Budget							278,130		70,190		70,113		66,513		71,313

Annex xcvi: Buginyanya ZARDI GoU Recurrent work plan and budget for FY 2019/20

Program / Directorate	Projects /Units	Vote Function/output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Research and Development Programs	Promote and enhancing research	Generation of agricultural technologies	Utility serviced availed to improve research	Provision of utility services for research and administrative operations.	2230050	Electricity	8,000	Electricity provided.	2,000	Electricity provided.	2,000	Electricity provided.	2,000	Electricity provided.	2,000
			Utility serviced availed to improve research	Provision of utility services for research and administrative operations.	2230060	Water	4,000	Water provided.	1,000	Water provided.	1,000	Water provided.	1,000	Water provided.	1,000
			ICT service availed to improve research	Provision of utility services for research and administrative operations.	2220010	Telecommunications	4,000	Communication services provided	1,000	Communication services provided.	1,000	Communication services provided.	1,000	Communication services provided.	1,000
			Procurement of supporting services, ie stationery to improve research	Provision of office requirements.	2210110	Printing, Stationery, Binding	4,000	Acquisition of stationery and other small equipments.	1,000	Acquisition of stationery and other small equipments.	1,000	Acquisition of stationery and other small equipments.	1,000	Acquisition of stationery and other small equipments.	1,000

Program/ Directorate	Projects /Units	Vote Function /output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			security services availed to enhance research	Provision of guard and security services for research	2230040	Guard and Security services	11,000	Security and guard services provided on research technologies.	2,000	Security and guard services provided on research technologies.	3,000	Security and guard services provided on research technologies.	3,000	Security and guard services provided on research technologies.	3,000
			Supervision and monitoring institute research activities and technologies	Effective supervision and monitoring of research activities and Buginyanya administrative units for effective decision making	2270010	Travel inland	4,500	Effective supervision and monitoring of research activities and Buginyanya administrative units for effective decision making	1,125	Effective supervision and monitoring of research activities and Buginyanya administrative units for effective decision making	1,125	Effective supervision and monitoring of research activities and Buginyanya administrative units for effective decision making	1,125	Effective supervision and monitoring of research activities and Buginyanya administrative units for effective decision making	1,125
					2270040	Fuel, Lubricants & Oils	4,000		1,000		1,000				
					2280020	Maintenance vehicles	4,000		1,000		1,000				
			Sub-total							43,500	-	10,125	-	11,125	-
BugiZARDI Administration	Buginyanya ZARDI administration / coordination and governance	Agricultural research capacity strengthened	One advisory committee and one general staff meetings	Policy guidelines for decision making generated.	2210060	Committee, Board Expenses	5,000	Approval of Budgets and work plans. Review of institute quarterly activities.	1,250	Approval of Budgets and work plans. Review of institute quarterly activities.	1,250	advisory committee meeting	1,250	standing committees	1,250
			Welfare services availed	Provision of welfare services for administrative operations.	2210090	Welfare and entertainment	580	Welfare services provided.	145	Welfare services provided.	145	Welfare services provided.	145	Welfare services provided.	145
			Cleaning services availed	Provision of cleaning services for administrative	2240040	cleaning and sanitation	6,800	Cleaning services provided.	1,700	Cleaning services provided.	1,700	Cleaning services provided.	1,700	Cleaning services provided.	1,700

Program/ Directorate	Projects /Units	Vote Function /output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				ve operations.											
			Incapacit y,death benefit &funeral costs	Provision of services to support after death and burrial benefits for administrati ve operations.	2731020	Incapacity,death benefit &funeral costs	2,500	Burial and death support services provided	625	Burial and death support services provided	625	Burial and death support services provided	625	Burial and death support services provided	625
			Repair and service of institute vehiclesa nd motor cycles.	Smooth running of institute vehicles and motor cycles	2280020	Maintainan ce vehicles	8,000	Vehicles serviced and repaired	2,000	Vehicles serviced and repaired	2,000	Vehicles serviced and repaired	2,000	Vehicles serviced and repaired	2,000
			Repair, and service of institute machiner y and equipmen ts	Machinery and other equipments	2280030	Maintenan ce - Machinery & Equipments	2,000	Repair and maintenan ce of equipment generator, water pump,tract ors,and other tools etc	500	Repair and maintenan ce of equipment generator, water pump,tract ors,and other tools etc	500	Repair and maintenan ce of equipment generator, water pump, tractors, and other tools.	500	Repair and maintenan ce of equipment generator, water pump, tractors, and other tools.	500
			Insurance of institute vehicles and motor cycles.	third party insurance forvehicles and motor cycles availed	2260010	Insurance	1,700	Third party insurance for vehicles and motor cycles	500	Third party insurance for vehicles and motor cycles	400	Third party insurance for vehicles and motor cycles	400	Third party insurance for vehicles and motor cycles	400

Program/ Directorate	Projects/ Units	Vote Function/ output	Annual Plan & Budget					Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Description	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Procurement of supporting services, ie supply of news papers ,books and periodicals	Procurement of news papers ,books and periodicals	2210070	Books ,periodicals and news papers	1,500	Acquisition of books, periodicals and news papers.	502	Acquisition of books, periodicals and news papers.	498	Acquisition of books, periodicals and news papers.	250	Acquisition of books, periodicals and news papers.	250
			Advertisement and public relationship	Enhanced information dissemination and corporate image of the Institute.	2210010	Advertisement and public relationship	2,000	Enhanced information dissemination and corporate image of the Institute.	500	Enhanced information dissemination and corporate image of the Institute.	500	Enhanced information dissemination and corporate image of the Institute.	500	Enhanced information dissemination and corporate image of the Institute.	500
			Payment for contract staff salaries and wages	Compound, buildings, access road and drive ways maintained	2240040	Cleaning and sanitation	2,500	Compound , buildings, access road and drive ways maintained	625	Compound , buildings, access road and drive ways maintained	625	Compound , buildings, access road and drive ways maintained	625	Compound , buildings, access road and drive ways maintained	625
					2270040	Fuels, lubricants and oils	3,920		980		980		980		980
			Sub-total				36,500	-	9,327	-	9,223	-	8,975	-	8,975
			Total				80,000		19,452		20,348		20,100		20,100

Annex xcix: Bulindi ZARDI GoU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Administration	Administration	Generation of Agricultural Technologies	Supervision and monitoring of institute research generated and on-going technologies	Proper implementation and management of the researched projects	2270010	4,600	At least 3 Institute research activities supervised, monitored and advised. Quarter 1 research report submitted	1,150	At least 4 Institute research activities supervised, monitored and advised. Quarter 2 research report submitted	1,150	At least 3 Institute research activities supervised, monitored and advised. Quarter 3 research report submitted	1,150	At least 5 Institute research activities supervised, monitored and advised. Quarter 4 research report submitted	1,150
Animal resource research program	Commercialization of goat value chain through industrial park approach		Baseline survey to characterize goat producers, goat farming systems and value chain actors. assessment of adaptation of climate change resilient goat production systems	A baseline survey conducted and value chain actors characterised. A comprehensive survey carried and climate change resilient production systems identified for promotion among goat farmers	2111030	20,000	A baseline survey carried to characterise producers and other value chain actors and farming systems	10,000	A baseline survey carried to characterise goat farming systems		A baseline survey carried to asses climate smart goat production practices	10,000	Validation of survey and reporting and dissemination	
						17,500		5,000		5,000		5,000		2,500
			Mobilize various categories of value chain actors	Majority of goat value chain actors identified and mobilised for the project	2111030	20,000	Various categories of actors mobilised	10,000	Value actors capacity built		value chain actors'capacity built	10,000	value chain actors'capacity built	
					2270010	17,500		5,000		5,000		5,000		2,500
					Procurement of breeding and fattening goats for multiplication for distribution	At least 180 goats procured for breeding and fattening	2240010	55,000	At leastt all the 180goats are procured	20,000		20,000		10,000

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			to farmers for breed improve											
Sub-total: Generation of Agricultural Technologies						134,600		51,150		31,150		41,150		11,150
Ad mini strat ion	Strengthening the human resource , financial and institutional manage ment capacity of BUZAR DI in delivery of research outputs	Research extension interface promoted and strengthened	Promotion and dissemination of research outputs	Increased awareness of research outputs	2210010	4,000	Atleast 5 research technologies promoted.	2,000			Atleast 3 public entites interfaced with for improved public relations.	2,000		
		02: Research extension interface promoted and strengthened	Establishing participatory on-farm demonstrations under goat value chain management. Developing and dissemination of Brochures, training guides , manuals of improved goat production technologies	Technologies demosntrated in field. brochures produceed and used as guides in training farmers	2210010	10,000	Technologies demosntrated in field. brochures produceed and used as guides in training farmers	10,000						
Sub-total: Research extension interface promoted and strengthened						14,000		12,000		-		2,000		

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Administration	Administration	Agricultural research capacity strengthened	Participation in key administrative and research meetings organized by other stakeholders	Strengthened linkage with the stakeholders	2111030	9000	Atleast 3 stakeholder meetings attended and feedback disseminated to the respective recipients	2,250	Atleast 3 stakeholder meetings attended and feedback disseminated to the respective recipients	2,250	Atleast 3 stakeholder meetings attended and feedback disseminated to the respective recipients	2,250	Atleast 3 stakeholder meetings attended and feedback disseminated to the respective recipients	2,250
			Paying wages to contracted staff	Motivated work force	2111020	-	Contracted staff paid	-	Contracted staff paid	-	Contracted staff paid	-	Contracted staff paid	-
			Committee meetings held	strategically focused research activities	2210060	-	Atleast one advisory meeting held	-			Atleast one advisory meeting held	-		
			Procurement of periodicals and newspapers	Increased awareness of current affairs in research	2210070	1,400	Increased awareness of current affairs in research	350	Increased awareness of current affairs in research	350	Increased awareness of current affairs in research	350	Increased awareness of current affairs in research	350
			Procurement of staff welfare items	Assorted staff welfare items procured	2210090	9,000	Assorted staff welfare items procured	2,250	Assorted staff welfare items procured	2,250	Assorted staff welfare items procured	2,250	Assorted staff welfare items procured	2,250
			Procuring assorted stationery	Improvement in facilitating staff to deliver their planned targets	2210110	5,000	Improvement in facilitating staff to deliver their planned targets	1,250	Improvement in facilitating staff to deliver their planned targets	1,250	Improvement in facilitating staff to deliver their planned targets	1,250	Improvement in facilitating staff to deliver their planned targets	1,250
			Procurement of Telephone airtime	Improved communication	2220010	2,000	Improved communication	500	Improved communication	500	Improved communication	500	Improved communication	500
			Settlement of postage services and courier charges	Improved communication	2220020	100	Improved communication	100						

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Procuring guard and f security services	Institute premises and property protected	2230040	7,000	Institute premises and property protected	1,750	Institute premises and property protected	1,750	Institute premises and property protected	1,750	Institute premises and property protected	1,750
			Monthly utility invoices collected, processed and paid	Improvement in facilitating staff to deliver their planned targets	2230050	32,000	Improvement in facilitating staff to deliver their planned targets	8,000	Improvement in facilitating staff to deliver their planned targets	8,000	Improvement in facilitating staff to deliver their planned targets	8,000	Improvement in facilitating staff to deliver their planned targets	8,000
			Cleaning of Bulindi ZARDI premises and facilities	Improvement in facilitating staff to deliver their planned targets	2240040	8,000	Improvement in facilitating staff to deliver their planned targets	2,000	Improvement in facilitating staff to deliver their planned targets	2,000	Improvement in facilitating staff to deliver their planned targets	2,000	Improvement in facilitating staff to deliver their planned targets	2,000
			Procurement of Uniform & Protective wear for staff	Improvement in facilitating staff to deliver their planned targets	2240050	11,000	Improvement in facilitating staff to deliver their planned targets	11,000						
			Procurement of 3rd Party insurance for institute vehicles	Improvement in facilitating staff to deliver their planned targets	2260010	1,280	Improvement in facilitating staff to deliver their planned targets	320	Improvement in facilitating staff to deliver their planned targets	320	Improvement in facilitating staff to deliver their planned targets	320	Improvement in facilitating staff to deliver their planned targets	320
			Facilitation of institute staff to attend meetings	Improved linkage between Bulindi ZARDI, NAROSEC and other partners	2270010	7,000	Improved linkage between Bulindi ZARDI, NAROSEC and other partners	1,750	Improved linkage between Bulindi ZARDI, NAROSEC and other	1,750	Improved linkage between Bulindi ZARDI, NAROSEC and other	1,750	Improved linkage between Bulindi ZARDI, NAROSEC and other	1,750

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
									partners		partners		partners	
			Procurement of fuel for facilitating research activities	Improvement in facilitating staff to deliver their planned targets	2270040	7000	Improvement in facilitating staff to deliver their planned targets	1,750	Improvement in facilitating staff to deliver their planned targets	1,750	Improvement in facilitating staff to deliver their planned targets	1,750	Improvement in facilitating staff to deliver their planned targets	1,750
			Repairing and service of institute vehicles	Improvement in facilitating staff to deliver their planned targets	2280020	7000	Improvement in facilitating staff to deliver their planned targets	1,750	Improvement in facilitating staff to deliver their planned targets	1,750	Improvement in facilitating staff to deliver their planned targets	1,750	Improvement in facilitating staff to deliver their planned targets	1,750
			Servicing of institute machinery and equipment	Improvement in facilitating staff to deliver their planned targets	2280030	1000	Improvement in facilitating staff to deliver their planned targets	1,000						
			Maintainance of other institute assets	Improvement in facilitating staff to deliver their planned targets	2280040	620	Improvement in facilitating staff to deliver their planned targets	620						
			Incapacity and death benefits settled	increased staff motivation	2130020	1,000	increased staff motivation	500	increased staff motivation	500				
Animal resources research program	Commercialisation of goat value chain through industrial park approach	04: Agricultural research capacity strengthened	Inception meeting to launch the project and sensitize partners on project objectives and their expected roles	One inception and two planning meetings held to inform and sensitize stakeholders on objectives of the project	2210020	30,000	Atleast one inception meeting	10,000	at least one planning meeting	10,000	At least one other follow up planning meeting	5,000	At least one other follow up planning meeting	5,000

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Abattoir workers and managers on abattoir management and safe slaughter of goats	The capacity of all the identified and registered abattoir workers built on safe slaughter of goats	2210020	10,000	At least all identified abattoir workers capacity built	5,000			Abattoir workers capacity built	5,000		
			producers on improved goat husbandry practices	The capacity of all identified goat producers built on basic goat husbandry practices	2210020	10,000	At least 300 goat producers' capacity built		At least 100 goat producers' capacity built	7,000	At least 50 goat producers' capacity built	3,000		
			Training of laboratory, pasture management, goat breeding, and disease management. workers on latest disease detection, management and meat safety	At least 6 staff (technicians and scientists) capacity built	2210030	20,000	At least all the 6 staff trained	20,000					Two laboratory workers trained	
			Sourcing of technologies from PARIs	Essential technologies identified and acquired from PARIs	2270010	13,000			Appropriate technologies sourced	13,000				
					2270040	6,000				6,000				
			Producer groups formation meetings conducted at	Producer groups form at three level	2270010	18,000							Producer group formed at sub-county and district levels	18,000

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			subcounty, district and regional level (Farmer groups, cooperatives, companies)		2270040	7,000			Producer groups formation meetings conducted	7,000				
			Facilitate registration of producer groups and other goat value chain actors such as transporters	Producer groups registered with authority	2270010	9,000							Producer groups registered	9,000
					2270040	7,000							MoUs signed at various levels	7,000
			Procure a consultant to design an architectural plan for the industrial park	An industrial park plan produced	2250010	5,000	Industrial park plan produced and ready for referencing on	5,000						
			Contractual agreements between feedlot farms and exporters developed and signed	Feedlot farms capacity build to have contractual dealings	2250010	5,000				5,000			Contractual agreements signed between dealing farmers	
			MoU contracts with goat farmer groups for sustained supply of goats to the industrial parks developed and signed	MoU designed for formal dealing in goat trade	2250010	5,000				5,000				

Program/ Directorate	Projects/ Units (A, B, etc)	Vote Function Output	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Annual Key Activities	Annual Outputs	Code	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Establish goat feed lot/fattening unit, Establish goat breeding unit, Establish Pasture improvement unit, Goat disease management unit	Goat feedlot unit comprising of a house, fenced paddocks and feeding and watering in place, A goat breeding unit established for raising mubende and boer goats, A pasture improvement unit established for supplying planting materials to farmers, A disease management unit established for effective prevention, detection and control of trade sensitive diseases	2280010	55,000	Goat feedlot unit maintained, Goat breeding unit managed, Pasture unit maintained.	55,000						
			Repairing and service of goat value project vehicles	Improvement in facilitating project staff to deliver their planned targets	2280020	30,000		7,500		7,500		7,500		7,500
Sub-total: Agricultural research capacity strengthened						339,400		139,640		84,920		44,420		70,420
Grand- Total						488,000		202,790		116,070		87,570		81,570

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Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Travel inland			6,000		2,000		2,000		1,000		1,000
			2230040- Guard and Security services	Providing security for institute assets	Institute assets secured	-	Institutes assets and facilities protected against thieves	-	Institutes assets and facilities protected against thieves	-	Institutes assets and facilities protected against thieves	-	Institutes assets and facilities protected against thieves	-
			2210110 Printing, Stationery, Binding	Providing ICT accessories, accessing stationary items, periodicals, news papers and small office equipments for effect implementation of research activities	Research and management information stored and availed	3,924	Data storage system put in place, website hosted, website migrated and GIS maps/ informatio n for different research activities generated	1,000	Atleast 12 fully functional computers for data storage and processing maintained.	924	Information regarding current affairs (new) availed to institute and and institute reports made available for hard copy storage	1,000	Informatio n regarding current affairs (new) availed to institute and and institute reports made available for hard copy storage	1,000
			2220030- Information Communic ation Technology			3,197		1,000		197		1,000		1,000
			2210120- Small office Equipment											

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210060- Committee, Council and Board expenses(Administration)	Conducting procurement sub-contracts, Finance & Training committee meetings to verify and endorse Institute procurement activities	Decision on effective procurement and disposal of items for the institute made and value for money ascertained		Decision on effective procurement and disposal of items for the institute made and value for money ascertained		Decision on effective procurement and disposal of items for the institute made and value for money ascertained		Decision on effective procurement and disposal of items for the institute made and value for money ascertained		Decision on effective procurement and disposal of items for the institute made and value for money ascertained	
			2260010- Insurances	Vehicles Insured	At least 10 vehicles provided with third party a year	1,000	At least 2 vehicles provided with third party	250	At least 3 vehicles provided with third party	250	At least 2 vehicles provided with third party	250	At least 3 vehicles provided with third party	250
			2240040 Cleaning & Sanitation	Cleaning of office and laboratory space, Provision of lunch and other welfare items for staff.	Improved working environment for staff ensured	4,606	Improved working environment for staff ensured	1,606	Improved working environment for staff ensured	1,000	Improved working environment for staff ensured	1,000	Improved working environment for staff ensured	1,000
			2210090- Welfare and Entertainment			5,000		2,000		1,000		1,000		1,000
			2220010- Telecommunication	Providing telecommunication services	Airtime provided to the institute	1,553	Airtime provided in the first quarter	553	Airtime provided in the second quarter	500	Airtime provided in the third quarter	250	Airtime provided in the fourth quarter	250

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2280010- Maintenance - Civil	Maintaining, Roads, 10,000m2 compound including slashing, fencing and desilting internal road channels as well as water pumps, tractors and generators	Institute, access roads, Buildings and compound maintained	5,000	Atleast 10,000m2 compound kept clean	1,500	Atleast 10,000m2 compound kept clean	1,500	Atleast 10,000m2 compound kept clean	1,000	Atleast 10,000m2 compound kept clean	1,000
			2280020- Maintenance of Vehicles	Servicing and repair of institute vehicles	Vehicles serviced and maintained	5,800	Vehicles and motorcycle s Serviced and maintaine d good condition	1,800	Vehicles and motorcycles Serviced and maintained good condition	2,000	Vehicles and motorcycles Serviced and maintained good condition	1,000	Vehicles and motorcycle s Serviced and maintaine d good condition	1,000
			2280030- Maintenance - Machinery & Equipment	Water pumps, tractors and generators	Water pumps, tractors and generators serviced and maintained	3,500	Water pumps, tractors and generators serviced and maintaine d	1,500	Water pumps, tractors and generators maintained	500	Water pumps, tractors and generators maintained	1,000		500
			TOTAL ORIGINAL RECURRENT			75,000	-	23,129	-	21,371	-	15,500	-	15,000
Development of crops resources	Developing protocols for enhanced seed potato	01: Generation of agricultural technologies	2240060 Agricultural supplies	Establishing the appropriate media for increased shoot proliferation	A protocol on increasing invitro shoot production produced	70,000	Field and laboratory supplies procured	20,000	Field and laboratory supplies procured	20,000	Field and laboratory supplies procured	15,000	Field and laboratory supplies procured	15,000

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	production	04: Agricultural research capacity strengthened	2210060 Committee, Council and Board expenses			1,000	Planning meeting held	500	Review meeting held	500	0	0	0	0
			2210110 Printing, Stationery, Binding			1,500	Stationary procured	1,000	Stationary procured	500	0	0	0	0
			2230040 Guard and Security services			1,000	Experiments protected	300	Experiments protected	200	Experiments protected	250	Experiments protected	250
			2230050 Electricity			27,000	Electricity paid to support experiments	12,000	Electricity paid to support experiments	5,000	Electricity paid to support experiments	5,000	Electricity paid to support experiments	5,000
			2230060 Water			6,000	Water bills paid to support experiments	1,500	Water bills paid to support experiments	1,500	Water bills paid to support experiments	1,500	Water bills paid to support experiments	1,500
			2240040 Cleaning & Sanitation			2,000	Experimental facilities and premises cleaned	500	Experimental facilities and premises cleaned	500	Experimental facilities and premises cleaned	500	Experimental facilities and premises cleaned	500
			2270010 Travel inland			3,000	Experimental materials collected	1,000	Experiments monitored	1,000	Experiments monitored	500	Experiments monitored	500
			2270040 Fuel, Lubricants & Oils			2,500	Experimental materials collected	1,000	Experiments monitored	500	Experiments monitored	500	Experiments monitored	500
						114,000		37,800		29,700		23,250		23,250

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		01: Generation of agricultural technologies	224006 Agricultural supplies	Establishing the appropriate media for increased tuberisation in minitubercle production	A protocol on increasing the number of minitubers for seed potato production produced	65,000	Field and laboratory supplies procured	20,000	Field and laboratory supplies procured	15,000	Field and laboratory supplies procured	15,000	Field and laboratory supplies procured	15,000
		04: Agricultural research capacity strengthened	2230040 Guard and Security services			1,000	Experiments protected	300	Experiments protected	250	Experiments protected	250	Experiments protected	200
			2230050 Electricity			10,000	Electricity bills paid to support experiments	2,500	Electricity bills paid to support experiments	2,500	Electricity bills paid to support experiments	2,500	Electricity bills paid to support experiments	2,500
			2230060 Water			4,000	Water bills paid to support experiments	1,000	Water bills paid to support experiments	1,000	Water bills paid to support experiments	1,000	Water bills paid to support experiments	1,000
			2240040 Cleaning & Sanitation			1,000	Experimental facilities and premises cleaned	400	Experimental facilities and premises cleaned	200	Experimental facilities and premises cleaned	200	Experimental facilities and premises cleaned	200
			2270010 Travel inland			2,000	Experimental materials collected and trials established	1,000	Experiments monitored	200	Trials established and monitored	500	Experiments monitored	300
			2270040 Fuel, Lubricants & Oils			2,500	Experimental materials collected	1,000	Experiments monitored	500	Experiments monitored	500	Experiments monitored	500

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
						85,500		26,200		19,650		19,950		19,700
Development of Livestock and Fisheries	Development and evaluation of feeding packages for livestock and fisheries	01: Generation of agricultural technologies	2240060 Agricultural supplies	Formulation of feed rations for evaluation	Feed rations for increased productivity of livestock developed	15,000	Procurement of assorted livestock feeds and drugs	3,750	Procurement of assorted livestock feeds and drugs	3,750	Procurement of assorted livestock feeds and drugs	3,750	Procurement of assorted livestock feeds and drugs	3,750
			2240060 Agricultural supplies	Utilization and management of the available locally feed ingredients as alternative feeds for fish	One cost effective fish feed from the local fish feed ingredients formulated and evaluated	13,000	Fish feed ingredients procured	5,000	Fish feed ingredients procured	5,000	Fish feed ingredients procured	3,000		
			2240060 Agricultural supplies	establishment of fodder garden	Planting materials accessed for fodder establishment	10,000	Procurement of planting materials for fodder	4,000	Management of established fodder garden	2,500	Management and monitoring of fodder	2,500	Management of fodder	1,000
			2240060 Agricultural supplies		fertilizers for improved fodder production procured	8,000	Fertilizers procured	5,000	Fertilizers procured	3,000				
			2240060 Agricultural supplies	Management of experimental animals	essential drugs and vaccines for management of experimental units procured	12,000	Essential drugs and vaccines procured	3,000	Essential drugs and vaccines procured	3,000	Essential drugs and vaccines procured	3,000	Essential drugs and vaccines procured	3,000

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060 Agricultural supplies		replenishment stock of experimental animal accessed for the evaluation	15,000	Replenishment stock of livestock procured	7,500	Replenishment stock of experimental materials procured	7,500				
		04: Agricultural research capacity strengthened	2210060 Committee, Council and Board expenses	Monitoring progress of research	Boards/committees facilitated to review progress	1,000	Research reviewed by appropriate committees	500			Research reviewed by appropriate committee	500		
			2270010 Travel inland			3,050	Replenishment stock of livestock accessed	1,530	Replenishment stock of livestock accessed	1,520				
			2270010 Travel inland		Samples submitted for laboratory analysis	1,950	samples analysed	1,200	samples analysed	750				
			2230040 Guard and Security services	Provision of guard and security services for research materials	Research materials secured	8,000	Research materials secured	2,000	Research materials secured	2,000	Research materials secured	2,000	Research materials secured	2,000
			2240040 Cleaning & Sanitation	provision of conducive environment for research	Clean research environment maintained	2,000	Cleaning and sanitary materials provided	500	Cleaning and sanitary materials provided	500	Cleaning and sanitary materials provided	500	Cleaning and sanitary materials provided	500

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2230060 Water		Utilities provided for research and experimental materials	10,000	Water provided for livestock	2,500	Water provided for livestock	2,500	Water provided for livestock	2,500	Water provided for livestock	2,500
			2230050 Electricity			8,000	Electricity bills paid to research activities	2,000	Electricity bills paid for supporting research	2,000	Electricity bills paid for supporting research	2,000	Electricity bills paid for supporting research	2,000
			2210110 Printing, Stationery, Binding		supply of stationery and printing services to support research	1,500	Stationary procured	500	Stationary procured	500	Stationary procured	500		
			2280020 Maintenance-Vehicle	Vehicle maintenance	Research vehicles maintained in good functional state	5,000	Research vehicles maintained in good condition	1,250	Research vehicles maintained in good condition	1,250	Research vehicles maintained in good condition	1,250	Research vehicles maintained in good condition	1,250
			2270040 Fuel, Lubricants & Oils	Supplying fuel/ lubricants and oils for running research activities	Fuel/lubricants/ oils supplied for running research activities	5,000	Fuel/lubricants/ oils supplied for research	2,000	Fuel/lubricants/ oils supplied for research	1,500	Fuel/lubricants/ oils supplied for research	1,000	Fuel/lubricants/ oils supplied for research	500
						118,500		42,230		37,270		22,500		16,500
Development of crop resources	Multi location evaluation of sorghum germplasm in Uganda	01: Generation of agricultural technologies	224006 - Agricultural supplies	Establishment, management, inspection of 4 trials in Kachwekano, Buginyanay, Rwebitaba and Zombo to assess	4 multilocation trial sites established for 2 seasons; (2019 season 2, and 2020 season 1) For SWHAEZ, at	37,000	Trail establishment, management, monitoring and inspection	22,000	First season harvesting, yield analysis, reporting and establishment of the second and	2,000	Trail management, Monitoring, Field inspection and review meetings	10,000	Second season harvesting, yield analysis, reporting and Varieties released	3,000

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		04: Agricultural research capacity strengthened	2210060 - Committee, Council and Board expenses	performance and release at least 3 sorghum varieties	Kachwekano , For EHAEZ at Biginyanaya, For Rwenzori zone at Rwebitaba ZARDI and for Northern west zone Zombo	3,000		500	final season trials in the 4 sites	1,000		500		1,000
			2210110 - Printing, Stationary and Binding			2,000		1,000		500		500		
			2230050- Electricity			5,000		1,000		2,000		500		1,500
			2230040 - Guard and Security			10,000		2,500		2,500		2,500		2,500
			2270010 Travel inland			10,000		2500		2,500		2,500		2500
			2270040 Fuels,lubricants & Oils			10,000		2,500		2,500		2,500		2,500
			2280020- Maintenance of Vehicles			5,000		2,000		1,000		1,000		1,000
			Sub-total			82,000				34,000				14,000
		Grand-total			475,000		163,359	-	121,991	-	101,200	-	88,450	

Annex ci: Mbarara ZARDI GoU Recurrent work plan and budget for FY 2019/20

Directorate/ Program	Project name	Vote function out put	Annual output	Key activity	Expendi ture code	Expenditure description	Annual cost (000)	Q1 Budget (000)	Q2 Budget (000)	Q3 Budget (000)	Q4 Budget (000)
Animal Resources Research Program	Developmen t and promotion of appropriate livestock and fish feed resources	Generation of agricltural technologies	At least two low-cost higher quality dairy and fish feed rations developed to support climate smart livestock and aquaculture systems	Evaluating performance of dairy cattle and fish fed on feeds formulated from high nutrient locally available feed grade ingredients.	2270010	Travel inland	2,000	500	500	500	500
					2230040	Guard and Security services	4,000	1,000	1,000	1,000	1,000
					2240010	Medical and Veterinary supplies	60,000	15,000	20,000	15,000	10,000
					2210110	Assorted stationery/ printing materials	300	100	100	-	100
					2230060	Water(Dam/ pond)	4,000	4,000	-	-	-
					2270040	Fuel, Lubricants & Oils	500	250	-	250	-
Sub total							70,800	20,850	21,600	16,750	11,600
Animal Resources Research Program	Improvemen t of dairy cattle productivity through genetic characterisat ion.	Generation of agricltural technologies	1 elite herd with improved genetic dairy traits available for further multiplication. At least one milk starter culture, produced validated and promoted	On-station evaluation of dairy cattle for superior genetic performance indicators (for improved access by farmers in the zone).	2270010	Travel inland	500	250	250	-	-
					2230040	Guard and Security services	3,500	1,000	1,000	1,000	500
					2240010	Medical and Veterinary supplies	60,000	15,000	15,000	15,000	15,000
					2210110	Assorted stationery/ printing materials	500	100	200	150	50
					2220010	Telecommunications	800	250	250	300	-
					2270040	Fuel, Lubricants & Oils	500	200	100	100	100
Sub-Total							65,800	16,800	16,800	16,550	15,650
Animal Resources Research Program	Developmen t of an Early Warning System (EWS) for enhanced control of Foot and Mouth Disease	Generation of agricltural technologies	1 computer-based module for predicting likely outbreaks of Foot and Mouth Disease in the South Western disease hot spot of Uganda developed and promoted	Data mining and field surveys, Consultative meetings and Expert opinions, Mathematical Modeling, Adoption and promotion of EWS to uptake pathways	2270010	Travel inland	2,000	1,000	500	500	-
					2210020	Worksops and seminars	-	-	-	-	-
					2240010	Medical and Veterinary supplies	27,000	10,000	5,000	5,000	7,000
					2250010	Consultancy services-Short term	-	-	-	-	-
					2240010	Veterinary drugs				-	
					2111020	Contract Staff Salaries (Incl. Casual labourers)	-	-	-	-	-

Directorate/ Program	Project name	Vote function out put	Annual output	Key activity	Expendi ture code	Expenditure description	Annual cost (000)	Q1 Budget (000)	Q2 Budget (000)	Q3 Budget (000)	Q4 Budget (000)
					2270040	Fuel, Lubricants & Oils	1,000	500	500		
					2240060	Agricultural supplies				-	-
Sub-Total							30,000	11,500	6,000	5,500	7,000
Crop & Natural Resources Research	Development of technologies /innovations to support the emerging agroprocessing banana juice and wine cottage industries in SW Uganda.	Crop-Banana-Generation of agricultural technologies	At least one banana variety that is market-preferred with juice and wine producing attributes and well adapted to SWAEZ selected.	Onstation and onfarm survey and participatory evaluation of selected banana varieties for juice production and adaptability attributes. Develop an inventory of the varieties with the best performing selected for promotion	2270010	Travel inland	1,500	750	-	750	-
					2240060	Agric supplies	32,800	10,900	10,900	7,900	3,100
					2230040	Guard and Security services	3,500	1,000	1,000	1,000	500
					2270040	Fuel/lubricants/oils	1,000	250	500	250	
					2210110	Assorted stationery/printing materials	800	200	200	200	200
			Sub-total				39,600	13,100	12,600	10,100	3,800
			At least one more efficient (quality & quantity) banana-juice extraction technology in SW Uganda developed and promoted.	Design of extraction procedures, on-station and field evaluation of different extraction methods and creation of protocol(s) of the developed extraction method(s).	2270010	Travel inland	1,500	-	750	-	750
					2240060	Agric supplies	32,600	8,800	12,900	7,900	3,000
					2230040	Guard and Security services	3,500	1,000	1,000	1,000	500
					2270040	Fuel/lubricants/oils	500	250	250		
			Sub-total				38,100	10,050	14,900	8,900	4,250
	Enhancing productivity and drought resilience of fruit	Crop-Fruits-	At least two appropriate integrated pest and disease management (IPDM), soil nutrient	Farmer participatory evaluation of the effect of different IPDM and soil	2270010	Travel inland	1,500	750	-	750	-
					2240060	Agric supplies	32,600	13,200	7,900	7,900	3,600
					2230040	Guard and Security services	3,500	1,000	1,000	1,000	500

Directorate/ Program	Project name	Vote function out put	Annual output	Key activity	Expendi ture code	Expenditure description	Annual cost (000)	Q1 Budget (000)	Q2 Budget (000)	Q3 Budget (000)	Q4 Budget (000)
	production systems in SWAEZ		and moisture management options for improved mango and citrus varieties developed.	management options on citrus and mango yield on-station and on-farm	2270040	Fuel/lubricants/oils	500		250	250	
			Sub total				38,100	14,950	9,150	9,900	4,100
Technology Promotion and Outreach	Economic analysis of integrated farming systems in SWAEZ	Generation of agricultural technologies	Socioeconomic benefits of atleast 2 priority crops promoted in the zone documented	Conducting cross sectional surveys in the zone, data analysis and writing	2270010	Travel inland	4,000	1,000	1,000	1,000	1,000
					2270040	Fuel and oil	2,000	500	500	500	500
					2210110	Printing, Stationery &binding	800	200	200	200	200
					2220010	Telecommunication	800	200	200	200	200
Sub -Total							7,600	1,900	1,900	1,900	1,900
Research and Development Programms	Promote and enhancing research	Generation of agricltural technologies	Provision of utility services (Irrigation, dams, ponds water for production) for research operations.	Utility serviced availed to improve research	2230060	Water	4,000	1,000	1,000	1,000	1,000
TOTAL							294,000	90,150	83,950	70,600	49,300
Management and Administration	Strengthenin g Agricultural Research Capacity	04.Strengthen ing Agricultural Research Capacity	Quarterly advisory committee meetings held	Supply of labour	2111030	Allowances	9,000	2,250	2,250	2,250	2,250
			Enhanced information dissemination and cooperate image of the Institute.	Facilitating quarterly committee meetings to advise research	2210060	Committee, Council and Board expenses	11,000	2,750	2,750	2,750	2,750
			Printing, Stationery, Binding procured	Advertisement and public relationship	2210010	Adverticing and public relations	1,290	323	323	323	323
			Provision of guard and security services for research	Payment of printing, stationery, binding to support research work	2210110	Printing, Stationery, Binding	6,000	1,500	1,500	1,500	1,500

Directorate/ Program	Project name	Vote function out put	Annual output	Key activity	Expendi ture code	Expenditure description	Annual cost (000)	Q1 Budget (000)	Q2 Budget (000)	Q3 Budget (000)	Q4 Budget (000)
			Provision of utility services for research and administrative operations.	security services availed to enhance research	2230040	Security services	20,000	5,000	5,000	5,000	5,000
			Monthly Electricity bills settled	Utility serviced availed to improve research	2220060	water	20,000	5,000	5,000	5,000	5,000
			A clean & hygienic environment to staff maintained	Payment of monthly electricity bills to support research work	2230050	Electricity	50,000	12,500	12,500	12,500	12,500
			Institute vehicles repaired & serviced	Ensuring a hygienic environment to staff safety.	2240040	Cleaning & Sanitation	9,000	2,250	2,250	2,250	2,250
			Staff facilitated on official duties	Insuring institute vehicles used in research and administration work	2260010	Insurances	1,280	320	320	320	320
			Fuel, Lubricants & Oils including for water pump provided	Facilitation of staff travel on official duties	2270010	Travel inland	20,000	5,000	5,000	5,000	5,000
			Institute structures including roads,buildings, sewerage at institute maintained in good condition	Procurement of fuel, lubricants & oils for vehicles and water pump	2270040	Fuel, Lubricants & Oils including fuel for water pump	20,000	5,000	5,000	5,000	5,000
			Institute vehicles m, motor cycles maintained in a good condition	Maintenance of institute research and admin. vehicles, motorcycles	2280020	Maintenance - Vehicles	13,430	3,358	3,358	3,358	3,358

Directorate/ Program	Project name	Vote function out put	Annual output	Key activity	Expendi ture code	Expenditure description	Annual cost (000)	Q1 Budget (000)	Q2 Budget (000)	Q3 Budget (000)	Q4 Budget (000)
Sub-Total							181,000	45,250	45,250	45,250	45,250
REC GRAND TOTAL							475,000	135,400	129,200	115,850	94,550

Annex cii: Mukono ZARDI GoU Recurrent work plan and budget for FY 2019/20

Progra m/ Directo rate	Projects/U nits	Vote Function /output	Expenditur e Code/Descr iption	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget t (000)
Research and Development Programs	Promote and enhancing research	Generati on of agricultu ral technolo gies - 01	2230050 : Electricity	Utility services availed to improve research	Provision of utility services for research and administrativ e operations.	14,000	Electricity and communication services provided.	3,500	Electricity and communicati on services provided.	3,500	Electricity and communicatio n services provided.	3,500	Electricity and communicatio n services provided.	3,500
			2220010 : Telecommu nications	Payment of telephone bills	Telephone services supplied to the institute throughout the year	6,000	Telephone services supplied to the institute during 1st quarter	1,500	Telephone services supplied to the institute during 2 quarter	1,500	Telephone services supplied to the institute during 3 quarter	1,500	Telephone services supplied to the institute during 3 quarter	1,500
			2210110 : Printing ,Stationery ,Binding	Procurement of supporting services, ie stationery to improve research	Provision of office requirements .	4,000	Acquisition of stationery	1,000	Assorted stationary available during 2 quarter	1,000	Assorted stationary available during 3 quarter	1,000	Assorted stationary available during 4 quarter	1,000
			2270010 :Travel inland	Preparation and submission of Human Resource , financial, procurement and administrative reports to NAROSEC	Human Resource and Administrati ve reports prepared and submitted to NAROSEC	4,000	Human Resource and administrative & financial ,Procurement reports for 1st quarter prepared and submitted to NAROSEC	1,000	Human Resource and administrativ & financial ,Procurement reports for 2nd quarter prepared and submitted to NAROSEC	1,000	Human Resource and administrative & financial ,Procurement reports for 3rd quarter prepared and submitted to NAROSEC	1,000	Human Resource and administrative & financial ,Procurement reports for 4 quarter prepared and submitted to NAROSEC	1,000
			2270040 : Fuel ,Lubricants & oils	Procurement of fuel	Fuel available for administrativ e activities throughout the year	4,000	Fuel available for administrative activities during 1st quarter	1,000	Fuel available for administrativ e activities during 1st quarter	1,000	Fuel available for administrative activities during 1st quarter	1,000	Fuel available for administrative activities during 1st quarter	1,000

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270040: Fuel and Lubricants	security services availed to enhance research	Fuel available for administrative activities throughout the year	13,240	Fuel available for administrative activities during 1st quarter	3,310	Fuel available for administrative activities during 1st quarter	3,310	Fuel available for administrative activities during 1st quarter	3,310	Fuel available for administrative activities during 1st quarter	3,310
				Sub -total		45,240		11,310		11,310		11,310		11,310
MUZARDI Administration	MUZARDI administration, coordination and governance	Agricultural research capacity strengthened -04	2210060: Committee ,Council &Board expenses	Four advisory committee, disciplinary committee , Finance committee and general staff meetings	Policy guidelines for decision making generated.	10,000	Policy guidelines for decision making generated.	2,500	Policy guidelines for decision making generated.	2,500	Policy guidelines for decision making generated.	2,500	Policy guidelines for decision making generated.	2,500
			2111030: Contract Staff Salaries (Incl. Casual labourers)	Contract staff to maintain grounds, buildings, seed stands	Compound, buildings, access road and drive ways maintained	9,000	Contract Staff Salaries and wages for casual labourers paid for quarter one	2,250	Contract Staff Salaries and wages for casual labourers paid for quarter two	2,250	Contract Staff Salaries and wages for casual labourers paid for quarter three	2,250	Contract Staff Salaries and wages for casual labourers paid for quarter four	2,250
			2731020: Incapacity Death benefits and funeral costs	death benefits / services availed	Provision of death benefits services	4,435	death benefits /services provided.	1,109	death benefits /services provided.	1,109	death benefits /services provided.	1,109	death benefits /services provided.	1,108
			2210090: Welfare and Entertainment	Welfares and cleaning services availed	Provision of welfare servicesand cleaning services for administrative operations.	3,750	Staff meals and refreshments provided	939	Staff meals and refreshments provided	939	Staff meals and refreshments provided	937	Staff meals and refreshments provided	935
			2240040: Cleaning and Sanitation	Office and compound maintained	Office and compound maintained	3,850	Office and compound maintained	989	Office and compound maintained	989	Office and compound maintained	987	Office and compound maintained	885
			2280020: Maintenance vehicles	Repair and service of institute vehiclesand motor cycles.	Smooth running of institute vehicles and motor cycles	5,000	Vehicles serviced and repaired	1,250	Vehicles serviced and repaired	1,250	Vehicles serviced and repaired	1,250	Vehicles serviced and repaired	1,250

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2280030: Machinery and other equipments	Repair, and service of institute machinery and equipments	Machinery and other equipments	1,000	Repair and maintenance of equipment generator, water pump,tractors,a nd other tools etc	250	Repair and maintenance of equipment generator, water pump,tractors ,and other tools etc	250	Repair and maintenance of equipment generator, water pump,tractors, and other tools etc	250	Repair and maintenance of equipment generator, water pump,tractors, and other tools etc	250
			2280010: Insurance	Insurance of institute vehicles and motor cycles.	third party insurance forvehicles and motor cycles availed	900	Third party insurance for vehicles and motor cycles	250	Third party insurance for vehicles and motor cycles	200	Third party insurance for vehicles and motor cycles	350	Third party insurance for vehicles and motor cycles	100
			2220020: Postage and courier	Procurement of supporting services, ie stationery to improve research,books, periodicals, newspapers and postage	Provision of office requirements .	250	Acquisition of books, periodicals and news papers.	100	Acquisition of books, periodicals and news papers.	50	Acquisition of books, periodicals and news papers.	75	Acquisition of books, periodicals and news papers.	25
			2210070: Booksperiodicals and news papers	Books ,periodicals and news papers	Books ,periodicals and news papers	1,250	Books ,periodicals and news papers procured	500	Books ,periodicals and news papers procured	250	Books ,periodicals and news papers procured	250	Books ,periodicals and news papers procured	250
			2210010: Advertising and public Relations	Advertisement and public relations	Enhanced information dissemination and cooperate image of the Institute.	3,000	Enhanced information dissemination and cooperate image of the Institute.	750	Enhanced information dissemination and cooperate image of the Institute.	750	Enhanced information dissemination and cooperate image of the Institute.	750	Enhanced information dissemination and cooperate image of the Institute.	750
						42,435	-	10,887	-	10,537	-	10,708	-	10,303
TOTAL RECURRENT						87,675	-	22,197	-	21,847	-	22,018	-	21,613

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Program 1: Technology Promotion and Outreach	Promote and enhancing research	Generation of technologies		MAIN ACTIVITY: Commodity Production Economic studies of at least 5 NARO technologies of Flagship commodities	A detailed catalog of at least 5 profitable NARO technologies of flagship commodities including recommendations for adaptation to prevailing market volatility.			-		-		-		-
				1. Profitability assessment studies of at least 5 NARO technologies of Flagship commodities			5 NARO technologies of Flagship commodities for profitability studies determined	-	Markets and Market studies of flagship commodities initiated	-	Markets and market studies of flagship commodities conducted	-	Data Analysis and Report development	-
			2111030	Allowances		-		-		-		-		-
			2240010	Medical and Vet supplies		11,079		2,770		2,770		2,770		2,770
			2240060	Agric supplies		15,023		3,756		3,756		3,756		3,756
		Agricultural research capacity strengthened	2210110	Printing, stationery & binding		556		556						
			2270040	Fuel, lubricants & oil		3,000		1,000		1,000		1,000		
			2270010	Travel Inland		1,725		431		431		431		431
				Sub-total		31,383	-	8,513	-	7,957	-	7,957	-	6,957

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				2. Determination of Conservative Estimates, Optimum Estimates and Benefits of 5 NARO technologies of Flagship commodities to end users			Methodologies initiated of studies on Conservative Estimates, Optimum Estimates and Benefits of 5 NARO technologies	-	Assessment studies on Conservative Estimates, Optimum Estimates and Benefits of 5 NARO technologies	-	Assessment studies on Conservative Estimates, Optimum Estimates and Benefits of 5 NARO technologies	-	Data Analysis and Report development	-
			2111030	Allowances		-		-		-		-		-
			2240010	Medical and Vet supplies		11,079		2,770		2,770		2,770		2,770
			2240060	Agric supplies		15,023		3,756		3,756		3,756		3,756
			2210110	Printing, stationery & binding		556				556				
			2270040	Fuel, lubricants & oil		3,000		1,000				1,000		1,000
			2270010	Travel Inland		1,727		432		432		432		432
				Sub-total		31,385	-	7,957	-	7,513	-	7,957	-	7,957
		Generati on of technolo gies		3. Assessment of hindrances to impact of NARO technologies			Methodologies of hindrances to impact of NARO technologies initiated	-	Methodologies of hindrances to impact of NARO technologies determined	-	Assessment studies of hindrances to impact of NARO technologies conducted	-	Data Analysis and Report development	-
			2240010	Medical and Vet supplies		11,079		2,770		2,770		2,770		2,770
			2240060	Agric supplies		15,023		3,756		3,756		3,756		3,756
		Agricultu ral research	2210110	Printing, stationery & binding		556				556				

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		capacity strengthened	2270040	Fuel, lubricants & oil		3,000		1,000				1,000		1,000
			2270010	Travel Inland		1,727		432		432		432		432
			2230050	Electricity	Units procured	50,000		12,500		12,500		12,500		12,500
			2111030	Allowances		-		-		-		-		-
			2280020	Maint. Vehicle	Field Vehicle repaired & serviced	5,000	Vehicle serviced & repaired	2,000	Vehicle serviced	1,000	Vehicle repaired	1,000	Vehicle repaired	1,000
				Sub-total		86,385	-	22,457	-	21,013	-	21,457	-	21,457
				Total -Tech Prom & outreach		149,152	-	38,927	-	36,483	-	37,371	-	36,371
Animal and aquaculture Research Programme	To determine the efficacy of Ugandan DE on odour reduction in pig manure			Efficacy of Ugandan DE on odour reduction in pig manure assessed										
			2240010	Medical and Vet supplies		6,080	Animal drugs	1,520		1,520		1,520		1,520
			2240060	Agric supplies		8,000	Animal feeds	2,000		2,000		2,000		2,000
		Agric research capacity strengthened	2270010	Travel Inland		1,727	Fuel, oils and lubricants	432		432		432		431
			2210110	Printing , Stationery & Binding		556		156		156		122		122
				Sub-total		16,362	-	4,108	-	4,108	-	4,074	-	4,073

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Animal Resources Research Programme	To determine the amounts of DE responsible for significant odour reduction in pig housing units			Amounts of DE responsible for significant odour reduction in pig housing units determined										
			2240010	Medical and Vet supplies	Animal drugs	5,000	Pigs for use in feeding experiments; animal drugs and Personnel for maintaining animals under feeding trial	1,250	Animal drugs and Personnel for maintaining animals under feeding trial	1,250	Animal drugs and Personnel for maintaining animals under feeding trials	1,250	Animal drugs and Personnel for maintaining animals under feeding trial	1,250
		Generation of technologies	2240060	Agric supplies	Animal feeds	7,023	Purchase of DE for use in experiments; redesigning and equipping pig houses, Data analyses; lab analyses	1,756	Animal feeds	1,756	Animal feeds	1,756	Animal feeds	1,755
		Agric research capacity strengthened	2111030	Allowances	Per diem for staff	-	2 FGDs held		1 seminar held		1 seminar held		1 stakeholders workshop held	
			2270040	Fuel, lubricants & oil		3,000		1,500				1,500		
				Sub-total		15,023	-	4,506	-	3,006	-	4,506	-	3,005
	Nile Tilapia Broodstock		2240060	Production of Full-sib inbred lines	Full-sib inbred lines from Lake Nabugabo									
	Selection, Seed Quality and		2240060	Agric supplies	Feeds	2,000				1,000		1,000		
			2240060	Agric supplies	labor	2,000		400		800		500		300

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Density-Dependent Growth	Generation of technologies	2240060	Agric supplies	Hapas	2,000				2,000				
			2210110	Printing, stationery & binding	peer reviewed journal publications	556	Draft publications				Publication	300	Publication	256
			2270040	Fuel, lubricants & oil	Fuel	3,000		750		750	750			750
			2270010	Travel Inland	travel inland	1,727				1,727				
			2111030	Allowances	Per diem for staff	-								
				Sub-total		11,283	-	1,150	-	6,277	750	1,800	-	1,306
				Broodstock Seed Production and evaluation for candidate strains										
			2240010	Medical and Vet supplies										
			2240010	Medical and Vet supplies	Determining Egg Quality:	1,000		250		250		250		250
			2240010	Medical and Vet supplies	Determinatio n Sperm Quality:	2,167		667		500		500		500
			2240010	Medical and Vet supplies	Determining Spawning Success	2,000		500		500		500		500
			2240010	Medical and Vet supplies	Determining Fry Survival Rate and Size	1,000		250		250		250		250
			2240010	Medical and Vet supplies	Determining Hatching Rate	2,000						1,000		1,000
				Sub-total		8,167	-	1,667	-	1,500	-	2,500	-	2,500

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				On farm production trials for improved fry/fingerlings	80,000 improved fry/fingerlings produced for on farm production trials									
			2240060	Agric supplies		1,000	Hapas, feeds	250	hapas nets, feed	250	Fry Production for trial	250	Fry production from trial	250
			2240060	Agric supplies		2,056	17 alpha MT/Ethanol	556	17 alpha MT/Ethanol	500		500		500
			2240060	Agric supplies		1,000		250		250		250		250
			2240060	Agric supplies		1,000		250		250		250		250
			2240060	Agric supplies		1,000		250		250		250		250
			2240060	Agric supplies		1,000		250		250		250		250
			2240060	Agric supplies		1,000		250		250		250		250
				Sub-total		7,056	-	1,806	-	1,750	-	1,750	-	1,750
			2240060	Maintaining water delivery system (Channels and pipelines)	desilting and clearing channels									
			2111030	Contract Staff Salaries (Incl. Casual labourers)		-	desilting and clearing channels		desilting and clearing channels		desilting and clearing channels		desilting and clearing channels	
				Repair and maintanance of Aquaponics/ demonstration unit										
			2240060	Agric supplies		1,000	Biofilter			1,000				
			2240060	Agric supplies		600	Plumbing			600				
			2240060	Agric supplies		2,000	Water Quality Meter			2,000				
			2240060	Agric supplies		200	Pump			200				

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060	Agric supplies		400	Tank			400				
			2240060	Agric supplies		600	UV-Lamp			600				
			2240060	Agric supplies		600	Aerator	600						
			2240060	Agric supplies		600	Labour	150		150		150		150
						6,000		750		4,950		150		150
	To demonstrate pastures that yield more milk in a semi-intensive dairy production enterprise			Six pasture (legume and grasses) demonstrations established on 5 acres of land	Legume and pasture plots established for demonstrating their effect on milk yield									
			2240060	Agric supplies		10,000	Contract salaries and casual labour	2,500	Contract salaries and casual labour	2,500	Contract salaries and casual labour	2,500	Contract salaries and casual labour	2,500
				Conducting feeding trials to establish the comparative effects of different legume species on milk yield										
			2240010	Medical and Vet supplies		8,167	Animal drugs	2,167	Animal drugs	2,000	Animal drugs	2,000	Animal drugs	2,000
			2240060	Agric supplies		9,056	Seed for pastures demonstrations procured and demonstrations planted	3,056		2,000	Seed for pastures demonstrations procured and demonstrations planted	2,000		2,000
			2111030	Allowances		-								
			2210110	Printing, stationery & binding		556		256		100		100		100
			2270010	Travel Inland		1,725		431		431		431		432

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270040	Fuel, lubricants & oil		3,000	Fuel	750	Fuel	750	fuel	750	fuel	750
				Sub-total		32,503	-	9,160	-	7,781	-	7,781	-	7,780
Total for Livestock and aquaculture						96,393	-	23,147	-	29,372		22,561	-	20,564
Program 3: Crop and Natural Resources Research Programme	Evaluation of performance of different apple varieties in the LVCAZ			Data collection on apple variety performance at Kamenyamiggo	Performance of the different apple varieties under evaluation determine									
			2240010	Medical & vet supplies		3,000	20 litres of insecticides and 10 kg of fungicides	1,500			20 litres of insecticides and 10 kg of fungicides	1,500		
			2240010	Medical & vet supplies		2,000	20L of herbicides procured	1,000			20L of herbicides procured	1,000		
		Generation of technologies	2270010	Travel inland		1,000	Three data sets collected	250	Two data sets collected	250	Two data sets collected	250	Two data sets collected	250
			2270040	Fuel, Lubricants & oils		480	25 ltrs of fuel procured for data collection	120	25 ltrs of fuel procured for data collection	120	25 ltrs of fuel procured for data collection	120	25 ltrs of fuel procured for data collection	120
				Sub-total		6,480		2,870		370		2,870		370
	Effect of cassava intercropping systems on weed management in cassava production in the LVCAZ	Agricultural research capacity strengthened		Procurement of inputs for the establishment of the cassava intercrop trial	Efficacy of the different cassava intercrops on weed infestation determined									
			2240060	Agric supplies		656	20 kg of maize seed procured	356			10 kg of maize seed procured	300		
			2240060	Agric supplies		656	20 kg of bean seed procured	356			10 kg of bean seed procured	300		

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		Generation of technologies	2240060	Agric supplies		656	20 kg of Gnut seed procured	356			10 kg of Gnut seed procured	300		
			2240060	Agric supplies		2,000	20bags cassava planting materials	1,000			20 bags cassava planting materials	1,000		
			2240060	Agric supplies		100	20 sisal rolls procured	100				-		
			2240060	Agric supplies		4,200	Land preparation and trial maintenance services procured	2,100			Land preparation and trial maintenance services procured	2,100		
			2240060	Agric supplies		180	Soil sampling bags (25kg) procured	70			60 soil sampling bags procured	70	25 soil sample holding bags procured	40
			2240060	Agric supplies		6,000	60 soil samples analysed	3,000			60 soil samples analysed	3,000		
			2240060	Agric supplies		2,000	10 litres of insecticides and 10 Litres of herbicide procured	1,000				1,000		
				Medical & vet supplies							10 litres of insecticides and 10 Litres of herbicide procured			
			2240010	Medical & vet supplies		600	Trials monitored at least 2 times	150	Trials monitored at least 2 times	150	Trials monitored at least 2 times	150	Trials monitored at least 2 times	150
		Agricultural research capacity strengthened	2270040	Fuel,Lubricants & oils		1,000	85 litres of fuel for monitoring trial procured	340	55 litres of fuel for monitoring trial procured	220	55 litres of fuel for monitoring trial procured	220	55 litres of fuel for monitoring trial procured	220
				Sub-total		18,048		8,828		370		8,440		410

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Evaluation of the efficacy of selected maize weed control herbicides in the LVCAZ	Agricultural research capacity strengthened		Land preparation and trial planting and management at Kamenyamiggo, Mukono and three on-farm fields	Most effective herbicide(s) for weed control in maize in the LVCAZ identified and recommended to farmers									
			2240060	Agric supplies		1,500	5 bag of DAP and 5 bag of urea procured	1,500						
			2240060	Agric supplies		480	30 Kg of maize procured	240			30 Kg of maize procured	240		
		Generation of technologies	2240060	Agric supplies		1,500	Land preparation services procured	750			Land preparation services procured	750		
			2240060	Medical & vet supplies		1,750	20 litres of herbicide procured	1,000			15 litres of herbicide procured	750		
			2240060	Agric supplies		2,700	Services to maintain the planted trials procured		Services to maintain the planted trials procured	900	Services to maintain the planted trials procured	900	Services to maintain the planted trials procured	900
		Agricultural research capacity strengthened	2270040	Fuel, Lubricants & oils		2,400	150 Litres procured	600	150 Litres procured	600	150 Litres procured	600	150 Litres procured	600
			2270010	Travel inland		1,000	Per diems	250	Per diems	250	Per diems	250	Per diems	250
				Sub-total		11,330		4,340		1,750		3,490		1,750

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Adaptation of promising bean genotypes to the LVCAZ			Establishment and monitoring bean evaluation trial at Kamenyamiggo, Mukono and two on-farm; procurement of inputs, planting & weeding	Two promising bean genotypes selected for upscaling									
			2240060	Agric supplies		1,200	Land preparation services procured	600			Land preparation services procured	600		
			2240060	Agric supplies		3,000	5 bags of DAP and 5 bags of Urea fertilizer procured	1,500			5 bags of DAP and 5 bags of Urea fertilizer procured	1,500		
		Generation of technologies	2240060	Agric supplies		2,000	20 litres of insecticide procured	1,000			20 litres of insecticide procured	1,000		
			2240060	Agric supplies		2,400	200 Kg of seed procured	1,200			200 Kg of seed procured	1,200		
		Agricultural research capacity strengthened	2270040	Fuel, Lubricants & oils		1,120			120 litres of fuel for establishment and monitoring the trials procured	480	40 litres of fuel for harvesting the trials procured	160	120 litres of fuel for establishment and monitoring the trials procured	480
			2240060	Agric supplies		1,550			Services to maintain the planted trials procured	517	Services to maintain the planted trials procured	517	Services to maintain the planted trials procured	516
			2270010	Data collection during trial monitoring		1,500			Allowances during trial monitoring paid	500	Allowances during trial monitoring paid	500	Allowances during trial monitoring paid	500
				Sub-total		12,770		4,300		1,497		5,477		1,496

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Adaptation of promising sweetpotato genotypes to the LVCAZ			Land preparation, planting, weeding and trial monitoring	Four promising sweetpotato genotypes selected for on farm trials									
			2240060	Agric supplies		5,900	Planting materials procured	1,200	20 bags of phosphate fertilizers procured	3,000	Sample storage bags and tags procured	500	Planting materials procured	1,200
			2240010	Medical & vet supplies		3,250	15 litres of pesticides procured	750	20 litres of pesticides procured	1,000	15 litres of pesticides procured	750	15 litres of pesticides procured	750
		Generation of technologies	2240060	Agric supplies		2,000	Planting materials procured		sweetpotato trial harvested	1,000			sweetpotato trial harvested	1,000
			2240060	Agric supplies		3,000	Land preparation services procured	1,500			Land preparation services procured	1,500		
			2270040	Fuel, Lubricants & oils		1,040			90 litres of fuel procured for planting and monitoring the trials	360	90 litres of fuel procured for monitoring and harvesting the trials	360	80 litres of fuel procured for planting and monitoring the trials	320
			2240040	Cleaning & Sanitation	Institute bans ,roads ,paddocks & compound maintained	5,100	Institute bans ,roads ,paddocks & compound maintained	1,500	Institute bans ,roads ,paddocks & compound maintained	1,500	Institute bans ,roads ,paddocks & compound maintained	1,100	Institute bans ,roads ,paddocks & compound maintained	1,000
			2270010	Per diems (Scientist, Sr Technician & driver)		840			Per diems during trial monitoring paid	280	Per diems during trial monitoring and harvesting the trials paid	280	Per diems during trial monitoring paid	280

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		Agricultural research capacity strengthened		Sub-total		21,130		4,950		7,140		4,490		4,550
	Evaluation of the performance of the seven KR-coffee lines under selected climate smart practices on			Installation of climate smart structures in the trials	Smart climate structures installed in the trials									
			2240060	Agric supplies		6,000			Climate smart structures procured and installed within the coffee garden	4,000	Climate smart structures maintained	1,000	Climate smart structures maintained	1,000
	Plinthosols and Ferralsols		2270040	Fuel,Lubricants & oils		640			60 ltrs of fuel procured	240	50 litres of fuel procured	200	50 litres of fuel procured	200
		Generation of technologies	2270010	Travel inland		1,400			Per diems for trial monitoring paid	467	Per diems for trial monitoring paid	467	Per diems for trial monitoring paid	466
			2280020	Maintenance - Vehicle	Institute vehicle serviced & repaired	5,465	Institute Vehicle serviced	1,000	Institute Vehicle repaired	2,465		1,000	Institute Vehicle serviced	1,000
		Agricultural research capacity strengthened		Fuel,Lubricants & oils	Fuel procured for administrative activities	13,505	-	1,000	-	7,172	-	2,667	-	2,666
	Evaluation and promotion of different <i>Tuta absoluta</i> management options		2270010	Trials established on-station for <i>Tuta</i> management	IPM options for <i>T.absoluta</i> management evaluated and the most effective one recommended to farmers									
			2240010	Medical and vet services		4,000	20 litres of biopesticides for on-farm trials procured	2,000			20 litres of biopesticides procured	2,000		

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060	Agric supplies		1,500	Five bags of fertilizers procured	750			Five bags of fertilizers procured	750		
			2210120	Small Equipments		2,500			Staking and mulching materials procured	1,250			Staking and mulching materials procured	1,250
			2210120	Small Equipments		2,500					Small equipments procured	2,500		
			2270040	Fuel,Lubricants & oils		1,600	80L of fuel for on-farm site identification and verification	320	120L of Fuel for planting and monitoring of the on-farm trials	480	80L of fuel for on-farm site identification and verification	320	120L of Fuel for planting and monitoring of the on-farm trials	480
			2270010	Travel inland		2,400	Per diems during on-farm site selection	480	Per diems during on-farm trial establishment and monitoring	960			Per diems during on-farm trial establishment and monitoring	960
	Create awareness among stakeholders about T. absoluta and promote validated control strategies for the pest			T. absoluta awareness created among atleast 1000 tomato stakeholders and sensitised about the control strategies										
		Agricultural research capacity strengthened	2210110	Printing , Stationery & Binding		1,500					1,500 brochures printed	1,500		
			2270040	Fuel,Lubricants & oils		480					120L of Fuel for travelling to the stakeholder training sites procured	480		
			2210110	Printing , Stationery & Binding		166					Stationery for trainees procured	166		
			2270010	Allowances		1,500		600		500	Allowances for staff to conduct	200		200

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
											training			
			2230040	Guard & security services	Institut property safe guarded, dem protected & other plantation guarded	20,000		5,000		5,000		5,000		5,000
				Sub-total		38,146	0	9,150	0	8,190	0	12,916	0	7,890
	Increasing availability of improved technologies and information.			Lessons and experiences of irrigation practicing farmers/ farmer groups in the LVCAZ documented	Atleast 20 beneficiaries visited and interviewd and 1 technical report submitted									
			2240060	Agric suplies		6,936	Atleast 10 beneficiaries interviewed	3,500	Atleast 10 beneficiaries interviewed	3,436				
	Determination of best liming practice for onion production			field management and data collection	labour for watering and weeding for 2 seasons		labour for 1 season paid							
			2111030	Allowances		0								
	Evaluation of the efficeincy of selected grain storage postharvest technologies in the LVCAZ	Generation of technologies		Procurement of seed for the on-station PH trials	Two promising storage technologies recommended									
			2240060	Agric supplies		5,000	1 ton of maize grains procured and experiment established	2,000	Data collection	500	1 ton of maize grains procured and experiment established	2,000	Data collection	500
	Demonstration of Promising technologies for maize and beans	Agricultural research capacity strengthe		Promising technologies for maize and beans demonstrated										

Program/ Directorate	Projects/Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		ned												
	Technology generation		2240060	Agric supplies		8,435	Seed for the demonstrations procured and demonstration established and monitored	2,500	Demos monitored	1,935	Seed for the demonstration s procured and demonstration established and monitored	2,500	Demos monitored	1,500
				Sub-total		20,371		8,000		5,871		4,500		2,000
	Total for Crop and Natural Resources research Programme					141,780	-	43,438	-	32,360	-	44,850	-	21,132
Grand-total						475,000	-	127,709	-	120,062		126,800	-	99,680



Annex ciii: Nabuin ZARDI GoU Recurrent work plan and budget for FY 2019/20

Projects/U nits (A, B, etc)	Vote Function/ output	Annual Ouput	Annual Key Activities	Expenditure codes	Expenditure description	Unit of measure	Annual Budget	QTR 1 '000	QTR 2 '000	QTR 3 '000	QTR 4 '000
Animal Resources Research	1	Sero prevalence of brucellosis in cattle, goats, sheep, camels, and humans determined	Determining sero prevalence of brucellosis in various animal species and humans in Karamoja (CGS)	2240010	Medical and veterinary supplies	Assorted (laboratory consumbles)	35,000	10,000	10,000	10,000	5,000
				2210110	Printing, stationery and binding	Assorted (printing information material and stationery)	5,000	2,000	1,000	1,000	1,000
				2270010	Travel inland (CGS)	Assorted (Fuel, Perdiem)	15,300	3,825	3,825	3,825	3,825
	1	One feeding regime and one stocking regime for optimum cutfish production determined on-station.	Stock, maintain and assess the survival and weight gain of cutfish under different stocking and feeding regimes	2240010	Medical and veterinary supplies	Assorted (feeds, fingerlings)	6,000	1,500	1,500	1,500	1,500
				2210020	Workshop and seminars	Assorted	3,000	1,000	1,000	500	500
	1	A standard and optimized harvsting protocol for apiary products established	Establishing and promoting a standard protocol for harvesting and processing apiary products	2240010	Medical and veterinary supplies	Assorted (Honey processing equipment)	6,000	1,500	1,500	1,500	1,500
	1	The efficacy of three indigenous plant species against the ticks (Rhipicephalus decoloratus, Rhipicephalus appendiculatus and Amblyomma variegatum) tested	In vitro assessment of the efficacy of three indigenous plant species against ticks in cattle	2240010	Medical and veterinary supplies	Assorted (laboratory consumbles)	6,500	1,500	1,500	1,500	2,000
		Sub-total					76800	21,325	20,325	19,825	15,325

Projects/Units (A, B, etc)	Vote Function/output	Annual Output	Annual Key Activities	Expenditure codes	Expenditure description	Unit of measure	Annual Budget	QTR 1 '000	QTR 2 '000	QTR 3 '000	QTR 4 '000
Crops and Natural Resources Research	1	Atleast 10 acres of ground nuts (sel 14), 10 acres of maize (MM3), 10 acres of sorghum planted, maintained and harvested (CGS)	Seed production with farmer groups (seed purchase, land prep (Planting, management and harvesting)	2240060	Agricultural supplies	Assorted (seed, fertilizer, insecticides, fungicides, packaging materials)	45,000	10,000	2,000	2,000	31,000
				2210020	Workshop and seminars	Assorted	5,400	2,000	1,000	1,000	1,400
				2210110	Printing, stationery and binding	Assorted (printing information material and stationery)	5,000	2,000	1,000	1,000	1,000
				2270010	Travel inland	Assorted (Fuel, Perdiem)	15,300	3,825	3,825	3,825	3,825
		At least 3 cereal crops and 2 pulse crops introduced and promoted for enhanced food security and poverty alleviation in NEAZ	Evaluating new cereal crops and pulses for adaptability and acceptability in North Eastern Agro-ecological zone (NEAZ)	2240060	Agricultural supplies	Assorted (seed, fertilizer, insecticides, fungicides, packaging materials)	5,000	1,250	1,250	1,250	1,250
		Sub-total					75700	19,075	9,075	9,075	38,475
Agricultural Technology Promotion	1	Hired labour to generate a number of NARO technologies, products and services on farm and on station.	General staff wages/salaries for contracted staff on monthly basis	2111030	Allowances/wages/staff salaries	Assorted	31,500	10,000	5,000	5,000	11,500
		Sub-total					31500	10,000	5,000	5,000	11,500

Projects/Units (A, B, etc)	Vote Function/output	Annual Output	Annual Key Activities	Expenditure codes	Expenditure description	Unit of measure	Annual Budget	QTR 1 '000	QTR 2 '000	QTR 3 '000	QTR 4 '000
Administration (Support to management of research and development)	1	Fuel available for administrative activities throughout the year	Procurement of fuel for Generator to pump water for animals & office use, staff van and general running of other institute vehicles.	2270040	Fuel ,lubricants,oil.	litres.	11,423	2,856	2,856	2,856	2,856
		Assorted stationary, printed & binded materials available in the institute throughout the year	Procurement of assorted stationary, photocopying , printing & binding	2210110	Printing, stationery, binding	boxes/ cartons	4,000	1,000	1,000	1,000	1,000
		Human Resource and Administrative reports ,Financial, procurement reports prepared and submitted to NAROSEC	Preparation and submission of Human Resource , financial, procurement and administrative reports to NAROSEC	2270010	Travel inland	Staff	20,400	5,100	5,100	5,100	5,100
		Telephone services supplied to the institute throughout the year	Payment of telephone server telecommunication	2220010	Telecommunication	cards	5,000	1,250	1,250	1,250	1,250
		Electricity supplied to the institute throughout the year	Payment of units (KWH) from UDCL	2230050	Electricity	Units	33,750	8,438	8,438	8,438	8,438



Projects/U nits (A, B, etc)	Vote Function/ output	Annual Ouput	Annual Key Activities	Expenditure codes	Expenditure description	Unit of measure	Annual Budget	QTR 1 '000	QTR 2 '000	QTR 3 '000	QTR 4 '000
		Institute assets and activity sites secured	Guarding of institute assets, infrastructures and critical reseach & experimental sites	2230040	Guard &Security Service	Heads	16,000	4,000	4,000	4,000	4,000
					Sub-Total		90573	22,643	22,643	22,643	22,643
Agricultur al Technolog y Promotion	2	Technology Demonstrations established and used for Farmer learning	Sign ,posts , labels, Gunny bags , Management of Demonstrations , post harvest handling , packaging and branding items, media pages	2210010	Advertising and public relations	Assorted	4,000	2,000	1,000	500	500
	2	Database compilantion and recommendation on development and investment options	Analysing farming systems, opportunities and contrainsts for Agricultural and livestock research and production	2210020	Workshop and Seminars	Number	12,000	4,000	4,000	4,000	
					Sub-Total		16000	6,000	5,000	4,500	500
Administr ation (Increasing visibility and acceptance of Nabuin ZARDI)	4	Wages for contracted staff labour during the year paid	Payment of contracted staff labour	2111030	Contract Staff Salaries	Heads	9,000	2,250	2,250	2,250	2,250
	4	Institute activities and programmes known to the public	Community mobilisation & Participation in shows and advertising of institute activities and programmes	2210010	Adverising & Public relations	Assorted	2,500	625	625	625	625

Projects/Units (A, B, etc)	Vote Function/output	Annual Output	Annual Key Activities	Expenditure codes	Expenditure description	Unit of measure	Annual Budget	QTR 1 '000	QTR 2 '000	QTR 3 '000	QTR 4 '000
	4	Matters affecting NABUZARDI brought to the attention of NAROSEC top management, guide scientists in Research, approve supplies documents	Participation in 4 management meetings by advisory committee, contract committee, Finance committee and Management activities	2210060	Committee, Council & Board expenses	various	6,024	1,506	1,506	1,506	1,506
	4	Journals, Magazines, newspapers and abstracts are provided to staff	Procurement of reading materials for Information Dissemination	2210070	Books & Periodicals	Pieces	1,000	250	250	250	250
	4	Assorted welfare, & refreshments items available throughout the year	Procurement of assorted welfare items and refreshments for institute director, staff and visitors	2210090	Welfare & Entertainment	various	3,700	925	925	925	925
	4	Postal and courier services during the year paid	Payment for postage and courier services	2220020	Postage & Courier Services	various	500	125	125	125	125
	4	Wages for contracted labourer during the year paid for their different service rendered	Payment of contracted labourer for slashing, clearing, weeding, trimming flowers, mopping etc	2240040	Cleaning and Sanitation	Heads	4,500	1,125	1,125	1,125	1,125
	4	Institute Image enhanced and staff motivated	Payment of Corporate Wear, Overall coats for security guards and mopping etc	2240050	Uniforms and Protective wear	various	3,000	750	750	750	750

Projects/U nits (A, B, etc)	Vote Function/ output	Annual Ouput	Annual Key Activities	Expenditure codes	Expenditure description	Unit of measure	Annual Budget	QTR 1 '000	QTR 2 '000	QTR 3 '000	QTR 4 '000
	4	3rd party insurance for all vehicles during the year paid	Payment for 3rd party insurance services of Nabuin Vehicles	2260010	Insurance	various	1,280	320	320	320	320
	4	Water pump, vehicles and tractor fueled and lubricated	Purchase of fuel and lubricants for vehicles, tractors and water pump	2270040	Fuel, Lubricants and oils	Assorted	5,000	1,250	1,250	1,250	1,250
				2270040	Fuel, Lubricants and oils (CGS)	Assorted	5,000	1,250	1,250	1,250	1,250
	4	Institute administrave compound & pathways paved & sideways planted with greed edges	Fixing pavers, stones and leveling acompound & planting greed edges along patherways around Nabuin buildings	2280010	Maintenance - Civil	Assorted	5,250	1,313	1,313	1,313	1,313
	4	Vehicles,Tractors and M.vehicles serviced and repaired throughout the year	Making various repairs on Vehicles, service of tractor and motor vehicles/ Vehicles.	2280020	Maintain Vehicles	various	3,073	768	768	768	768
				2280020	Maintain Vehicles (CGS)	various	5,000	1,250	1,250	1,250	1,250
	4	Machinery,equipm ent and furniture in serviceable condition	Repairing of printers,Computers, Tables , desks & Chairs,mower,gener ator	2280030	Maintain Equipment	various	1,000	250	250	250	250
	4	Claims for death benefit, incapacity and funeral costs paid during the year	Payment of claims for death benefit, burial requirements	2731020	Incapacity, Death benefit & Funeral cost	Heads	3,000	750	750	750	750
Sub-Total							58827	14,707	14,707	14,707	14,707
Total:REC URRENT							349400	93,750	76,750	75,750	103,150

Annex civ: Ngetta ZARDI GoU Recurrent work plan and budget for FY 2019/20

Projects /Units	Vote Function/output	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
Research coordination and management	1	Staff travels, management meetings and administrative journeys facilitated	Attending administrative and research related meetings	2270010	Travel inland	Per diem	3,600	Staff travels, management meetings and administrative journeys facilitated	900	Staff travels, management meetings and administrative journeys facilitated	900	Staff travels, management meetings and administrative journeys facilitated	900	Staff travels, management meetings and administrative journeys facilitated	900
						Fuel	760		190		190		190		190
		Fuel, lubricants and oils procured for vehicles and machinery	Procuring fuel, lubricants and oils for vehicles and machinery	2270040	Fuel, Lubricants & Oils	Fuel	4,000	Fuel, lubricants and oils procured for vehicles and machinery	1,000	Fuel, lubricants and oils procured for vehicles and machinery	1,000	Fuel, lubricants and oils procured for vehicles and machinery	1,000	Fuel, lubricants and oils procured for vehicles and machinery	1,000
		Vehicles maintained in good running condition	Servicing and repair of vehicles	2280020	Maintenance - Vehicles	Vehicle repairs	4,000	Vehicles maintained in good running condition	1,000	Vehicles maintained in good running condition	1,000	Vehicles maintained in good running condition	1,000	Vehicles maintained in good running condition	1,000
		All office equipment and machines maintained in good running condition	Servicing of office equipment and machines	2280030	Maintenance - Machinery & Equipment	Machinery & Equipment repairs	2,920	All office equipment and machines maintained in good running condition	2,920						

Projects /Units	Vote Function/output	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
		Cost effective Intergrated disease and pest management technology for citrus and mango developed	evaluating efficacy of different IPDM technologies	2240010	(Medical & veterinary supplies) Procurement of pest and disease management materials and chemicals	Assorted	28,000	Assorted chemicals for pest and disease management of citrus and mango procured	7,000	Trials on efficacy of different IPDM options established	7,000	Preliminary results on efficacy of different IPDM options	7,000	Preliminary results on efficacy of different IPDM options	7,000
		Appropriate SLM technologies adapted	Evaluating the effect of SLM technologies on fertility and crop yield	2240010	procurement of soil testing materials /reagents	assorted	20,000	Appropriate SLM technologies adapted	5,000	Appropriate SLM technologies adapted	5,000	Appropriate SLM technologies adapted	5,000	Appropriate SLM technologies adapted	5,000
		Effective technologies for management of post harvest seed pests and diseases for QDS production developed	Seed sampling and testing	2240010	Procurement of seed germination incubator, and seed testing chemicals	assorted	20,000	Effective technologies for management of post harvest seed pests and diseases for QDS production developed	20,000		0		0		0
		Effective management practices for livestock	Identifying livestock common parasites and	2240010	procurement of sample collection materials	assorted	5,000	Effective management practices for livestock	2,500		0	Effective management practices for livestock parasite and disease	2,500		0

Projects /Units	Vote Function/output	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
		parasite and disease control developed	diseases					parasite and disease control developed				control developed			
			Evaluating the efficacy of different of commonly used parasite and disease control chemicals	2240010	procurement of drugs	assorted	15,000		7,500		0		7,500		0
		Fish farming technologies demonstrated	Procuring of assorted aquaculture inputs	2240010	Procurement of fertilizer		1,500	Assorted aquaculture inputs procured and demonstrations established on-station	1,500	Fish farming technologies demonstrated		Fish farming technologies demonstrated		Fish farming technologies demonstrated	
				2240010	Procurement of agricultural lime		1,300		1,300						
				2240010	Procurement of fish feeds		3,200		2,000		1,200				
				2240010	Procurement of fish fingerlings		4,000		4,000						
		The capacity of the laboratory for detection	procuring laboratory equipments and	2240060	(Agriculture Supplies) procurement of lamina	lamina flow hood	20,000	One Lamina flow hood procured and installed	20,000						

Projects /Units	Vote Function/output	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
		of plant pathogen enhanced	reagents		flow hood			in the Laboratory							
				2240060	procurement of laboratory reagents	assorted	10,000	Assorted reagents procured	2,500	Assorted reagents procured	2,500	Assorted reagents procured	2,500	Assorted reagents procured	2,500
		Survival and field establishment of the shea tree seedlings generated from cuttings, tissue culture and seed enhanced	Procuring the seedling nursery materials	2240060	procurement of shednets	shednets and threads	7,500	Nursery shed net repaired and assorted nursery inputs procured	7,500	Preliminary results on survival of shea tree seedlings generated from cuttings, tissue culture and seed		Preliminary results on survival of shea tree seedlings generated from cuttings, tissue culture and seed		Preliminary results on survival of shea tree seedlings generated from cuttings, tissue culture and seed	
				2240060	procurement of potting substrates and bags	substrates and bags	1,500		1,500						
				2240060	procurement of rooting hormones	Rooting hormone	1,000		1,000						
				2240060	Procurement of fertilizer	Fertilizer	10,000		5,000				5,000		
			procuring autoclave	2240060	procuring autoclave	autoclave	15,000		15,000						
		capacity of soil laboratory to effectively	procuring soil testing reagents	2240060	(Agriculture Supplies) procuring water	Deionizer	10,000	Assorted soil testing laboratory reagents procured	10,000	Soil testing conducted		Soil testing conducted		Soil testing conducted	

Projects /Units	Vote Function/output	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
		conduct soil analysis enhanced			deionizer										
		The newly released crop varieties adapted in the zone	Establish and manage adaptive trials	2240060	procuring seed	Seed	3,000	Assorted agricultural inputs procured and adaptive trials established	1,500	Preliminary results from adaptive trials of newly released varieties		Assorted agricultural inputs procured and adaptive trials established	1,500	Preliminary results from adaptive trials of newly released varieties	
				2240060	procuring pesticides and herbicides	pesticides and herbicides	2,000		1,000				1,000		
				2240060	procuring fertilizer	Fertilizer	10,000		5,000				5,000		
		Local poultry research enhanced	producing day old chicks and Conducting feeding trials	2240060	procuring automated generator	generator	18,800	Assorted agricultural inputs procured and poultry research trials established		Preliminary results from poultry research trials		One Automated generator procured and installed	18,800	Preliminary results from poultry research trials	
				2240060	procuring procurement of parent stock	Chicken	1,500				750		750		
				2240060	procuring feeders and drinkers	feeders and drinkers	500		500						
				2240060	procuring chicken size wiremesh	chicken size wiremesh	200		200						
				2240060	servicing the incubator	Servicing	500		500						

Projects /Units	Vote Function/output	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
				2240060	procuring chicken feed ingredients	chicken feed ingredients	7,000		1,750		1,750		1,750		1,750
				2240060	procuring chicken drugs and vaccines	chicken drugs and vaccines	1,500				750		750		
		Improved Fish farming technologies developed and demonstrated	Conducting fish farming trials	2240060	procuring water testing kit	water testing kit	8,000	Fish ponds repaired, assorted aquaculture inputs procured and aquaculture research trials established	8,000	Preliminary results on aquaculture research		Preliminary results on aquaculture research		Preliminary results on aquaculture research	
				2240060	procuring sampling gear	sampling gear	2,000				2,000				
				2240060	procuring fencing materials	fencing materials	5,000		5,000						
				2240060	procuring fingerings	fingerings	2,000		2,000						
				2240060	procuring fish feed	fish feed	10,000		2,500		2,500		2,500		2,500
							260,280		147,260		26,540		64,640		21,840
Research coordination and manage	2	Books, Periodicals & News Papers paid for	Paying for Books, Periodicals & News Papers	2210070	Books, Periodicals & Newspapers	Books and Periodicals	1,000	Books, Periodicals & News Papers procured	250	Books, Periodicals & News Papers procured	250	Books, Periodicals & News Papers procured	250	Books, Periodicals & News Papers procured	250

Projects /Units	Vote Function/out put	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
ment		Stake holders made aware of the various agricultural technologies available at Ngetta ZARDI	Holding public awareness campaigns for various stakeholders	2210010	Advertising and public relations	communication and dissemination materials	1,000	Dissemination materials produced		Dissemination materials produced	1,000				
						T-shirts	1,760	Branded T-shirts procured		Branded T-shirts procured	1,760				
		Computer supplies and IT Supplies services procured	Procuring computer services and IT Supplies	2210080	Computer Supplies & IT Service	Anti virus	750	Anti virus procured	750						
						Computer servicing and repair	1,000	Computer serviced and repaired	250	Computer serviced and repaired	250	Computer serviced and repaired	250	Computer serviced and repaired	250
							5,510		1,250		3,260		500		500
Research coordination and management	4	Wages due to hired labour during the year paid	Paying wages for hired labour	2111030	Contract Staff Salaries (Incl. Casual labourers)	Hired labour	9,000	Hired labour wages paid	2,250	Hired labour wages paid	2,250	Hired labour wages paid	2,250	Hired labour wages paid	2,250
		Advisory committee and staff meetings facilitated	Facilitating Advisory committee and staff meetings	2210060	Committee, Council and Board expenses	Per diem	6,000	Advisory committee and staff meetings facilitated	1,500	Advisory committee and staff meetings facilitated	1,500	Advisory committee and staff meetings facilitated	1,500	Advisory committee and staff meetings facilitated	1,500
						Fuel	1,000		250		250		250		250

Projects /Units	Vote Function/output	Annual output	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
						Hall & Meal	2,000		500		500		500		500
		Assorted staff welfare items available throughout the year	Procuring of assorted staff welfare items	2210090	Welfare and Entertainment	Rice	840	Assorted staff welfare items procured	210	Assorted staff welfare items procured	210	Assorted staff welfare items procured	210	Assorted staff welfare items procured	210
						Posho	560		140		140		140		140
						Beans	840		210		210		210		210
						Cooking oil	400		100		100		100		100
						Meat	520		130		130		130		130
						Chicken	540		135		135		135		135
		Assorted stationery procured	Procuring assorted stationery	2210110	Printing, Stationery, Binding	Printing paper	1,600	Assorted stationery procured	400	Assorted stationery procured	400	Assorted stationery procured	400	Assorted stationery procured	400
						Box files	400		100		100		100		100
						Ball pens	500		125		125		125		125
						Photocopier cartridges	5,400		1,350		1,350		1,350		1,350
						Staple wires	40		10		10		10		10
						Writing pads	100		100						

Projects /Units	Vote Function/output	Annual output	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
						Counter books	960		240		240		240		240
		Telephone services supplied to the institute throughout the year	Paying for telephone services	2220010	Telecommunications	Telephone	2,000	Quarterly telephone bills paid	500	Quarterly telephone bills paid	500	Quarterly telephone bills paid	500	Quarterly telephone bills paid	500
		Electricity supplied to the institute throughout the year	Payment for supply of electricity	2230050	Electricity	Electricity	58,000	Quarterly electricity bills paid	14,500	Quarterly electricity bills paid	14,500	Quarterly electricity bills paid	14,500	Quarterly electricity bills paid	14,500
		Piped water supplied to the institute throughout the year	Payment for supply of piped water	2230060	Water	Water	28,000	Piped water bills paid	7,000	Piped water bills paid	7,000	Piped water bills paid	7,000	Piped water bills paid	7,000
		Institute assets, facilities and research sites secure throughout the year	Payment for security and guarding services	2230040	Guarding and security services	Guards	24,000	Security guards wages paid	6,000	Security guards wages paid	6,000	Security guards wages paid	6,000	Security guards wages paid	6,000
		Postage and courier services available throughout the year	Paying for postage and courier services	2220020	Postage and Courier	Postage and Courier services	500	Postage and courier services paid	250			Postage and courier services paid	250		



Projects /Units	Vote Function/out put	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
		Assorted cleaning materials available throughout the year	Procurement of assorted cleaning materials	2240040	Cleaning and sanitation	Omo	448	Assorted cleaning materials procured	112	Assorted cleaning materials procured	112	Assorted cleaning materials procured	112	Assorted cleaning materials procured	112
						Bar soap	2,560		640		640		640		640
						Mopper	1,280		320		320		320		320
						Vim	3,200		800		800		800		800
						Toilet paper	1,800		450		450		450		450
						Climax	576		144		144		144		144
		Office buildings and compound maintained in good condition	Maintaining office buildings and compound	2280010	Maintenance - Civil	Office buildings and compound maintained	2,866			Office buildings and compound maintained in good condition	2,866				
		Staff travels, management meetings and administrative journeys facilitated	Attending administrative and research related meetings	2270010	Travel inland	Per diem	16,000	Staff and administrative travels facilitated	4,000	Staff and administrative travels facilitated	4,000	Staff and administrative travels facilitated	4,000	Staff and administrative travels facilitated	4,000
						Fuel	4,000		1,000		1,000		1,000		1,000

Projects /Units	Vote Function/output put	Annual out put	Activity	Expenditure code	Expenditure description	Inputs	Annual Cost '000	Q1: Interim or final output	Q1: Budget (000)	Q2: Interim or final output	Q2: Budget (000)	Q3: Interim or final output	Q3: Budget (000)	Q4: Interim or final output	Q4: Budget (000)
		Fuel, lubricants and oils procured for vehicles and machinery	Procuring fuel, lubricants and oils for vehicles and machinery	2270040	Fuel, Lubricants & Oils	Fuel	20,000	Fuel, lubricants and oils procured for vehicles and machinery	5,000	Fuel, lubricants and oils procured for vehicles and machinery	5,000	Fuel, lubricants and oils procured for vehicles and machinery	5,000	Fuel, lubricants and oils procured for vehicles and machinery	5,000
		Vehicles maintained in good running condition	Servicing and repair of vehicles	2280020	Maintenance - Vehicles	Vehicle repairs	10,000	Vehicles maintained in good running condition	2,500	Vehicles maintained in good running condition	2,500	Vehicles maintained in good running condition	2,500	Vehicles maintained in good running condition	2,500
		All Vehicles and motor cycles insured with 3rd party insurance	Insuring vehicles and motor cycles	2260010	Insurance s	3rd party insurance policy	1,280	Third party insurance procured	320	Third party insurance procured	320	Third party insurance procured	320	Third party insurance procured	320
		Workers compensation, incapacity, death benefit & funeral costs paid.	Paying of workers compensation, incapacity, death benefit & Funeral costs.	2731020	Incapacity, death benefits and funeral costs	Contribution	2,000	Workers compensation, incapacity, death benefit & funeral costs paid	500	Workers compensation, incapacity, death benefit & funeral costs paid	500	Workers compensation, incapacity, death benefit & funeral costs paid	500	Workers compensation, incapacity, death benefit & funeral costs paid	500
Subtotal							209,210		51,786		54,302		51,686		51,436
TOTAL							475,000		200,296		84,102		116,826		73,776



Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Crops and Natural Resources Management Research Programme	Improvement of tea production and productivity in Uganda	01: Generation of agricultural technologies	2270010	Travel in land	Evaluating efficacy of different management techniques for pests	Information on efficacy of different management techniques for pests generated	Perdiem	1,000	Information on efficacy of different management techniques for pests generated	250	Information on efficacy of different management techniques for pests generated	250	Information on efficacy of different management techniques for pests generated	250	Findings on efficacy of different management techniques for pests documented	250
			2270040	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	1,000		250		250		250		250
			2210110	Printing Stationary & binding		Stationery purchased		1,000		250		250		250		250
			2210060	Committee council and board meetings.	Conduct committee meetings with stakeholders.	Committee meetings conducted.	Committee council and board meetings.	5,000		1250		1250		1250		1250
			2240060	Agricultural Supplies	Evaluating efficacy of different management techniques for pests	Information on efficacy of different management techniques for pests generated	Farm supplies, tools and equipment	5,300	Information on efficacy of different management techniques for pests generated	1,325	Information on efficacy of different management techniques for pests generated	1,325	Information on efficacy of different management techniques for pests generated	1,325	Findings on growth performance of tea clones, pests and disease tolerance documented	1,325
			Fertilizers													
			Agrochemicals (Fungicides and Pesticides)													
			Laboratory reagents													
			Growth													

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan				
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)		
							media											
			2270010	Travel in land	Generating information from on disease infecting tea in Uganda	Genomic Characterization of Xylaria Pathogen infecting tea in Uganda.	Perdiem	1,000	Collection of Xylaria Infected samples, culturing and Isolation	250	Xylaria DNA isolated from pure cultures	250	Sequencing of Xylaria DNA	250	Documentation/publication and conference	250		
			2270040	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	1,200		300		300		300		300		
			2240060	Agricultural Supplies			GPS ,Gonomic software	1,800		Collection of Xylaria Infected samples, culturing and Isolation	450	Xylaria DNA isolated from pure cultures		450		Sequencing of Xylaria DNA	450	
			Laboratory reagents				-								posters, publication			
			Media				-											
	Improvement of tea production and productivity in Uganda		2270010	Travel in land	Biochemical profiling of tea accessions conserved at Rwebitaba & farmers fields(on station and on farm)	100 tea accessions profiled biochemically & later documented	Perdiem	1,000	30 tea accessions profiled biochemically	250	30 tea accessions profiled biochemically	250	20 tea accessions profiled biochemically	250	20 tea accessions profiled biochemically	250		
			2270040	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	1,500		375		375		375		375		
	Improvement of tea production and productivity in Uganda	01: Generation of agricultural technologies	2240060	Agricultural Supplies		100 tea accessions profiled biochemically & later documented	Farm supplies, tools and equipment	2,000	30 tea accessions profiled biochemically	500	30 tea accessions profiled biochemically	500	20 tea accessions profiled biochemically	500	20 tea accessions profiled biochemically	500		
							Laboratory reagents/ media preparation	6,500			1,625		1,625		1,625		1,625	
		01: Generation of agricultural technologies	2270010	Travel In land	Evaluation of the growth and yield performance of tea in response to	On farm trials information generated on growth and yield of tea after fertilizer	Perdiem	1,000	Growth & yiled performance of tea after fertilizer application	250	Growth & yiled performance of tea after fertilizer application.	250	Growth & yiled performance of tea after fertilizer application.	250	Growth & yiled performance of tea after fertilizer application. Data	250		

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan			
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	
					different fertilizers				n. Data collected & Analyzed		Data collected & Analyzed		Data collected & Analyzed		collected & Analyzed		
			2270040	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)			1,800	450		450		450		450
			2240060	Agricultural Supplies	Evaluation of the growth and yield performance of tea in response to different fertilizers	On farm trials information generated on growth and yield of tea after fertilizer	Farm supplies, tools and equipment	3,000	Growth & yielded performance of tea after fertilizer application. n. Data collected & Analyzed	750	Growth & yielded performance of tea after fertilizer application. Data collected & Analyzed	750	Growth & yielded performance of tea after fertilizer application. Data collected & Analyzed	750	Findings on growth and yield performance of tea after fertilizer application documented	750	
			2240060	Agricultural supplies			Fertilizers	16,000		4,000		4,000			4,000		
			2240010				Laboratory reagents	25,000			6,250		6,250		6,250		6,250
			01: Generation of agricultural technologies	2270010			Travel In land	Generating information on demand and availability of speciality tea clones in Uganda		Information on demand and availability of speciality tea determined	Per diem	1,000	Information on demand and availability of speciality tea determined	250	Information on demand and availability of speciality tea determined	250	Information on demand and availability of speciality tea determined
		2270040	Fuel. Oil, Lubricants		Fuel (Diesel, petrol, 2T oil)	1,900	475				475			475		475	
		2280020	Maintenance vehicle		Vehicle maintenance services paid for.	Institute vehicles maintained	25,000		6,250		6,250			6,250		6,250	
		2240060	Agricultural supplies	Maintenance of speciality tea clone in the nursery	Speciality tea clones maintained in the nursery	labour for speciality tea maintenance in on- station in the nursery	5,000		labour for speciality tea maintenance in on- station in the	1,250	labour for speciality tea maintenance in on- station in the nursery	1,250		labour for speciality tea maintenance in on- station in the nursery	1,250	labour for speciality tea maintenance in on- station in the nursery	1,250

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan			
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)			
			2240040	Cleaning & sanitation		Cleaning & sanitation services paid.		5,000	nursery	1,250		1,250		1,250		1,250	
		01 : Generation of Agricultural technologies	2270010	Travel inland	Generating information on genetic diversity of on station & on Farm	Genetic diversity of ob station & on farm tea clones determined	Perdiem	1,000	Genetic diversity of onstation & onfarm tea clone	250	Genetic diversity of onstation & onfarm tea cloes	250	Genetic diversity of onstation & onfarm tea cloes	250	Findings on genetic diversity documented	250	
							Fuel (Diesel, petrol, 2T oil)										
		2240010	Medical & veterinary supplies		Genetic diversity of ob station & on farm tea clones determined	Assorted laboratory supplies	12,000	Genetic diversity of ob station & on farm tea clones determine d	3,000	Genetic diversity of onstation & onfarm tea cloes	3,000		3,000	Findings on genetic diversity documented	3,000		
	Tea Sub total							126,000		31,500	-	31,500	-	31,500	-	31,500	
		01 : Generation of Agricultural technologies	2270010	Travel inland	Completing studies on agronomic performance of 14 matooke varieties on farm in Kyegegwa district	information on agronomic performance of 14 matooke varieties generated	Perdiem	1,000	information on agronomic performance of 14 matooke varieties generated	250	information on agronomic performance of 14 matooke varieties generated	250	information on agronomic performance of 14 matooke varieties generated	250	information on agronomic performance of 14 matooke varieties documented	250	
							Fuel (Diesel, petrol, 2T oil)	800		200				200			200
							2240060	Agricultural Supplies				2,000		500			500

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		'01 : Generation of Agricultural technologies	2270010	Travel inland	Completing studies on assessment of suitable decapitation techniques for rapid sucker production in bananas on farm in Kasese	Information on suitable decapitation heights in banana generated	Perdiem	1,000	Information on suitable decapitation heights in banana generated	250	Information on suitable decapitation heights in banana generated	250	Information on suitable decapitation heights in banana generated	250	Information on suitable decapitation heights in banana generated & documented	250
			2270040	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	700		175		175		175		175
			2111030	Contract staff salaries incl. casual labourers			Labour									
			2240060	Agric supplies			Agochemicals and farm tools	4,000		1,000		1,000		1,000		1,000
		'01 : Generation of Agricultural technologies	2111030	Contract staff salaries incl. casual labourers	Completing studies on assessment of suitable pasture legumes for intercropping in bananas on station	Suitable pasture legumes for intercropping in bananas determined	Contract staff salaries		Suitable pasture legumes for intercropping in bananas determined		Suitable pasture legumes for intercropping in bananas determined		Suitable pasture legumes for intercropping in bananas determined			
			2240060	Agric supplies			Agrochemicals & Tools	3,000		750		750		750		
			2230060	Water			Water used in the nursery management.	Water used paid				20,000		5,000	5,000	5,000

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Description	Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	
		'01 : Generation of Agricultural technologies	2111030	Contract staff salaries incl. casual labourers	Establishing a micro propagation nursery for seed (banana plantlets) multiplication for dissemination to uptake pathways	100,000 banana plantlets produced and availed to uptake pathways	Contract staff salaries		25,000 banana plantlets ready for acclimatisation		25,000 plantlets produced and availed to uptake pathway		25,000 plantlets produced and availed to uptake pathway		25,000 plantlets produced and availed to uptake pathway	
			2240060	Agric supplies			Agroinputs (Agrochemicals, tools and other supplies)			11,000	2,750		2,750		2,750	
	Banana Sub Total							43,500		10,875	-	10,875	-	10,875	-	10,875
Crops and Natural Resources Management Research Programme	Enhancing coffee Propagation, Multiplication and Production Status in Western Highlands	01: Generation of agricultural technologies	2240060		Enhance capacity to 25 coffee nurseries at Rwebitaba ZARDI and in the zone with capacity of raising 2,000,000 seedlings to scale up plantation establishment	Improved capacity of quality coffee seedling production facilities and supply at Rwebitaba ZARDI and Seven (7) community-based seedling systems	Propagation materials (seeds, seedlings) agrochemicals	4,000	1,000,000 seedlings raised and made accessible to farmers	1,000	1000,000 seedlings raised and made accessible to farmers	1,000	1000,000 seedlings raised and made accessible to farmers	1,000	1000,000 seedlings raised and made accessible to farmers	1,000
	Agroecological Zone (WHZ)		2111030		Maintenance of on-station and community-based coffee nurseries		Labour for maintenance of coffee on-station performance evaluation trials									
			2270010	Travel in land	Training of coffee nursery operators in tree propagation and nursery	40 nursery operators trained on germplasm improvement technologies for coffee in the zone	Perdiem	1,000	40 coffee nursery operators trained on germplasm improvement	250	40 coffee nursery operators trained on germplasm improvement technologies	250	40 coffee nursery operators trained on germplasm improvement technologies	250	40 coffee nursery operators trained on germplasm improvement technologies	250

Program/ Direct orate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Descripti on	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budg et (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
					operations				technologi es coffee in the zone		s coffee in the zone		s coffee in the zone		s coffee in the zone	
			227004 0	Fuel. Oil, Lubricant s			Fuel(Diseal,Pet rol,2T oil)	300		75		75		75		75
			224006 0	Agricultu ral Supplies	Establishm ent and maintenanc e of 25 coffee mother gardens from elite plants.	Improved capacity of quality coffee seedling production facilities and supply at Rwebitaba ZARDI and Seven (7) community- based seedling systems	Agroinputs (Agrochem icals and fertilizers)	4,500	7 coffee mothergar dens supported	1,125		1,125		1,125		1,125
			211103 0	Contract labour	Maintenanc e of on- station and community -based coffee nurseries		Labour for maintenan ce of coffee seedlings in the n		7 coffee nurseries maintaine d		7 coffee nurseries maintained		7 coffee nurseries maintained		7 coffee nurseries maintained	
			224006 0	Agricultu ral Supplies	Production of 2,000,000 high quality Seedlings	Agro-inputs (fertilizer,medi a, seedlings seedlings and cuttings	Agro- inputs (fertilizer,m edia, seedlings seedlings and cuttings	3,000	Agro- inputs (fertilizer,m edia, seedlings seedlings and cuttings	750	Agro- inputs (fertilizer,me dia, seedlings seedlings and cuttings	750	Agro- inputs (fertilizer,m edia, seedlings seedlings and cuttings	750	Agro-inputs (fertilizer,me dia, seedlings seedlings and cuttings	750
			211103 0	Contract staff salaries (Inc.casua l labourers)	Regular maintenanc e of established mother gardens		Labour for maintenan ce of coffee seedlings in the nurseries		25 coffee mothergar dens maintaine d		25 coffee mothergard ens maintained		25 coffee mothergard ens maintained		25 coffee mothergard ens maintained	
			224006 0	Agricultu ral Supplies	Regular maintenanc e of		Farm tools, equipment and other	4,350	Acquire farm tools, equipment	1,088	Acquire farm tools, equipment	1,088	Acquire farm tools, equipment	1,088	Acquire farm tools, equipment	1,088

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs
					established mother gardens right from the time of planting to the stage of bearing.		field supplies		and other field supplies		and other field supplies		and other field supplies		and other field supplies
			221002 0	Workshops and seminars	Capacity building of farmers in Seedling Production and plantation management	Capacity of farmers in plantation management strengthened	Per diem and meals for participants during capacity building workshop		60 participants trained in coffee plantation management and propagation techniques		60 participants trained in coffee plantation management and propagation techniques				
			227001 0	Travel in Land			Per diem	500		500					
			227004 0	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	200				200			
			227001 0	Travel in land	Conduct baseline survey to compare changes in seedling production	30-60% increase in coffee bean yield for established plantations	Per diem	500	Income increase of participating household		Income increase of participating household	500			
			227004 0	Fuel. Oil, Lubricants	seedling production btn trained & untrained farmers		Fuel (Diesel, petrol, 2T oil)	500		500					
			227001 0	Travel inland	Conduct survey on the production & management constraints	Production & management constraints determined	Per diem	1,000	Production & management constraints determined	-		1,000			
			227004 0	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	700		700		-			
			221002 0	Workshops and seminars	Conduct dissemination workshop	Project performance periodically reviewed	Per diems								

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan			
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	
			2270010	Travel in land	on the findings of the project		perdiems	1,000		1,000		-					
			2270040	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	700		-		700					
	Coffee Sub total							22,250	-	6,988	-	6,688	-	4,288	-	4,288	
	Improvement of agroforestry climate-smart technologies in WHAEZ	'01: Generation of agricultural technologies	2240060	Agricultural Supplies	completing generation of information on station apples	Information on station apple performance evaluation trial documented	Agroinputs (Agrochemicals and fertilizers)	3,400	Growth performance of apple varieties data sets collected and analysed	850	Growth performance of apple varieties data sets collected and analysed	850	Growth performance of apple varieties data sets collected and analysed	850	Growth performance of apple varieties data sets collected and analysed	850	
			2111030	Contract staff salaries (Inc. casual labourers)	Maintenance of on-station apple performance evaluation trials		Labour for maintenance of apples on-station performance evaluation trials		Growth performance of apple varieties data sets collected and analysed		Growth performance of apple varieties data sets collected and analysed		Growth performance of apple varieties data sets collected and analysed		Growth performance of apple varieties documented		
			2240010	Medical & veterinary supplies			Plant sample analysis	15,000	Growth performance of apple varieties data sets collected and analysed	3750	Growth performance of apple varieties data sets collected and analysed	3750	Growth performance of apple varieties data sets collected and analysed	3750	Growth performance of apple varieties data sets collected and analysed	3750	
			2230050	Electricity			Electricity used for analysis paid for	35,000		8750		8750		8750		8750	
			2270010	Travel in land	Transporting plant samples	Perdiem	1,000	growth performance of apple varieties data sets collected and analysed	250	Growth performance of apple varieties data sets collected and analysed	250	Growth performance of apple varieties data sets collected and analysed	250		250		250
			2270040	Fuel. Oil, Lubricant			Fuel (Diesel,	500				500					

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)		
				s			petrol, 2T oil)									
	Cimate smart Sub total							54,900	-	13,600	-	14,100	-	13,600	-	13,600
Technology promotion Program	Establishment of potato and bean community seed banks for increasing access to quality seeds in the Rwenzori sub region	'01: Generation of agricultural technologies	227001 0	Travel In land	Conducting baseline reconnaissance survey on potential potato and bean groups	Baseline information on potato and bean groups generated	perdiem	1,000	Exhibition at Jinja show and world food & other regional shows	250	Exhibition at Jinja show and world food & other regional shows	250	Exhibition at Jinja show and world food & other regional shows	250	Exhibition at Jinja show and world food & other regional shows	250
			227004 0	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	1,000				250				250
			221011 0	Printing Stationary & binding	Printing brochures , posters & leaflets	Brochoures, left made for exhibitions	Brochoures , left made for exhibitions	500	Brochoures s, left made for exhibitions	500	Brochoures, left made for exhibitions	-				
		'01: Generation of agricultural technologies	227001 0	Travel in land	Establish Potato and bean community seed banks in the Rwenzori sub region region	Existing potato and bean varieties adapted to the project area catalogued and defined	perdiem	500	Existing potato and bean varieties adapted to the project area catalogued and defined	500	Existing potato and bean varieties adapted to the project area catalogued and defined					
			227004 0	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)	300				300				
			224006 0	Agricultural Supplies		Foundation bean and potato seed										

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060	Agricultural supplies		production technology is disseminated to seed producing farmers' groups	Farm supplies, tools and equipment	6,500	2 seed production technologies are verified	3,000	3 seed production technologies are verified	3,500	1.Findings on performance of bean & potato documented.2Potato & bean seed multiplication technology guidelines produced			
			2240060	Agricultural supplies		Fertilizers & agrochemical	5,200	2,000			3,200					
			2210110			Stationary & printing	500	200			200		100			
			2270010	Travel in land		Local bean and potato seed systems are improved to produce quality potato and bean seeds to the communities	Perdiem	1,000	Capacity of extension staff of target subcounties as TOTs built	250	Capacity of 10 farmers groups build in quality seed production	250	More than 6 farmers groups are graduated as quality seed producers for beans and potatoes	250	> 80% offarmers adopt on seed production technology verified. 80% seed produced declared of good quality.100tones quality potato seed produced & marketed. 10tones of iron rich bean seed produced & marketed	250
			2270040	Fuel. Oil, Lubricants		Fuel (Diesel, petrol, 2T oil)	1,000	250			250		250		250	
			2210110			Stationary & printing	500						500			
			Potato Sub total													

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	
								18,000		7,500	-	7,900	-	1,600	-	1,000	
Live stock Research Program	Generating information from on farm trials on bee colony and queen develop ments	01: Generatio n of agricul tural technol ogies	227001 0	Travel in Land	Generating informatio n from on farm and onstation trials on bee colony and queen developme nt in the Zone	On-station & on farm trials information generated on colony & queen developments in the zone	Perdiem	500	Queen rearing & trainings for increased hive colonizatio n and apiculture productivi ty	500	Queen rearing & trainings for increased hive colonizatio n and apiculture productivit y		Queen rearing & trainings for increased hive colonizatio n and apiculture productivit y		informatio n on Queen rearing & trainings for increased hive colonizatio n documente d		
			227004 0	Fuel. Oil, Lubricant s			Fuel (Diesel, petrol, 2T oil)	1,000		250	250	250	250	250			
			211103 0	contract staff salaries (in casual laboureS			maintananc e of Apiaries for trainings on queen rearing on station and on farm	Apiaries maintained for trainings on queen rearing			Apiaries maintaine d for trainings on queen rearing	Apiaries maintained for trainings on queen rearing	Apiaries maintained for trainings on queen rearing	informatio n on Queen rearing & trainings for increased hive colonizatio n documente d			
		01: Generatio n of agricul tural technol ogies	224006 0	Agricultu ral suppl ies	Generating informatio n on farm & onstation trials ob be colony & queen rearing	On-station & on farm trials information generated on colony & queen developments in the zone	Bee keeping supplies, equipment s & tools	6,000	Apiaries maintained for trainings on queen rearing	1,500	Apiaries maintained for trainings on queen rearing	1,500	Apiaries maintained for trainings on queen rearing	1,500	informatio n on Queen rearing & trainings for increased hive colonizatio n documente d	1,500	
			224001 0				feeds	27,000		6,750	6,750	6,750	6,750				
			221011 0				stationary	500		500							
			224006 0	Agricultu ral suppl ies			bee protectives	6,000		1,500	1,500	1,500	1,500				
							queen rearing equipment s	5,200	1,300	1,300	1,300	1,300	1,300	1,300			
		Bee Sub total							46,200		12,300	-	11,300	-	11,300	-	11,300

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Enhancement of Catfish propagation technologies amongst fish farmers in WHAZ for increased food security & household income	01: Generation of agricultural technologies	2270010	Travel Inland	Generating information from onfarm trials on cartfish propagation	On-station and farm trials information generated on Catfish propagation, productivity and survival	perdiem	500	Catfish propagation for increased productivity, survival, food security and improved incomes	500			Catfish propagation for increased productivity, survival, food security and improved incomes		Information on Catfish propagation for increased productivity, survival, food security and improved incomes documented	
			2270040	Fuel. Oil, Lubricants			Fuel(Diesel ,2T Oil)	1,000			Catfish propagation for increased productivity, survival, food security and improved incomes	1,000				
			2230040	Guard & security	Generating information from on farm trials on cartfish propagation	On-station and farm trials information generated on Catfish propagation, productivity and survival	Labour for aquaculture on-station performance evaluation trials	20,000	Labour for aquaculture on-station Catfish propagation and brood stock maintenance, pond nurseries and reservoirs	5,000		5,000		5,000	Catfish propagation for increased productivity, survival, food security and improved incomes	5,000
			2240060	Agricultural supplies	Generating information from on farm trials on CatFish propagation	On-station and farm trials information generated on Catfish	CartFish brood stock fisha , equipment & tools	15,000	Catfish propagation for increased productivity, survival,	3,750	Catfish propagation for increased productivity, survival, food	3,750	C artFish established in the Podsa	3,750	CartFish established in the Pods and information on its propagation	3,750

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan						
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)						
					n	propagation, productivity and survival		food security and improved incomes		security and improved incomes				n documenat ed						
			224001 0						Brood feeds		15,000					3,750		3,750		3,750
			221011 0						Stationary		600					300		300		
			224006 0	Agricultu ral supplies					Fencing material & equipment		4,450					2,460			1,990	
	Fish Sub Total							56,550		15,760	-	13,800	-	14,490	-	12,500				
	establis hment of improv ed pasture fields, for Enhanc ed diary product ion	01: Generatio n of agricultur al technologi es	227001 0	Travel in land	Establishin g improved pasture field both on station & on farm	Generating information improved pasture trials onfarm & on station	perdiem	500	sustainabl e supply of quality pasture seed to farmers		sustainable supply of quality pasture seed to farmers	500	sustainable supply of quality pasture seed to farmers		sustainable supply of quality pasture seed to farmers					
			227004 0	Fuel. Oil, Lubricant s				Fuel (Diesel, petrol, 2T oil)		1,300		450				450		400	-	
			224006 0	Agricultu ral supplies	Procureme nt of planting materials, fertilisers, pesticides, farm tools & analysis of pastures samples for nutritional conted	Quality pasture seed produced & pasture samples analysed	agric. Supplies (planting material, farm tool)	3,400		1,300		2,100								
			224001 0	Medical & vetinary supplies				pesticides	3,000		1,100		700		600		600			
								Pasture samples analysed												

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			211103 0	Contract staff salaries (incasual labour)	Land preparation , ploughing, land marking, planting , staking, application of pesticide,w eeding and data collection	Quality seed bed prepared for pure pasture seed produced	Contracted Labour									
			224006 0	Agricultu ral Supplies	packing material,fu migation chemical	packing materials	Quality seed fumigated & packed	6,400	Quality seed fumigated & packed	1,600	Quality seed fumigated & packed	1,600	Quality seed fumigated & packed	1,600	Quality seed fumigated & packed	1,600
			224001 0	Medical & vetinary supplies		Fumigation chemicals		1,000		250		250		250		250
			211103 0	Contract staff salaries (incasual labour)	Harvesting, drying, threshing, sorting, grading and packing of seeds.	Quality seeds available on market	labour									
	Conser vation of pasture feeds and feeding of dairy animals for increas ed product ivit	01: Generatio n of agricultur al technolog ies	211103 0	contracte d labour including casual labour	Preparing training materials to suppliment on farmers' efforts	participates having enough of hands on experience in conservation	Contracted Labour		ncreased dairy productivi ty among farmers throught out the year		ncreased dairy productivit y among farmers throught out the year					
			224006 0	agricultur al supplies	pasture conservatio n tools & equipments	appropriate conservation equipments and tools demonstrated to farmers.	agric. Supplies (silage bags, baling boxes, molasses, sisal string, maize bran	10,000		2,500		2,500		2,500		2,500

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
							)									
			2270010	Travel in land	Chopping pasture materials & coordinating travel	ppropriate conservation materials conserved for quality product	Perdiem					1,000				
			2270040	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)					500		500		
	Livestock sub total							27,600	-	7,200	-	9,600	-	5,850	-	4,950
M & E Activities	1. Monitor the field activities in uptake of technologies to assess progress, impact and ensure value for money in all supported programmes	Data base of technologies established at the institute from the 8 districts in the zone. 2) Key outputs and achievements as well as lessons learnt identified for quarterly reporting	2270010	Travel in Land	Routine monitoring and impact assesment in the zone compilling and submitting reports to NAROSEC		Perdiem		Routine monitoring and impact assesment in the zone compilling and submitting reports to NAROSEC	500	Routine monitoring and impact assesment in the zone compilling and submitting reports to NAROSEC	500	Routine monitoring and impact assesment in the zone compilling and submitting reports to NAROSEC	500	Routine monitoring and impact assesment in the zone compilling and submitting reports to NAROSEC	500
			2270040	Fuel. Oil, Lubricants			Fuel (Diesel, petrol, 2T oil)			400		400		400		400

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Purchase of Office stationery	Cartiridge s, papers, file folders, hard cover books and note books purchased .	2210110	Printing Stationary& binding	b)Purchasing equipments to ease M&E functions			1,400	Cartiridge s, papers, file folders, hard cover books and note books purchased.	350	Cartiridges, papers, file folders, hard cover books and note books purchased.	350	Cartiridges, papers, file folders, hard cover books and note books purchased.	350	Cartiridges, papers, file folders, hard cover books and note books purchased.	350
	M&E Subtotal						5,000		1,250	-	1,250	-	1,250	-	1,250	
							400,000		100,000		100,000		100,000		100,000	
Admn istratio n/ Operat ing expens es	Enhancing institutional development	7 Contract staff facilitated for effective service delivery	2111030	Allowance	Facilitating 10 Contract staff for effective service delivery	10 Contract staff facilitated for effective service delivery	Labour for contracted staff	9,000	Labour for contracted staff	2,250	Labour for contracted staff	2,250	Labour for contracted staff	2,250	Labour for contracted staff	2,250
	Disemination of research findings and public awareness	Public sensitised on new technologies and improved agronomic practices	2210010	Advertising and public relations	Training and holding public awereness campagns	Atleast 2 radio talk shows, 2 TV documentaries and 2 exhibitions held	Participated in public shows	1,500	Diseminati on of research findings and public awareness	375	Diseminatio n of research findings and public awareness	375	Diseminati on of research findings and public awareness	375	Diseminatio n of research findings and public awareness	375
	Managerial guidance provided and proper planning of activities by staff	Managem ent committee meeting and staff meetings	2210060	Committee council and board meetings.	Managem ent committee meeting	Improved capacity of quality research, production facilities and systems in place.	Managem ent committee and other institute committee meetings	4,250	Managem ent committee and other institute committee meetings	1,063	Managem ent committee and other institute committee meetings	1,063	Managem ent committee and other institute committee meetings	1,063	Managem ent committee and other institute committee meetings	1,063

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Assorted books, Periodical and News papers availed for office use.	Information regarding current affairs (news) availed to institute and institute reports made available for hard copy storage, newspapers acquired	221007 0	Books Periodicals & News papers	Purchasing of Institute Books and periodicals	Assorted books, periodical and News papers procured.	Printing Brochures, news Letters, purchase of books and news papers	1,500	Printing Brochures, news Letters, purchase of books and news papers	375	Printing Brochures, news Letters, purchase of books and news papers	375	Printing Brochures, news Letters, purchase of books and news papers	375	Printing Brochures, news Letters, purchase of books and news papers	375
	Provision of lunch and other welfare items for staff and cleaning of office and laboratory space	Improved performance and staff motivation	221009 0	Welfare and Entertainment	Procuring welfare items for staff	Improved Performance and Staff motivated	Improved working environment ensured by increasing staff motivation to complete assigned tasks by availing lunch	3,400	Procuring welfare items for staff	850	Procuring welfare items for staff	850	Procuring welfare items for staff	850	Procuring welfare items for staff	850
	Improved running of office activities, documentation and ease of present	Procurement of office stationery.	221011 0	Printing Stationary & binding	Procuring stationery for administrative use.	Assorted stationary procured		3,000	Assorted stationary procured	750	Assorted stationary procured	750	Assorted stationary procured	750	Assorted stationary procured	750

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Code	Descripti on	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	ation															
	Improv ed commu nication / Teleco mmuni cation, Internet services	Payment for internet and Tele Communi cation services	222001 0	Telecom municatio n	Providing telecommu nication services	Telephone lines and on- line access to information maintained.	Telephone services provided	1,500	Telephone services provided	375	Telephone services provided	375	Telephone services provided	375	Telephone services provided	375
	Institut e propert y secured	Procureme nt of Security guards,	223004 0	Guard & security services	Procuring of Security guards	Security guards procured	Security of the institute property maintained .	10,500	Security of the institute property maintaine d.	2,625	Security of the institute property maintained.	2,625	Security of the institute property maintained.	2,625	Security of the institute property maintained.	2,625
	Availab ility of Electrici ty at the institut e.	Paying for electricity services.	223005 0	Electricity	Providing electricity connection s	Electricity supply services procured.	Availabilit y of Electricity at the institute.	8,000	Electricity supply services procured.	2,000	Electricity supply services procured.	2,000	Electricity supply services procured.	2,000	Electricity supply services procured.	2,000
	Institut e supplie d with water	Provision of water at the Institute.	223006 0	Water	Providing water connection s	Availability of water at the institute.	Availabilit y of water at the institute.	2,000	Availabilit y of water at the institute.	500	Availability of water at the institute.	500	Availability of water at the institute.	500	Availability of water at the institute.	500
	Provisi on of clean workin g environ ment for staff and cleanin g of office and laborat	Maintaini ng 10,000m2 compound including flashing, , fencing and desilting internal road channels	224004 0	Cleaning & Sanitation	Cleaning services contracted and offices, compound cleaned	Healthy environment and hired labourers for cleaning office procured	Labour for cleaning for a health working environme nt	4,220	Healthy environme nt and hired labourers for cleaning office procured	1055	Healthy environmen t and hired labourers for cleaning office procured	1055	Healthy environme nt and hired labourers for cleaning office procured	1055	Healthy environmen t and hired labourers for cleaning office procured	1055

Program/ Directorate	Project s/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	ory space															
	Provisi on of protecti ve gears of contract ed staff and staff workin g in fish ponds	Cleaning showerro oms and Fish ponds managem ent	224005 0	Uniforms, Beddings and Protective gears	Procuring of protective gears for staff working in unhealthy enviroment			2,000	Procuring of protective gears for staff working in unhealthy enviromen t	500	Procuring of protective gears for staff working in unhealthy enviroment	500	Procuring of protective gears for staff working in unhealthy enviroment	500	Procuring of protective gears for staff working in unhealthy enviroment	500
	Insuran ce services secured	Insurance policy and certificates	226001 0	Insurance	Payments of insurances for vehicles	Insurance and licences services procured.		530	Insurance and licences services procured.	133	Insurance and licences services procured.	133	Insurance and licences services procured.	133	Insurance and licences services procured.	133
	Particip ating in plannin g, manage ment and review meetin gs	Periodic work plans and managem ent policies developed	227001 0	Travel inland	Coordinati on of Institute research and Administra tive activities	Staff travel facilitated to workshops, seminars and management meetings, monitoring of on-farm trials and delivery of reports.	Attending administrat ive and research related meetings	7,500	Attending administrat ive and research related meetings	1875	Attending administrat ive and research related meetings	1875	Attending administrat ive and research related meetings	1875	Attending administrat ive and research related meetings	1875
	Vehicle and farm machin ary fuel procure d	Fuel and oil for vehicles and motorcycl es procured	227004 0	Fuel, Oil, Lubricant s	Procuring fuel and oils for Institute vehicle and machinery	Institute research activities facilitated with transport services		6,000	Vehicle Fuel Procured	1500	Vehicle Fuel Procured	1500	Vehicle Fuel Procured	1500	Vehicle Fuel Procured	1500

Program/ Directorate	Projects/Units	Vote Function/ output	Expenditure Code/Description		Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
			Code	Description	Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Rehabilitation of physical facilities	Institute buildings renovated	2280010	Maintenance - Civil	Creation of conducive accommodation and working environment for staff, safe housing for animals and screen house experiments	Rehabilitation works of 2 office buildings, a conference facility, laboratories, 4 staff house, screen houses, 2 animal structures and stores	Renovating Institute buildings completed	4,000	Renovating Institute buildings completed	1000	Renovating Institute buildings completed	1000	Renovating Institute buildings completed	1000	Renovating Institute buildings completed	1000
	Repairing and servicing of Institute's vehicles	6 vehicles and 3 motorcycles kept in good condition for timely implementation of Research activities	2280020	Maintenance - Vehicle	Servicing Vehicles for research and administration activities	6 vehicles and 3 motorcycles kept in good condition and insured to allow implementation of research activities		4,100	Institute vehicles serviced	1025	Institute vehicles serviced	1025	Institute vehicles serviced	1025	Institute vehicles serviced	1025
	Payment of Burial expenses		2731020			Burial expenses of the Institute paid	Contribution to burial expenses paid	2,000	Payment of Burial expenses	500	Payment of Burial expenses	500	Payment of Burial expenses	500	Payment of Burial expenses	500
		Sub-Total						75,000		18,750	-	18,750	-	18,750	-	18,750
Grand Total								475,000		118,750	-	118,750	-	118,750	-	118,750

Annex H: GOU Recurrent NAROSEC Detailed Workplans and Budgets for FY 2019/20

A handwritten signature in black ink, appearing to be 'R. B. Singh', located in the bottom right corner of the page.

Annex cvi: ATP-Main GOU Recurrent work plan and budget for FY 2019/20

Program / Directorate	Project s/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DATP	ATP-Main	04-Agricultural research capacity strengthened	2270010 Travel inland	Monitoring of technology promotion and transfer activities	Technology promotion and transfer activities monitored for effective implementation	11,500	Capacity needs for technology promotion and transfer at PARIs identified and appropriate measures to address them provided	5,500			Capacity needs for technology promotion and transfer at PARIs identified and appropriate measures to address them provided	6,000		
		Sub-Total				11,500		5,500				6,000		

Annex cvii: DRC-Main GOU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Research Coordination	PMERL	04: Agricultural research capacity strengthened	2270010: Travel-inland	Conduct the planning, monitoring and evaluation of off budget Projects	NARO Off-Budget Performance Reports generated	11,500	NARO Q1 Off budget Performance / Status Report	6,000			NARO Q3 Off budget Performance/ Status Report	5,500		
				Total		11,500		6,000		0		5,500		0

Annex cviii: DHR-Main GOU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DHR	DHR	04: Agricultural Research Capacity Strengthened	2111020: Contract staff salaries processed and paid	Staff Contract Salaries Computed and Paid	Staff salaries paid	22,301,175	920 staff paid monthly salaries	5,575,294	920 staff paid monthly salaries	5,575,294	920 staff paid monthly salaries	5,575,293	920 staff paid monthly salaries	5,575,293
			2121010: Social Security Contributions (Provident Fund)	Processing of Social Security Contributions (10%)	Monthly remittances to National Social Security Fund (NSSF) processed and paid	2,230,117	10% employer contribution for 920 employees processed and remitted to NSSF	557,529	10% employer contribution for 920 employees processed and remitted to NSSF	557,529	10% employer contribution for 920 employees processed and remitted to NSSF	557,529	10% employer contribution for 920 employees processed and remitted to NSSF	557,529
			2121010: Medical Expenses (Medical Insurance)	Ensure provision of Medical Insurance scheme to employees	Medical Insurance for 920 employees computed and paid	200,000	920 staff insured	50,000	920 staff insured	50,000	920 staff insured	50,000	920 staff insured	50,000
			2130020: Incapacity, death benefit & Funeral costs, Workers compensation	Computation of Ex-gratia payments and burial expenses	Incapacity, Death benefits paid and funeral expenses for workers incurred.	200,000	Incapacitated workers compensated, Death and funeral expenses paid and staff insured under workers compensation	75,000	Incapacitated workers compensated, Death and funeral expenses paid and staff insured under workers compensation	75,000	Incapacitated workers compensated, Death and funeral expenses paid and staff insured under workers compensation	25,000	Incapacitated workers compensated, Death and funeral expenses paid and staff insured under workers compensation	25,000

Program/ Directorate	Projects/ Units	Vote Function/ Output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2130040: Gratuity Payments	Computation of Staff Gratuity (1/12)	Staff Gratuity Computed and paid	1,859,918	Staff Gratuity for 920 compute d and paid	464,980	Staff Gratuity for 920 compute d and paid	464,980	Staff Gratuity for 920 computed and paid	464,980	Staff Gratuity for 920 compute d and paid	464,980
DHR	DHR	04: Agricu ltural Resear ch Capaci ty Streng thened	2210090: Welfare and Entertainmen t	Welfare and Entertainmen t	Staff Welfare programs implemented	130,000	Payment of monthly welfare for NAROSE C staff	32,500	Payment of monthly welfare for NAROSE C staff	32,500	Payment of monthly welfare for NAROSE staff	32,500	Payment of monthly welfare for NAROSE C staff	32,500
			2270010: Travel Inland	Conduct Support supervision visits to PARIs	Support supervision visits conducted	11,500	Support supervisi on visits conducted	5,500			Support supervision visits conducted	6,000		
			2731020: Incapacity, death benefit & Funeral	2731020: Incapacity, death benefit & Funeral costs workers compensation	Support provided for funeral expenses	25,000	Support provided for funeral expenses	6,000	Support provided for funeral expenses	7,000	Support provided for funeral expenses	7,000	Support provided for funeral expenses	5,000
				TOTAL DHR- Recurrent		26,957,710		6,766,803		6,762,303		6,718,302		6,710,302

Annex cix: Directorate of Finance GOU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Project s/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Directorate of Finance (DF)	Finance	04: Agricultural research capacity strengthened	2210160 IFMS- Recurrent costs	Conducting Board of Survey for 26 Stores and Cash	Board of Survey Conducted	45,000							Board of Survey Conducted in 26 Stores and Cash	45,000
			2210160 IFMS- Recurrent costs	Verifying and Reconciling NTR,GOU Releases for 16 PARI	NTR,GOU Releases Verified and Reconcile	25,000			NTR,GOU Releases Verified and Reconciled in 6 PARI	5,000	NTR,GOU Releases Verified and Reconciled in 10 PARI	10,000	NTR,GOU Releases Verified and Reconciled in 16 PARI	10,000
			2210160 IFMS- Recurrent costs	Budgetary monitoring & Evaluation exercises	Periodical NARO wide budget performance reports consolidated	25,000			Financial Management System in 4 PARIs strengthened	5,000	Financial Management System in 6 PARIs strengthened	10,000	Financial Management System in 6 PARIs strengthened	10,000
			2270010 Travel Inland	Conducting supervisory and backstopping visits by Directorate of Finance at 16 PARIs	Financial management system strengthened	45,000	Financial Management System in 4 PARIs strengthened	10,000	Financial Management System in 4 PARIs strengthened	10,000	Financial Management System in 6 PARIs strengthened	10,000	Financial Management System in 8 PARIs strengthened	15,000
			2270010 Travel Inland	Conducting supervisory and streamlining of storekeeping activities at the institutes	Storekeeping activities and processes stream lined	11,500	Storekeeping activities and processes stream lined	3,000	Storekeeping activities and processes stream lined	3,000	Storekeeping activities and processes stream lined	3,000	Storekeeping activities and processes stream lined	2,500
			TOTAL			151,500		13,000		23,000		33,000		82,500

Annex cx: Internal Audit GOU Recurrent work plan and budget for FY 2019/20

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
INTERNAL AUDIT	INTERNAL AUDIT	3 Internal Audit	221003 Staff Training	Continuous Professional Development for appropriate development and career progression	8 audit staff attain continuous Professional Development	5,600	8 audit staff attain continuous Professional Development	2,800		-		-	8 audit staff attain continuous Professional Development	2,800
			227001 Travel Inland	Carry out Finance and Revenue reviews for reasonable assurance about the reliability of financial information plus procedures used to record classification and advise management	2 reports providing reasonable assurance of financial statements produced	9,614	1 report providing reasonable assurance of financial statements produced	4,807		-		-	1 report providing reasonable assurance of financial statements produced	4,807
			227001 Travel Inland	Carry on Risk Assessment, to serve as a basis for Internal Audit Annual Work Plan	2 assessment reports on enterprise risk produced	5,800	1 assessment reports on enterprise risk produced	2,900		-		-	1 assessment reports on enterprise risk produced	2,900
			227001 Travel Inland	Carry out supervision and reviews of Internal Audit activities at the PARIs so as to provide value added services to management	4 reports on Internal Audit value- added services to management and the organization as a whole produced	8,078	1 reports on Internal Audit value-added services to management and the organization as a whole produced	2,020	1 reports on Internal Audit value- added services to management and the organization as a whole produced	2,020	1 report on Internal Audit value- added services to management and the organization as a whole produced	2,020	1 report on Internal Audit value- added services to management and the organization as a whole produced	2,018
			227001 Travel Inland	Conduct Investigations/adhoc assignments (Consulting engagements) to check how unexpected development affect the objectives of the	Investigation reports	7,098	Investigation reports produced	1,775	Investigation reports produced	1,775	Investigation reports produced	1,773	Investigation reports produced	1,775

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				organization										
			227001 Travel Inland	Implementation of Monitoring (Follow up of status reports), to be agreed upon with management for improvement of the organization's governance, risk management, and control processes	2 reports on implementation on monitoring function produced	22,200	1 reports on implementation monitoring function produced	11,100	-		1 reports on implementation on monitoring function produced	11,100	-	
			227001 Travel Inland	Carry out Governance, risk and Control reviews and provide assurance to management	4 reports on Governance, risk and control produced	24,086	1 reports on Governance, risk and control produced	6,020	1 report on Governance, risk and control produced	6,020	1report on Governance, risk and control produced	6,020	1 report on Governance, risk and control produced	6,026
			227001 Travel Inland	Carry out compliance engagements to Evaluate whether a program or process is operating in compliance with applicable laws, rules, and regulations or contractual provisions.	4 reports on compliance with applicable laws, rules and regulations produced	16,324	1 report on compliance with applicable laws, rules and regulations produced	4,081	1 report on compliance with applicable laws, rules and regulations produced	4,081	1 report on compliance with applicable laws, rules and regulations produced	4,081	1 report on compliance with applicable laws, rules and regulations produced	4,081
			221002 Work shops and seminars	Functional Monitoring and Evaluation meetings to follow up on audit recommendations at PARIs	3 meetings on the functional joint monitoring, evaluation plus follow up of audit recommendations with A&R Com	31,200	Minutes & report on the functional monitoring, evaluation plus follow up of audit recommendations	7,800	Minutes & report on the functional monitoring and evaluation plus follow up of audit recommendations	11,700	-		Minutes & report on the functional monitoring and evaluation plus follow up of audit recommendations	11,700
				Total		130,000		43,303	-	25,596		24,994	-	36,107

Program/ Directorate	Project/Unit	Vote function output	Expenditure/description code	Annual Plan and Budget 2019-20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Output	Annual Budget (000)	Interim or Final Output Quarter 1	Budget (000)	Interim or final output - Quarter 2	Budget (000)	interim or final output - Quarter 3	Budget (000)	interim or final output - Quarter 4	Budget (000)
Directorate of Corporate Services	NARO Governance Council , committee operations /intervention	01 Generation of Agricultural Technologies	2210060: Committee, Council and Board Expenses	Ensure committees (Council Committees, diligently carry out their duties that foster research, governance and management	Agricultural research policies, manuals, standards and guidelines streamlined . Work plans, Budgets and governance plans and reports approved	26,000	Agricultural research policies, manuals, standards and guidelines streamlined . Work plans, Budgets and governance plans and reports approved	8,000	Agricultural research policies, manuals, standards and guidelines streamlined . Work plans, Budgets and governance plans and reports approved	8,000	Agricultural research policies, manuals, standards and guidelines streamlined . Work plans, Budgets and governance plans and reports approved	5,000	Agricultural research policies, manuals, standards and guidelines streamlined . Work plans, Budgets and governance plans and reports approved	5,000
				Ensure committees (Council Committees, diligently carry out their duties that foster research, governance and management	Budget allocations for institutes made	12,000	Budget allocations for institutes made	6,000					Budget allocations for institutes made	6,000
				Ensure committees (Council Committees, diligently carry out their duties that foster research, governance and management	Quarterly releases allocated appropriately	18,000	Quarterly releases allocated appropriately	4,000	Quarterly releases allocated appropriately	4,000	Quarterly releases allocated appropriately	5,000	Quarterly releases allocated appropriately	5,000

Program/ Directorate	Project/Unit	Vote function output	Expenditure/ description code	Annual Plan and Budget 2019-20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Output	Annual Budget (000)	Interim or Final Output Quarter 1	Budget (000)	Interim or final output - Quarter 2	Budget (000)	interim or final output - Quarter 3	Budget (000)	interim or final output - Quarter 4	Budget (000)
				Ensure committees carry out their duties that support research	procurement plans and reports evaluated and approved. Contracts approved	18,000	procurement plans and reports evaluated and approved. Contracts approved	5,000	procurement plans and reports evaluated and approved. Contracts approved	5,000	procurement plans and reports evaluated and approved. Contracts approved	4,000	procurement plans and reports evaluated and approved. Contracts approved	4,000
				ensure that advisory committees carry out their duties diligently	Number of bids evaluated and Evaluation reports	26,000	Number of bids evaluated and Evaluation reports	8,000	Number of bids evaluated and Evaluation reports	6,000	Number of bids evaluated and Evaluation reports	6,000	Number of bids evaluated and Evaluation reports	6,000
				Overall 2210060: Committee, Council and Board Expenses										
						100,000		31,000		23,000		20,000		26,000
Directorate of Corporate Services	Administration and management of research	Agricultural research capacity enhanced	211103: Allowances	Facilitation to staff as and when on approved off-station duties	Back-to-office technical and accountability reports	18,000	Back-to-office technical & accountability reports	4,000	Back-to-office technical & accountability reports	5,000	Back-to-office technical & accountability reports	5,000	Back-to-office technical & accountability reports	4,000
			223006: Water	Provide water to support research management	Regular water supply	12,800	Water bills paid	3,600	Water bills paid	3,000	water bills paid	3,000	water bills paid	3,200
			227004: Fuel, Lubricants and oil	Ensure provision of fuel & lubricants	Official staff travel facilitated	200,000	Official staff travel facilitated	45,000	Official staff travel facilitated	55,000	Official staff travel facilitated	55,000	Official staff travel facilitated	45,000
			221011: Printing stationery, binding	Printing and binding services for dissemination materials and Public relations efforts	stationery procured Printing and binding services provided	75,000	Policy documents, calendars, brochures, fact sheets, notebooks, pens and manuals made	20,000	Policy documents, brochures, fact sheets, notebooks, pens and manuals made	15,000	Policy documents, brochures, fact sheets, notebooks, pens and manuals made	20,000	Calendars, brochures, fact sheets, notebooks, pens and manuals made	20,000

Program/ Directorate	Project/Unit	Vote function output	Expenditure/ description code	Annual Plan and Budget 2019-20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Output	Annual Budget (000)	Interim or Final Output Quarter 1	Budget (000)	Interim or final output - Quarter 2	Budget (000)	interim or final output - Quarter 3	Budget (000)	interim or final output - Quarter 4	Budget (000)
			221007: Books, periodicals & News Paper	Obtain books, periodicals and newspapers for staff and library	Books, periodicals and newspapers for staff and library purchased	7,686	Books, periodicals and newspaper s for staff and library purchased	2,000	Books, periodicals and newspaper s for staff and library purchased	2,000	Books, periodicals and newspaper s for staff and library purchased	2,000	Books, periodicals and newspaper s for staff and library purchased	1,686
			222001: Telecommu nication	Provide telecommunicati on services to support research management	Effective telecommuica tions to and from NARO	100,000	Telecommn ication bills paid	25,000	Telecommn ication bills paid	25,000	Telecommn ication bills paid	25,000	Telecommn ication bills paid	25,000
			222002: Postage and Courier	Provide Postage and Courier services to support research management	Effective Postage and Courier to and from NARO	5,140	Postage and Courier bills paid	1,400	Postage and Courier bills paid	1,300	Postage and Courier bills paid	1,240	Postage and Courier bills paid	1,200
			223004: Guard and security services	Provide security for NAROSEC premises and assets	secured premises and assets	40,000	Effective guard and security services provided	10,000	Effective guard and security services provided	10,000	Effective guard and security services provided	10,000	Effective guard and security services provided	10,000
			223005: Electricity	Provide electricity to support research management	Regular electricity supply	24,000	Electricity bills paid	6,000	Electricity bills paid	6,000	Electricity bills paid	6,000	Electricity bills paid	6,000
			224004: Cleaning and sanitation services	Provide cleaning and sanitation services inside and outside NAROSEC premises	Condisive working environs maintained at NAROSEC premises	60,000	Effective cleaning and sanitation services provided	15,000	Effective cleaning and sanitation services provided	15,000	Effective cleaning and sanitation services provided	15,000	Effective cleaning and sanitation services provided	15,000
			224005: Uniforms, Beddings and Protective Gear	Provide uniforms, beddings and protective wear	Coporate image and visibility enhanced	50,000	uniforms, beddings and protective gear for staff	10,000	uniforms, beddings and protective gear for staff	15,000	uniforms, beddings and protective gear for staff	15,000	uniforms, beddings and protective gear for staff	10,000

Program/ Directorate	Project/Unit	Vote function output	Expenditure/ description code	Annual Plan and Budget 2019-20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Output	Annual Budget (000)	Interim or Final Output Quarter 1	Budget (000)	Interim or final output - Quarter 2	Budget (000)	interim or final output - Quarter 3	Budget (000)	interim or final output - Quarter 4	Budget (000)
							obtained		obtained		obtained		obtained	
			227001: Travel inland	Conduct back- stopping visits to PARIs and other official field activities	Coordinate oversight, supervision and evaluation of research operations	11,500	At least 4 PARIs visited to back-stop managem ent of research	2,800	At least 4 PARIs visited to back-stop managem ent of research	2,900	At least 4 PARIs visited to back-stop managem ent of research	2,900	At least 4 PARIs visited to back-stop managem ent of research	2,900
			228001: Maintena nce – Civil	Conduct repairs and minor rehabilitations on infrastructure	Infrastructu re maintained for supporting agricultural research	20,000	Infrastructu re maintained for supporting agricultural research	5,000	Infrastructu re maintained for supporting agricultural research	5,000	Infrastructu re maintained for supporting agricultural research	5,000	Infrastructu re maintained for supporting agricultural research	5,000
			228002: Maintena nce – Vehicles	Maintain a fully functional vehicle fleet	Functional vehicle fleet for supporting research managem ent	130,000	Vechile maintananc e costs covered	30,000	Vechile maintananc e costs covered	35,000	Vechile maintananc e costs covered	30,000	Vechile maintananc e costs covered	35,000
			228003: Maintena nce - Machiner y & Equipmen t	Conduct regular repairs and service on research machines/equip ment	Research machines/e quipment maintained	20,000	Research machines/e quipment maintained	5,000	Research machines/e quipment maintained	5,000	Research machines/e quipment maintained	5,000	Research machines/e quipment maintained	5,000
			228004: Maintena nce – Other	Conduct repairs and minor rehabilitations on infrastructure	Infrastructu re maintained for supporting	20,000	Infrastructu re maintained for supporting	5,000	Infrastructu re maintained for supporting	5,000	Infrastructu re maintained for supporting	5,000	Infrastructu re maintained for supporting	5,000

Progr am/ Direct orate	Project/U nit	Vote functio n output	Expendit ure/descri ption code	Annual Plan and Budget 2019-20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Output	Annual Budget (000)	Interim or Final Output Quarter 1	Budg e t (000)	Interim or final output - Quarter 2	Budget (000)	interim or final output - Quarter 3	Budg e t (000)	interim or final output - Quarter 4	Budg e t (000)
					agricultural research		agricultural research		agricultural research		agricultural research		agricultural research	
			225001: Consultan cy services of short term	Address technical gaps in operations of research management.	Availability of supportive research services.	19,407	Research capacity backed up by short term consultancy support	4,607	Research capacity backed up by short term consultancy support	5,000	Research capacity backed up by short term consultancy support	5,000	Research capacity backed up by short term consultancy support	4,800
			Overall Administration and management			813,533	-	194,407	-	210,200	-	210,140	-	198,786
	Public Relations	Resear ch Extensi on Interfa ce Promo ted and Strengt hened	2210010: Advertisi ng and Public Relations (Central)	Community Engagement: Popularizing NARO technologies at the sub-county level through NARO Community Info-Hubs	6 NARO community info hubs in 6 agro- ecological zones conducted	25,000		6 NARO community infohubs conducted in 6 agro ecological zones	25,000					
				Promotion of NARO Online platforms: through advertising	Communit y Radio advertising & Online adverts for platforms conducted	12,000	Promotion of online platforms on community radio, high traffic websites and other online links conducted	12,000	-	Regular updates and engagemen ts online with different groups conducted	-	Speaking opportuniti es for online panels held	-	
Monitoring and Evaluation: Independent				12 NARO media image	45,000	3 NARO media image	11,000	3 NARO media image	12,000	3 NARO media image	11,000	3 NARO media image	11,000	

Program/ Directorate	Project/Unit	Vote function output	Expenditure/description code	Annual Plan and Budget 2019-20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Output	Annual Budget (000)	Interim or Final Output Quarter 1	Budget (000)	Interim or final output - Quarter 2	Budget (000)	interim or final output - Quarter 3	Budget (000)	interim or final output - Quarter 4	Budget (000)
				media monitoring services for NARO visibility across the country on all traditional media	reports delivered		reports delivered		reports delivered		reports delivered		reports delivered	
	Overall 2210010: Public Relations					82,000	-	23,000	-	37,000	-	11,000	-	11,000
	Advertising	Research Extension Interface Promoted and Strengthened	2210010: Advertising and Public Relations (Central)	Promotion of NARO's key messages at 10 National events	Enhanced NARO's visibility	55,000	Promotion of NARO's key messages on World Environment Day and Biodiversity Day	11,000	Promotion of NARO's key messages on World Fisheries Day, Independence Day, World AIDS Day and World Food Day	22,000	Promotion of NARO's key messages on NRM Day, Tarehe Sita Day and World Women's	16,500	Promotion of NARO's key messages on Hero's Day	5,500
				Produce Diaries for promoting NARO's corporate image	500 NARO diaries produced	25,000			500 NARO diaries produced	25,000				
				Put out key NARO messages on Radio and TV	NARO messages on Key radio/TV disseminated	2,852	NARO messages on Key radio/TV disseminated	700	NARO messages on Key radio/TV disseminated	700	NARO messages on Key radio/TV disseminated	702	NARO messages on Key radio/TV disseminated	750
						82,852	-	11,700	-	47,700	-	17,202	-	6,250
	Overall 2210010: Advertising and Public Relations (Central)					164,852	-	34,700	-	84,700	-	28,202	-	17,250
	Overall Recurrent budget					1,078,385	-	260,107	-	317,900	-	258,342	-	242,036

Annex cxii: Directorate of Corporate Services – Strengthening Procurement Unit (Operations Expenses) GOU Recurrent Workplan & Budget for FY 2019/20

Program/ Directorate	Projects/ Units	Vote Function/ output	Expenditure Code/ Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
DCS	Strengthening of Procurement Function	1	227001: Quarterly Review workshops	Ensure all Procurement Staff participate in updating of procurement status	Four (4) quarterly review reports by end of June 2020 submitted	25,000	A Quarterly Procurement progress Report developed and submitted to Management	6,250	A Quarterly Procurement progress Report developed and submitted to Management	6,250	A Quarterly Procurement progress Report developed and submitted to Management	6,250	A Quarterly Procurement progress Report developed and submitted to Management	6,250
		1	221006: Training of procurement staff and Contracts Committee in procurement Modules	Ensure all Contracts Committees, Subcontracts committees and procurement staff are trained in various modules	Certificates of Attendance and assessment reports developed	50,000		-	Training Assessment report developed	50,000		-		-
		1	221002: Preparation of procurement plan	Ensure all planned procurements for all Institutes are compiled	One Consolidated Procurement Plan submitted and approved	25,000							Annual Procurement Plan developed	25,000
		TOTAL RECURRENT - Strengthening Procurement Operations				100,000		6,250		56,250		6,250		31,250

Annex I: GOU Recurrent Enhanced MTEF (UGX 4.44 Billion) for Value Addition Investment Areas for FY 2019/20

A handwritten signature in black ink, appearing to be 'R. B. S.', located in the bottom right corner of the page.

Annex I.1: Enhanced GOU Recurrent CGS mode funded projects

Work plans and Budgets for FY 2019/20

Annex cxiii: Enhanced GOU Recurrent CGS Research Projects Work plans and Budgets for FY 2019/20

Program/ Directorate/ Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
ABI	Exploiting cassava composites for industrial applications and stimulation of outgrower schemes	01: Generat ion of agricult ural technol ogies	2210110: Printing, Stationery, Binding	Project documents processed	Project managem ent, monitorin g, evaluation and dissemina tion	2,000	Assorted stationery acquired	500	Assorted stationer y acquired	500	Assorted stationery acquired	500	Assorted stationery acquired	500
			2210080: Computer Supplies & IT Service(DTIP S)	Assorted ICT equipmet procured		4,000	Assorted ICT facilities acquired	2,000			Assorted ICT facilities acquired	2,000		
			2210010: Advertising and public relations (Agric shows)	Project results and products disseminated		3,000							Participate in at least disseminatio n event	3,000
			2270040: Fuel, Lubricants & Oils	Project activities monitored		3,000	One project monitoring and evaluation activity conducted	750	One project monitori ng and evaluatio n activity conduce d	750	One project monitoring and evaluation activity conducted	750	One project monitoring and evaluation activity conducted	750
			2270010: Travel inland	Project activities monitored		8,000		2,000		2,000		2,000		2,000
			2270040: Fuel, Lubricants & Oils	Industrial requirements for cassava raw materials bench-mark	At least four food products and three livestock feed	1,215	A discussion with at least three industry players (i.e.	1,215						
			2270010: Travel inland			2,600		2,600						

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
					products developed from cassava and its by-products		Britania, Breweries and Bakeries)							
			2270040: Fuel, Lubricants & Oils	Nutritive profiling of different cassava varieties and associated ingredients		1,000	Samples of different cassava varieties and associated ingredients collected from at least three locations	1,000						
			2270010: Travel inland			3,500		3,500						
			2240010: Medical & Agric. Supplies			15,900	At least 10 samples analysed for nutritive quality	15,900						
			2270040: Fuel, Lubricants & Oils	Formulating and testing of various composites for food and feed	3,000	Materials of cassava and associated ingredients collected for formulation	600	Materials of cassava and associated ingredients collected for formulation	1,200	Materials of cassava and associated ingredients collected for formulation	1,200			
			2270010: Travel inland		16,000				3,000			6,500		6,500
			2240010: Medical & Agric. Supplies			51,000			Materials acquired for cassava composites	17,000	Materials acquired for cassava composites	17,000	Materials acquired for cassava composites	17,000

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		Research extension interface	2270040: Fuel, Lubricants & Oils	Potential farmers for linkage to industry as outgrowers identified	At least two functional cassava outgrower schemes, each with over 500 members, established and linked to baking and brewing industries	1,944	Cassava farmers and existing farmer groups identified and their resources mapped	1,944						
			2270010: Travel inland			6,500		6,500						
			2270040: Fuel, Lubricants & Oils	Potential farmers mobilised into outgrower schemes		2,916		Cassava farmers organised into outgrower	2,916					
			2270010: Travel inland			6,500			6,500					
			2270040: Fuel, Lubricants & Oils	Technical capacity of the two outgrower schemes built in aspects of agronomy and processing		3,888	Outgrowers trained in agronomic and processing practices of cassava	972	Outgrowers trained in agronomic and processing practices of cassava	972	Outgrowers trained in agronomic and processing practices of cassava	972	Outgrowers trained in agronomic and processing practices of cassava	972
			2270010: Travel inland			13,000		3,250		3,250		3,250		3,250
			2270040: Fuel, Lubricants & Oils	Institutional capacity of the two outgrower schemes built		1,944	Outgrowers trained in institution management and business skills	486	Outgrowers trained in institution management and business skills	486	Outgrowers trained in institution management and business skills	486	Outgrowers trained in institution management and business skills	486
			2270010: Travel inland			6,500		1,625		1,625		1,625		1,625

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			312202: Machinery & Equipment(In cl. Generators+ Water pumps)	Two agro-processing centres established and equiped with cassava cleaning, chipping and drying facilities		204,569	One agro-processing centre constructed and equiped with cassava chipping and grinding equipment	102,284.4	One agro-processing centre constructed and equiped with cassava chipping and grinding equipment	102,284.4				
			2270040: Fuel, Lubricants & Oils	Key stakeholders identified	One nutrition platform established to inform development of cassava based products	2,187	Key stakeholders of a nutritional platform covering agricultural research, medical professionals, local governments, farmers and civil society identified	1,000	Key stakeholders of a nutritional platform covering agricultural research, medical professionals, local governments, farmers and civil society identified	1,187				
			2270010: Travel inland			5,850		2,850		3,000				

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270040: Fuel, Lubricants & Oils	Leadership and governance of the nutrition platform institutionalised		2,187	Meetings conducted for leader and governance	1,000	Meetings conducted for leader and governance	1,187				
			2270010: Travel inland			5,200		2,600		2,600				
			2210080: Computer Supplies & IT Service(DTIP S)	Routine nutrition platform meetings facilitated		1,000	ICT processes facilitated	250	ICT processes facilitated	250	ICT processes facilitated	250	ICT processes facilitated	250
			2210020: Workshops & seminars(institute w/shops)(inc. Hire of venues)			21,600	Two seminars conducted on nutrition	5,400	Two seminars conducted on nutrition	5,400	Two seminars conducted on nutrition	5,400	Two seminars conducted on nutrition	5,400
					TOTAL	400,000		163,226		159,607		41,933		35,233
NaLIRI	Acari da cinerea culture for animal feed development	01: Generation of agricultural technologies	2111020	Develop protocols to breed, rear, harvest and process A. cinerea based protein supplement for enhanced livestock productivity	Protocols to produce A. cinerea available	10,000,000	Protocols to breed A. cinerea available	10,000,000						
			2210030			4,000,000	Protocols to rear A. cinerea available	4,000,000						
			2240010			29,300,000	Protocols to harvest A. cinerea available	29,300,000						
			2270010			4,000,000	Protocols to process A. cinerea available	4,000,000						
					TOTAL									

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
						47,300,000	-	47,300,000	-	-	-	-	-	-
		02: Research extension interface promoted and strengthened	2210010	Develop small, medium and large-scale production models for <i>A. cinerea</i> that are based on Ugandan conditions	Production models for small, medium and large scale producers developed				<i>A. cinerea</i> production models for small, medium and large scale producers developed and availed					
			2210020			3,000,000				3,000,000				
			2210050											
			2210060											
			2210070											
			2210080											
			2210110			200,000				200,000				
			2240010											
			2240060			10,000,000				10,000,000				
					TOTAL	13,200,000				13,200,000				
		03: Agricultural research capacity strengthened	2210020	Assess and develop inclusion levels of <i>A. cinerea</i> based protein supplement in ruminants and non-ruminants animals	<i>A. cinerea</i> based protein supplement Inclusions for ruminants and non ruminants developed and availed	3,000,000					Inclusion levels of <i>A. cinerea</i> based protein supplement for ruminants and non ruminants developed	3,000,000		
			2210030			3,000,000						3,000,000		
			2210040											
			2210060											
			2210080											
			2210090											
			2210120											
			2210160											
			2220010			500,000						500,000		
			2220020											
			2230040			1,500,000						1,500,000		

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2230050			500,000						500,000		
			2240010											
			2240040			1,000,000						1,000,000		
			2250010											
			2260010											
			2270010			3,000,000						3,000,000		
			2270020											
			2270040			4,000,000						4,000,000		
			2280010			1,500,000						1,500,000		
			2280020			1,500,000						1,500,000		
			2280030											
			2280040											
					TOTAL	19,500,000						19,500,000		
		04: Generation of Tech. for priority commodities	2240010											
			2270010											
			2621010											
			2641010											
					TOTAL	-								
		05: Capital expenditure for Hqs & institute	2310010	Design insect production and processing facility at NARO-NaLIRRI	A. cinerea processing facility constructed and equipped at NARO-								Processing facility of A. cinerea based protein supplement constructed and equipped at	
			2310040											
			2310050			20,000,000								20,000,000
			2310050											

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2310060		Nakyesasa								NARO-Nakyesasa	
					TOTAL	20,000,000								20,000,000
				Grand total		100,000,000		47,300,000		13,200,000		19,500,000		20,000,000
NaFIRRI - ARDC	Development of unextruded floating fish feed for sustainable aquaculture production in Uganda	Generation of agricultural technologies	2210010 Advertisement & publications	Developing technology for mass production of insects for use in fish feed development	1. Product development and marketing	5,000	Fish feeds based on insect meal produced	5,000						
			2240060 Agricultural supplies		2. Insect larvae & Insect meal for use in fish feeds development produced	55,000	Nutritional composition of insects with potential for use in fish feed development determined	15,000	Facilities and substrates for mass production of insects procured and set up	15,000	Facilities and substrates for mass production of insects tested and cost effective ones setup for commercial production of insects	15,000	New feed with insects as the main source of protein developed and disseminated	10,000
			2240010		3. Feeding experiments to evaluate effects of feeding insects on performance Tilapia and African catfish	32,800	Ingredients and supplies procured and experiments on feed development set up	10,000	Feeding experiments and data collection	15,000	Continuation of feeding experiment	7,800		

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2111020 Casual labour - Contract staff salaries			7,200	Contracted labour hired and paid	1,800	Contracted labour hired and paid	1,800	Contracted labour hired and paid	1,800	Contracted labour hired and paid	1,800
TOTAL						100,000								
Bulin di ZARD I/Animal resources research program	Commercialisation of goat value chain through industrial park approach	04: Agricultural research capacity strengthened	2210020/Workshops & seminars	Inception meeting to launch the project and sensitize partners on project objectives and their expected roles	One inception meeting held	10,000	Inception meetings held	10,000						
			2270010/Travel inland			3,000		3,000						
			2270040/Fuel, Lubricants & Oils			2,000		2,000						
			2210020/Workshops & seminars	Baseline survey to characterize goat value chain	A baseline survey conducted and value chain actors characterized	11,000	Baseline survey conducted	11,000						
			2270010/Travel inland			5,000		5,000						
			2270040/Fuel, Lubricants & Oils			4,000		4,000						
			2210020/Workshops & seminars	Mobilize various categories of value chain actors	Majority of goat value chain actors identified and mobilised for the project	6,000	Various categories of actors mobilised	15,000		15,000				
			2270010/Travel inland			5,000		5,000		5,000				
			2270040/Fuel, Lubricants & Oils			4,000		4,000		4,000				
		01: Generation of agricultural technology	2250010/Consultancy services- short Term	Procure a consultant to design an architectural plan for the industrial	An industrial park plan produced	13,000	Industrial park plan produced and ready for referencing	15,000						
			2270040/Fuel, Lubricants & Oils			2,000		2,000						

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		ogies	Oils	park			on							
			2111020/Contract Staff Salaries (Incl. Casual labourers)	Demarcate and plot the site for industrial park at Bulindi ZARDI		10,000			Industrial park sited and demarcated	10,000				
			2210120/Small office Equipment	Procure equipment for establishment of the industrial park	All essential items acquired for use in the units	35,000	Assorted equipment acquired	10000	Assorted equipment acquired	10000	Assorted equipment acquired	10000	Assorted equipment acquired	5000
			2280010/Main tenance - Civil	Establish goat feed lot/fattening unit	Goat feedlot unit comprising of a house, fenced paddocks and feeding and watering in place	5,000	Goat feedlot unit established	2,000	Goat feedlot unit managed	2,000	Goat feedlot unit maintained	1,000		
			2240010/Medical & Agric. Supplies			10,000		10,000						
			2240010/Contract Staff Salaries (Incl. Casual labourers)			10,000		10,000						
			2280010/Main tenance - Civil	Establish goat breeding unit	A goat breeding unit established for raising mubende and boer goats	5,000	Goat breeding unit established	2000	Goat breeding unit managed	2000	Goat breeding unit managed	1000		
			2240010/Medical & Agric. Supplies			10,000		10000						
			2111020/Contract Staff Salaries (Incl. Casual labourers)			10,000				5000		5000		

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240010/Medical & Agric. Supplies	Establish Pasture improvement unit	A pasture improvement unit established for supplying planting materials to farmers	9,000	Pasture unit established	4000	Pasture unit maintained	3000	Pasture unit maintained	2000		
			2280010/Maintenance - Civil			10,000		5000		5000				
			2111020/Contract Staff Salaries (Incl. Casual labourers)			6,000		6000						
			2240010/Medical & Agric. Supplies	Goat disease management unit	A disease management unit established for effective prevention, detection and control of trade sensitive diseases	6,000	Goat disease management unit infrastructure established	2000	Goat diseases surveyed on and control	2000	Goat diseases surveyed on and control	2000		
			2270010/Travel inland			10,000		5,000		5,000				
			2270040/Fuel, Lubricants & Oils			5,000		3,000		2,000				
			2280010/Maintenance - Civil			4,000		2,000		2,000				
			2210020/Workshops & seminars			5,000		3,000		1,000		1000		
		04: Agricultural research capacity strengthened	2270010/Travel inland	Training of producers on improved goat husbandry practices	All identified goat producers trained on basic goat husbandry practices	3,000			Goat producers trained	7000	Goat producers trained	3000		
			2270040/Fuel, Lubricants & Oils			2,000				2000		1000		
			2210020/Workshops & seminars			10,000				1000		1000		
			2270010/Travel inland	Training of Abattoir workers and managers on abattoir management and safe slaughter of	All identified and registered abattoir workers trained on safe	5,000					Abattoir workers identified and trained	5,000		
			2270040/Fuel, Lubricants & Oils			3,000						3,000		
			2210020/Workshops & seminars			2,000						2,000		

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
				goats	slaughter of goats									
			2270010/Travel inland	Training of goat exporters on issues relating export of goats	All identified and registered goat exporters trained on safe marketing	5,000					Exporters identified and trained	5,000		
			2270040/Fuel, Lubricants & Oils			3,000						3,000		
			2210020/Workshops & seminars			2,000						2,000		
			2270010/Travel inland	Training of butchery owners and workers on meat safety issues	All butchery workers trained on meat safety issues	5,000					Butchery workers trained on meat safety	5,000		
			2270040/Fuel, Lubricants & Oils			3,000						3,000		
			2210020/Workshops & seminars			2,000						2,000		
			2270010/Travel inland	Training of meat transporters on meat safety issues	all meat transporters trained on meat safety	5,000					Meat transporters trained	5,000		
			2270040/Fuel, Lubricants & Oils			3,000						3,000		
			2210030/Staff training			2,000						2,000		
			2240010/Medical & Agric. Supplies	Training of laboratory workers on latest tests for meat borne hazards	At least three laboratory workers trained	20,000							Two laboratory workers trained	20,000
			2270010/Travel inland	Sourcing of technologies from PARIs	Essential technologies identified and	13,000			Appropriate technologies sourced	13,000				
			2270040/Fuel, Lubricants & Oils			5,000				5,000				

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2111020/Contract Staff Salaries (Incl. Casual labourers)		acquired from PARIs	2,000				2,000				
			2270040/Fuel, Lubricants & Oils	Establishing on station trials of acquired technologies	Technologies acquired from PARIs	7,000	On station trials established and managed	7,000						
			2270010/Travel inland		demonstrated at the station	3,000		3,000						
		02: Research extension interface promoted and strengthened	2270040/Fuel, Lubricants & Oils	Establishing participatory on-farm demonstrations	Technologies demonstrated in field	20,000		20,000						
			2240010/Medical & Agric. Supplies			4,000		4,000						
			2210010: Advertising and public relations (Agric shows)			6,000		6,000						
			2270010/Travel inland	Developing and dissemination of Brochures, training guides, manuals of improved goat production technologies	brochures produced and used as guides in training farmers	10,000					Brochures produced on various technologies	10,000		
			2270040/Fuel, Lubricants & Oils	Baseline assessment of adaptation of	A comprehensive	25,000					Adoption level of Climate	25,000		

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210020/Workshops & seminars	climate change resilient goat production systems	survey carried and climate change resilient production systems identified for promotion among goat farmers	5,000					change resilient production systems	5,000		
			2270010/Travel inland	Training and dissemination on goat production systems that minimize greenhouse gas emissions	Goat farmers trained on production systems that minimize greenhouse gas emission	20,000					Training conducted on minimising green house emissions in goat farming system	20,000		
			2270040/Fuel, Lubricants & Oils			5,000						5,000		
			2210020/Workshops & seminars			5,000						5,000		
		04: Agricultural research capacity strengthened	2270010/Travel inland	Producer groups formation workshops conducted at subcounty, district and regional level (Farmer groups, cooperatives, companies)	Producer groups form at three level	18,000							Producer group formed at sub-county and district levels	18,000
			2270040/Fuel, Lubricants & Oils			4,000								4,000
			2270010/Travel inland			3,000								3,000
			2270040/Fuel, Lubricants & Oils	Facilitate registration of producer	Producer groups registered	20,000							Producer groups registered	30,000

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270010/Travel inland	groups and other goat value chain actors such as transporters	with authority	10,000								
			2270010/Travel inland	MoU contracts with goat farmer groups for sustained supply of goats to the industrial parks developed and signed	MoU designed for formal dealing in goat trade	6,000								
			2270040/Fuel, Lubricants & Oils			9,000							MoUs signed at various levels	15,000
			2270010/Travel inland	Contractual agreements between feedlot farms and exporters developed and signed	Feedlot farms capacity build to have contractual dealings	6,000							Contractual agreements signed between dealing farmers	10,000
			2270040/Fuel, Lubricants & Oils			4,000								
						500,000								
Total														
Nabui ZARD I	Animal Resources Research Program/Mitigation of Brucellosis in Kara	01: Generation of agricultural technologies	2240010	Picking and testing of samples from cattle, goats, sheep, camels and at risk humans in Karamoja region	Seroprevalence of Brucellosis in four cattle, goats, sheep and camels and at risk human population determined in Karamoja	-	Sample collection, laboratory and data analysis on seroprevalence of Brucellosis in Karamoja region completed	35,000	Baseline seroprevalence of Brucellosis in Karamoja region in place		Control strategy for Brucellosis in Karamoja region determined and in place and implementation of Control strategy for Brucellosis started		Seroprevalence of Brucellosis in Karamoja region to determine the impact of control strategy completed	
			2270010			-		16,000		16,600		2,000		2,000

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	moja Pastoral Communities/ Diagnostic and Control Strategies of Brucellosis in Karamoja Region	02: Research Extension Interface promoted and strengthened	2210050		Inception report/ Preliminary results on seroprevalence of Brucellosis in Karamoja in place	-	Inception workshop with Key stakeholders conducted for Brucellosis seroprevalence in Karamoja region	6,400	Preliminary report on Secondary health centres data on status of Brucellosis among health care seeking population in Karamoja region in Place	2,000				
			2210110		1000 Posters in Ngakarim	10,000	Printing of information dissemination packages such as posters done	5,000	Information dissemination through radio talk shows (1) and distribution of posters on going	1,500	Information dissemination through radio talk shows (1) and distribution of posters on going	1,500	Information dissemination through radio talk shows (1) and distribution of posters on going	2,000
			2270040		ojong printed and distributed in the region, 4 talk shows conducted on Brucellosis in the region	0		2,000		2,000		500		500
			2280020			0		1,250		1,250		1,250		1,250
					TOTAL	-	-	65,650	-	23,350	-	5,250	-	5,750
NaCO RI	Resistance, efficient diagnosis	01: Generation of agricultural	2111020 - Contract staff salaries	Generate information on the occurrence of coffee wilt	Information on occurrence and distribution	3,600	Coffee wilt disease incidence and distribution	900	Coffee wilt disease incidence and	900	Coffee wilt disease incidence and distribution in north eastern	900	Coffee wilt disease incidence and distribution	900
			2240010: Medical and			1,500		1,500						

Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
	Diagnostics, disease surveillance and forecasting: Key to sustainable management of coffee wilt disease in Uganda	technologies	veterinary supplies	disease and diversity of CWD pathogens	n of CWD; and the pathogen variability in Western regions		in North Western Uganda		distribution in S.W Uganda		Uganda		map in Western Uganda	
			2250010: Consultancy (short-term)			3,920								
			2270010 - Travel inland			13,200		6,600		2200		2200		2200
			2270040 - Fuel lubricants and oils			2,400		600		600		600		600
					TOTAL	24,620	-	2,400	-	900	-	900	-	900
		01: Generation of agricultural technologies	2111020 - Contract staff salaries	Develop protein and DNA-based protocols for precise CWD pathogen diagnosis	Specific antibodies to CWD pathogen, 2 specific primers designed		Diagnostic protein purified, Sequences for specific primer design		Protein sequence data, specific primer designed		Coffee wilt disease Specific antibody generated, quantitative PCR designed		One antibodies for protein based test, two DNA base primers	
			2250010: Consultancy (short-term)			4,000		2500		500		500		500
			2240020 - General supply goods and services					230		230		230		230
			2270010 - Travel inland			400		100		100		100		100
			2270040 - Fuel lubricants and oils											
					TOTAL	4,400	-	2,500	-	500	-	500	-	500
		01: Generation of agricultural technologies	2250010: Consultancy (short-term)	Generate information on pathogen-host interaction	Information on coffee wilt disease pathogen infective and host defence mechanisms	49,000	12 RNA purified extracts	48000	RNA sequence data	1000	Bioinformatics analysis outputs		Highlights on pathogen effector gene and host defensive mechanism	
			2111020 - Contract staff salaries			3,000		750		750		750		750
			2240010: Medical and veterinary supplies			9,340		9000				340		

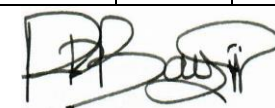
Program/ Directorate/Institute	Projects/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270010 - Travel inland			920		230		230		230		230
			2270040 - Fuel lubricants and oils			400		100		100		100		100
			2210020 - Workshops and seminars											
			2210110: Printing, Stationery Binding											
			2220010: Telecommunications											
					TOTAL	62,660	-	9,330	-	330	-	670	-	330
		01: Generation of agricultural technologies	2250010: Consultancy (short-term)	Develop markers to screen coffee germplasm for CWD resistance breeding	Two markers for screening Robusta coffee against coffee wilt disease	-	Sequences data available		At least four markers designed and synthesized		Potential primers selected		One marker recommended for routine use	
			2240010: Medical and veterinary supplies			-								
			2240060: Agricultural supplies			-								
			2270010 - Travel inland			2,200								2200
			2270040 - Fuel lubricants and oils			300								300
			2210110: Printing, Stationery Binding			320		320						
			2220010: Documentation of							3000				

Program/ Directorate/ Institute	Projects/ Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			innovation											
			2641010: Contribution to Autonomous institutes			5,500		1375		1375		1375		1375
SUB-TOTAL						8,320	-	320	-	-	-	-	-	300
TOTAL						100,000	-	320	-	-	-	-	-	-

Annex I.2: Enhanced GOU Recurrent (UGX 4.44 Billion) PARIs and NAROSEC Work plans and Budgets for FY 2019/20

Annex cxiv: Citrus Fruits Seedling Platform – NaCRRI, Kiige

Program/ Directorate	Project s/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
NaCRRI/ Horticulture/ Kiige	Strengthening value added fruit seedling and product value chains - Kiige	01: Generation of agricultural technologies	2111020: Contract Staff Salaries (Incl. Casual labourers)	Operationalize Kiige fruit nursery	Quality fruit tree seedlings - Obj 1	20,000	20,000 fruit seedlings produced	5,000	25,000 fruit seedlings produced	5,000	25,000 fruit seedlings produced	5,000	30,000 fruit seedlings produced	5,000
			2240010: Medical & Agric. Supplies			20,000		10,000		10,000		-		-
			2270010: Travel inland			15,000		3,750		3,750		3,750		3,750
						Subtotal		-		-		-		-
		01: Generation of agricultural technologies	2111020: Contract Staff Salaries (Incl. Casual labourers)	Establish and maintain new regional mother gardens to support nursery operators and act as in situ germplasm conservation sites	Regional fruit mother gardens - Obj 1	10,000	Fruit mother gardens established regionally	2,500	Fruit mother gardens established regionally	2,500	Fruit mother gardens maintained	2,500	Fruit mother gardens maintained	2,500
			2240010: Medical & Agric. Supplies,			8,000		2,000		2,000		2,000		2,000
			2270010: Travel inland			7,000		1,750		1,750		1,750		1,750
						Subtotal		-		-		-		-
		01: Generation of	2111020: Contract Staff Salaries (Incl.	Developing and testing new	Highly productive and	20,000	Identification and obtaining	5,000	Identification and obtaining	5,000	Onstation Establishment and	5,000	Onstation Establishment and	5,000



Program/ Directorate	Project s/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		agricultural technologies	Casual labourers)	market class varieties	resilient citrus and mango varieties - Obj 2		new elite citrus and mango germplasm		new elite citrus and mango germplasm		evaluation of fruit tree germplasm		evaluation of fruit tree germplasm	
			2240010: Medical & Agric. Supplies			15,000		3,750		3,750		3,750		3,750
			2270010: Travel inland			5,000		1,250		1,250		1,250		1,250
					Subtotal	40,000	-	10,000	-	10,000	-	10,000	-	10,000
		01: Generation of agricultural technologies	2111020: Contract Staff Salaries (Incl. Casual labourers)	Develop IPDM for pests and diseases	IPDM package s - Obj 2	5,000	Highly effective IPDM packages for the control of citrus and mango pests and diseases identified	1,250	Highly effective IPDM packages for the control of citrus and mango pests and diseases identified	1,250	Highly effective IPDM packages for the control of citrus and mango pests and diseases identified	1,250	Highly effective IPDM packages for the control of citrus and mango pests and diseases identified	1,250
			2240010: Medical & Agric. Supplies			12,000		3,000		3,000		3,000		3,000
			2270010: Travel inland			10,000		2,500		2,500		2,500		2,500
					Subtotal	27,000	-	6,750	-	6,750	-	6,750	-	6,750
		01: Generation of agricultural technologies	2111020: Contract Staff Salaries (Incl. Casual labourers)	Develop management practices for increased fruit productivity	Best fruit tree management practices - Obj 2	13,000	Best management practices for Citrus and mango fruit tree identified and documented	3,250	Best management practices for Citrus and mango fruit tree identified and documented	3250	Best management practices for Citrus and mango fruit tree identified and documented	3250	Best management practices for Citrus and mango fruit tree identified and documented	3250
			2240010: Medical & Agric. Supplies			20,000		5,000		5000		5000		5000
			2270010: Travel inland			7,000		1,750		1,750		1,750		1,750
					Subtotal	40,000	-	10,000	-	10,000	-	10,000	-	10,000
		01: Generation of	2250010: Consultancy services- short	Develop different fruit	Highly marketable fruit	15,000	Citrus and mango fruit products	3,750	Development of the most	3,750	Development of the most	3,750	Development of the most	3,750

Program/ Directorate	Project s/Units	Vote Function output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		agricultural technologies	Term,	products for incubation	tree products - <i>Obj 3</i>		and producers profiled		commercially viable products initiated		commercially viable products initiated		commercially viable products initiated	
			2210020: Workshop and seminars			25,000		6,000		6,000		6,500		6,500
			2240060: Agric. Supplies			20,000		5,000		5,000		5,000		5,000
					Subtotal	60,000	-	14,750	-	14,750	-	15,250	-	15,250
		01: Generation of agricultural technologies	2240060: Agric. Supplies,	Undertaking proof of concept for new fruit products	Highly marketable fruit products in production chain and linked to private sector - <i>Obj 4</i>	20,000		-		-		-	Preparations and designs for undertaking proof of concept for citrus and mango fruit products	20,000
			2210020: Workshops & seminars			25,000		-		-		-		25,000
					Subtotal	45,000	-	-	-	-	-	-	-	45,000
		02: Research Extension Interphase promoted and strengthened	2210110: Printing, Stationery, Binding	Develop fruit seedling standards and guidelines	Fruit seed production standards and guidelines - <i>Obj 1</i>	4,000			Stakeholder engagements	1200	Stakeholder engagements	1200	Stakeholder engagements	1,600
			2210020: Workshops & seminars			21,000			conducted to develop fruit seed production standards and guidelines	7000	conducted to develop fruit seed production standards and guidelines	7000	conducted to develop fruit seed production standards and guidelines	7000
					Subtotal	25,000	-	-	-	8,200	-	8,200	-	8,600

Program/ Directorate	Project s/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		02: Research Extension Interphase promoted and strengthened	2210110: Printing, Stationery, Binding	Train nursery operators in quality seed production	Skilled fruit tree nursery operator s - <i>Obj 1</i>	1,000	Capacity of fruit tree nursery operators built	1,000	Capacity of fruit tree nursery operators built	-	Capacity of fruit tree nursery operators built	-	Capacity of fruit tree nursery operators built	-
			2210020: Workshops & seminars			21,000		21,000		-		-		-
					Subtotal	22,000		-		-		-		-
		02: Research Extension Interphase promoted and strengthened	2210020: workshops & seminars,	Establish a national fruit nursery operators' platform	National fruit operator s' platform - <i>Obj 1</i>	17,000	Engagemen ts to put in place a national fruit nursery operators' platform	17,000	Engageme nts to put in place a national fruit nursery operators' platform	-	Engageme nts to put in place a national fruit nursery operators' platform	-	Engagem ents to put in place a national fruit nursery operators ' platform	-
			2210110: Printing, Stationery, Binding			1,000		1,000		-		-		-
					Subtotal	18,000		-		-		-		-
		02: Research Extension Interphase promoted and strengthened	2210110: Printing, Stationery, Binding,	Capacity building for farmers groups	Skilled fruit tree farmers - <i>Obj 2</i>	800	Capacity of fruit farmers built	-	Capacity of fruit farmers built	-	Capacity of fruit farmers built	800	Capacity of fruit farmers built	-
			2210020: workshops & seminars			19,200		-		-		19,200		-
					Subtotal	20,000		-		-		20,000		-
		02: Research Extension Interphase promoted and strengthened	2210110: Printing, Stationery, Binding,	Develop fruit and product quality standards and protocols	Fruit quality standard s and guidelin es - <i>Obj 3</i>	2,000	Engagemen ts to develop fruit quality standards and guidelines	500	Engageme nts to develop fruit quality standards and guidelines	500	Engageme nts to develop fruit quality standards and guidelines	500	Engagem ents to develop fruit quality standards and guideline s	500
			2210020: Workshops & seminars			20,000		5,000		5,000		5,000		5,000

Program/ Directorate	Project s/Units	Vote Function Output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
					Subtotal	22,000	-	5,500	-	5,500	-	5,500	-	5,500
		04: Agricultural research capacity strengthened	2280010: Maintenance - Civil,	Establish and equip a fruit analytical laboratory	Functional analytical lab at Kiige - Obj 3	20,000	Procurement processes for a functional fruit analytical lab at Kiige	-	Procurement processes for a functional fruit analytical lab at Kiige	-	Procurement processes for a functional fruit analytical lab at Kiige	20,000	Procurement processes for a functional fruit analytical lab at Kiige	0
			2310050: Purchase of Specialised Machinery & Equipment			60,000		-		-		-		60,000
			2310060: Furniture & Fixtures			10,000		-		-		10,000		-
					Subtotal	90,000	-	-	-	-	-	30,000	-	60,000
		04: Agricultural research capacity strengthened	2280010: Maintenance - Civil	Establish a small scale fruit processing facility	Mini fruit processing facility at Kiige - Obj 4	10,000	Procurement processes for mini fruit processing facility at Kiige	-	Procurement processes for mini fruit processing facility at Kiige	-	Procurement processes for mini fruit processing facility at Kiige	10,000	Procurement processes for mini fruit processing facility at Kiige	-
			2310050: Purchase of Specialised Machinery & Equipment,			60,000		-		-		-		60,000
			2250010: Consultancy services- short Term,			10,000		10,000		-		-		-
					Subtotal	80,000	-	10,000	-	-	-	10,000	-	60,000
		04: Agricultural research capacity strengthened	2210080: Computer Supplies & IT Service	Project management and coordination	Smooth and timely implementation of operations and activities	4,000	Project processes, activities and operations managed and coordinated (Computer, internet bundles, voice bundles,	4,000	Project processes, activities and operations managed and coordinated (Computer for project coordination,	-	Project processes, activities and operations managed and coordinated (Computer for project coordination, internet	-	Project processes, activities and operations managed and coordinated (Computer for	-
			2210090: Welfare and Entertainment			1,800		450		450		450		450
			2210120: Small office Equipment			1,500		-		1,500		-		-
			2240040: Cleaning & Sanitation			2,000		500		500		500		500

Program/ Directorate	Project s/Units	Vote Function Output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2260010: Insurances			1,000	fuel, cleaning services, vehicle service and insurance etc)		internet bundles, voice bundles, fuel, cleaning services etc)		bundles, voice bundles, fuel, cleaning services etc)	1,000	project coordination, internet bundles, voice bundles, fuel, cleaning services etc)	
			2270040: Fuel, Lubricants & Oils			13,000		3,250		3,250		3,250		3,250
			2280020: Maintenance - Vehicles			6,500		1,625		1,625		1,625		1,625
			2220020: Telecommunications			1,200		300		300		300		300
					Subtotal	31,000	-	10,125	-	7,625	-	7,125	-	6,125
					TOTAL	600,000	-	132,125	-	87,825	-	137,825	-	242,225

Annex cxv: Tissue Culture Tree Resource Seedling Platform – NaFORRI

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
NaFORRI	Tissue culture drive in tree resources seedlings platform for Uganda	01: Generation of agricultural research technologies	2270010: Travel inland	Collect tree leaf/tissue samples of the priority tree species	200 samples of priority tree species collected	Fuel, per diem, allowance s,	16,000	200 Leaf/tissue samples of 10 priority beneficial tree species collected	16,000		-		-		-
			2240010: Medical and Agric supplies			Secateurs , Scissors, Ziplock bags, Spirit, Silcagel, Cotton wool, Hand gloves	8,000		8,000						
			2280020: Motor vehicle maintenance and repair			Oils and lubricants	4,000		4,000						
			2250010: Consultancy services - short term	DNA extraction	DNA profile of priority tree species generated	Laboratory chemicals and consumables and allowance s	30,000		-	DNA extracts for 10 beneficial priority trees	30,000				-
				Genetic fingerprinting	Genetic diversity and molecular variation determined	Laboratory chemicals and consumables and allowance s	33,000			Genetic diversity and molecular variability of priority tree species	33,000				

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
										in Uganda determined					
			2210110: Printing, stationeries, binding			Printing papers, cartridges, pens, highlighters, notebooks, files	3,000					One manuscript of the genetic diversity and molecular variability of the priority tree species submitted to a peer reviewed journal	3,000		
			2250010: Consultancy services - short term	Design, develop, test and deploy a dynamic database on priority tree species under multiplication	Database of priority beneficial tree species developed	Allowances	6,000	A robust database on the diversity and molecular variability of the beneficial priority tree species developed	6,000		-		-		

Pro gra m/ Dire ctor ate	Proje cts/U nits	Vote Func tion/out put	Expenditur e Code/Descr iption	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Output s	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		01: Gener ation of agricu ltural resear ch techno logies	2240060: Agricultura l supplies	Collect nursery materials for greenhouse/ general nursery/TBP	Number of greenhouse s and nurseries functional by quarter 2	Materials, equipment and tools	4,000			Nursery supplies for operatio ns availabl e	2,000			Nursery supplies for operatio ns available	2,000
			2111020: Contract Staff Salaries	Construction of nursery beds/sheds/t unnels/bench es		Labour	2,000			Erect nursery structur e	1,000			Erect nursery structure	1,000
			2111020: Contract Staff Salaries	Watering and watering in the general nursery/gree nhouse/TBP		Labour	2,400	Healthy growing plants in the nurseries	600	Healthy growin g plants in the nurserie s	600	Healthy growing plants in the nurseries	600	Healthy growing plants in the nurseries	600
			2111020: Contract Staff Salaries	Soil mixing, pot filling and sowing		Labour	2,400	400 cubic metres of soil mixed	400	500,000 pots filled with soil	800	400 cubic metres of soil mixed	400	500,000 pots filled with soil	800
			2111020: Contract Staff Salaries	Transferring to pots		Labour	800	500,000 plantlets transferre d for hardenin g off in the nurseries	400					500,000 plantlets transferre d for hardening off	400

Pro gra m/ Dire ctor ate	Proje cts/U nits	Vote Func tion/out put	Expenditur e Code/Descr iption	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Output s	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060: Agricultura l supplies	Pest and disease management		Chemicals	500	Plants in the nurseries free of pests and diseases	125	Plants in the nurserie s free of pests and diseases	125	Plants in the nurseries free of pests and diseases	125	Plants in the nurseries free of pests and diseases	125
			2280010: Maintenanc e civil	Repair and maintenance of greenhouses		Services	7,500	Function al greenhou se	4,500	Function al greenho use	1,000	Functional greenhous e	1,000	Functiona l greenhou se	1,000
			2280010 Maintenanc e civil	Repair and maintenance of clonal tree nursery		Services	7,500	Function al clonal tree nursery	4,500	Function al clonal tree nursery	1,000	Functional clonal tree nursery	1,000	Functiona l clonal tree nursery	1,000
			2280010 Maintenanc e civil	Repair and maintenance of general nursery		Services	2,000	Function al general nursery	500	Function al general nursery	500	Functional general nursery	500	Functiona l general nursery	500
			2270010: Travel inland	Selecting germplasm/s amples	Perdiem, fuel	4,500	Plant parts selected collected for tissue culture	1,125	Plant parts selected collected for tissue culture	1,125	Plant parts selected collected for tissue culture	1,125	Plant parts selected collected for tissue culture	1,125	
			2240060: Agricultura l supplies		Collection bags, tools, materials and equipment	5,000		1,250		1,250		1,250			
			2111020: Allowances		Labour	2,000		500		500		500			
			2240010: Agric. & medical supplies	Preparing cultures	Laborator y consumabl es	9,000	10 culture samples prepared for testing	2,250	10 culture samples prepare d for testing	2,250	10 culture samples prepared for testing	2,250	10 culture samples prepared for testing	2,250	

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2280030: Machinery and equipment	Preparing tissue samples	Materials, equipment and tools	9,000	500,000 plant tissues prepared	2,250	500,000 plant tissues prepared	2,250	500,000 plant tissues prepared	2,250	500,000 plant tissues prepared	2,250
			2310060: Fixture and fittings		Lab. Fixtures	6,000		1,500		1,500		1,500		1,500
			2280030: Maintenance-Machinery and equipment		Maintenance	6,000		1,500		1,500		1,500		1,500
			2111020: Allowances		Labour	6,500		1,625		1,625		1,625		1,625
			2240010: Agric. & medical supplies	Culturing the tissues	Materials, equipment and tools	9,000	500,000 tissues cultured	2,250	500,000 tissues cultured	2,250	500,000 tissues cultured	2,250	500,000 tissues cultured	2,250
			2240010: Agric. & medical supplies	Growing the plantlets	Materials, equipment and tools	8,500	500,000 plants placed in the growth chambers	2,125	500,000 plants placed in the growth chambers	2,125	500,000 plants placed in the growth chambers	2,125	500,000 plants placed in the growth chambers	2,125
			2210080 Computer supplies and IT services	Preparing propagation protocols	Flash discs, CDs	500	Materials for literature review recorded and backed up	500	Propagation protocols developed					
			2210110 Stationery, printing and binding		Stationery, printing and binding	3,000				3,000				

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060: Agric. Supplies	Hardening-off of plantlets		Materials, equipment and tools	7,500	500,000 plantlets of priority species hardened for second season planting	1,875		1,875	2222 seedlings of priority species hardened for second season planting	1,875	2222 seedlings of priority species hardened for second season planting	1,875
			2111020: Contract Staff Salaries			Labour	4,500		1,125		1,125		1,125		1,125
			2111020: Contract Staff Salaries	Land clearing	Number of mother gardens of priority tree species established by quarter 4	Labour	4,500	5 acres of land cleared for planting priority tree species seedlings	2,250			5 acres of land cleared for planting priority tree species plantlets	2,250		
			2270010: Travel inland			SDA, fuel	4,500		2,250				2,250		
			2240060: Agric. Supplies			Materials, equipment and tools	9,000		4,500				4,500		
			2111020: Contract Staff Salaries	Lining out Pitting and planting out		Labour	5,000	Plants growing definite line arrangement in the mother garden	2,500			Plants growing definite line arrangement in the mother garden	2,500		
			2270010: Travel inland			SDA, fuel	2,500		1,250				1,250		
			2240060: Agric. Supplies			Materials, equipment and tools	3,000		1,500				1,500		
			2111020: Contract Staff Salaries	Silvicultural management activities		Labour	3,000	Plants in mother garden free of bushes and pests and	1,500			Plants in mother garden free of bushes and pests and	1,500		
			2270010: Travel inland			SDA, fuel	2,400		1,200				1,200		

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060: Agric. Supplies			Materials, equipment and tools	6,000	diseases	3,000			diseases	3,000		
		02: Agricultural Research extension interface enhanced		Collect data on indigenous knowledge on use and management of priority tree species	Linkages between indigenous and technical knowledge on use and management of priority tree										
			2270040: Fuel, Lubricants & Oils	Develop research design and data collection tools, Conduct Household interviews, Focus Group Discussions and Key Informant Interviews	Research design and data collection tools Developed, Household interviews, Focus Group Discussions and Key Informant Interviews conducted	Vehicle maintenance	500	Research design and data collection tools developed	250	Household interviews, Focus Group Discussions and Key Informant Interviews Conducted	250	Data analysis and report writing completed			
			2270010: Travel inland			Per-diem and fuel	8,000		4,000		4,000				

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210020: Workshops & Seminars			7,000		3,000		4,000				
			2210110: Printing Stationary and binding			2,000		1,000		1,000				
			2111020: Contract Staff Salaries			4,000		2,000		2,000				
				Community consultative workshops										
			2270040: Fuel, Lubricants & Oils		FDGs conducted in 10 sites, participant for Key informant Interviews identified	500	FDGs conducted in three sites, three Key informant Interviews conducted	150	FDGs conducted in three sites, three Key informant Interviews conducted	150	FDGs conducted in four sites, three Key informant Interviews conducted	200		
			2270010: Travel inland		Per-diem and fuel	3,300		1,000		1,300		1,000		

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210020: Workshops & Seminars			Meals and refreshments, hall hire & transport refund,		2,500		2,500		3,000		
			2210110: Printing Stationary and binding			Printing papers, cartridges, envelopes, files, pens, writing pads, stickers, highlighters, flip charts, office glue		500		500		1,000		
			2111020: Contract Staff Salaries			Allowances (Field assistants)		500		500		1,000		
			2270040: Fuel, Lubricants & Oils	Market surveys and value chain analysis	FDGs conducted in 10 markets, participant for Key informant Interviews identified	Vehicle maintenance							FDGs conducted in 10 markets, participant for Key informant Interviews identified	700
			2270010: Travel inland			Per-diem and fuel		4,000						4,000
			2210020: Workshops & Seminars			Meals and refreshments, hall hire & transport refund,		2,000						2,000

Pro gra m/ Dire ctor ate	Proje cts/U nits	Vote Func tion/out put	Expenditur e Code/Descr iption	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Output s	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2210110: Printing Staionary and binding			Printing papers, cartridges, envelopes, files, pens, writing pads, stickers highlighters, flip charts, office glue	2,000								2,000
			2111020: Contract Staff Salaries			Labor	4,000								4,000
		04: Agric ultura l Resear ch Capac ity Streng thene d	2111030: Allowances	Collect Key pests and diseases of priority tree species under multiplicatio n	Tree pests and disease protocols and diagnostic kits developed	Collection of Key Pest/ pathogens specimens	2,000	10 families of key Pest and Pathogen s collected	1,000		10 families of key Pest and Pathogens collected	1,000			
			2240060: Agricultura l supplies				Insect traps,Test tubes, Sweep nets, Assorted Chemicals	2,000		2,000					
			2270010: Travel inland				Per diem, fuel	3,000		1,500				1,500	
			2270040: fuel and other lubricants					Fuel,oils and lubricants	1,750			1,750			



Pro gra m/ Dire ctor ate	Proje cts/U nits	Vote Func tion/out put	Expenditur e Code/Descr iption	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Output s	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2240060: Agricultura l supplies	Identifying Key pests and diseases of priority tree species		Assorted Chemicals / petridishe s	4,000			10 families of Key Pest and Pathoge ns identifie d	2,000			10 families of Key Pest and Pathogens identified	2,000
			2240010: Medical and Vet supplies	Preserving Specimens		Preservati on chemicals	2,000			50 Specime ns Preserv ed	1,000			50 Specimen s Preserved	1,000
			2270040: fuel and other lubricants			Fuel,oils and lubricants	1,750				1,750				
			225001: Consultanc y services- short term	Developing a database of Key pests and diseases		Digital imagery, software	4,000			Databas e of Key pests and diseases	2,000			Database of Key pests and diseases	2,000
			225001: Consultanc y services- short term	Develop a disease and pest diagnostic kit		Consulan t to develop diagnostic kits for pests and pathogens	7,000							Diagnosti c kits for Key pests and pathogens develope d	7,000
			221003: Staff Training	Training of staff in use of diagnostic kits		Workshop , Seminars	3,500							Staff trained in use of diagnostic kits	3,500

Pro gra m/ Dire ctor ate	Proje cts/U nits	Vote Functi on/out put	Expenditur e Code/Descr iption	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan		
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Output s	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			221011: Printing, Stationary, Photocopyi ng and Binding			Stationary, notebooks, pens									
			221011: Printing, Stationary, Photocopyi ng and Binding	Development of identification manuals for key pests		Identificati on manuals							Key pest/ pathogen identificat ion manuals	3,000	
			2240060: Agricultura l supplies	Culturing/ Rearing Pests and Pathogens for production of protocols		Rearing cages constructe d	6,000	Rearing Cages establishe d	3,000					Productio n of protocols for managing the key pests and pathogens	3,000
			2111030: Allowances				2,000		1,000					1,000	
			2240010: Medical and Vet supplies			Media, honey,Hos t plants	5,000			Host Pests/ Pathoge ns for control trials	3,000			Host Pests/ Pathogens for control trials	2,000
			2111030: Allowances			Trapping the pests/pat hogens, care for the host plants	4,000			2,000			2,000		
			2270010: Travel inland	Conduct tests to manage the pests and pathogens		Fuel, perdiem	10,000					Appropri ate Control options for Pests and Pathogens	5,000	Appropri ate Control options for Pests and Pathogens	5,000
			2240060: Agricultura l supplies			Chemicals , bio agents	3,000						2,000		1,000

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2270040: fuel and other lubricants			Fuel,oils and lubricants	6,000						3,000		3,000
		02: Research extension interface enhanced and strengthened	2270010-Travel Inland	Developing IEC materials	Market and value addition of priority tree species identified	Allowances for field trips to 4 districts	7,040	Information on status quo of the Greenhouse, General Nursery, TBP and Off-station activities captured	2,000					IEC materials developed on project success stories	5,040
			2270040-Fuels, Oils & lubricants			fuels & oils	1,800		500						1,300
			2280020-Maintenance Vehicles			Vehicle maintenance	1,500		400						1,100
			211103: Allowances			Field guides/consultant	8,000		3,000						5,000
			211103: Allowances	Disseminating IEC materials	Visibility of NARO-NaFORRI enhanced	Participation in special events	8,000	Visibility of NARO-NaFORRI enhanced	2,000	Visibility of NARO-NaFORRI enhanced	2,000	Visibility of NARO-NaFORRI enhanced	2,000	Visibility of NARO-NaFORRI enhanced	2,000
			2210010-Advertising & Public relations			TV Airing	9,000		2,250		2,250		2,250		2,250
			2270010-Travel Inland			Allowances for field trips	7,700		1,925		1,925		1,925		1,925
			2270040-Fuels, Oils & lubricants			fuels & oils									
			2210010: Shows and exhibition	Holding open/field days	Open/field day	T-shirts	2,100							1 open field/open day conducted	2,100
						Allowances	960								960
			2270010-			Photograph									

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			Travel Inland			hy	2,000								2,000
						Meals & refreshment	3,750								3,750
						Media & Announcement	7,810								7,810
						Security	1,000								1,000
			2210010 Advertisement and public relations	Disseminating tissue culture technologies over media platforms	Number of technologies delivered across media platforms	TV and radio talk time	3,000	2 technologies delivered across media platforms	750	2 technologies delivered across media platforms	750	2 technologies delivered across media platforms	750	2 technologies delivered across media platforms	750
						Business Bazaars	13,340		3,335		3,335		3,335		3,335
			2270010 Travel inland			Travel	2,000		500		500		500		500
			2270040 Fuel and oils			Fuel	1,000		250		250		250		250
	04: Agricultural Research capacity strengthened and enhanced	2111030: Allowances	Attend management meetings and coordinate research Agenda	Research and management Agenda coordinated and implemented			4,000	Research and management Agenda coordinated and implemented	1,000	Research and management Agenda coordinated and implemented	1,000	Research and management Agenda coordinated and implemented	1,000	Research and management Agenda coordinated and implemented	1,000
		2210080: Computer Supplies & ICT services	Provide Computers accessories, Anti Viruses and maintenance	Functional computers availed for research work			4,000	Functional computers availed for research work	1,000	Functional computers availed for research work	1,000	Functional computers availed for research work	1,000	Functional computers availed for research work	1,000

Program/ Directorate	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			221011: Printing, Stationery, Photocopying and Binding	Procure stationary and printing services for reporting and management operations	Stationery /printing and information provided to support Institute functions		4,000	Stationery /printing and information provided to support Institute functions	1,000	Stationery /printing and information provided to support Institute functions	1,000	Stationery /printing and information provided to support Institute functions	1,000	Stationery /printing and information provided to support Institute functions	1,000
			2230040-Guard & security services	Provide security/guarding for the Institute and Experimental facilities(Screen house, laboratory etc)	Assets and facilities safeguarded		6,000	Assets and facilities safeguarded	1,500	Assets and facilities safeguarded	1,500	Assets and facilities safeguarded	1,500	Assets and facilities safeguarded	1,500
			2240040-Cleaning & sanitation	Provide Cleaning,Insineration and waste disposal of research waste	Staff and environment safeguarded		4,000	Staff and environment safeguarded	1,000	Staff and environment safeguarded	1,000	Staff and environment safeguarded	1,000	Staff and environment safeguarded	1,000
			2270040-Fuels, Oils & lubricants	Provision of fuels, oils and lubricants to support management and coordination of research	Research and institute activities better coordinated		9,000	Research and institute activities better coordinated	2,250	Research and institute activities better coordinated	2,250	Research and institute activities better coordinated	2,250	Research and institute activities better coordinated	2,250



Program/ Directorate	Projects/ Units	Vote Function/ Output	Expenditure Code/Description	Annual Plan & Budget				Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs		Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2280020: Maintenance Vehicles	Provision of vehicle repairs to support fuels, oils and lubricants to support management and coordination of research	Research and institute activities better coordinated		8,000	Research and institute activities better coordinated	2,000	Research and institute activities better coordinated	2,000	Research and institute activities better coordinated	2,000	Research and institute activities better coordinated	2,000
			221003: Staff Training	Training of Management staff and Researchers on Administrative and Research management skills	Staff skills improved in Research and Administrative management		7,000	Staff skills improved in Research and Administrative management	1,750	Staff skills improved in Research and Administrative management	1,750	Staff skills improved in Research and Administrative management	1,750	Staff skills improved in Research and Administrative management	1,750
			2210020: Workshops & Seminars	Conduct Quarterly review workshops and seminars on research reporting, Financial & Administrative management	Research management improved		4,000	Research management improved	1,000	Research management improved	1,000	Research management improved	1,000	Research management improved	1,000
Total							500,000		139,410		143,860		88,160	-	128,570

Annex cxvi: Fish Feed and Fingerling Hatchery – NaFIRRI, Kajjansi

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget FY2019/20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
NaFIRRI - ARDC	Enhancement of fish seed and feed production and productivity at NaFIRRI - ARDC	01: Generation of agricultural technologies	2310050	Operationalization of the hatchery, ponds and concrete tanks	Procurement of 3 phase submersible water pump including installation	20,000	Water for the hatchery pumped and used in the hatchery	20,000						
			2310050		Replacement of spoilt solar pannels, and cleaning the existing ones and connection	15,000	Solar heating system completed	15,000						
			2310010		Procurement and fitting of translucent canvas	5,000	Room temperatures regulated	5,000						
			2310050		Procurement and installation of missing mortars	10,000	the pumping system completed and tested	10,000						
			2250010		Electrical Installations and connection to the main line	30,000	Electrical fittings completed	30,000						
			2230050		Payment of outstanding electric bills	9,000	Electric bill arrears cleared	9,000						

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget FY2019/20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2250010	Consultancy from the company that installed existing equipment to carryout pre-testing and trials including training on operation and maintenance	the hatchery system tested, operation manuals provided and training on operation and management done	60,000	the hatchery system tested, operation manuals provided and training on operation and management done	60,000						
			2310010	Tiling of the sedimentation tanks	sedimentation tanks completed	10,000	sedimentation tanks completed	10,000						
			2230060	Water connection works and plumbing for tilapia hatchery	Water works completed and tested	10,000	Water works completed and tested	10,000						
			2310010	Aeration system installation	Aeration system installed and tested	60,000	Aeration system installed and tested	60,000						
			2280010	Pump house reconstruction	Pump installed, functional and protected	16,000		16,000						
			2280010	Repair of ponds	12 Ponds repaired	40,000	4 production and research ponds repaired	20,000	4 production and research ponds repaired	10,000	4 production and research ponds repaired	10,000		
			2280010	Repair of concrete tanks	20 concrete tanks rehabilitated	60,000	Research concrete tanks repaired	60,000						

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description	Annual Plan & Budget FY2019/20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
			2280020		Vehicle maintenance	Study project Vehicles serviced and repaired	20,000	Study project Vehicles serviced and repaired	5,000	Study project Vehicles serviced and repaired	5,000	Study project Vehicles serviced and repaired	5,000	Study project Vehicles serviced and repaired
			2280030		Repair of excavator for use in pond repairs	Excavator repaired and serviced	10,000	Excavator repaired and serviced	10,000					
			2240010	Commercialisation of fish feed production by NaFIR RI at ARDC	Procurement of fish feed ingredients and additives	Fish feed ingredients and packaging material for fish feeds procured	150,000	Fish feed ingredients procured	55,000	Fish feed ingredients procured	40,000	Fish feed ingredients procured	30,000	Fish feed ingredients procured
			2280030		Feed mill maintained	worn out machinery parts replaced	44,000	Feed mill repaired and maintained	18,000	Feed mill repaired & maintained	15,000	Feed mill repaired & maintained	5,500	Feed mill repaired & maintained
			2240010		Local feed ingredients profiled	Nutritional composition of feed ingredients determined	10,000	Nutritional composition of feed ingredients determined	5,000			Nutritional composition of feed ingredients determined	5,000	
			2210010		Feed development technologies disseminated	Dissemination of technologies at agricultural shows/exhibitions to promote the commercial feed	6,000	Developed technologies disseminated	1,500	Developed technologies disseminated	1,500	Developed technologies disseminated	1,500	Developed technologies disseminated
			2240010		Selective breeding programmes of Nile tilapia and the	Improved Nile tilapia and African catfish seed (faster growing) produced	40,000	Wild parental stocked collected and acclimatized in ponds on-station and used for	12,000	Wild parental stocked collected and acclimatized in ponds on-station and used for	12,000	Wild parental stocked collected and acclimatized in ponds on-station and used for	8,000	Wild parental stocked collected and acclimatized in ponds on-station and used

Program/ Directorate/Institute	Projects/Units	Vote Function/output	Expenditure Code/Description		Annual Plan & Budget FY2019/20			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
					Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
TOTAL				Africa n catfish enhanced				selective breeding		selective breeding		breeding		for selective breeding	
			2240010		Quality assured fish seed produced	Selective breeding consumables - tags, happas, chest waders, hormones, graders	13,000	Selective breeding programmes for Nile tilapia and the African catfish enhanced	10,000	Selective breeding programmes for Nile tilapia and the African catfish enhanced	3,000				
			2111020		Quality assured fish seed produced	Allowances for casual workers	24,000		6,000		6,000		6,000		6,000
			2240010		Quality assured fish seed produced	Broodstock feed ingredients for maintaining broodstock on-station	16,000	Broodstock maintained on-station	16,000						
			2270040		Quality assured fish seed produced	Fuel, oils and lubricants for selective breeding and feed mill operation	9,000		3,000		3,000		1,500		1,500
			2270010		Quality assured fish seed produced	Travel inland for collection of broodstock for selective breeding	13,000		4,000		3,000		3,000		3,000
			TOTAL							700,000		470,500	-	98,500	-

Annex cxvii: Seed Storage and Processing Platform - Nabuin

Program/ Directorate	Projects/ Units		Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
		Vote Function /output		Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
Nabuin ZARDI	Seed production, processing and storage platform	01: Generation of agricultural technologies	2270010: Travel inland	Identification and creation of seed production farmer groups	40 seed production farmers identified and 4 farmer groups formed	5,000	40 seed production farmers identified and 4 farmer groups formed	5,000						
		02: Research Extension Interface promoted and strengthened	2210020: Workshop and seminars (CGS)	Training farmers on quality seed production, processing, storage and marketing (travel inland, workshops, stationery)	40 seed production farmers trained on quality seed production, processing, storage and marketing	8,000	40 farmers trained on quality seed production	4,000	40 farmers trained on quality seed processing, storage and marketing	4,000				
		01: Generation of agricultural technologies	2111020: Contract staff salaries/casual laborers; 2240010: Medical & Agricultural supplies	Seed production with farmer groups (seed purchase, land prep (Planting, management, harvesting, agricultural supplies)	10 acres of groundnuts (sel 14), 10 acres of maize (MM3), 10 acres of sorghum planted, maintained and harvested	38,000			Site selection, land clearing and preparation of 30 acres for planting	10,000	Planting and management of 30 acres	20,000	Harvesting and transportation of produce from 30 acres	8,000

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
		01/02: Generation of agricultural technologies/Research Extension Interface promoted and strengthened	2270010: Travel inland; 2210020: Workshop and seminars (CGS)	Monitoring and backstopping farmers during seed production (travel inland, trainin)	4 farmer groups monitored and backstopped	10,000					4 farmer groups routinely monitored and backstopped in seed production	5,000	4 farmer groups routinely monitored and backstopped in seed harvesting and handling	5,000
		04: Agricultural research capacity strengthened	2310010: Non-Residential structure	Procurement of seed drying and processing shed facility (9m x 20m)	1 seed drying and processing facility procured	48,000			1 seed drying and processing facility procured	48,000				
		04: Agricultural research capacity strengthened	2310010: Non-Residential structure	Procurement of seed storage facility (3 rooms: seed collection; sorting and grading; storage-medium and short term)	1 seed storage facility procured	50,000			1 seed storage facility procured	50,000				
		04: Agricultural research capacity strengthened	2310050: Purchase of specialised Machinery and Equipment	Procurement of seed processing equipment (s) (drier, seed treatment, seed grading)	3 seed processing equipments (sorting, grading and sealing machines) procured	30,000					3 seed processing equipments (sorting, grading and sealing	30,000		

Program/ Directorate	Projects/ Units	Vote Function /output	Expenditure Code/Description	Annual Plan & Budget			Quarter 1 Plan		Quarter 2 Plan		Quarter 3 Plan		Quarter 4 Plan	
				Annual Key Activities	Annual Outputs	Annual Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)	Interim or Final Outputs	Budget (000)
											machines) procured			
		02: Research Extension Interface promoted and strengthened	2240060: Agricultural supplies	Purchase of labelled seed packaging material	Assorted packing materials of different sizes and material procured	5,000					Assorted packing materials of different sizes and material procured	5,000		
		01: Generation of agricultural technologies	2240010: Medical & Agricultural supplies; 2111020: Contract staff salaries (Casual laborers)	Seed treatment and packaging	Assorted chemicals, and labour procured	2,000							Assorted chemicals, machinery and labour procured	2,000
		02: Research Extension Interface promoted and strengthened	2210010: Advertising and public relations	Seed marketing	30 radio spot announcements, 10 TV adverts and 500 brochures procured and disseminated	4,000							30 radio spot announcements, 10 TV adverts and 500 brochures procured and disseminated	4,000
					TOTAL	200,000		9,000		112,000		60,000		19,000

Annex J: Summary List and Detailed Workplans and Budgets for Off-Budget Projects for FY 2019/20

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Annex J.1: Summary List of off-Budget Projects for FY 2019/20

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
1.	NaCRRRI	46	07/001/201823	Deployment and commercialization of drought-tolerant and insect-protected transgenic maize (TELA maize)	Maize	Godfrey Asea	AATF	2018	2023	522,390
2.			07/002/201819	Support to enhance National capacity for the management of fall armyworm in Uganda	Maize	Michael Hilary Otim	Food and Agriculture Organization	2018	2019	69,196
3.			07/003/201820	Development and promotion of sustainable fall armyworm management practices	Maize	Michael Hilary Otim	Alliance for a Green Revolution in	2018	2020	420,492
4.			07/004/201821	Technologies for African Agricultural Transformation (TAAT) Maize Compact	Maize	Grace Abalo	AATF	2018	2021	107,160
5.			07/005/201920	Development and promotion of Pro-vitamin A maize varieties for enhancing household food, income and nutrition security	Maize	Lwanga Charles Kasozi	HarvestPlus	2019	2020	120,000
6.			07/006/201823	Sustainable innovations for improved maize productivity, nutrition, food safety and increased agribusiness opportunities	Maize	Godfrey Asea	USAID-FtF	2018	2023	494,000
7.			07/007/201919	Early generation seed for stress-tolerant maize varieties.	Maize	Daniel Bomet Kwemoi	CIMMYT	2019	2019	19080
8.			07/008/201921	Enhancement of high-yielding rice germplasm and breeding capacity of rice producing countries in Africa	Rice	Jimmy Lamo	The Rural Development Administration of the Republic of Korea	2019	2021	79,200
9.			07/009/201919	STRASA BREEDING TASK	Rice	Jimmy Lamo	Bill and Melinda Gates Foundation Through AfricaRice	2019	2019	46,292
10.			07/010/201821	Transformative strategy for controlling rice disease in developing countries	Rice	Jimmy Lamo	Bill and Melinda Gates Foundation through IRRI	2018	2021	80,870
11.			07/011/201219	NEWEST RICE	Rice	Jimmy Lamo	USAID/AATF	2012	2019	74,000
12.			07/012/201921	Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers	Rice	Jimmy Lamo	Government of Uganda and International Fund for Agricultural Development (IFAD)	2019	2021	208,925
13.			07/013/201920	Stress Tolerant Maize for Africa - Supplementary project	Maize	Julius Pyton Sserumaga	BMGF	2019	2020	380,000
14.			07/014/201920	Microbial-based products for the control of aflatoxin in maize	Maize	Julius Pyton Sserumaga	AgBiome	2019	2020	253,000

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
15.			07/015/201920	Scaling Up Multi Stress – Climate Resilient Maize Varieties to Address Food, Nutrition and Income Security among Women and Youth Farmers in Uganda	Maize	Julius Pyton Sserumaga	FAO	2019	2020	380,000
16.			07/016/201822	Breeding RTB products for end user preferences (RTBFOODS)	Cassava	Robert Kawuki	CIRAD	2018	2022	335,293
17.			07/017/201822	Cassava-whitefly control for sustainable food security in Sub-Saharan Africa	Cassava	Christopher A. Omongo	BMGF	2018	2022	1,841,572
18.			07/018/201822	Next Generation: Cassava Breeding Project Phase II	Cassava	Robert Kawuki	Cornell University	2018	2022	1,898,665
19.			07/019/201820	Next Generation: Cassava Breeding Project Phase II _ NaCRRI Biosafety	Cassava	Barbara Mugwanya Zawedde	Cornell University	2018	2020	419,017
20.			07/020/201519	Improvement of Ammonia and Nitrogen Dioxide Uptake and Utilization in Crops	Cassava	Henry Wagaba	NSF/Purdue University	2015	2019	39,407
21.			07/021/201720	Developing a superior cassava seed piece	Cassava	Titus Alicai	SFSA/BMGF	2017	2020	350,000
22.			07/022/201620	West African virus epidemiology	Cassava	Titus Alicai	UFHB/BMGF	2016	2020	320,000
23.			07/023/201821	Cassava Mosaic Disease: Identifying the Gene for CMD2-Based Virus Resistance	Cassava	Titus Alicai	ETH/BMGF	2018	2021	260,000
24.			07/024/201621	Virus Resistant Cassava for Africa (VIRCA-Plus)	Cassava	Titus Alicai	BMGF, USAID and BAYER	2016	2021	981,174
25.			07/025/201921	Genomic Tools for Sweetpotato Improvement	Sweetpotato	Benard Yada	BMGF	2019	2021	500,000
26.			07/026/201621	Production of quality pre-basic planting materials in Uganda	Sweetpotato	Benard Yada	BMGF/SASHA	2016	2021	80,000
27.			07/027/201620	Sweetpotato biological control	Sweetpotato	Milton Otema Anyanga	AgBiome	2016	2020	25,000
28.			07/028/201720	On-farm screening of high-value Korean vegetables for enhanced productivity in Central Uganda	Vegetables	Idd Ramathani	Government of South Korea through RDA, KOPIA	2017	2020	25,000
29.			07/029/201927	National Oil Palm Program	Oil Palm	Gabriel Ddamulira	IFAD	2019	2027	807,552
30.			07/030/201822	Development and Application of Postharvest Management Technology Model for Horticultural Crops (2nd phase)	Tomatoes	Africano Kangire	Korea-Africa Food and Agriculture Corporation Initiative	2018	2022	74,000
31.			07/031/201720	Improved Resilience through Sustainable Production of Grafted Tomatoes in Uganda (IRESO)	Tomatoes	Africano Kangire	The Netherlands Government in conjunction with SOLIDARIDAD East and Central Africa	2017	2020	65,200

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
32.			07/032/201921	Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers	Bean	Stanley Nkalubo	Government of Uganda and International Fund for Agricultural Development (IFAD)	2019	2021	72,200
33.			07/033/201821	Enhancing the nutrition and health of smallholder farmers in East Africa through increased productivity of biofortified bean and improved postharvest handling	Bean	Pamela Paparu	AU/EU	2018	0.2021	1,226,716
34.			07/034/201719	Bio-ecology of and host plant resistance to bean leaf beetles (<i>Ootheca</i> spp): a step towards sustainable management in Uganda	Bean	Michael Hilary Otim	Bill and Melinda Gates Foundation	2017	2019	10,000
35.			07/035/201924	Counting on common dry beans for Uganda's development agenda	Bean	Stanley Nkalubo	USAID-FtF	2019	2024	562,481.70
36.			07/036/201923	Accelerated varietal improvement and seed delivery of legumes and cereals in Africa	Bean	Stanley Nkalubo	BMGF/ AVISA	2019	2023	90,828.75
37.			07/037/201820	Scale-up supply and utilization of precooked beans for food and nutrition security, incomes and environmental conservation by leveraging on public-private partnerships in Kenya and Uganda	Bean	Michael A. Ugen	IDRC/ ACIAR	2018	2020	715,039
38.			07/038/201920	Cassava mechanization and agro-processing	Cassava	Charles Liri	AATF	2019	2020	389,608
39.			07/039/201924	Spurring deployment and commercialization of stress tolerant and nutrient dense cassava and sweetpotato varieties for improved productivity, nutrition and incomes	Cassava	Titus Alicai	USAID-FtF	2019	2024	228,000
40.			07/040/201920	Epidemiological Study of Yam Virus Diseases in Côte d'Ivoire and Uganda	Yam	Titus Alicai	UNCST/PASRES	2019	2020	50,000
41.			07/041/201922	Participatory evaluation of iron/ zinc rich bean genotypes at multi-location sites for improved nutrition, food security and household income in Uganda	Bean	Stanley Nkalubo	HarvestPlus	2019	2022	246,837.60
42.			07/042/201924	Genetic Improvement of Biofortified Common Bean Varieties in Uganda for Multiple Disease Resistances Using Marker Assisted Backcrossing	Bean	Stanley Nkalubo	Kirkhouse Trust	2019	2024	221,716.35
43.			07/043/201821	Technologies for African Agricultural Transformation (TAAT) Bean Value Chain: Promoting High Iron Beans	Bean	Stanley Nkalubo	African Development Bank/ TAAT	2018	2021	288,000
44.			07/044/201920	Advancing drought and heat tolerant promising bean genotypes and promotion and dissemination of newly released varieties in Uganda	Bean	Stanley Nkalubo	AATF	2019	2020	155,270
45.			07/045	Country wide surveillance for MLN/MSMV in		Daniel Bomet	CIMMYT			38,000

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
				seed and farmers field.		Kwemoi				
46.			07/046/201920	Developing an in-field diagnostic and monitoring platform for M. oryzae pathogen races from main rice growing areas in Uganda and Ivory Coast	Rice	Geoffrey Onaga	IDRC/UNCST	2019	2020	180,000
47.	NaFIRRI	10	08/001/201719	Monitoring and sustainable management of surface freshwater sources in Africa - WaSAf Project	Fish	William Okello	CNRS	2017	2019	31,260.60
48.			08/002/2006	Aquatic Ecology Monitoring: Water quality, fish, fish catch, sanitation and disease vectors of the Upper Victoria Nile	Fish	Stephen B.K. Sekiranda	Bujagali Energy Limited (BEL)	2006		68,400
49.			08/003/201820	Monitoring the impacts of established fish cages at SON Fish farm	Fish	Egessa Robert	Source of the Nile (SON) fish farm	2018	2020	17,520
50.			08/004/201819	Promoting Environmentally, Economically, and Socially Sustainable Cage Aquaculture (PESCA) in the African Great Lakes (AGL) Region	Fish	Ogutu-Ohwayo, Richard	Nature Conservancy (TNC)	2018	2019	245,480
51.			08/005/201921	PESCA Promoting environmentally sustainable commercial Aquaculture	Fish	Mathew Mwanja	European Union	2019	2021	1,500, 000
52.			08/006/201722	Lakes Edward Albert Integrated Fisheries and Water Resources Management (LEAF II) Project	Fish	Nakiyende Herbert	AfDB, GEF	2017	2022	768,204
53.			08/007/201821	From the lab to the World: Unlocking Uganda's freshwater biodiversity data for sustainable development		Vianny Natugonza	JRS Biodiversity Foundation	2018	2021	428,686
54.			08/008/201721	Securing a Global Freshwater Fish Hotspot on Lake Nyaguo (SEGLOFF)	Fish	Winnie Nkalubo	Rainforest Trust	2017	2021	258,385
55.			08/009/201922	Harnessing dietary nutrients of under-utilized fish and fish processing by-products to reduce micronutrient deficiencies among vulnerable groups in Uganda - NutriFish	Fish	Anthony TAABU Munyaho	IDRC	2019	2022	955,008
56.			08/010/201921	Small Fish and Food Security: Towards innovative integration of fish in African food systems to improve nutrition (SmallFishFood)	Fish	Anthony TAABU Munyaho	LEAP-Agri (UNCST)	2019	2021	276,973
57.	NaFORRI	3	09/001/201519	Developing Value chain Innovation Platforms to improve Food Security in East and Southern Africa (VIP4FS)	Forestry	Sekatuba Jude	ACIAR	2015	2019	55,941
58.			09/002/201720	Developing integrated options and accelerating scaling up of agroforestry for improved food security and resilient livelihoods in Eastern Africa - Trees for Food Security - 2	Forestry	Charles Galabuzi	Australian Government through ACIAR	2017	2020	71,414.70
59.			09/003/201820	Research to support commercial plantation development in Uganda	Forestry	Isaac Kiyangi	FAO	2018	2020	164,099

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
60.	NaLIRRI	7	10/001/201921	Small-scale community biorefining of sorghum for food, sugar, and biomaterials in rain fed areas of Eastern Africa	Sorghum	Alexander Bombom	Bioinnovate Africa Programme	2019	2021	326,792
61.			10/002/201921	Exploring wide crosses derived crop biodiversity (sorghum x maize) for climate resilience and food and nutrition security in Eastern and Southern Africa	Sorghum	Alexander Bombom	FAO	2019	2021	758,545
62.			10/003/201921	Feed and forage seed business models to support further professionalization of the dairy sector in Kenya and Uganda	Animal feed	Nanyenya Ntege W.	The Netherlands - CGIAR research programme	2019	2021	168,006
63.			10/004/201920	Establishment of drought tolerant pastures and rehabilitation of degraded grazing areas in Nakapiripirit and Moroto Districts	Animal feed	Mugerwa Swidiq	FAO - Uganda	2019	2020	294,276
64.			10/005/201819	African Goat Improvement Network. Strengthening village breeding programs in Malawi and Uganda	Goat	Mulindwa Henry	UDDA-USAID	2018	2019	74,650
65.			10/006/201921	Improving Competitiveness and Productivity of the Beef Sub-Sector through Fostering Gender Responsive, Inclusive and Sustainable Rangeland, Agro-Forestry and Water Resources Management (RAWM - Beef)	Beef	Mugerwa Swidiq	European Development Fund	2019	2022	3,097,473
66.			10/007/201921	USAID Feed The Future Agriculture Research Activity	Animal feeds	Mugerwa Swidiq	USAID	2019	2023	218,427
67.	NaSARR I	12	11/001/201620	Harnessing Opportunities for Productivity Enhancement (HOPE) of Sorghum and Millets in sub-Saharan Africa-Phase 2	Sorghum	Michael Ugen	ICRISAT /BMGF	2016	2020	185,000
68.			11/002/201720	Enhancing food and nutritional security using sorghum-legume interventions for improved livelihood among smallholder farmers in Uganda	Sorghum	Moses Biruma	McKnight Foundation	2017	2020	183,870
69.			11/003/201820	Partnership to deliver to market Striga weed resistant maize and finger millet varieties in Kenya and Uganda	Millet and Maize	Takan John Peter	BioInnovate Africa	2018	2020	59,538
70.			11/004/201519	Unraveling the molecular genetics of finger millet blast disease and the existing resistance for the development of high-yielding resilient varieties	Millet	Takan John Peter	Bill Melinda Gates Foundation (BMGF)	2015	2019	72,991
71.			11/005/201819	Evaluation of sunflower hybrids from Advanta Seed Company for improved yield and good quality products	Sunflower	Walter O. Anyanga	Advanta Seed Company	2018	2019	45,783

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
72.			11/006/201619	trengthening Seed Delivery System for Dryland Cereals and Legumes in Drought-prone Areas of Uganda	Sorghum and Millet	Joseph Andrew Wandulu	European Union	2016	2019	169,665.75
73.			11/007/201820	Triggering a mungbean transformation in Africa	Mungbean	Mbeyagala K Emmanuel	UKAID through World Vegetable Centre	2018	2020	125,000
74.			11/008/201920	Development and deployment of iron dense mungbean genotypes for nutrition security in the drought prone areas of East Africa	Mungbean	Mbeyagala K Emmanuel	African Union	2019	2021	357,000
75.			11/009/201820	Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers	Various	Okello Kalule	IFAD through IBP/ AfricaRice	2018	2021	277,000
76.			11/010/201819	Improving livelihoods for smallholder farmers to enhance grainlegume productivity and production in Sub Sahara Africa and South Asia	Groundnuts	Okello Kalule	BMGF	2018	2019	46,368
77.			11/011/201819	Adaptation and implementation of digital data managementsystemand analytical pipelineby ground breedingprogramme in Uganda, Malawi, Mozambique and Zambia	Ground nuts	Okello Kalule	USAID_FEED THE FUTURE	2018	2019	50,400
78.			11/012/201819	Breeding seed production and assessment of breeding programmes' capacity building needs in targeted arican countries	Ground nuts	Okello Kalule	USAID_FEED THE FUTURE	2018	2019	38,669
79.	NARL	15	12/001/201719	Promoting open source seed system for common beans, forage legumes, finger millet and sorghum for climate change adaptation in Kenya, Uganda and Tanzania	Various	Joyce Adokorach	FAO	2017	2019	55,575
80.			12/002/201820	Agro-biodiversity and landscape restoration for food security and nutrition in East Africa	Various	Rose Nankya	IFAD	2018	2020	250,000
81.			12/003/201819	Consultative process for developing an On-farm Research Network on Post-harvest Handling Technologies for Smallholder Farmers of Eastern Uganda	Agro-machinery	Florence Lubwama Kiyimba	McKnight Foundation	2018	2019	143,875
82.			12/004/201719	Baseline Survey on the status of Mechanization in Africa	Agro-machinery	Florence Lubwama Kiyimba	KAFACI	2017	2019	94,500
83.			12/005/201722	Breeding RTB Products for end-user preference (Cooking Bananas)	Bananas	Kephas Nowakunda	CIRAD	2017	2022	242,842
84.			12/006/201820	Development of Water and Crop Management Techniques and Adoption of Cost-effective Citrus Disease Management in Teso Region	Various	John Adriko	KOPIA	2018	2020	133,000

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
85.			12/007/201822	Enhancing Climate-Resilience of Agricultural Livelihoods (Education and Research to Improve Climate Change Adaptation-Uganda) PHASE 2	Various	Laurence Jassogne NARL contact: Dr.Everline Komtunga	USAID	2018	2022	163,521
86.			12/008/201720	Poverty alleviation and food security in Africa through the implementation of small-scale technologies in integrated crop-livestock systems	Agro-machinery	Charles Mutumba	FUNARBE	2017	2020	319,059
87.			12/009/201821	Improving the availability and use of diverse seed and other planting materials to reduce vulnerability and improve food security for smallholders in vulnerable ecosystems	Various	Rose Nankya	SDC	2018	2021	200,000
88.			12/010/201820	Promotion of post-harvest disinfestations treatment in Kenya and Uganda: Facilitation of market access for mango, avocado, French bean and bell pepper	Various	Harriet Muyinza	ICIPE	2018	2020	76,032
89.			12/011/201722	Piloting Smallholder Mechanization Adaptation and Demonstration in Acholi Sub-region and Adjumani district in Northern Uganda	Agro-machinery	Okurut Samuel	IFAD	2017	2022	1,288,000
90.			12/012/201419	Improvement of bananas for smallholder farmers in the Great Lakes	Bananas	Jerome Kubiriba	BMGF	2014	2019	1,728,818
91.			12/013/201820	Improvement of banana using Biotechnology Tools	Bananas	Jerome Kubiriba	Bioversity International	2018	2020	2,596,935
92.			12/014/201821	Micronutrient Biofortified Cooking Bananas for East Africa	Bananas	Wilberforce Tushemereirwe	BMGF	2018	2021	1,381,992
93.			12/015/201720	Sustainable banana productivity in East Africa	Bananas	Jerome Kubiriba	BMGF	2017	2020	1,954,629
94.	NaCORI	4	27/001/201822	Enhancing Resilience and Adaptive Agricultural Livelihoods in Uganda	Coffee	Godfrey H. Kagezi	USAID	2018	2022	253,088
95.			27/002/201922	Enhancing productivity of coffee and cocoa in Uganda	Coffee	Godfrey H. Kagezi	EU	2019	2022	174,050
96.			27/003/201819	Directing cocoa waste to wealth using known yeast strains from Ugandan Box fermentation	Cocoa	Muganga Lawrence	SCGI, ACTS & UNCST	2018	2019	107,912
97.			27/004/201823	Support from Uganda Coffee Development Authority (UCDA)	Coffee	Geofrey Arinaitwe	UCDA	2018	2023	1,948,245
98.	Abi	2	13/001/201721	Restoration of Livelihoods in Northern Uganda (PRELNOR)	Cassava and Beans	Odama Emmanuel	IFAD	2017	2021	357,968
99.			13/002/201921	Enhancing production and utilization of Energy and Micronutrient rich crop varieties among refugees and host communities in West Nile region of Uganda	Cassava, Beans & Mz	Sadik Kassim	IDB	2019	2021	286,237

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
100.	Bulindi	1	14/001/201022	Scaling up Agroforestry, multiple stress tolerant crop varieties and soil and water conservation technologies in CCAFS Hoima learning site, Uganda	Various	Ronald Kakeeto	CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)	2010	2022	81,876
101.	Kachwekano	3	15/001/201820	Increasing Potato Productivity and Farmers' Income through Supplying of Quality Seed Potatoes	Potato	Arinaitwe Abel Byarugaba	KOPIA	2018	2020	127,400
102.			15/002/201420	Confined field evaluation of genetically modified potatoes for resistance to late blight	Potato	Alex Barekye	CIP	2014	2020	152,000
103.			15/003/201919	National yield performance of Dutch based potato varieties in Uganda	Potato	Arinaitwe Abel Byarugaba	IFDC	2019	2019	60,000
104.	MUZARDI	2	16/001/201821	On-site air-to-fertilizer mini-plants relegated by sensor-based ICT technology to foster African agriculture	Practice	Stella Kabiri-Marial	European Union & UNCST	2018	2021	493,243
105.			16/002/201920	Plasma N2: Emissions Saving Through Production of Low Cost Fertilizers Using Air as a Raw Material	Practice	Stella Kabiri-Marial	African Academy of Science (AAS), Climate Research 4 Development (CR4D)	2019	2020	376,618
106.	Ngetta	1	17/001/201622	Project for Restoration of Livelihood in Northern Region (PRELNOR)	Various	Godfrey Otim	IFAD	2016	2022	1,307,358
107.	Nabuin	3	18/001/201820	Livestock improvement and crop technology transfer to Karamoja farmers	Beef and dairy	Paul Boma	OPM	2018	2020	200,000
108.			18/002/201820	Crop technology transfer to Karamoja farmers	Rice	Vallence Nsabiya	OPM	2018	2020	100,000
109.			18/003/201819	Introduction and promotion of improved upland rice crop production and productivity in Teso and Karamoja sub-regions	Rice	Vallence Nsabiya	KAFACI	2018	2019	14,962.50
110.	BUGI ZARDI	4	20/001/201922	Commercializing Pasture seed production technologies to enhance productivity in smallholder livestock production systems in the south eastern agro-ecological zone of Uganda	Animal feed	Brian Owovesigire	KOPIA	2019	2022	166,934
111.			20/002/201922	Improving nutrition security through participatory development of high yielding and pest resistant pea varieties in Uganda	Pea	Bosco Chemayek	KOPIA	2019	2022	201,400
112.			20/003/201920	Enhancing production of potato foundation seed in eastern Uganda	Potato	Lawrence Owere	ISSD	2019	2020	114,000
113.			20/004/201921	Strengthening seed potato value chain by providing quality early generation planting materials at Buginyanya station	Potato	Arthur Wasukira	GIZ	2019	2021	250,000

S/N	PARI	NO.	Project code	Project title	Target Commodity	PI	Funding Agency	Start Date	End Date	Annual Budget FY (UGX'000)
114.	Rwebitaba	1	21/001/201820	Utilizing sustainable Agriculture for increased Crop Productivity along River Mpanga Catchment Area: A participatory Action Research Approach	Banana, Coffee, Maize & Beans	Mutebi Douglas Jjemba	Iles de Paix (IDP)	2018	2020	44,832.90
	TOTAL	114								43,088,910



Annex J.2: Detailed Work Plans and Budgets for Off-Budget Projects for FY 2019/20

Project 1: Deployment and commercialization of drought-tolerant and insect-protected transgenic maize (TELA maize)

PARI: NaCRRRI	Project title: Deployment and commercialization of drought-tolerant and insect-protected transgenic maize (TELA maize)		PI: Godfrey Asea	
Start Date: 2018	End Date: 2023		Project funding: <i>Funding Agency (s):</i> AATF <i>Total value: (UGX’1,900,000,000)*:</i>	
End Project Goal: To approve and initiate commercialization of transgenic drought-tolerant and insect-protected maize hybrids by 2023				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
1. To develop, submit and manage application for to approval for commercialization of transgenic drought-tolerant and insect-protected maize	Agricultural research capacity strengthened	211103 - Contract staff salaries	At least 1 application for deregulated and commercialized of TELA maize submitted	340,990
		224002 - General supply goods and services		187,260
		227001 - Travel inland		101,630
		227004 - Fuel lubricants and oils		30,000
		228002 - Maintenance - Vehicles		12,600
				9,500
2. To sustain stakeholder support through outreach, advocacy, and communications to secure approvals for general release	Agricultural research capacity strengthened		Stakeholder network formed and outreach conducted	105,400
		224002 - General supply goods and services		50,000
		227001 - Travel inland		25,000
		227004 - Fuel lubricants		



		and oils		10,000
		221002 - Workshops and seminars		20,400
3. To build the capacity of transgenic seed system	Agricultural research capacity strengthened		At least 5 seed companies trained on stewardship and quality management of TELA maize seed	76,000
		224002 - General supply goods and services		20,000
		227001 - Travel inland		25,000
		227004 - Fuel lubricants and oils		10,000
		221002 - Workshops and seminars		21,000
TOTAL				522,390

Project 2: Support to enhance National capacity for the management of fall armyworm in Uganda

PARI: NaCRRI	Project title: Support to enhance National capacity for the management of fall armyworm in Uganda		PI: Michael Hilary Otim	
Start Date: September 10, 2018	End Date: August 30, 2019		Project funding: <i>Funding Agency (s): Food and Agriculture Organization</i> <i>Total value (UGX'000)*: 143,269</i>	
	End Project Goal: Support to Enhance National Capacity for the Management of Fall Armyworm (FAW) in Uganda			
	NARO Strategic Result Addressed**: Increased research products and services suited for industry			
Project Objectives	Vote Function Output	Expenditure Code/ Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Determine performance of different pheromone trap blends for effective monitoring for fall armyworm	Generation of agricultural technologies	211103 - Contract Staff Salaries 227001 - Travel inland	Effective pheromone traps and blends recommended for FAW monitoring across different agro-ecological zones undertaken	4,300 1,740
2. Determine losses attributed to FAW	Generation of agricultural technologies	211103 - Contract Staff Salaries 227001 - Travel inland	Losses associated with FAW documented	35,200 27,956
Total				69,196

Project 3: Development and promotion of sustainable fall armyworm management practices

PARI: NaCRRI	Project title: Development and promotion of sustainable fall armyworm management practices		PI: Michael Hilary Otim	
Start Date: September 1, 2018	End Date: August 31, 2020		Project funding: <i>Funding Agency (s): Alliance for a Green Revolution in Africa</i> <i>Total value (UGX'000)*: 720,658</i>	
	End Project Goal: To enhance sustainable production of maize in areas affected by FAW			
	NARO Strategic Result Addressed**: Increased research products and services suited for industry			
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Evaluate additional effective and benign insecticides for managing FAW	Generation of agricultural technologies	211103 - Contract Staff Salaries 224001 -Medical & 224006 - Agric. Supplies 227001 - Travel inland	Effective insecticides identified and recommended for use by farmers	4,725
				8,904
				2,268
2. Determine the yield losses associated with FAW infestation and establish action thresholds	Generation of agricultural technologies	224001 - Medical & 224006Agric. Supplies 227001 - Travel inland	Losses associated with FAW documented	4,536
				65,357
3. Strengthen capacity for sustainable and timely management of FAW	Research extension interface promoted and strengthened	221002 - Workshops	Stakeholder capacity for identification and management of FAW strengthened	105,716
4. Document and disseminate best practices, experiences and lessons learnt on FAW control	Research extension interface promoted and strengthened	221002 - Workshops	Enhanced documentation and sharing of experiences, best practices and lessons learnt	59,695

5. Project management	Research extension interface promoted and strengthened	227001 - Travel inland 221002 - Workshops 228002 - Maintenance - Vehicles 226001 - Insurance (vehicle) 211103 - Contract Staff Salaries (Incl. Casual labourers) 224001 - Medical & 224006 Agric. Supplies 222001 - Telecommunications 228001 - Maintenance - Civil 228004 - Maintenance - Other	Key success factors and challenges documented and communicated to different stakeholders	7,350 34,000 7,560 378 111,184 2,891 378 10,000 5,550
Total				420,492

Project 4: Technologies for African Agricultural Transformation (TAAT)

PARI: NaCRRI	Project title: Technologies for African Agricultural Transformation (TAAT) Maize Compact		PI: Grace Abalo		
Start Date: 2018	End Date: June 2021		Project funding: <i>Funding Agency (s): AATF</i> <i>Total value (UGX'342,000'000)*</i>		
End Project Goal: - Increased uptake and use of high-yielding climate-smart maize hybrids from WEMA, DTMA, STMA, IITA and NARS maize breeding platforms by smallholder farmers.					
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations					
Project Objectives	Vote Function Output	Expenditure Code/Description		Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To increase awareness of climate smart maize technologies and their uptake	Research extension interface promoted and strengthened	211103-	Contract staff salaries and casual labour	At least 50 demos Establish and at least 5 farmers' field days conducted	53,960
		224006-	Agric. supply goods and services		15,200
		227001-	Travel inland	At least 5,000 small seed packs distributed	15,960
		227004-	Fuel lubricants and oils		15,200
		222001-	Telecommunications	At least 300 women and 200 youth involved in the maize value chain	3,800
		228002-	Maintenance-Vehicles		2,280
2. To increase maize productivity and enhance income along the maize value chain	Research extension interface promoted and strengthened	211103-	Contract staff salaries and casual labour	At 8 tons of foundation seed produced and distributed	53,200
		224006-	Agric. supply goods and services		7,600
		227001-	Travel inland	Increased current productivity by at least 20%	26,600
		227004-	Fuel lubricants and oils		15,200
				At least 1500 tons of climate smart maize seed produced and marketed	3,800

Total				107,160
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Project 5: Development and promotion of Pro-vitamin A maize varieties for enhancing household food, income and nutrition security

PARI: NaCRRI	Project title: Development and promotion of Pro-vitamin A maize varieties for enhancing household food, income and nutrition security			PI: Lwanga Charles Kasozi	
Start Date: March 2019	End Date: February 2020			Project funding: <i>Funding Agency (s): HarvestPlus</i> <i>Total value (UGX'000)*: 120,000</i>	
End Project Goal: Contribute to sustainable reduction in vitamin A deficiency and increased food and income security through development and promotion of high yielding stress tolerant vitamin A maize varieties					
NARO Strategic Result Addressed**:					
Project Objectives	Vote Function Output	Expenditure Code	Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Determine the productivity and stability of pro-vitamin A maize genotypes under diverse agro-ecologies of Uganda	Generation of technologies for priority commodities	211103 224001 224006 227001	Contract Staff Salaries (Incl. Casual laborers) Medical & Agric. Supplies; Travel inland	-At least 20 pro-vitamin A maize varieties evaluated under diverse agro-ecologies -At least 10 Kg of breeder seed for parental lines of candidate varieties produced	45,000 5,000
2. Validate and promote pro-vitamin A maize varieties with desired vitamin A levels	Generation of technologies for priority commodities	221002 221001 221008 222002	Workshops & seminars (NAROSEC, CGS) Advertising and public relations (Agric. shows) Computer Supplies & IT Service (DTIPS) Printing, Stationery, Binding Postage and	- At least four farmer-desired superior varieties profiled for vitamin A levels by December 2017 and 15 varieties by 2019.	28,000

			Courier		
3. Determine stakeholder's perception and acceptability of pro-vitamin A maize varieties	Research extension interface promoted and strengthened	224001	Medical & Agric. Supplies (LTVA)	- At least one farmer preferred, high yielding stress tolerant pro-vitamin A variety released, and promoted by 2021	22,000
		221002	Workshops & seminars (NAROSEC, CGS)		
		221005	Hire of Venues		
		221008	Computer Supplies & IT Service (DTIPS)	-Socio-economic issues influencing pro-vitamin A maize production and consumption documented	20,000
		221011			
		227001	Printing, Stationery, Binding		
			Travel inland		
Total					120,000

Project 6: Sustainable innovations for improved maize productivity, nutrition, food safety and increased agribusiness opportunities

PARI: NaCRRI	Project title: Sustainable innovations for improved maize productivity, nutrition, food safety and increased agribusiness opportunities		PI: Godfrey Asea	
Start Date: 2018	End Date: 2023		Project funding: <i>USAID-FtF</i> <i>Total value (UGX'000)*:</i> 494,000	
End Project Goal: To improve productivity and build resilience of communities dependent on maize by addressing key production challenges, increasing nutritional value and grain standards while providing agribusiness opportunities.				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
4. To advance, deploy and scale-up stress-tolerant maize varieties to address emerging abiotic and biotic stresses	Agricultural research capacity strengthened		At least 5 hybrids with at least 10% yield advantage over popular hybrids released	224,960
		211103- Contract staff salaries		97,960
		227001 - Travel inland		23,251
		227002- Travel abroad		9,557
		221012-Office equipment		28,120
		228003-maintenance equipment and machinery		11,400
		224001-Medical supplies		23,194
		227004 - Fuel lubricants and oils		11,170
		228002 - Maintenance - Vehicles		9,170

		226001-Insurances		13,600
		221002-Workshops and Seminars		10,640
		221003 training		9,800
5. To advance and promote bio-fortified maize varieties with enhanced provitamin A and zinc levels	Agricultural research capacity strengthened	225001-Consultancy services (genotyping)	Germplasm for breeding Zinc-rich maize accessed, characterized increased and utilized	38,000
		(Nutrient profiling)	At least two pro-vitamin A varieties released and promoted	16,100
		211103 - Contract staff salaries		11,900
		227001 - Travel inland		5,000
6. To develop and disseminate sustainable innovations for management of fall army worm	Agricultural research capacity strengthened	227001 - Travel inland	Biological control options for management of FAW Validated and deployed	110,200
		224001-Medical supplies		28,400
		227004 - Fuel lubricants and oils		13,100
		228002 - Maintenance - Vehicles		25,194
		211103 - Contract staff salaries		16,700
7. To improve grain standards and food safety	Agricultural research capacity		Best-bet practices that reduce pre- and post-harvest	87,400

through mycotoxin resistant maize varieties	strengthened	227001 - Travel inland	contamination promoted	21,000
			Aflatoxin map developed	8,0000
		224001-Medical supplies	At least 2 Aflatoxinresistant varieties identified	28,000
		227004- Fuel lubricants and oils		
		228002 - Maintenance – Vehicles		11,100
		211103- Contract staff salaries		10,300
				9,000
8. To strengthen quality seed system through supply of early generation seed and molecular-based seed quality assurance and control system	Agricultural research capacity strengthened		Technology-based seed quality adopted	32,300
		225001-Consultancy services (QA/QC genotyping)	Early generation seed of at least 5 new varieties produced and distributed	14,000
		2240020 - General supply goods and services		8,100
		227001 - Travel inland		8,200
TOTAL				494,000

Project 7: Early generation seed for stress- tolerant maize varieties

PARI: NaCRRI	Project title: Early generation seed for stress- tolerant maize varieties		PI: Daniel BometKwemoi	
Start Date: April 1, 2019	End Date: December 31, 2019		Project funding: <i>Funding Agency (s): CIMMYT</i> <i>Total value (UGX'000)*: 19,080</i>	
End Project Goal: Release and promote stress-tolerant maize varieties				
NARO Strategic Result Addressed**: Result 2:Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
Production of early generation seed of new stress-tolerant maize varieties to fast track commercialization	Generation of agricultural technologies	2240010/Field supplies and land preparation	At least 2 stress-tolerant hybrids released Breeder seed of 12 parental lines of 6 selected hybrids generated	7,762
		2111020/Hired labour		6,998
To conduct seed sampling for genotyping for increased quality assurance and control	Generation of agricultural technologies	2270010/Travel inland for seed sampling	Parental lines of at least 10 hybrids sampled and sent for genotyping for QC/QA	4,320
Total				19,080

Project 8: Enhancement of high-yielding rice germplasm and breeding capacity of rice producing countries in Africa

PARI: NaCRRI	Project title: Enhancement of high-yielding rice germplasm and breeding capacity of rice producing countries in Africa		PI: Jimmy Lamo	
Start Date: 1 st January 2019	End Date: 31 st October 2021		Project funding: <i>Funding Agency (s):</i> The Rural Development Administration of the Republic of Korea <i>Total value (UGX'000):</i> 237,600	
End Project Goal: Increased rice productivity through development and release of improved high yielding rice varieties and strengthening breeding capacity of Uganda by 2021.				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/2020	Annual Budget (UGX'000)
1. Generate high yielding, Rice Yellow Mottle Virus (RYMV) resistant and preferred rice varieties	Generation of agricultural technologies	2111020 Contract Staff Salaries (Inc. Casuals, Temporary)	At least 600.breeding lines introduced and maintained At least 600 lines screened for RYMV resistance At least 20 lines nominated to AYT At least 32 novel crosses generated At least 25 lines advanced	24,480
2. Screen new genotypes for resistance to RYMV disease and farmer acceptability		2111020 Contract Staff Salaries (Inc. Casuals, Temporary)	At least 500.breeding lines introduced and maintained At least 20 lines nominated to AYT	54,720
		2240060 Agricultural Supplies	At least 30 crosses made At least 25 lines selected	6,120
		2270010 Travel Inland	At least 30 crosses made At least 25 lines selected	6,480
		2270040 Fuel, oil & Lubricants	At least 400 lines screened for RYMV resistance	36,720
Total				79,200



Project 9: Strasa Breeding Task Force

PARI: NaCRRRI	Project title: Strasa Breeding Task Force		PI: Jimmy Lamo	
Start Date: 1 st January 2019	End Date: 31 st December, 2019		Project funding: <i>Funding Agency (s):</i> Bill and Melinda Gates Foundation Through AfricaRice <i>Total value (UGX’000):</i> 57,600	
End Project Goal: Develop varieties with at least 1 t/ha yield advantage over current varieties under stress				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/2020	Annual Budget (UGX’000)
Evaluation of improved irrigated rice	Generation of agricultural technologies	2111020 Contract Staff Salaries (Inc. Casuals, Temporary)	45 breeding lines evaluated in 2 sites (Kibimba, Doho,) in the wet season 2018 and best 13 lines with good agronomic traits and tolerance reaction to biotic and abiotic stresses selected	3,200
Evaluation of improved new lowland rice		2111020 Contract Staff Salaries (Inc. Casuals, Temporary)	40 breeding lines evaluated in 2 sites (Namulonge and Olweny) in the wet season 2018 for agronomic traits as well as reaction to biotic and abiotic stresses as defined in the protocol, and select best 10 lines.	2,500
Conduct seed multiplication		2111020 Contract Staff Salaries (Inc. Casuals, Temporary)	200 kgs [NamChe-1 (100kgs), NamChe-5 (100kgs)] of breeder seed produced on station in Namulonge	10,868
	2111020 Contract Staff Salaries (Inc. Casuals, Temporary)	7 tons [NamChe-1 (3 tons), NamChe-5 (5 tons)] of foundation seed produced in Doho and Olweny	3,600	
	2111020 Contract Staff Salaries (Inc. Casuals, Temporary)	Establish 9 dissemination sites for [NamChe-1 (4 sites), NamChe-5 (5 sites) in Kasese, Doho and Omoro districts	3,900	
				3,368

Conduct locational evaluation of new rice varieties		2220010 Communication	Coordination	29,724
		2270010 Travel inland		400
		2270040 Fuel, Oil & Lubricants		20,871
		2280020 Maintenance vehicle		4,253
Total				4,200
				46,292

Project 10: Transformative strategy for controlling rice disease in developing countries

PARI: NaCRRRI	Project title: Transformative strategy for controlling rice disease in developing countries		PI: Jimmy Lamo	
Start Date: August, 2018	End Date: July, 2021		Project funding: <i>Funding Agency (s):</i> Bill and Melinda Gates Foundation through IRRI <i>Total value (UGX’000):</i> 269,568	
End Project Goal: Develop varieties tolerant to diseases with at least 1 t/ha yield advantage over current varieties under stress				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
Develop varieties to Xanthomonasoryzaepathovars through student nested research	Generation of Agricultural technologies	2111020 Contract staff salaries	1. PhD Scholar supervised	80,870
		2111030 Allowance	2.CRISPR rice lines with resistance to bacterial diseases multiplied	9,590
		2210020 workshops and Seminars	3. One Confined Field Trial to test yield stability and agronomic traits of CRISPR rice lines conducted	43,920
		2210030 Staff Training	4. At least 20	3,600
		2220010-Communication	Xanthomonasoryzaepathovars isolated collected	5,400
		2230050-Electricity	5. Genetic characterization of collected strains conducted	2,160
		2260010-Insurance		3,830
		2270010 Travel inland		1,080
		2270040-Fuel,Oil & Lubricants		7,200
			4,090	
Total				80,870

Project 11: NEWEST RICE

PARI: NaCRRI	Project title: NEWEST RICE	PI: Lamo Jimmy		
Start Date: 2012	End Date: 2019	Project funding: <i>Funding Agency (s): USAID/AATF</i> <i>Total value (UGX'000)*: 74,000</i>		
End Project Goal: Develop rice with stress tolerance transgenes (NUE and NEWEST) for improved performance in marginal environments				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
9. Evaluate NUE transgenic rice for low soil nitrogen	Generation of Agricultural technologies	2111020 Contract staff salaries	At least 2 promising NUE identified	32,000
10. Evaluate NEWEST rice genotypes for drought tolerance and low soil nitrogen		2210060 Committee expenses	At least 3 NEWEST transgenic rice lines identified	34,000
		2210110 Printing, stationery		8,000
		2220010 Telecommunications		3,000
		2240010 Medical &Agric supply		3,000
				20,000
11. Optimize screening protocol for NUE		2270040 Fuel, Lubricants & oils	Functional rain out shelter	8,000
		2280010 Maintenance Equip't.		6,000
				2,000
Total				74,000

Project 12: Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers

PARI: NaCRRRI	Project title: Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers		PI: Jimmy Lamo	
Start Date: 1 st July 2018 2019	End Date: 30 th June 2021	Project funding: <i>Funding Agency (s): Government of Uganda and International Fund for Agricultural Development (IFAD)</i> <i>Total value (UGX'000): 550,800</i>		
End Project Goal: The goal is to increase small-holder productivity and income in three target countries in Africa through the development, testing and adoption of new crop varieties and improved popular ones that are higher yielding, more resilient to climate change and local stress environments, of better quality, and adapted to market demands				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
Development and promotion of high yielding abiotic and biotic stress tolerant crop cultivars for local environments	Generation of agricultural technologies	2111020-Contract Staff Salaries (Inc. Casuals, Temporary)	Engaged farmer focus groups (2) with their preferences on new rice varieties (5) and their target local needs identified	181,791
		2310050-Machinery and Equipment	New rice varieties (10) evaluated by about 10 farmers on their fields under local growing conditions	32,560
		2240060-Agricultural Supplies	2 farmer focus groups and 2 millers/seed producers	122,098
		2270010-Travel Inland	2 farmer groups trained on seed production	8,140
		2280020-Maintenance Vehicle	Breeder seeds for 2new varieties produced and distributed to 1 seed companies and/or farmers for seed multiplication	10,853
			Format to capture farmers' feedback on trait preferences and new germplasm evaluation developed and implemented	8,140

Improve data management and digitalizing breeding		2210020 Workshops and Seminars	BMS focal persons identified for the institute and trained by IBP and activities monitored.	1,357
Integrate modern breeding approaches				1,357
Improvement of data capture and use		2210080 Computer Supplies and IT services	Data policy developed and adopted	10,853
Project management efficient		2280040-Maintainace-others	Project implemented efficiently	13,567
Total				208,925

Project 13: Stress Tolerant Maize for Africa (STMA) – Supplementary project

PARI: NaCRRRI	Project title: Stress Tolerant Maize for Africa (STMA)– Supplementary project		PI: Julius PytonSserumaga	
Start Date: 2019	End Date: 2020		Project funding: <i>Funding Agency (s):</i> BMGF <i>Total value</i> <i>(UGX'000)*:</i> 380,000'	
End Project Goal:				
NARO Strategic Result Addressed**: 2, 3 and 4				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Develop and disseminate stress tolerant maize for Africa.	Generation of Agricultural technologies	2111020 Contract staff salaries	Stress tolerant maize for Africa developed and disseminated.	51,258.2
		2240010 Medical &Agric supplies		26,505
		2270040 Fuel, Lubricants & oils		45,600
		2210110 Printing, stationery, binding		9,500
		2220010 Telecommunications		9,500
		2280010 Maintenance		26,600
		211103-Allowance		
		2270010-Travel Inland		53,500
				88,350
		2230050-Electricity		21686.8
		2280020-Maintenance vehicle		38,000
		2270010-Foreign Travel		9,500
Total				380,000'

Project 14: Microbial-based products for the control of aflatoxin in maize

PARI: NaCRRRI	Project title: Microbial-based products for the control of aflatoxin in maize	PI: Julius PytonSserumaga		
Start Date: 2019	End Date: 2020	Project funding: <i>Funding Agency (s):</i> AgBiome <i>Total value</i> <i>(UGX'000)*:</i> 253,850'		
End Project Goal:				
NARO Strategic Result Addressed**: 2, 3 and 4				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To develop bioAssay for aflatoxin control	Generation of Agricultural technologies	2111020 Contract staff salaries	Aflatoxin control BioAssay developed	17,100
		2240010 Medical &Agric supplies		19,000
		2270040 Fuel, Lubricants & oils		19000
		2210110 Printing, stationery, binding		11,400
		2220010 Telecommunications		4,000
		2280010 Maintenance		38,000
		211103-Allowance		45,600
		2270010-Travel Inland		7,600
		2280020-Maintenance vehicle		74,100
		2270010-Foreign Travel		18,050
Total				253,850

Project 15: Scaling Up Multi Stress – Climate Resilient Maize Varieties to Address Food, Nutrition and Income Security among Women and Youth Farmers in Uganda

PARI: NaCRRI	Project title: Scaling Up Multi Stress – Climate Resilient Maize Varieties to Address Food, Nutrition and Income Security among Women and Youth Farmers in Uganda		PI: Julius PytonSserumaga	
Start Date: 2019	End Date: 2020		Project funding: FAO <i>Funding Agency (s):</i> <i>Total value</i> <i>(UGX'000)*:</i> 380,000'	
End Project Goal: The goal is to enhance competitiveness of the maize sub-sector for sustainable production, productivity, and value addition amongst women and youth farmers.				
NARO Strategic Result Addressed**: 2, 3 and 4				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To popularize and disseminate multi stress climate resilient maize varieties using farmer led participatory approaches. To maintain all breeding lines and parents of hybrids released and commercialized.		2111020 Contract staff salaries	multi stress climate resilient maize varieties popularized and disseminated	172,000
		2240010 Medical &Agric supplies		20,850
		2270040 Fuel, Lubricants &oilS		19,000
		2210110 Printing, stationery, binding		9,000
		2220010 Telecommunications		4,500
		2280010 Maintenance		4,000
		211103-Allowance		24,000
		2270010-Travel Inland		
		2230050-Electricity		61,650
		2280020-Maintenance vehicle		10,000
			19,000	

2. To create linkages with private sector and community seed producers for sustainable market opportunities		2111020 Contract staff salaries 2240010 Medical & Agric supplies 2270040 Fuel, Lubricants & oils 2210110 Printing, stationery, binding 2220010 Telecommunications 211103-Allowance	linkages with private sector and community seed producers created	43,500 7,500' 10,000 4,000 5,000 4,000 13,000
3. To promote information and knowledge on improved varieties by involving farmers and stakeholders in on-farm trials, variety demonstrations and field days.		2240010 Medical & Agric supplies 2270040 Fuel, Lubricants & oils 2210110 Printing, stationery, binding 2220010 Telecommunications 2280010 Maintenance	information and knowledge on improved varieties promoted	95,000 19,000 19,000 19,000 19,000 19,000
4. To upgrade seed storage and irrigation facility for breeding activities.		2111020 Contract staff salaries 2240010 Agric supplies 2270040 Fuel, Lubricants & oils 2210110 Printing, stationery, binding 2220010 Telecommunications 2280010 Maintenance	seed storage and irrigation facility upgraded	69,500 7,500 14,000 19,000 9,000 2,000 18,000
Total				380,000

Project 16: Breeding RTB products for end user preferences (RTBFOODS)

PARI: NaCRRRI	Project title: Breeding RTB products for end user preferences (RTBFOODS)		PI: Dr. Robert Kawuki	
Start Date: 10 th November 2018	End Date: 31 st October 2022		Project funding: <i>Funding Agency (s): CIRAD</i> <i>Total value: 947,122,300</i>	
End Project Goal: To integrate routine assessment and screening of user quality traits in cassava breeding				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
Generation of phenotypic, wet chemistry and Spectra data to enable prediction of selected end-user traits using NIRS	Generation of Agricultural Technologies	227001: Travel inland	Quantitative and spectra datasets on quality root traits generated	99,560
		227001: Travel inland		38,000
		211102: Contract staff salaries (incl.Casual Laboures)		12,160
		225001: Consultancy		11,400
Enhanced cassava research capacity	AgriculturalResearch Capacity Strengthened	211103: Personnel	Strengthened cassava research for development	38,000
		221011: Printing, Stationery, Binding		45,600
		227002 Travel Abroad		4,560
		223005: Electricity		17,993
		312202: Purchase of machinery &Equipment	7,980	159,600
TOTAL				335,293



Project 17: Cassava-whitefly control for sustainable food security in Sub-Saharan Africa

PARI: NaCRRRI	Project title: Cassava-whitefly control for sustainable food security in Sub-Saharan Africa		PI: Christopher A. Omongo	
Start Date: November 2018	End Date: October 2022		Project funding: <i>Funding Agency (s):</i> BMGF <i>Total value (UGX'000)*:</i> 3,980,530	
End Project Goal:				
NARO Strategic Result Addressed**:				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
To establish farmer and stakeholder participatory network for sustainable management of ACW in Uganda	Generation of agricultural technologies	2270040- Fuel lubricants and oils	At least 2 farmer-preferred whitefly resistant (WFR) cassava varieties that possess resistance/tolerance to CMD and CBSD identified	167,200
		2270010- Travel inland		30,400
		2240060- Agricultural supplies		109,440
	Generation of agricultural technologies	2270010- Travel inland	Farmer preferred varieties selected and information generated to support decision making and variety release	27,360
		2270040- Fuel lubricants and oils		172,042
		2240060- Agricultural supplies		65,642
	Generation of agricultural technologies	2270010- Travel inland	Farmer preferred varieties selected and information generated to support decision making and variety release	79,040
		2270040- Fuel lubricants and oils		27,360
		2240060- Agricultural supplies		39,900
Research extension interface promoted and strengthened	2240060- Agricultural supplies	Newer systemic insecticides and seed (cassava stem) coating technologies for whitefly management registered by the national regulatory authorities.	20,900	
	2210020- Workshops and seminars		19,000	

	Research extension interface promoted and strengthened	2210020- Workshops and seminars	Educational, extension, scientific and policy materials on cassava pest and disease management produced	30,400 30,400
	Research extension interface promoted and strengthened	2210020- Workshops and seminars	Agricultural-extension Field Officer trained in Integrated Whitefly and Disease Management techniques.	27,360 27,360
Pre-breeding crosses conducted between WFR Latin American (LA) and African cassava varieties	Generation of agricultural technologies	2210020- Workshops and seminars 2270010- Travel inland	New combinations of crosses between the WFR LA and African cassava varieties generated	107,114 11,354 95,760
	Generation of agricultural technologies	2210020- Workshops and seminars 2270010- Travel inland	Progeny generated from the crosses screened in different environments.	107,114 11,354 95,760
Project management and capacity building	Agricultural research capacity strengthened	2210020- Workshops and seminars 2240060- Agricultural supplies 2270040- Fuel lubricants and oils 2220010-Telecommunications 2220020-Postage and courier 2280020-Maintenance- vehicles 2280030- Maintenance- Machinery and equipment 2310040-Transport equipment 2310050- Office and ICT equipment	Agricultural Research and managerial capacity strengthened	1,190,442 789,876 57,000 39,520 20,140 11,400 40,280 19,760 182,400 30,066
Total				1,841,572

Project 18: Next Generation: Cassava Breeding Project Phase II

PARI: NaCRRRI	Project title: Next Generation: Cassava Breeding Project Phase II		PI: Robert Kawuki	
Start Date: 1 st April 2018	End Date: 31 st December 2022		Project funding: <i>Funding Agency (s): Cornell University</i> <i>Total value: 9,976,439,500</i>	
End Project Goal: To develop a sustainable cassava breeding scheme with accelerated genetic gains, leading to the release of improved cassava cultivars that meet the agronomic and end-user needs in Africa				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
Development of improved cassava germplasm enriched with specialty end-user traits	Generation of Agricultural technologies	2111020-Contract Staff Salaries	1. Useful cassava genetic variability generated	72,226
Validation of markers associated with key plant health and end-user cassava traits	Generation of Agricultural technologies	2111020-Contract staff Salaries 2270010-Travel Inland	2. Markers associated with key agronomic and root quality traits identified	32,393 16,196 16,197
Stage-gate selection of elite clones enriched with desirable end-user traits.	Generation of Agricultural technologies Research Extension Interface	2111020-Contract staff Salaries 2210020-Workshops & Seminars 2270010-Travel Inland	3. Genomic Estimated Breeding Values and Genomic Estimated Total Genetic Value used for selection of outstanding clones to cross and advance	147,319 51,561 22,097 73,659
Generation of virus-free cassava seed of outstanding	Generation of Agricultural technologies	2111020-Contract Staff Salaries 2240060-Agricultural	4. Clean planting material of best performing clones generated	228,593 68,578



clones for variety replacement		supplies 2270010-Travel Inland	and multiplied	22,859 137,156
Development of high throughput phenotyping methods for selected end-user cassava traits	Generation of Agricultural technologies	2111020-Contract Staff Salaries 2240060-Agricultural Supplies 2270010-Travel Inland	5. NIRS spectra and wet chemistry method validated	51,448 15,434 2,572 33,441
Optimizing plant growth hormones and pruning approaches to enhance cassava flowering	Generation of Agricultural technologies	2111020-Contract Staff Salaries 2240060-Agricultural supplies 2270010-Travel Inland	6. Technologies for enhancement of cassava flowering and seed set generated	39,286 11,785 1,964 25,536
Enhanced cassava research capacity	Agricultural Research Capacity strengthened	2111020-Contract Staff Salaries 2111030-Allowanes 2210090-Welfare and Entertainment 2210110-Printing, Stationery, Binding 2220030-Information Communication Technology 2230050-Electricity 2270020-Travel Abroad 2270040-Fuel, Lubriants and Oils 2280010-Maintenance - Civil 2280020-Maintenance Vehicles 2280030-Maintenance-Machinery, Equipment	7. Strengthened cassava research capacity	1,327,400 1,007,650 66 600 6,948 12,820 22,940 21,460 91,464 22,940 40,888 26,066 7,622
TOTAL				1,898,665

Project 19: Next Generation: Cassava Breeding Project Phase II _ NaCRRRI Biosafety

PARI: NaCRRRI	Project title: Next Generation: Cassava Breeding Project Phase II _ NaCRRRI Biosafety		PI: Barbara MugwanyaZawedde	
Start Date: 1 st April 2018	End Date: 31 st March 2020		Project funding: <i>Funding Agency (s): Cornell University</i> <i>Total value: 904,058,000</i>	
End Project Goal: To support the research and commercialization pathways for biotechnology products in Uganda.				
NARO Strategic Result Addressed**: <i>Strategic Result 3: Communities increasingly using improved agricultural technologies and innovations</i> <i>Strategic Result 4: Institutional orientation to agricultural transformation</i>				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
Acceleration of demand and adoption of biotechnology products plus associated technologies	Research Extension Interface	2210010 Advertising and Public Relations 2210020Workshops & seminars 2270010-Travel Inland	1. Knowledge and awareness of key stakeholders on biotechnology enhanced	240,500 30,370 163,111 47,019
Integration of biotechnology and biosafety training in the formal education system	Research Extension Interface	2210010 Advertising and Public Relations 2210110-Printing,Stationery,Binding 2220030-Information Communication Technology 2210020Workshops & seminars 2270010-Travel Inland	2. Champions and mechanisms for integration of biotechnology and biosafety training in formal education systems identified and supported	94,490 7,690 7,650 9,230 63,690 6,230
Enhanced capacity for biotechnology communicators and biosafety experts	Agricultural Research Capacity strengthened	2210020-Workshops & Seminars 2270020-Travel Abroad	3. Capacity Building and Networking Training program implemented	84,027 32,027 52,000
TOTAL				419,017

Project 20: Improvement of Ammonia and Nitrogen Dioxide Uptake and Utilization in Crops

PARI: NaCRRRI	Project title: Improvement of Ammonia and Nitrogen Dioxide Uptake and Utilization in Crops	PI: Dr Henry Wagaba		
Start Date: 30 th November 2015	End Date: 30 th November, 2019	Project funding: <i>Funding Agency (s):NSF/Purdue University</i> <i>Total value (UGX'000)*: 365,3570</i>		
End Project Goal: To generate cassava plants that can efficiently absorb and utilize ammonia (NH ₃) and nitrogen dioxide (NO ₂).				
NARO Strategic Result Addressed**: Strategic result 2				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Genetic transformation of cassava for increased ammonia and nitrogen dioxide intake and utilization	Generation of agricultural technologies for priority commodities	2240060- Agricultural supplies 2270010- Travel inland	At least 5 transgenic cassava plants transformed with genes for enhanced ammonia and nitrogen dioxide uptake	21,972 19,122 <



Project 21: Developing a superior cassava seed piece

PARI: NaCRRI	Project title: Developing a superior cassava seed piece		PI: Titus Alicai	
Start Date: 2017	End Date: 2020		Project funding: a) Funding Agency (s): SFSA/BMGF b) Total value (UGX'350,000,000)*:	
End Project Goal: to develop, test and validate a seed treatment method to improve the storability and increase multiplication factor of cassava planting material				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
12. To transfer and adapt cassava seed treatment technologies to Ugandan growing systems	Generation of agricultural technologies for priority commodities	2111020 - Contract staff 2240060 – Agric supplies 2270010 - Travel inland 2270040 - Fuel & lubricants	Cassava seed treatment effects, business case and end-user acceptability determined	120,000 20,000 15,000 65,000 20,000
13. To build the capacity for cassava seed treatment	Agricultural research capacity strengthened	2111020 - Contract staff 2240060 – Agric supplies 2270010 - Travel inland 2270020 - Travel abroad 2270040 - Fuel & lubricants 2280020 – Maintenance vehic 2210020 – Workshops 2210110 – Printing, stationery 2210080 – Computer supplies 2240020 – General Supplies	Services provide, technology application facilities, personnel and skills for cassava seed treatment developed	230,000 115,000 20,000 10,000 35,000 10,000 10,000 5,000 10,000 5,000 10,000
TOTAL				350,000



Project 22: West African virus epidemiology

PARI: NaCRRRI	Project title: West African virus epidemiology	PI: Titus Alicai		
Start Date: 2016	End Date: 2020		Project funding: <i>Funding Agency (s): UFHB/BMGF</i> <i>Total value (UGX'320,000,000)*:</i>	
End Project Goal: To identify West African cassava germplasm with resistance to viruses and whiteflies prevalent in Uganda				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To screen West African cassava germplasm for resistance to CMD, CBSD and whiteflies	Generation of agricultural technologies for priority commodities	2111020 - Contract staff 2240060 – Agric supplies 2270010 - Travel inland 2270040 - Fuel & lubricants	West African cassava germplasm introduced, bulked, maintained and their resistance to viruses and whitefly determined	160,000 20,000 60,000 55,000 25,000
2. To build the capacity cassava virus research and management	Agricultural research capacity strengthened	2111020 - Contract staff 2270020 - Travel abroad 2270040 - Fuel & lubricants 2210110 – Printing, stationery 2240020 – General Supplies	Services provided, facilities, personnel and skills for cassava virology developed	160,000 110,000 30,000 10,000 5,000 5,000
TOTAL				320,000

Project 23: Cassava Mosaic Disease: Identifying the Gene for CMD2-Based Virus Resistance

PARI: NaCRRI	Project title: Cassava Mosaic Disease: Identifying the Gene for CMD2-Based Virus Resistance	PI: Titus Alicai		
Start Date: 2018	End Date: 2021	Project funding: <i>Funding Agency (s): ETH/BMGF</i> <i>Total value (UGX'756,000,000)*:</i>		
End Project Goal: to identify the cassava CMD2 gene and its function in resistance to geminiviruses				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project 020Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To identify cassava clones with recombination events within the CMD2 locus for identification of the gene location	Generation of agricultural technologies for priority commodities	2111020 - Contract staff 2240060 – Agric supplies 2270010 - Travel inland 2270040 - Fuel & lubricants	Cassava mapping population phenotyped for CMD resistance and CMD2 gene recombinant clones identified and genotyped	55,000 10,000 25,000 10,000 10,000
2. To generate mapping population with diverse CMD2-type cassava varieties for fine mapping	Generation of agricultural technologies for priority commodities	2111020 - Contract staff 2240060 – Agric supplies 2270010 - Travel inland 2270040 - Fuel & lubricants	CMD2-type cassava varieties crossed, back-crossed, segregation patterns in progeny characterized and CMD resistance determined	65,000 10,000 25,000 20,000 10,000
3. To build the capacity for cassava molecular breeding	Agricultural research capacity strengthened	2111020 - Contract staff 2270020 - Travel abroad 2270040 - Fuel & lubricants 2280020 – Maintenance vehic 2240020 – General Supplies	Services provide, technology application facilities, personnel and skills for cassava molecular breeding developed	140,000 90,000 25,000 10,000 5,000 10,000
TOTAL				260,000

Project 24: Virus Resistant Cassava for Africa (VIRCA-Plus)

PARI: NaCRRI		Project title: Virus Resistant Cassava for Africa (VIRCA-Plus)		PI: Titus Alicai/Dr Anton Bua	
Start Date: 1 st June 2016		End Date: 31 st May 2021		Project funding: Funding Agency (s):BMGF, USAID and BAYER Total value (UGX'000)*: 981,174	
End Project Goal: To generate and deliver cassava varieties that are resistant to cassava brown streak disease (CBSD) and cassava mosaic disease (CMD).					
NARO Strategic Result Addressed**: Strategic result 2 and 3					
Project Objectives		Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To evaluate transgenic cassava events and progenies for virus resistance, yield and adaptability.		Generation of technologies for priority commodities	2111020 - Contract Staff Salaries 2210020 - Workshops 2270010 - Travel Inland 2240060 - Agric Supplies	At least 250 transgenic cassava lines resistant to CBSD/CMD selected for advancement. Regulatory data generated for transgenic elite events and biosafety approval dossier submitted	162,000 30,000 10,000 92,000 30,000
2. To generate transgenic cassava plants of farmer preferred varieties with resistance to CBSD and CMD.		Generation of technologies for priority commodities	2111020 - Contract Staff Salaries 2270010 – Travel Inland 2240060 - Agric Supplies 2210020 – Workshops	At least 3 farmer preferred cultivars transformed for virus resistance	202,000 17,000 25,000 150,000 10,000
3. To develop capacity for generation and testing of transgenic cassava		Agricultural Research Capacity Strengthened	2111020 - Contract Staff Salaries 2210090 - Welfare and Entertainment 2210110 - Printing & Stationery 2220020 - Postage and Courier 2220030 - Information and communication 2240040 - Cleaning & Sanitation 2260010 - Insurances 2270040 - Fuel & Lubricants 2280010 - Maintenance Others 2280020 - Maintenance Vehicles 2280020 - Maintenance Machinery	Project support services effectively provided	617,174 442,174 5,000 10,000 5,000 3,000 5,000 12,000 60,000 20,000 45,000 10,000
Total					981,174

Project 25: Genomic Tools for Sweetpotato Improvement

PARI: NaCRRRI	Project title: Genomic Tools for Sweetpotato Improvement		PI: BenardYada	
Start Date: 2019	End Date: 2021		Project funding: <i>Funding Agency (s):</i> BMGF <i>Total value (UGX'4,560,000)*:</i>	
End Project Goal: To develop modern genomic, genetic and bioinformatics tools to facilitate crop improvement and improve genetic gains in sweetpotato				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
To conduct multi-locational phenotyping of MDP, training population and participatory variety selection	Generation of Agricultural research technologies	2270010 - Travel inland	30 genotypes evaluated at 5 sites	40,000
		2270040 - Fuel lubricants and oils		27,000
		2240060 - Agricultural supplies		4,600
		2111020 - Contract staff salaries		1,000
				7,400
		2270010 - Travel inland	5 sweetpotato candidate varieties identified for release	40,000
		2270040 - Fuel lubricants and oils		13,400
		2240060 - Agricultural supplies		2,100
		2111020 - Contract staff salaries		1,000
			40,000 sweetpotato genotypes planted for clonal evaluation	23,500
	2270010 - Travel inland		20,000	
	2270040 - Fuel lubricants and oils		12,800	
	2240060 - Agricultural supplies		1,600	
	2111020 - Contract staff salaries		1,520	
			4,080	

		2270010 - Travel inland 2270040 - Fuel lubricants and oils 2240060 - Agricultural supplies 2111020 - Contract staff salaries	40 promising sweetpotato weevil resistant genotypes selected for advanced yield trials (AYT)	40,000 27,000 4,600 1,000 7,400
		2270010 - Travel inland 2270040 - Fuel lubricants and oils 2240060 - Agricultural supplies 2111020 - Contract staff salaries	50 sweetpotato clones evaluated at 5 onstation sites PYT	50,000 29,900 7,600 2,100 10,400
		2270010 - Travel inland 2270040 - Fuel lubricants and oils 2240060 - Agricultural supplies 2111020 - Contract staff salaries	200 Sweetpotato genotypes promising for anthocyanin content for evaluation preliminary yield trials	40,000 27,000 4,600 1,000 7,400
To build capacity to conduct multi-locational phenotyping of MDP, training population and participatory variety selection	Agricultural research capacity strengthened	2111020 - Contract staff salaries 2240060- Agricultural supplies 2270040- Fuel lubricants and oils 2220010-Telecommunications 2220020-Postage and courier 2280020-Maintenance-vehicles 2280030- Maintenance-Machinery and equipment 2310050- Office and ICT equipment	Office supplies, services, equipment, vehicles and project personnel procured, maintained or remunerated	270,000 110,000 53,000 30,000 15,000 5,000 25,000 12,000 20,000

TOTAL				500,000
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Project 26: Production of quality pre-basic planting materials in Uganda I

PARI:NaCRRRI	Project title: Production of quality pre-basic planting materials in Uganda I		PI: BenardYada	
Start Date: 2019	End Date: 2021		Project funding: Funding Agency (s): BMGF/SASHA Total value (UGX'228,000)*:	
End Project Goal: To mass produce sweetpotato pre-basic of preferred varieties for sweetpotato seed multipliers				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
To improve availability of clean sweetpotato planting materials	Research extension interface promoted and strengthened	2270010 - Travel inland	3 improved sweetpotato varieties virus indexed and multiplied in-vitro, screen house and in the field	60,000
		2270040 - Fuel lubricants and oils		24,000
		2240060- Agricultural supplies		7,800
		2111020 - Contract staff salaries		20,100
To build capacity for generating clean seed	Agricultural research capacity strenghtened	2111020 - Contract staff salaries	Office supplies, services, equipment, vehicles and project personnel procured, maintained or renumeralated	8,100
		2240060- Agricultural supplies		20,000
		2280020-Maintenance-vehicles		10,000
				6,000
				4,000
TOTAL				80,000

Project 27: Sweetpotato biological control

PARI: NaCRRRI	Project title: Sweetpotato biological control	PI: Milton OtemaAnyanga		
Start Date: 2016	End Date: 2020	Project funding: <i>Funding Agency (s):</i> AgBiome <i>Total value (UGX'152,000)*:</i>		
End Project Goal: To identify soil microbes with potential to control sweetpotato weevils				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
To explore soil microbes for sweetpotato weevil control	Generation of Agricultural research technologies	2270010 - Travel inland	9 useful soil microbes for sweetpotato weevil control identified	25,000
		2270040 - Fuel lubricants and oils		6,000
		2240060- Agricultural supplies		3,000
To build capacity for identification of soil microbes for sweetpotato weevil control	Agricultural Research capacity strengthened	2240060- Agricultural supplies	Office supplies, services, equipment, vehicles and project personnel procured, maintained or renumerated	1,000
		2111020 - Contract staff salaries		15,000
		2270040- Fuel lubricants and oils		11,000
		2220010- Telecommunications		3,000
				1,000
TOTAL				25,000

Project 28: On-farm screening of high-value Korean vegetables for enhanced productivity in Central Uganda

Institute: NaCRRI	Project Title: On-farm screening of high-value Korean vegetables for enhanced productivity in Central Uganda		PI: IddRamathani		
Start date: December 2017	End date: December 2020		Project funding: Government of South Korea through RDA, KOPIA		
End project Goal: To enhance farmer’s household income through the production of officially released better performing Korean vegetables and adoption of Korean IPM (Integrated pest management) technologies			Total Value (UGX'000):180,000		
NARO strategic Result addressed	Strategic Result 2: Increased research products and services suited for industry Result 3: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/ Description		Annual output for FY 2019/20	Annual Budget (UGX’000)
To evaluate on-farm and select Korean vegetable varieties: tomato, cabbages, eggplants, cucumber, Chinese cabbages, kale; register and supply them to farmers in Uganda	Generation of Agricultural technologies	2111020: Contract Staff Salaries (Incl. Casual laborers)		one variety of Tomato, kale eggplant, cabbage, Chinese cabbage and cucumber considered for release in 2019	25,000
		2270010: Travel inland			7,000
		2270040: Fuel, Lubricants & Oils			5,000
		2240010: Medical & Agric. Supplies			3,000
		2270010: Travel inland			1,000
	Research extension interface promoted and strengthened	2210110: Printing, Stationery, Binding		One Descriptor list for tomato, Kale, eggplant, cabbage, cucumber, and Chinese cabbage developed	1,000
	Agricultural research capacity strengthened	2270040: Fuel, Lubricants & Oils			2,000
	Generation of Agricultural technologies	2270010: Travel inland			1,000
	Agricultural research capacity strengthened	2270010: Travel inland		4 trials monitored in Masaka, Mukono, Wakiso and Nakaseke	2,000
		2270010: Travel inland		1 Consumer preference study conducted	2000
	Agricultural research capacity strengthened	2270040: Fuel, Lubricants & Oils			1000
	Total				25,000

Project 29: National Oil Palm Program

PARI: NaCRRRI	Project title: National Oil Palm Program		PI: Gabriel Ddamulira	
Start Date: 2019	End Date: 2027		Project funding: <i>Funding Agency (s): IFAD</i> <i>Total value (UGX 1.5B)*:</i>	
End Project Goal: Promote sustainable and inclusive transformation in selected agro-ecological zones suitable for oil palm cultivation in Uganda.				
NARO Strategic Result Addressed**: Strategic result 2 & 3 Strategic Result 2: Increased research products and services suited for industry Strategic Result 3: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Develop improved soil fertility and tree management practices for oil palm	Generation of technologies	2111020; Contract staff salaries 2240030; Medical & Agric supplies 2270010; Travel inland	1 improved soil fertility management practice developed and disseminated among farmers	391,514 151,514 90,000 150,000
2. Determine the physiological factors affecting fruit set, ripening, and bunch failure	Generation of technologies	2111020; Contract staff salaries 2240030; Medical & Agric supplies 2270010; Travel inland	1 physiological factor affecting fruit set, ripening and bunch failure identified and documented	77,206 30,000 23,000 24206
3. Develop integrated management of major diseases of oil palm	Generation of agricultural technologies	2111020; Contract staff salaries 2240030; Medical & Agricultural supplies 2270010; Travel inland	1 disease survey conducted and prevalence of diseases on oil palm documented	137,386 34,086 13,300 90,000
4. Develop integrated management of major pests of oil palm	Generation of agricultural technologies	2111020; Contract staff salaries 2240030; Medical & Agric supplies 2270010; Travel inland	I insect pest survey conducted and pest population and their damage documented in Uganda	95,567 25,567 20,000 50,000
5. Disseminate technologies developed through dissemination pathways	Research extension interface promoted and strengthened	2210050; Hire of venues 2210020; workshops & seminars 2210110; printing, stationery, binding 2240060; Agric supplies	Develop 1 information material (Manual/ Brochure) and reproduced 1000 copies for dissemination to end-users on oil palm management	105,879 39,679 25,500 20,700 20,000



Total				807,552
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Project 30: Development and Application of Postharvest Management Technology Model for Horticultural Crops (2nd phase)

PARI: NaCRRI – Horticulture and Oil palm program	Project title: Development and Application of Postharvest Management Technology Model for Horticultural Crops (2nd phase)		PI: AfricanoKangire	
Start Date: March 2018	End Date: March 2022	Project funding: <i>Funding Agency (s):</i> Korea-Africa Food and Agriculture Corporation Initiative <i>Total value (UGX’209,000,000)*:</i>		
End Project Goal: Improving Wealth, Nutrition and Resilience through sustainable production of Grafted Tomatoes, with 4,500 beneficiaries in Uganda.				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’74,000)
1. To generate information on postharvest handling	Technology generation	2111020: Contract Staff Salaries (Incl. Casual laborers) 2240010: Medical & Agric. Supplies 2270010: Travel inland	Target about 100 farmers adopting appropriate postharvest handling technologies in the targeted districts	17,000 1,000 3,000 13,000
2. To increase capacity build of stakeholders along the value chain on proper postharvest handling	Technology generation	2111020: Contract Staff Salaries (Incl. Casual laborers) 2240010: Medical & Agric. Supplies 2270010: Travel inland	100 stakeholders (farmers/ traders) trained on Postharvest handling technologies	18,500 4,500 4,000 10,000
3. To improve quality and value of horticultural crops through reducing postharvest losses	Technology generation	2111020: Contract Staff Salaries (Incl. Casual laborers) 2240010: Medical & Agric. Supplies 2270010: Travel inland	Develop 1 manual on improved postharvest handling technologies for citrus and tomatoes	19,000 5,000 4,000 10,000
4. To improve quality and value of horticultural crops through reducing postharvest	Technology generation	2111020: Contract Staff Salaries (Incl. Casual laborers) 2240010: Medical & Agric. Supplies 2270010: Travel inland	Target 10 farms on applying Postharvest handling technologies using practical manuals on model farms	16,700 6,700 5,000 5,000

losses				
Total				74,000

Project 31: Improved Resilience through Sustainable Production of Grafted Tomatoes in Uganda (IRESO)

PARI: NaCRRI-Horticulture and Oil Palm program	Project title: Improved Resilience through Sustainable Production of Grafted Tomatoes in Uganda (IRESO)	PI: Africano Kangire
Start Date: March 2017	End Date: March 2020	Project funding: <i>Funding Agency (s):</i> The Netherlands Government in conjunction with SOLIDARIDAD East and Central Africa <i>Total value (UGX'247,000,000)*:</i>

End Project Goal: Improving Wealth, Nutrition and Resilience through sustainable production of Grafted Tomatoes, with 4,500 beneficiaries in Uganda.

NARO Strategic Result Addressed:** Communities increasingly using improved agricultural technologies and innovations

Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'65,200)
1. Mobilization, Situation analysis and assess the prevalence of bacterial wilt and socio-economic impact of the disease in key tomato producing districts in Uganda	Technology generation	2111020: Contract Staff Salaries (Incl. Casual laborers) 2210030: Staff Training-Student Research costs 2240010: Medical & Agric. Supplies 2270010: Travel inland	1 Situation analysis on the prevalence of bacterial wilt and socio-economic impact of tomato bacterial wilt conducted	9,000 1,000 2,000 6,000
2. Screen tomato rootstocks for Bacterial Wilt tolerance in Uganda	Technology generation	2111020: Contract Staff Salaries (Incl. Casual laborers) 2210030: Staff Training-Student	Screen 3 tomato rootstocks for reaction / resistance to Bacterial Wilt in	28,500 18,500 2,000 5,000

		Research costs 2240010: Medical & Agric. Supplies 2270040: Fuel, Lubricants & Oils	Uganda	3,000
3. Commercialized Grafted tomato seedling production with youths through Young Plant Risers (YPR) Nurseries.	Technology generation and dissemination	2111020: Contract Staff Salaries (Incl. Casual laborers) 2210030: Staff Training-Student Research costs 2240010: Medical & Agric. Supplies 2270010: Travel inland	Train 20 Young Plant Risers (YPR) Nurseries for the Commercialization of Grafted tomato seedling production	17,000 7,000 3,000 7,000
4. Improve the capacity and create awareness of 4,000 smallholder tomato farmers for commercial production of grafted 5. Tomato fruits in Uganda.	Technology generation	2111020: Contract Staff Salaries (Incl. Casual laborers) 2210020; workshops & seminars 2270010: Travel inland	Improve the capacity and create awareness of 4,000 smallholder tomato farmers for commercial production of grafted Tomato fruits in Uganda.	10,700 700 7,000 3,000
Total				65,200

Project 32: Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers

PARI: NaCRRI	Project title: Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers		PI: Stanley Nkalubo	
Start Date: 1 st July 2018 2019	End Date: 30 th June 2021	Project funding: <i>Funding Agency (s): Government of Uganda and International Fund for Agricultural Development (IFAD)</i> <i>Total value (UGX'000)*: 190,000</i>		
End Project Goal: The goal is to increase small-holder productivity and income in three target countries in Africa through the development, testing and adoption of new crop varieties and improved popular ones that are higher yielding, more resilient to climate change and local stress environments, of better quality, and adapted to market demands				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1.Determine the gender factors influencing bean canning quality traits	Generation of agricultural technologies	2210020/ workshop 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2270010/ Travel inland 2280020/ Vehicle Services	At least 5 Best canning bean varieties selected	6,000 5,000 6,600 4,140
2. Determine stakeholders bean canning preferences	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2270010/ Travel inland 2280020/ Vehicle Services	Data to capture farmers, processors, hotel managers and a few consumers' feedback on trait preferences	5,000 3,800 3,200
3. Deployment and support BMS for data management	Generation of agricultural technologies	2210020/ workshop 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2270010/ Travel inland	Manage germplasm lists and nurseries in BMS Generation of field plans, barcode labels and field books Phenotypic data Analysis of BMS generated field book using BMS compatible software- Breeding View	3,500 3,300 3,500

4. Development of improved breeding Schemes to support bean canning	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2210020/ workshop	Identifying breeding areas that need improvement and breeders trained on specific topic related to bean breeding	6,600 3,880
5. Characterization of bean germplasm for canning quality traits	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers)	• Characterize at least 300 genotypes • Loci associated with canning quality traits identified.	3,860
6. Infrastructural improvement for bean breeding	Generation of agricultural technologies	2240010/ Medical & Agric. Supplies	Equipment for efficient management of breeding program procured	7,200
Project management efficient	Research extension interface promoted and strengthened	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2220010/ Telecommunications 2270010/ Travel inland 2210020/ Workshops	• Project implemented efficiently • Timely and effective communication enhanced • Key success factors and challenges documented • Meetings, Project evaluated midterm and end of project meeting	2,320 1,800 1,500 2,000
Total				72,200

Project 33: Enhancing the nutrition and health of smallholder farmers in East Africa through increased productivity of biofortified bean and improved postharvest handling

PARI:NaCRRRI	Project title: Enhancing the nutrition and health of smallholder farmers in East Africa through increased productivity of biofortified bean and improved postharvest handling		PI: Pamela Paparu	
Start Date: 21 December 2018	End Date: 20 December 2021	Project funding: c) <i>Funding Agency (s): AU/EU</i> d) <i>Total value (UGX'000)*: 3,598,020</i>		
End Project Goal: Increased productivity and quality of biofortified beans along the common bean value chains in Uganda and Rwanda, among participating households				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. 1. Acquire strategic vital information on production, productivity, post-harvest handling practices and quality of beans	Agricultural Research Capacity Strengthened	2270010 - Travel Inland	Enhanced understanding of current levels of bean production, productivity, production constraints, post-harvest handling and quality of beans	190,800
		2270040 - Fuel		22,000
		2111020 - Contract staff		4,500
	Purchase of Motor Vehicle and other transport equipment	2310040 - Transport Equipment		2,300
	Purchase of office and ICT Equipment, including Software	2310050 - Machinery and Equipment		144,000
				18,000
2. Promote proven climate smart crop management practices and high yielding biofortified bean varieties	Research Extension Interface Promoted & Strengthened		Cost-effective climate smart production technologies and biofortified beans varieties promoted on-farm	88,490
		2270010 – Travel Inland		10,000
		2270040 – Fuel		4,500
		2111020 - Contract staff		5,485
		2240060 - Agric Supplies		4,000
2210020 – Workshops	64,505			
3. Determine the quality of common bean			Quality of common bean along the value	19,800

along the value chain	Agricultural Research Capacity Strengthened	2111020 - Contract staff 2240060 - Agric Supplies	chain determined and awareness created	12,000 7,800
4. Reduce quantitative and qualitative losses through promotion of cost-effective and safe post-harvest handling practices	Research Extension Interface Promoted & Strengthened	2270010 - Travel Inland 2270040 - Fuel 2240060 - Agric Supplies 2210020 - Workshops	Cost-effective post-harvest handling technologies promoted along the bean value chain	36,000 8,000 4,000 18,000 6,000
5. Project Management	Agricultural Research Capacity Strengthened	2111020 - Contract Staff 2210020 - Workshops 2270020 - Travel Abroad 2210010 - Public Relations 2210080 - Computer Supplies 2280020 - Maintenance Vehicles 2270040 - Fuel & Lubricants	Project managed efficiently	183,270 108,000 14,270 15,840 25,000 7,200 6,480 6,480
6. Overhead (7%)	Agricultural Research Capacity Strengthened	2270040 - Fuel & Lubricants 2280040 - Maintenance Others 2230040 - Guard and Security services 2230050 - Electricity 2270010 - Travel Inland	Project support services effectively provided	36,285 7,257 7,257 7,257 7,257 7,257
7. Sub-grants	Payments to International Organizations	1322010 - Grants Capital-Int. Org	Transfers to Sub-grantees	672,070.7
Total				1,226,716

Project 34: Bio-ecology of and host plant resistance to bean leaf beetles (*Oothecasp*): a step towards sustainable management in Uganda

PARI: NaCRRI	Project Title: Bio-ecology of and host plant resistance to bean leaf beetles (<i>Oothecaspp</i>): a step towards sustainable management in Uganda		PI: Michael Hilary Otim	
Start Date: July 1, 2017	End Date: June 30, 2019		Project funding: <i>Funding Agency (s): Bill and Melinda Gates Foundation</i> <i>Total value (UGX'000)*: 1,799,377</i>	
End Project Goal: To increase common bean productivity and incomes of smallholder farmers in Uganda by reducing the damage caused by BLBs				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Determine species distribution, relative abundance and pest status of BLBs in different agro-ecological zones in sub Saharan Africa (SSA), with special emphasis on Uganda	Generation of agricultural technologies	2210020 - Workshops	Final technical report and publications developed and shared with partners	10,000
2. Describe the life history, seasonal phenology and impact of BLBs in different agro-ecological zones in Uganda				
3. Develop process-based simulation models describing the damage and spread of BLB in different agro-ecological zones				
4. Characterize local and imported bean genotypes for resistance to BLBs				
5. Build capacity for addressing future insect pest problems in Uganda	Research extension interface promoted and strengthened			
Total				10,000

*The project ends on June 30, 2019. Spill over into the new financial year will be for writing the final technical report and potentially if other areas remain unfinished and a No-Cost Extension is Granted.

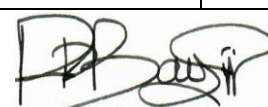
Project 35: Counting on common dry beans for Uganda's development agenda

PARI: NaCRRI	Project title: Counting on common dry beans for Uganda’s development agenda		PI: Stanley Nkalubo	
Start Date: April 1, 2019	End Date: March 31, 2024	Project funding: <i>Funding Agency (s): Alliance for a Green Revolution in Africa</i> <i>Total value (UGX’000)*: 2,812,500</i>		
End Project Goal:				
NARO Strategic Result Addressed: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/ Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
1. Advance, release and promote promising high yielding, nutritionally enhanced and fast cooking bean varieties with multiple stress tolerance for improved productivity and food security	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers)	• At least 5 lines advanced for release • At least 20 promising lines biofortified and pyramided for tolerance to drought and diseases and pest resistance	89,400
		2240010/ Medical & Agric. Supplies		25,400
		2270010/ Travel inland		25,000
2. Develop and strengthen seed systems for commercial production and delivery of quality bean seed through youth and women groups	Generation of agricultural technologies	2240010/Medical & Agric. Supplies	• Community seed producer organizations profiled and mapped. • At least 2 seed production models for community seed producer established and tested. • Appropriate tools and methods for assessment; monitoring and evaluation of bean seed demand and supply under different farming systems and farmer organizational structures organizations/enterprise s developed	39,000
		2111020/Contract Staff Salaries (Incl. Casual labourers)		97,000
		2270010/Travel inland		42,000

3. Increase productivity of particularly biofortified bean varieties through promotion of pre and postharvest handling technologies for improving yield, grain safety and quality at household, community and regional levels.	Generation of agricultural technologies	2210020/ Workshops 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2240010/ Medical & Agric. Supplies 2270010/ Travel inland	• Bean technologies promoted to reach a wider farming and consumer communities including refugee hosting and post conflict communities • Drudgery for increased production, productivity and women and youth employment reduced • Different bean grain storage technologies and promotion of most appropriate validated.	99,781.3 26,000.5 26,080.8 18,000 29,700
4. Scale out marketing and consumption of particularly biofortified bean varieties along the value chain in vulnerable communities, including refugee hosting and post conflict areas.	Research extension interface promoted and strengthened	2210020/Workshops 2240010/Medical & Agric. Supplies 2270010/ Travel inland	• Platforms for bean marketing and consumption systems within the bean corridors established and strengthened • Suitable value addition options linked to and promoted.	70,000 23,000 22,000 25,000
5. Project Management	Research extension interface promoted and strengthened	2270010/Travel inland 2210020/Workshops 2280020/ Maintenance - Vehicles 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2240010/ Medical & Agric. Supplies 2220010/ Telecommunications 2280010/ Maintenance - Civil 2280040/ Maintenance - Other	• Key success factors and challenges documented • Project success evaluated midterm and end of project meeting • Vehicles maintained in good condition • Staff remunerated • Office supplies purchased • Timely and effective communication enhanced • Institute support staff remunerated	206,300.4 27,832.50 18,000 20,000 105,467.9 10,000 15,000 4,000 6,000
Total				562,481.7

Project 36: Accelerated varietal improvement and seed delivery of legumes and cereals in Africa

PARI: NaCRRI	Project title: Accelerated varietal improvement and seed delivery of legumes and cereals in Africa		PI: Stanley Nkalubo	
Start Date: February 1, 2019	End Date: January 31, 2023	Project funding: <i>Funding Agency (s): Alliance for a Green Revolution in Africa</i> <i>Total value (UGX'000)*: 650,737.5</i>		
End Project Goal:				
NARO Strategic Result Addressed: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Rate of genetic gain for target traits in mandate crops accelerated to at least 1.5% annually.	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers)	• Simulation and prediction methods to optimize breeding in collaboration with EiB implemented. • Common stage-gate systems established between CGIAR programs and the crop-specific participating NARS breeding programs. • Adoption of concerted multi-pronged communication approach will facilitate increased of new tools and approaches. • Multi-location yield trial networks built with common checks and market traits relevant to the predefined PPs, including environmental data to provide context	16,400
		2240010/ Medical & Agric. Supplies		5,400
		2270010/ Travel inland		6,000
				5,000
2. Integrated CGIAR/NARS Program anchored by an integrated breeding decision and informatics support system.	Generation of agricultural technologies	2240010/Medical & Agric. Supplies	• Breeding and trial management operations at CGIAR research stations and NARS partners improved and digitized for greater efficiency. • Statistically-sound experimental designs and analytical applications used in breeding programs • Gender gaps in adoption and	22,228.75
		2111020/Contract Staff Salaries (Incl. Casual labourers)		7,228.75
		2270010/Travel		8,000
				7,000



		inland	production of legume and cereal varieties monitored using statistically-sound experimental designs and analytical applications. • Streamlined digital seed inventory system and breeding program established and used in real-time.	
3. Legume and cereal crop improvement, seed production and delivery systems aligned for gender responsiveness, nutrition impacts and end-user demand and preferences.	Generation of agricultural technologies	2210020/ Workshops 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2240010/ Medical & Agric. Supplies 2270010/ Travel inland	• Market research data collected and utilized to define gender and nutrition-responsive customer profiles and guide crop improvement priorities • Product profile development and approval process formalized and regularly reviewed to replace existing varieties in the market and prioritized by the potential of gender-equitable impact on livelihoods.	24,200 4,000 3,000 4,500 12,700
4. Project Management	Research extension interface promoted and strengthened	2280020/ Maintenance - Vehicles 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2240010/ Medical & Agric. Supplies 2220010/ Telecommunications	• Key success factors and challenges documented • Vehicles maintained in good condition • Staff remunerated • Office supplies purchased • Timely and effective communication enhanced • Institute support staff remunerated	28,000 26,000, 2,000
Total				90,828.75

Project 37: Scale-up supply and utilization of precooked beans for food and nutrition security, incomes and environmental conservation by leveraging on public-private partnerships in Kenya and Uganda

PARI: NaCRRI	Project title: Scale-up supply and utilization of precooked beans for food and nutrition security, incomes and environmental conservation by leveraging on public-private partnerships in Kenya and Uganda			PI: Michael A. Ugen
Start Date: December 1, 2018	End Date: Nov 31, 2020	Project funding: <i>Funding Agency (s): IDRC/ACIAR</i> Total Value (UGX) 715,039		
End Project Goal: To improve food and nutrition security, income generation and environment conservation through promotion of utilization of precooked beans and leveraging on public-private partnerships in Kenya and Uganda				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
To test and validate the efficiency of business models for increasing production and supply of sufficient quantities and quality of bean targeted for processing.	Generation of agricultural technologies and knowledge	2270010 - Travel inland	3 Efficient gendered grain production and supply models under use by farmers	16,947
		2240020 - General supply goods and services		12,657
		2270040 - Fuel lubricants and oils		1,210
		2210020 - Workshops and siminars		2,330
				750
To evaluate, document and promote alternative scaling up models and uptake pathways for delivering affordable bean products to targeted consumer categories.	Generation of agricultural technologies and knowledge	2270010 - Travel inland	4 business models for precooked bean products delivery evaluated and most sustainable promoted for wider use.	8,852
		2240020 - General supply goods and services		120
				510
				1,110

		2270040 - Fuel lubricants and oils		
To assess the enabling and disabling actors and factors in the performance of public-private partnerships models in the bean value chain.	Research extension interface promoted and strengthened	2270010 - Travel inland 2240020 - General supply goods and services 2270040 - Fuel lubricants and oils 2210020 - workshops and seminars	An integrated framework for leveraging PPP at scale for the bean value chain documented	35,495 7,112 1,200 1,110 750
To assess the impacts of social, gender and economic trade-offs of market-driven production and supply models on households.	Research extension interface promoted and strengthened	2270010 Travel inland 2240020 - General supply goods and services 2270040 - Fuel lubricants and oils 2210020 - workshops and seminars	Social gender and economic effects of precooked bean production documented	15,543 1,300 3,092 4,190
To assess impacts of precooked beans on household consumption patterns, food security, nutrition, social and economic welfare among bean consuming households.	Research extension interface promoted and strengthened	2270010 - Travel inland 2240020 - General supply goods and services 2270040 - Fuel lubricants and	Contribution of precooked beans to household welfare documented	440,001 8,310 1,052 2,800 2,124

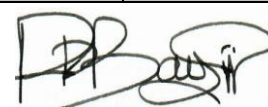
		oils		
		2210020 - Workshops		
Partner support	Research extension interface promoted and strengthened	2621010- Contributions to International Organization		256,500
		2520010- Subsidies to private Enterprises		173,325
Project management	Research extension interface promoted and strengthened	2280020 - Maintenance - Vehicles	Vehicles maintained in good condition	4,200
		2210110 - Printing and publication	4 Journal papers published	34,000
		2111020 - Contract Staff Salaries (Incl. Casual labourers)	Staff time and stipend for researchers and students	66,135
		2270020 - Travel Abroad	Inception and planning meeting, Annual meeting and site visits by PI	48,606
		2230050 - Electricity	Utility costs offset by a 10 % of the budget	65,003
Total				715,039

Project 38: Cassava Mechanization and Agro-processing Project (CAMAP)

PARI: NaCRRRI	Project title: Cassava Mechanization and Agro-processing Project (CAMAP)		PI: Charles Liri	
Start Date: 2019	End Date: 2020		Project funding: e) <i>Funding Agency (s): AATF</i> f) <i>Total value</i> <i>(UGX'389,608,000)*:</i>	
End Project Goal: To enhance cassava production and processing technologies for sustainable improvements in food security, incomes and livelihoods for farmers, processors, and marketers in the cassava sector through mechanized planting, harvesting, processing and value addition				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
14. Increasing cassava production through mechanization across the entire value chain and thus reduce post-harvest losses and demand for intensive labour	Generation of agricultural technologies for priority commodities	Total Budget 2111020 - Contract staff 2240060 – Agric supplies 2270010 - Travel inland 2111030 – Allowances 2210010 - Advertising and PR 2210110 - Printing, Stationery 2270040 - Fuel & lubricants 2280030 - Maintenance-Machinery & Equipment	Cassava farmer’s fields mechanized and mechanization technologies demonstrated to farmers	389,600 <

Project 39: Spurring deployment and commercialization of stress tolerant and nutrient dense cassava and sweetpotato varieties for improved productivity, nutrition and incomes

PARI: NaCRRI	Project title: Spurring deployment and commercialization of stress tolerant and nutrient dense cassava and sweetpotato varieties for improved productivity, nutrition and incomes		PI: Titus Alicai	
Start Date: 2019	End Date: 2024		Project funding: a) Funding Agency (s): USAID b) Total value (UGX'228,000,000)*:	
End Project Goal: Increase uptake and commercialization of superior sweetpotato and cassava technologies for improved productivity, nutrition, food security and incomes in Uganda				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
4. Commercialize production and use of stress tolerant, nutrient dense varieties of sweetpotato and cassava	Generation of agricultural technologies for priority commodities	2111020 - Contract staff 2210020 - Advertising 2210020 - Workshops, seminars 2210080 - Computer supplies, IT 2240060 - Agric supplies 2270010 - Travel inland 2210110 - Printing, Stationery 2270040 - Fuel & lubricants 2280020 - Maintenance - vehicle	Clean seed of stress tolerant, nutrient rich cassava and sweetpotato varieties commercially produced and promoted	182,000 35,000 9,000 22,000 9,000 44,000 37,000 10,000 7,000 9,000
5. Develop new stress tolerant cassava and sweetpotato varieties	Generation of agricultural technologies for priority commodities	2111020 - Contract staff 2240060 - Agric supplies 2270010 - Travel inland 2270040 - Fuel & lubricants	Advanced clones of sweetpotato and cassava screened for pest and disease resistance	46,000 10,000 15,000 16,000 5,000
TOTAL				228,000



Project 40: Epidemiological Study of Yam Virus Diseases in Côte d'Ivoire and Uganda

PARI: NaCRRRI	Project title: Epidemiological Study of Yam Virus Diseases in Côte d'Ivoire and Uganda		PI: Titus Alicai	
Start Date: 2019	End Date: 2020		Project funding: <i>a) Funding Agency (s):</i> UNCST/PASRES <i>b) Total value</i> (UGX'50,000,000)*:	
End Project Goal: contribute to food security and increased income for rural households in West and East Africa through increased yam production and knowledge on control of yam viral diseases				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Evaluate the following epidemiological parameters: distribution, incidence, severity of yam viral diseases in Côte d'Ivoire and Uganda	Generation of agricultural technologies for priority commodities	2240060 – Agric supplies 2270010 - Travel inland	Incidence, severity and distribution of viral diseases documented	16,000 10,000 6,000
2. Determine the diversity of viruses responsible for yam diseases in Côte d'Ivoire and Ugandan germplasm	Generation of agricultural technologies for priority commodities	2111020 - Contract staff 2240060 – Agric supplies 2270010 - Travel inland 2270020 - Travel abroad	Yam viruses in Côte d'Ivoire and Uganda are identified and diversity detemined	34,000 5,000 6,000 20,000 3,000
TOTAL				50,000

Project 41: Participatory evaluation of iron/zinc rich bean genotypes at multi-location sites for improved nutrition, food security and household income in Uganda

PARI: NaCRRI	Project title: Participatory evaluation of iron/ zinc rich bean genotypes at multi-location sites for improved nutrition, food security and household income in Uganda		PI: Stanley Nkalubo	
Start Date: April, 2019	End Date: March 30, 2022	Project funding: a) Funding Agency (s): Harvest Plus b) Total value (UGX'000)*: 740,512.8		
End Project Goal: Develop high iron and zinc bean varieties for improved household nutrition, food security and incomes in Uganda.				
NARO Strategic Result Addressed: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Production of Breeder and Foundation seed for newly released varieties	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2240010/ Medical & Agric. Supplies 2270010/ Travel inland	- At least 1.5MT of breeder seed for high iron bean varieties. - At least 6MT of foundation seed for 5 high iron beans and distributed to farmers - At least each of the 5000 kg of seed for promising bean lines.	80,927.6 27,775 14,600 38,552.6
2. Multilocation al evaluation of promising high iron and zinc promising bean lines	Generation of agricultural technologies	2240010/Medical & Agric. Supplies 2111020/Contract Staff Salaries (Incl. Casual labourers) 2270010/Travel inland	- At least 10 new promising lines with higher iron and zinc (≥ 80 ppm and 35 ppm respectively identified - At least nutrient content of 30 lines determined - At least 20 PVS conducted in at least 5 locations - At least 30lines evaluated in 5 different agroecologies	96,910 12,228 52,000 32,682
3. Project Management	Research extension interface promoted and strengthened	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2280020/ Maintenance - Vehicles 2210020/ Workshops 2240010/ Medical & Agric. Supplies 2220010/ Telecommunications	- Key success factors and challenges documented - Vehicles maintained in good condition - Staff remunerated - Office supplies purchased - Timely and effective communication enhanced - Institute support staff remunerated	69,000 26,000 10,200 15,000 9,000 8,800
Total				246,837.6

Project 42: Genetic Improvement of Biofortified Common Bean Varieties in Uganda for Multiple Disease Resistances Using Marker Assisted Backcrossing

PARI: NaCRRRI	Project title: Genetic Improvement of Biofortified Common Bean Varieties in Uganda for Multiple Disease Resistances Using Marker Assisted Backcrossing		PI: Dr. Stanley Nkalubo and Annet Namayanja	
Start Date: April 1, 2019	End Date: March 31, 2024		Project funding: c) <i>Funding Agency (s):</i> KirkHouse Trust d) <i>Total value (UGX'000)*:</i> 561,707.573	
End Project Goal: Developing biofortified dry bean cultivars resistant to anthracnose and root rot diseases				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Characterization and preservation of <i>Colletotrichum lindemuthianum</i>	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers)	At least 200 bean anthracnose diseased plant samples from farmers' fields collected.	15,451
		2270010/ Travel inland	- At least 200 <i>Colletotrichum lindemuthianum</i> isolations conducted - Molecular characterisation of at least 200 <i>Colletotrichum lindemuthianum</i> isolates undertaken and pathotype virulence determination	11,221.764
		2240010/Medical & Agric. Supplies	At least 100 <i>Colletotrichum lindemuthianum</i> characterized isolates Preserved.	4,000

2. Identify new sources of resistance to emerging races of anthracnose in Uganda.	Generation of agricultural technologies	2240010/ Medical & Agric. Supplies 2111020/ Contract Staff Salaries (Incl. Casual labourers)	- Seed for at least 100 local land races and introduced germplasm increased - At least 100 local and introduced germplasm screened with the most virulent and prevalent <i>Colletotrichum lindemuthianum</i> isolates	26,420 8,420 18,000
3. Identify and validate disease resistance sources for anthracnose and Pythium root rot and the available resistance linked markers.	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2240010/ Medical & Agric. Supplies 2270010/ Travel inland	- At 4 least sources of diseases resistance to anthracnose and Pythium root rot identified and validated - Available resistance linked molecular markers validated	34,643.4 16,034.6 6,080.8 18,000
4. Develop populations combining the resistance traits into the background of biofortified market classes using marker assisted backcrossing procedure.	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2240010/ Medical & Agric. Supplies 2270010/ Travel inland	- Marker assisted backcrossing procedure to transfer resistance genes conducted. - At least 5 populations selfed	29,000 6,000 8,000 15,000
5. Conduct phenotypic and genotypic evaluation of the backcross progenies derived from biofortified bean varieties NAROBAN 3 and	Generation of agricultural technologies	2270010/ Travel inland and internation 2210020/ Workshops 2111020/ Contract Staff Salaries (Incl. Casual labourers)	At least 150 lines resulting from the backcrossing program evaluated Phenotypically and genotypically	43,124.892 26,020.221 5,104.671 12,000

NAROBAN 4C				
6. Build capacity through training of two MSc. students	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2270010/Travel inland	At least one MSc. students undertaking his studies	25,179.637 13,179.628 12,589
7. Project Management	Research extension interface promoted and strengthened	2270010/Travel inland and international 2210020/Workshops 2280020/ Maintenance - Vehicles 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2240010/ Medical & Agric. Supplies 2220010/ Telecommunications	- Project meetings - Vehicles maintained in good condition - Staff remunerated - Office supplies purchased - Communication enhanced - Institute support staff remunerated	31,673.764 8,200 5,100 6,000 5,300 4,070 3,003.764
Total				221,716.35

Project 43: Technologies for African Agricultural Transformation (TAAT) Bean Value Chain: Promoting High Iron Beans

PARI: NaCRRI	Project title: Technologies for African Agricultural Transformation (TAAT) Bean Value Chain: Promoting High Iron Beans		PI: Dr. Stanley Nkalubo	
Start Date: 1st July 2018	End Date: 30 th June 2021		Project funding: <i>e) Funding Agency (s): African Development Bank-TAAT</i> <i>f) Total value (UGX'000)*: 864,000</i>	
End Project Goal: Increased uptake and use of high iron and Zinc bean varieties for improved nutrient and increased household incomes.				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Facilitate gender responsive seed delivery system to scale up availability of HIB varieties)	Research extension interface promoted and strengthened	2111020/ Contract staff salaries and casual labour	• At least 150 demos Establish and at least 50 farmers' field days conducted	102,000
		2240020/ Agric. supply goods and services		20580
		2240010/ Medical & Agric. Supplies	• At least 300 women and 200 youth involved in the bean value chain	14,000
		2270010/ Travel inland		16,269
		2270040/Fuel lubricants and oils	• At least 3,000 small seed packs distributed	14,571
		2220010/ Telecommunications		12,450
		2280020/ Maintenance-Vehicles		13,570
			• At least 50 schools involved in QDS production	

2. Catalytic support to produce breeder and foundation seed	Research extension interface promoted and strengthened	2111020/ Contract staff salaries and casual labour	At least 10 of breeder seed produced	65,000
		2240020/ Agric. supply goods and services		14,400
		2240010/ Medical & Agric. Supplies	At least 300 MT of foundation and ODS produced and marketed	13,600
		2270010/ Travel inland		16,000
		2270040/ Fuel lubricants and oils		15,200
3. Promote for wide adoption efficient gender responsive GAPs to enhance productivity and loss reduction of HIB	Research extension interface promoted and strengthened			79,000
		2111020/ Contract staff salaries and casual labour	At least 100 production efficient GAP demos conducted among farmers & schools with gender inclusiveness and awareness creation	23,600
		2240020/ Agric. supply goods and services		14,200
		2270010/ Travel inland		26,000
4. Project Management	Research extension interface promoted and strengthened	2270040/ Fuel lubricants and oils	At least 2 irrigation demonstrations and create awareness creation established	15,200
				42,000
		2280020/ Maintenance - Vehicles	• Key success factors and challenges documented	15,000
		2111020/ Contract Staff Salaries (Incl. Casual labourers)	• Vehicles maintained in good condition	15,000
		2240010/ Medical & Agric. Supplies	• Staff remunerated	5,000
		2220010/ Telecommunications	• Office supplies purchased	
			• Timely and effective communication enhanced	7,000
			• Institute support staff remunerated	
Total				288,000

Project 44: Advancing drought and heat tolerant promising bean genotypes and promotion and dissemination of newly released varieties in Uganda

PARI: NaCRRI	Project title: Advancing drought and heat tolerant promising bean genotypes and promotion and dissemination of newly released varieties in Uganda		PI: Stanley Nkalubo	
Start Date: July 1, 2019	End Date: June 30, 2020	Project funding: a) <i>Funding Agency (s):</i> AATF b) <i>Total value (UGX'000)*:</i> 155,270.489		
End Project Goal: Advancement of drought and heat tolerance promising lines for varietal release in addition to promotion of newly released drought tolerant varieties and other varieties that had low dissemination opportunities for wider use by farmers within arid and semi-arid regions of Uganda.				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/ Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Conduct advanced yield trials/ NPT for advanced elite Andean drought and heat tolerant bean lines.	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers)	• At least 10 genotypes tolerant to drought and heat identified from the Andean PIC trial for advancement to National performance trials and subsequently to PVS	16,352.486
		2240010/ Medical & Agric. Supplies		8,176.243
		2270010/ Travel inland		24,528.731
2. Conduct demonstration trials for the new drought tolerant varieties.	Generation of agricultural technologies	2240010/Medical & Agric. Supplies	• At least 10 demonstration established to enable creation of awareness of the new varieties created • At least 2000 brochures /fliers about new drought tolerant varieties developed and distributed to stakeholders	17,266.906
		2111020/Contract Staff Salaries (Incl. Casual labourers)		21,800.720
		2270010/Travel inland		18,208.048
		2210020/ Workshops		8,126.450

3. Breeder seed multiplication for varieties not yet adopted by farmers.	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers)	• At least 100kg of breeder seed for each of at least 5 less known bean varieties obtained	8,898.457
		2240010/ Medical & Agric. Supplies		4,500.870
		2270010/ Travel inland		13,296.043
4. Project Management	Research extension interface promoted and strengthened	2280020/ Maintenance - Vehicles	• Key success factors and challenges documented • Vehicles maintained in good condition • Staff remunerated • Office supplies purchased • Timely and effective communication enhanced • Institute support staff remunerated	4,905.746
		2240010/ Medical & Agric. Supplies		6,540.216
		2220010/ Telecommunications		2,669.537
Total				155,270.489

Project 47: Monitoring and sustainable management of surface freshwater sources in Africa - WaSaf Project

WASAF Project

PARI: NaFIRRI	Project title: Monitoring and sustainable management of surface freshwater sources in Africa - WaSaf Project		PI: William Okello	
Start Date: 2017	End Date: 31 st December, 2019	Project funding: <i>Funding Agency (s):</i> CNRS <i>Total value (UGX'223,020,000)*:</i>		
End Project Goal: To evaluate the ecological status of Murchison Bay and Napoleon Gulf ecosystems and the trends in the evolution of their status over the next years; to implement long term monitoring programs on these resources; to evaluate the pressures acting on them and how these pressures have impacted on the water quality and to prepare actions for their protection and/or their restoration.				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
i. Assess the ecological status and water quality in Murchison, Napoleon and Katosi and analysis of the pressures acting on the water quality and ecological functioning of these sites	Agricultural research capacity strengthened	2111020 - Contract staff salaries 2270010 - Travel inland 2270040 - Fuel lubricants and oils	A manuscript on the synthesized bibliographic review on cyanobacteria dominance in Lake Victoria; factors associated with their dynamics and the cyanobacteria blooms. Trends in the evolution of water quality and ecosystem functioning based on experimental approaches and assessment of the polluting pressures and their impacts on Murchison Bay and Napoleon Gulf ecosystems Potential control of microcystins and biomagnifications in selected macro-organisms	31,260
ii. Review available literature (both in environmental and social sciences) on Lake Victoria (academic works and others) to identify all data already available on the water quality status of Lake Victoria in academic laboratories and data produced by stakeholders				27,720
iii. Identify the main pressures acting on the targeted sites, in particular on the origin of pollutants (organic and inorganic nutrients, pesticides...) in Murchison Bay and Napoleon Gulf				2,280
iv. Evaluate the consequences of increase or decrease in concentrations of some pollutant elements on the water quality and the ecological functioning of Murchison Bay and Napoleon Gulf				1,260
v. Dissemination of the immediate findings to various stakeholders				
TOTAL				31,260.6

Project 48: Aquatic Ecology Monitoring: Water quality, fish, fish catch, sanitation and disease vectors of the Upper Victoria Nile

PARI: NaFIRRI	Project title: Aquatic Ecology Monitoring: Water quality, fish, fish catch, sanitation and disease vectors of the Upper Victoria Nile		PI: Stephen B.K. Sekiranda	
Start Date: 2006	End Date: Up to decommissioning	Project funding		
		Project funding: <i>a) Funding Agency: Bujagali Energy Limited (BEL)</i> <i>b) Total value: (UGX 68, 400,000)*</i>		
End Project Goal: To track any developments/changes in the water environment and aquatic biota pre, during and post Bujagali Dam construction				
NARO strategic objective addressed: Generation of Agricultural technologies				
Project Objectives	Vote Fund Output	Expenditure Code/Description	Annual Output for FY 2019/20	Annual Budget (UGX'000)
To monitor environmental and sanitation conditions of river channel from Kalange-Makwanzi, mid reservoir and Buyala-Kukubamutwe	Agricultural research capacity strengthened	2270010: Travel inland and 2111030: Allowances	Information on water environmental parameters (Dissolved oxygen, conductivity, transparency, oil and grease, nutrients, algal types and abundance, zooplankton types and density, benthic macro-invertebrate types and density information on prevalence of bilharzia, rates of infection, vector prevalence and treatment response. Information on levels of faecal coliform contamination	11,400
To monitor the status and trends of fisheries through Catch and fishing effort assessment surveys and associated	Agricultural research capacity strengthened	2270010: Travel inland and 2111030: Allowances	Information on life history and dietary characteristics of keystone fish species	14,000



economic value of the fisheries at the same sites as above				
To monitor biological characteristics of fish species at the same sites as above		2270010: Travel inland and 2111030: Allowances	Information on fishing effort, landed catch weight, target commercial fish species, value of fish catch, types fishing gears and their catch characteristics	11,000
To analyse data from 1-3 and compile and synthesize and submitted reports to BEL	2	2250010: Consultancy services of short term	Ecological monitoring report on 1-3	32,000
TOTAL				68,400

Project 49: Monitoring the impacts of established fish cages at SON Fish farm

Project 19: Monitoring the impacts of established fish cages at SON Fish farm				
PARI:KAZARDI	Project title: Monitoring the impacts of established fish cages at SON Fish farm		PI: Egessa Robert	
Start Date: 2018	End Date: 2020		Project funding: Funding Agency (s): Source of the Nile (SON) fish farm Total value (UGX):17,520,000	
End Project Goal:To promote sustainable cage aquaculture at SON cage fish farm on Lake Victoria				
NARO Strategic Result Addressed: Enhance management and utilization of natural resources				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
To examine the status of physical, chemical and biological variables of water and sediment in and around SON fish cages	Generation of agricultural technologies	2240006-Agricultural Supplies 2270010-Travel Inland 2270040-Fuel, lubricants & Oils 2111030-General staff allowance	Status of key water physical, chemical and biological variables for fish production around SON cages evaluated	17,520 780 6,880 876 8,984
TOTAL				17,520



Project 50: Promoting Environmentally, Economically, and Socially Sustainable Cage Aquaculture (PESCA) in the African Great Lakes (AGL) Region

PARI: NaFIRRI	Project title: Promoting Environmentally, Economically, and Socially Sustainable Cage Aquaculture (PESCA) in the African Great Lakes (AGL) Region		PI: OgutuOhwayo, Richard	
Start Date: 2018	End Date: December 31, 2019		Project funding: <i>Funding Agency (s):</i> Nature Conservancy (TNC) <i>Total value(UGX'418,000,000)*:</i>	
End Project Goal: Provide a framework for improvement of policies, regulations, and guidelines for increasing fish production and profitability from cage aquaculture with minimal impacts on the aquatic environment and other uses of the African Great Lakes (AGLs)				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Develop best management practices (BMPs) and a Decision Support Tool (DST) for cage aquaculture	Agricultural research capacity strengthened	2111020 -Contract staff salaries and professional services	Best Management Practices (BMPs) and a Decision Support Tool (DST) for cage aquaculture developed	142,880
		2240020 - General supply goods and services		38,000
2. Increase awareness in BMPs	Agricultural extension capacity strengthened	2210020 -Development of awareness raising materials and conducting awareness raising events	Awareness raising materials prepared and awareness events raising events conducted	64,600
TOTAL				245,480

**Project 51: PESCA Promoting environmentally sustainable commercial Aquaculture:
Enhance productivity and commercialise aquaculture**

Enhance productivity and commercialise aquaculture				
PARI:NaFIRRI	Project title: PESCA Promoting environmentally sustainable commercial Aquaculture		PI: Mathew Mwanja	
Start Date: 2019	End Date: 2021		Project funding: European Union Total value (UGX 1,500,000,000)*:	
End Project Goal:To enhance productivity and commercialise aquaculture				
NARO Strategic Result Addressed: Communities increasingly using improved agricultural technologies and innovations for commercial production				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To improve the quality and quantity of seed and brood stocks for used by commercial producers in order to increase production	Agricultural research capacity strengthened	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils	i. Increased seed output from current 5,000,000 to 20,000,000 ii. About 1,000,000 Quality bloodstock produced and supplied to hatchery producers	500,000
2. To develop cost-effective and environmental y friendly plant-based fish feed for enhanced aquaculture production	Agricultural research capacity strengthened	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	i. Fatty acid and amino acid profiles of 60 improved cereal and legume crop varieties profiled and quantified ii. Anti-nutritional factors analyzed and profiled in 60 selected improved crop varieties analyzed and quantified iii. 4 processing technologies for mitigation of anti-nutritional factors in plant based feedstuff developed	100,000 75,000 60,000 65,000

			iv. 2 cost-effective plant based fish feeds for different growth stages of Nile Tilapia and African Catfish developed	
3. To identify large suitable areas/sites for cage and pond culture	Agricultural research capacity strengthened	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	At least 5 big Suitable sites (aquaculture parks) for cages and pond fish farming identified	200, 000
4. To compare performance of tilapia and African catfish production systems	Agricultural research capacity strengthened	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	Best practices and production systems suitable for increased commercial culture of Tilapia and African catfish determined and disseminated	200,000
TOTAL				1,500, 000

Project 52: Lakes Edward Albert Integrated Fisheries and Water Resources Management (LEAF II) Project

LEAF II Project		PARI: NaFIRRI		Project title: Lakes Edward Albert Integrated Fisheries and Water Resources Management (LEAF II) Project	PI: Nakiyende Herbert
Start Date: 2017		End Date: 2022		Project funding: <i>Funding Agency (s): AfDB, GEF</i> <i>Total value (UGX'768,204)*:</i>	
End Project Goal: Sustainably utilize and manage the fisheries and allied natural resources of the Lakes Edward and Albert Basin through harmonized legal framework and policies					
NARO Strategic Result Addressed: Enhanced Productivity and Sustainable Utilization of Natural Resources					
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)	
1. To establish a Fisheries Research station on Lake Albert at Kaiso-Tonya, Hoima District**	Agricultural research capacity strengthened	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	Three structures (staff houses) constructed, a wall perimeter fence erected and foundation stone for the main administrative block laid by June 2020	27,000 10,000 10,000 4,200 2,800	
2. To construct a Fisheries Research Vessel for fisheries and water environmental monitoring studies on Lake Albert**	Agricultural research capacity strengthened	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	One complete Fisheries Research Vessel with all accessories constructed and delivered at site by June 2020	40,000 8,000 23,000 4,200 4,800	
3. To conduct Fisheries Resources Assessments and Monitoring through Frame Surveys	Generation of agricultural technologies	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops	Two Technical Reports prepared on status and trends of fisheries fishing effort, landing site facilities and infrastructure on lakes Edward and Albert with clear	324,780 27,100 192,400 33,120 52,160	

		and seminars 2111020 - Contract staff salaries	sustainable management strategies	20,000
4. To conduct Fisheries Resources Assessments and Monitoring through Catch Assessment Surveys	Generation of agricultural technologies	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	Two Technical Reports prepared on status and trends of fish stocks, landed catch, and economic value of catch and landing site on lakes Edward and Albert with clear sustainable management strategies	376,424 26,800 253,112 33,312 63,200
TOTAL				768,204

*Project implemented between Uganda and Democratic Republic of Congo (DRC). Budget figure indicated is for the Fiscal Year 2019/20.

**For the establishment of a fisheries research station on Lake Albert and construction of a fisheries research vessel, the main budget is retained at the national LEAF II Coordination Office, Ministry of Water and Environment. The budgets indicated therefore are for support to the construction works.

Project 53: From the lab to the World: Unlocking Uganda's freshwater biodiversity data for sustainable development

PARI: NaFIRRI	Project title: From the lab to the World: Unlocking Uganda’s freshwater biodiversity data for sustainable development	PI: ViannyNatugonza		
Start Date: 2018	End Date: 2021	Project funding: <i>Funding Agency (s): JRS Biodiversity Foundation</i> <i>Total value (UGX’975,000,000):</i>		
End Project Goal: Freshwater biodiversity information for Uganda freely accessible to everyone across the globe				
NARO Strategic Result Addressed: Strategic Result 3: Communities increasingly using improved agricultural technologies and innovations; and Strategic Result 4: Institutional Orientation to Agricultural Transformation				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
1. To Mobilize and publish existing data on freshwater biodiversity (fish, invertebrates, algae)	Generation of agricultural technologies	2111020 - Contract staff salaries 2270010-travel inland	Publication of more than 25,000+ species occurrence records through GBIF	76,804 12,375
2. To document (through pictures) freshwater biodiversity for Uganda’s aquatic systems	Generation of agricultural technologies	2270020- Travel abroad 2210020 -	Living online atlas for freshwater biodiversity, especially for threatened and invasive species	18,975 9,759
3. To develop and publicize a data portal for Uganda’s freshwater biodiversity	Generation of agricultural technologies	Workshops and seminars 2240020- General supply goods and services	A freshwater biodiversity data portal for Uganda (beta-version)	310,773
4. To strengthen capacity for freshwater biodiversity data mobilisation, data management and sharing and use	Agricultural research capacity strengthened		Training for 12 scientists in data mobilisation, sharing, and use	
5. To map the country’s critical freshwater biodiversity sites	Agriculture research extension strengthened		Species and habitat distribution maps, and potential KBAs potential freshwater Key Biodiversity Areas (KBAs) for Uganda	
TOTAL				428,686

Project 54: Securing a Global Freshwater Fish Hotspot on Lake Nyaguo (SEGLOFF)

PARI:NaFIRRI	Project title: Securing a Global Freshwater Fish Hotspot on Lake Nyaguo (SEGLOFF)		PI: Winnie Nkalubo	
Start Date: 2017	End Date: 2021		Project funding: Funding Agency (s): Rainforest Trust Total value (UGX’752,427,000)*:	
End Project Goal: To create community freshwater protected areas to better manage and protect threatened aquatic wildlife and their habitats				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
1. To zone and designate critical habitats of threatened aquatic wildlife in Lake Nyaguo	Agricultural research capacity strengthened		At least 1000 Ha of critical habitats of threatened aquatic wildlife in Lake Nyaguo zoned and designated	142,044
		2111020 - Contract staff salaries		61,844
		2270010 – Travel inland		42,084
		2240060 – Agricultural supplies		22,626
		2270040 - Fuel lubricants and oils		9,231
		2210110 – printing, stationary and binding		1,508
		2210080 – Computer supplies and IT		1,508
		2111030 – General staff wages/ Allowances		3,243
2. To develop a Management Plan for Lake Nyaguo	Agricultural research capacity strengthened		A Management Plan for Lake Nyaguo developed	37,647
		2270010 - Travel inland		13,500
		2210020 - Workshops and seminars		14,141
		2270040 - Fuel lubricants and oils		4,615
		2210110 – printing, stationary and binding		3,016
		2210080 – Computer supplies and IT		754
				1,621

Project 55: Harnessing dietary nutrients of under-utilized fish and fish processing by-products to reduce micronutrient deficiencies among vulnerable groups in Uganda - NutriFish*

PARI: NaFIRRI	Project title: Harnessing dietary nutrients of under-utilized fish and fish processing by-products to reduce micronutrient deficiencies among vulnerable groups in Uganda - NutriFish		PI: Taabu Anthony Munyaho	
Start Date: 2019	End Date: 2022		Project funding: <i>Funding Agency (s):</i> IDRC <i>Total value (UGX' 3,088,932,600)*:</i>	
End Project Goal: Increase availability, accessibility and consumption of under-utilized fish and fish products for sustainable food and nutrition security and better livelihoods of vulnerable groups in Uganda				
NARO Strategic Result Addressed: Enhanced Productivity and Sustainable Utilization of Natural Resources				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
Evaluate the stock status and nutrient composition of under-utilized small fishes across lakes Victoria, Albert, Nabugabo and Kyoga quantified for formulation of management strategies	Generation of Agricultural Technologies	2240020 - General supply goods and services	Information on biomass, fishing effort, annual catch, economic value and exploitation patterns of under-utilized small fishes in lakes Albert and Nabugabo Kyoga	713,404.4
		2270010 - Travel inland		100,320
		2270040 - Fuel lubricants and oils		137,620.8
		2210020 - Workshops and seminars		11,400
		2111020 - Contract staff salaries		20,520
		2210110 - Stationary, printing & Binding McGill University	Maximum Sustainable Yield, Allowable effort and Allowable catch	61,560
		2310050 - Small Office & ICT Equipment		2,850
		2280020 - Vehicle maintenance	Distribution maps of under-utilized small fishes in two lakes	318,766.8
		2270020 - Travel abroad		29,488
			Raw material quality Assessment Report Nutritional profiles and quality characteristics of the under-utilized fish species within and across lakes.	12,160
			18,718.8	

Determine key drivers and magnitude of post-harvest losses of under-utilized small fishes generated	Generation of Agricultural Technologies	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	Inventory of types and drivers of post-harvest losses associated with the under-utilized small Fishes. Economic and nutritional losses associated with deterioration of under-utilized small fishes Cost-effective processing technologies promoted among women, youths, policy makers and other actors in the value chain	62,548 5,700 41,648 3,800 11,400
Enhance the capacity of partner institutions and actors along under-utilized small fish value chain	Agricultural Research Capacity Strengthened	2210030 - Staff Training including research costs 2210110 - Stationary, printing & Binding 2210080 - Computer supplies & IT services	Capacity of One PhD student in fisheries stock assessment and modelling developed Capacity of two Masters students in fisheries and socio-economic assessments developed	146,376 131,860 836 13,680
Determine the socio-economic and institutional factors impeding access to and consumption of fish and fish-based products by vulnerable groups generated to formulate appropriate gender-inclusive strategies/interventions	Generation of agricultural technologies	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	Report on nutritional gaps and food security status among vulnerable groups Inventory of key socio-economic and cultural factors influencing access to and utilization of fish and fish-based products Institutional policy brief to improve availability, accessibility and consumption of under-utilized small fishes and fish-based products	32,680 6,840 2,800 3,040
TOTAL				955,008.4

* The project is implemented by four institutions; NaFIRRI, Makerere University, McGill University and Nutreal

Project 56: Small Fish and Food Security: Towards innovative integration of fish in African food systems to improve nutrition (Small Fish Food)

PARI: NaFIRRI	Project title: Small Fish and Food Security: Towards innovative integration of fish in African food systems to improve nutrition (Small Fish Food)		PI: Taabu Anthony Munyaho	
Start Date: 2019	End Date: 2021		Project funding: <i>c) Funding Agency (s): LEAP-Agri (UNCST)</i> <i>d) Total value (UGX’808,571):</i>	
End Project Goal: To improve food security and reduce hunger and malnutrition through optimizing small pelagic fisheries production and consumption				
NARO Strategic Result Addressed: Enhanced Productivity and Sustainable Utilization of Natural Resources				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
<i>Under WP1 actualize the potential of a cost effective Mukene fishing rig to improve catch from the current < 20kg/h to > 200 kg/hr and popularize it among the fisher folk</i>	Generation of Agricultural Technologies	2240060 – Agriculture supplies 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars 2111020 - Contract staff salaries 2210110 – Stationary, printing & Binding 2310050 - Small Office & ICT Equipment 2280020 - Vehicle maintenance 2270020 – Travel abroad	Estimates of quantities of small fish from real time electronic catch recording system Performance of improved Mukene fishing gear tested and documented and packaged and delivered to fishers In puts into a Mass Balance modelling including quantitative assessment of flows to consumers and end users based on primary (field work) and secondary data collection mapped	18,540 28,560 12,000.8 4,850 59,060 4,920 25,625 8,560 16,615.6

<i>Under WP2 produce estimates of a real time quantities of SIS using an electronic application (App) and track and record, the link between mukene fishers, processors and markets</i>	Generation of Agricultural Technologies	2240060 – Agriculture supplies 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	Geographical flows of SIS Mapped, values and costs associated with SIS quantified Producers, processing, trader associations, NGOs and market institutions dealing with SIS engaged and sensitized on SIS	12,600 24,600 8,400 2,560
<i>Under WP3 increase the quantity of Mukene for human consumption from the current 20% to about 40 - 50% of the annual catch by 2022</i>	Agricultural Research Capacity Strengthened	2240060 – Agriculture supplies 2270010 - Travel inland 2270040 - Fuel lubricants and oils	<i>Nutritional profiles and nutritional charts and protocols of different forms of SIS especially Mukene developed</i> Start-up materials for product development from SIS especially mukene evaluated and nutritional composition assessed	4,800 18,760 3,087.2
<i>Under WP4 evaluate the governance structures that facilitate distribution and utilization of SIS in Uganda</i>	Generation of agricultural technologies	2240060 – Agriculture supplies 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	Value chain of SIS and database of a key enterprises involved in SIS in Uganda developed A database of secondary data quantifying the numbers of enterprises and as much as possible key characteristics in terms of size of the enterprise in relation to volumes of fish and operational costs and labour. Conversion factors for dried, fried and milled R. argentea along the value chain	4,600.8 15,000 2,137 1,716.6
TOTAL				276,973

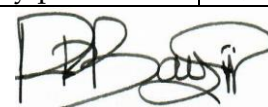
Project 57: Developing Value chain Innovation Platforms to improve Food Security in East and Southern Africa (VIP4FS)

PARI: NaFORRI	Project title: Developing Value chain Innovation Platforms to improve Food Security in East and Southern Africa (VIP4FS)		PI: Sekatuba Jude	
Start Date: 2015	End Date: 2019		Project funding: <i>Funding Agency (s):</i> ACIAR <i>Total value:</i> UGX 388,508,000	
End Project Goal: To identify principles and drivers that support scalable establishment of effective and equitable innovation platforms that enhance food security through greater engagement of smallholder farmers with markets.				
NARO Strategic Result Addressed**: Increased niche markets for communities in agricultural sector				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To assess smallholder livelihoods, institutional arrangements across scales, and identify drivers that enable value chain IP development for sustainable agricultural commercialisation	Research-Extension interface promoted and strengthened	2210020-Workshops & Seminars	Institutional drivers of market intensification identified and reports produced	2,000
		2240060-Agricultural Supplies		1,500
		2270010-Travel Inland		4,500
		2270040-Fuels, Oils & lubricants		1,941
				9,941
2. To identify best fit value chain development strategies and market information delivery systems, and examine their influence on the success of value chain innovation platforms in enhancing rural enterprise	Research-Extension interface promoted and strengthened	2111020 - Contract staff salaries	Models for private sector engagement in market and value chain enhancement developed	3,000
		2210020- Workshops & seminars		2,000
		2240020 - Agricultural Supplies		2,000
		2270010 - Travel inland		3,000
		2270040 - Fuel lubricants & oils		1,000
		11,000		

development.				
3. To develop and evaluate scalable approaches for promoting value chain innovation platforms among smallholders and other stakeholders in ways that generate inclusive and sustainable economic benefits.	Research-Extension interface promoted and strengthened	2111020 - Contract staff salaries & wages 2240060 - Agricultural Supplies 2270010 - Travel inland 2270040 - Fuel lubricants & oils	Project impact on households, IPs and communities determined	5,000 1,000 7,000 3,000 16,000
		2111020 - Contract staff salaries & wages 2210020- Workshops & Seminars 2240060 - Agricultural Supplies 2270010 - Travel inland 2270040 - Fuel lubricants & oils	Approaches for effectively promoting value chain IPs among smallholders developed.	2,000 2,500 2,500 5,000 2,000 14,000
4. To engage with and strengthen the capacity of key stakeholder groups to both enhance the research process and promote the widespread scaling up of approaches generated by the project	Research-Extension interface promoted and strengthened	2111020 - Contract staff salaries & wages 2210020-Workshops & seminars 2240060 -Agricultural Supplies	Research findings disseminated	1,500 1,500 2,500 5,000
TOTAL				55,941

Project 58: Developing integrated options and accelerating scaling up of agroforestry for improved food security and resilient livelihoods in Eastern Africa - Trees for Food Security - 2

PARI: National Forestry Resources Research Institute (NaFORRI)	Project title: Developing integrated options and accelerating scaling up of agroforestry for improved food security and resilient livelihoods in Eastern Africa - Trees for Food Security – 2	PI: Charles Galabuzi		
Start Date: 01 January 2017	End Date: 31 December 2020	Project funding: <i>Funding Agency (s):</i> Australian Government through ACIAR <i>Total value (UGX 675,000,000)*:</i>		
End Project Goal: The project aims to improve food security and smallholder livelihoods through the widespread adoption of appropriate locally adapted agroforestry practices in key agricultural landscapes in Ethiopia, Rwanda and Uganda				
NARO Strategic Result Addressed**:				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
1. To enhance knowledge of the impact of tree cover change on crop productivity, water, nutrients and livelihoods	01: Generation of Agricultural Technologies	2210110-Printing, Stationery & binding 2270010: Travel inland 2270040: Fuels, Oils & Lubricants	200 participatory farmer trials established across a range of contexts, Databases on crop productivity and tree products and services under different agroforestry practices	1,200 15,000 3,917 20,117
2. To integrate appropriate water management technologies and sustainable grazing options with promotion of agroforestry	01: Generation of Agricultural Technologies	2240060: Agricultural Supplies 2270010: Travel inland 2270040: Fuels, Oils & Lubricants	Mapping reports on appropriate water management technologies produced Training manual/guidelines on water management for Agroforestry development produced Two hundred (200) households implementing water management technologies	3,900 7,500 2,500 13,900
3. To establish communities of practice in the	02: Research extension interface	2210080: Computer, ICT & accessories 2210020: Workshops	3,000 households implementing agroforestry practices	1,000 10,000



*Exchange rate 1AUD=UGX 2,700

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Project 59: Research to support commercial plantation development in Uganda

PARI: NaFORRI	Project title: Research to support commercial plantation development in Uganda		PI: Isaac Kiyingi	
Start Date: 2018	End Date: 2020		Project funding: <i>Funding Agency (s):</i> FAO <i>Total value (UGX' 164,099,000)</i>	
End Project Goal: To support the development of commercial plantation forestry in Uganda through generating new knowledge about pest and disease control and potential drylandtree species for commercial forestry.				
NARO Strategic Result Addressed: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To assess suitability of selected tree species for dryland afforestation	Generation of Agricultural Research Technologies	2111020: Contract staff salaries & wages	Multilocationaldryland species trials established for dry land afforestation/reforestation	32,266
		2240060- Agricultural Supplies		29,615
		2270010: Travel inland		45,900
		2270040: Fuels, Oils & lubricants		11,200
		2280020- Maintenance Vehicles		10,000
				128,981
2. To build capacity in management and control of pests and diseases.	Generation of Agricultural Research Technologies	2111020- Contract staff salaries & wages	Management and control of pests and diseases in commercial forest plantations documented	8,458
		2210020- Workshops & seminars		18,500
		2270010- Travel Inland		1,142
		2270040- Fuels, Oils & Lubricants		7,018
				35,118
TOTAL				164,099

Project 60: Small-scale community biorefining of sorghum for food, sugar, and biomaterials in rain fed areas of Eastern Africa

PARI: NaLIRRI	Project title: Small-scale community biorefining of sorghum for food, sugar, and biomaterials in rain fed areas of Eastern Africa		PI: ALEXANDER BOMBOM	
Start Date: January 2019	End Date: December 2021	Project funding: <i>Funding Agency (s): Bioinnovate Africa Programme</i> <i>Total value (UGX'000)*: 554,800,</i>		
End Project Goal: Develop bio-based products from agro-produce based on small-scale community biorefinery innovations.				
NARO Strategic Result Addressed**: 1 & 3				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Multiply novel intergeneric sorghum lines	01 – Generation Research Technologies	224,006 Agricultural Supplies	Novel intergeneric lines multiplied	5,225,000
		312,203 Furniture and fixtures		836,000
		211,102 Contract staff salaries		12,794,600
		222,001 Telecommunications		332,500
		264,101 Contributions		665,000
		Autonomous Inst.		29,640,000
		312214 Laboratory and Research Equipment		1,900,000
		228,001 Maintenance - Civil		2,565,000
		228,002 Maintenance - Vehicles		3,135,000
		229,001 Fuel, Lubricants & Oils		5,510,000
		227,004 Travel inland		10,545,000
		228,001 Travel Abroad		6,175,000
		312,202 Machinery & Equipment		475,000
		221,011 Printing, Stationery, Binding		1,900,000
		221,002 Workshops & Seminars		
2. To pilot small-scale community biorefineries based on sorghum as the primary feedstock with smallholder farmers in Eastern Africa.	05 – Generation of Technology for priority commodities	224,006 Agricultural Supplies	Construction and set up of community biorefinery infrastructure initiated and on-going	5,225,000
		312,203 Furniture and fixtures		836,000
		211,102 Contract staff salaries		12,794,600
		222,001 Telecommunications		332,500
		264,101 Contributions		665,000
		Autonomous Inst.		29,640,000
		312214 Laboratory and Research Equipment		1,900,000
		228,001 Maintenance - Civil		2,565,000
		228,002 Maintenance - Vehicles		3,135,000
		229,001 Fuel, Lubricants & Oils		5,510,000
		227,004 Travel inland		10,545,000
		228,001 Travel Abroad		6,175,000
				475,000

		312,202 Machinery & Equipment 221,011 Printing, Stationery, Binding 221,002 Workshops & Seminars		1,900,000
3. To test the market potential and develop businesses around novel bio-based products developed from biorefinery of sorghum.	01 – Generation of research technologies; 02- Research extension interface	224,006 Agricultural Supplies 312,203 Furniture and fixtures 211,102 Contract staff salaries 222,001 Telecommunications 264,101 Contributions Autonomous Inst. 312214 Laboratory and Research Equipment 228,001 Maintenance - Civil 228,002 Maintenance - Vehicles 229,001 Fuel, Lubricants & Oils 227,004 Travel inland 228,001 Travel Abroad 312,202 Machinery & Equipment 221,011 Printing, Stationery, Binding 221,002 Workshops & Seminars	Prototype bio-based products and draft business models developed	5,225,000 836,000 12,794,600 332,500 665,000 29,640,000 1,900,000 2,565,000 3,135,000 5,510,000 10,545,000 6,175,000 475,000 1,900,000
4.To enhance capacity of scientists in entrepreneurship .	04 – Capacity building	224,006 Agricultural Supplies 312,203 Furniture and fixtures 211,102 Contract staff salaries 222,001 Telecommunications 264,101 Contributions Autonomous Inst. 312214 Laboratory and Research Equipment 228,001 Maintenance - Civil 228,002 Maintenance - Vehicles 229,001 Fuel, Lubricants & Oils 227,004 Travel inland 228,001 Travel Abroad 312,202 Machinery & Equipment 221,011 Printing, Stationery, Binding 221,002 Workshops & Seminars	Capacity of scientists in entrepreneurship initiated.	5,225,000 836,000 12,794,600 332,500 665,000 29,640,000 1,900,000 2,565,000 3,135,000 5,510,000 10,545,000 6,175,000 475,000 1,900,000
Total				326,792,400

Project 61: Exploring wide crosses derived crop biodiversity (sorghum x maize) for climate resilience and food and nutrition security in Eastern and Southern Africa

PARI: NaLIRRI	Project title: Exploring wide crosses derived crop biodiversity (sorghum x maize) for climate resilience and food and nutrition security in Eastern and Southern Africa		PI: ALEXANDER BOMBOM	
Start Date: March 2019	End Date: March 2021	Project funding: <i>Funding Agency (s):</i> FAO <i>Total value (UGX'000)*:</i> 1,710,000,		
End Project Goal: Farmers use and conserve adapted varieties leading to increased productivity and on-farm incomes, increased availability of nutrient-rich food, reduced adverse impacts to the environment, and enhanced resilience to production shocks. And to ensure that: Biodiversity for food security is safeguarded for the future				
NARO Strategic Result Addressed**: 2 & 3				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To characterise, and make available adapted sorghum and pearl millet plant genetic resources for food and agriculture (PGRFA) to smallholder farmers in Uganda and Zimbabwe.	01 – Generation Research Technologies	224,006 Agricultural Supplies 211,102 Contract staff salaries 222,001 Telecommunications 312214 Laboratory and Research Equipment 228,002 Maintenance - Vehicles 229,001 Fuel, Lubricants & Oils 227,004 Travel inland 228,001 Travel Abroad 312,202 Machinery & Equipment 221,011 Printing, Stationery, Binding 221,002 Workshops & Seminars 312,101 Non-Residential Buildings 221,001 Advertising and public relations 227,002 Insurances 312,104 Other Structures (Screen/Green Houses, Mist Irrigation, Cooling System & Accessories)	Sorghum and pearl millet germplasm assembled, identified, and multiplied in readiness for characterisation	29,640,000 249,888,000 7,600,000 188,860,000 19,000,000 22,610,000 48,260,000 34,200,000 57,000,000 4,886,800 28,515,200 16,214,600 28,500,000 190,000 23,180,000
Total				758,544,600

Project 62: Feed and forage seed business models to support further professionalization of the dairy sector in Kenya and Uganda

PARI: NaLIRRI	Project title: Feed and forage seed business models to support further professionalization of the dairy sector in Kenya and Uganda		PI: NanyenyaNtege W.	
Start Date: 1 st February 2019	End Date: 1 st February 2021	Project funding: <i>Funding Agency (s): The Netherlands – CGIAR research programme</i> <i>Total value (UGX'000)*: = 641,250</i>		
End Project Goal: This project will address constraints in the forage seed value chain in Uganda and Kenya, and pilot solutions for quality assurance, seed production and marketing business models, and quality seed use promotion strategies				
NARO Strategic Result Addressed: Increased niche markets for communities in agricultural sector, SR3: Communities increasingly using improved agricultural technologies and innovations, and SR4: Institutional orientation to agricultural transformation				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Total Budget (UGX'000)
1. Understand constraints and opportunities in the forage seed value chain in Kenya and Uganda	01: Generation of Research Technologies	227001 - Inland Travel 227002 - Travel Abroad 221011 - Printing, Stationery, Binding 227004 - Fuel, Lubricants & Oils	Constraints and opportunities in the forage seed value chain understood	4,275 10,260 2,375 13,359
2. Pilot different business models for seed production and marketing of different forage species	02: Research Extension Interface	221002 - Workshops & Seminars 227001 - Inland Travel 221008 - Computer Supplies & IT	seed production and marketing models of different forage species piloted	7,687 4,275 9,875
3. Elaborate fit-for-purpose seed quality assurance practices for different species in collaboration with regulators and private seed businesses	01: Generation of Research Technologies , 03: Capacity Building	224006 - Agricultural Supplies 227001 - Travel inland 221003 - Staff Training 227002 - Travel Abroad	Fit-for-purpose seed quality assurance practices for different species	42,437 4,275 10,208 10,260
4. Design, test and analyse effective promotion strategies for increased use of high quality forage seed	01: Generation of Research Technologies 03: Capacity Building	227001 - Inland Travel 227004 - Fuel, Lubricants & Oils 221003 - Staff Training 211102 - Contract staff salaries 224006 - Agricultural Supplies 221002 - Workshops & Seminars	Promotion strategies for increased use of high quality forage seed designed and tested	3,432 2,275 12,825 10,687 9,359 10,141

Total				168,006
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Project 63: Establishment of drought tolerant pastures and rehabilitation of degraded grazing areas in Nakapiripirit and Moroto Districts

PARI: NaLIRRI	Project title: Establishment of drought tolerant pastures and rehabilitation of degraded grazing areas in Nakapiripirit and Moroto Districts		PI: Mugerwa Swidiq	
Start Date: 1 st February 2019	End Date: 1 st February 2020	Project funding: <i>Funding Agency (s):</i> FAO - Uganda <i>Total value (UGX'000)*:</i> = 294,276		
End Project Goal: To improve food security by addressing the environmental drivers of food insecurity and their root causes in Karamoja sub-region				
NARO Strategic Result Addressed: Increased niche markets for communities in agricultural sector, SR3: Communities increasingly using improved agricultural technologies and innovations, and				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Total Budget (UGX'000)
1. Establish 200 acres of improved drought tolerant pastures and 160 acres of grazing land improvement	01: Generation of Research Technologies	227001 - Inland Travel 227004 - Fuel, Lubricants & Oils 211102 - Contract staff salaries 224006 - Agricultural Supplies	- 200 acres of improved drought tolerant pastures established in Nakapiripirit, Nabilatuk, and Moroto	9,660 2,000 44,000 50,000
2. Provide technical support to farmers in pasture production and management from establishment to seed collection	02: Research Extension Interface	227001 - Inland Travel 221002 - Workshops & Seminars 221008 -Computer Supplies & IT 211102 - Contract staff salaries 227004 - Fuel, Lubricants & Oils	- 160 acres of pasture in grazing lands rehabilitated	10,880 76,000 1,200 16,800 4,000
3. Conduct studies on pasture management and document lessons for scaling up	01: Generation of Research Technologies ,03: Capacity Building	221011 - Printing, Stationery, Binding 227004 - Fuel, Lubricants&oils 211102 - Contract staff salaries 22300 - Electricity 224004 - Cleaning & Sanitation	- Pasture production and management technical support provided to farmers	1,200 4,000 11,520 10,376 6,376
4. Conduct studies on performance of established pasture species and grass-legume mixes	01: Generation of Research Technologies , 03: Capacity	227001 - Inland Travel 227004 - Fuel, Lubricants&Oils 211102 - Contract staff salaries 224006 - Agricultural Supplies 221002 - Workshops & Seminars	- Studies on performance of established pasture species and grass-legume conducted	6,000 6,000 3,864 11,520

	Building			
Total				294,276

Project 64: African Goat Improvement Network. Strengthening village breeding programs in Malawi and Uganda

PARI: NaLIRRI	Project title: African Goat Improvement Network. Strengthening village breeding programs in Malawi and Uganda		PI: Dr. Mulindwa Henry	
Start Date: 1 st August 2018	End Date: 30 th September 2019	Project funding: <i>Funding Agency (s): UDDA-USAID</i> <i>Total value (UGX'000)*: = 357,586,460</i>		
End Project Goal: Establish organized and sustainable community based goat breeding programs in low input systems				
NARO Strategic Result Addressed**: SR1: Increased niche markets for communities in agricultural sector, SR3: Communities increasingly using improved agricultural technologies and innovations,				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Total Budget (UGX'000)
To develop village based breeding programs for small holder goats in selected sites in Uganda	Research ExtensionInterface	227001 - Inland Travel 227004 - Fuel, Lubricants & Oils 211102 - Contract staff salaries 2240010 - Medical & Veterinary supplies	4 Functional community based breeding programs established in Hoima and Nakapiripit	13,600 3,800 18,400 8,000
Use DNA tools to analyse founder animals and subsequent improved decedents as well as facilitate selection of goats within the village breeding programs	Generation of Research Technologies	227001 - Inland Travel 221002 - Workshops & Seminars 2220020-Postage and Courier	- 160 acres of pasture in grazing lands rehabilitated	15,450 8,400 6,000
Total				74,650

Project 65: Improving Competitiveness and Productivity of the Beef Sub-Sector through Fostering Gender Responsive, Inclusive and Sustainable Rangeland, Agro-Forestry and Water Resources Management (RAWM - Beef)
Project 66: USAID Feed The Future Agriculture Research Activity

Project 67: Harnessing Opportunities for Productivity Enhancement (HOPE) of Sorghum and Millets in sub-Saharan Africa-Phase 2

PARI: NaSARRI	Project title: Harnessing Opportunities for Productivity Enhancement (HOPE) of Sorghum and Millets in sub-Saharan Africa-Phase 2		PI: Michael Ugen	
Start Date: 2016	End Date: 2020	Project funding: <i>Funding Agency (s):</i> ICRISAT /BMGF <i>Total value (UGX'000)*:</i> 185,000		
End Project Goal: To broaden and increase the uptake of improved, well-adapted sorghum, and finger millet varieties; promote more effective agronomic practices; and foster better farmer access to seed and inputs.				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Produce new, well-adapted sorghum and finger millet cultivars with high yield potential and the genetic capacity to withstand major biotic and abiotic stresses.	Generation of agricultural technologies	2111020 - Contract staff salaries	At least 10 lines of sorghum and finger millet advanced to multi location yield trial	185,000
		2240060- Agricultural supplies		45,600
		2270010 - Travel inland		40,000
		2270040 - Fuel lubricants and oils		57,600
		2210020- workshops & seminars (Institutes)		24,000
		2280020 - Maintenance - Vehicles		8,000
				9,800
Total				185,000

Project 68: Enhancing food and nutritional security using sorghum-legume interventions for improved livelihood among smallholder farmers in Uganda

PARI: NaSARRI	Project title: Enhancing food and nutritional security using sorghum-legume interventions for improved livelihood among smallholder farmers in Uganda		PI: Moses Biruma	
Start Date: 1 st Dec 2017	End Date: 30 th June 2020	Project funding: <i>Funding Agency : McKnight Foundation</i> <i>Total value: 834,250</i>		
End Project Goal: The goal of the project is to contribute to improved food security, nutrition and incomes of small holder farmers in the arid and semi-arid regions of Uganda				
Strategic Result 3: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Upscale and improve access to new high yielding multi-stress tolerant sorghum seeds to reach more smallholder farmers	Generation of agricultural technologies	2210020/ workshop 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2270010/ Travel inland 2240060/ Agric supplies 2240030; Medical &Agric supplies 2240060	5 tonnes of improved sorghum seed aviled to farmers	8,199.5 7,399 5,266 4,266 5,199.5
2. Improve sorghum production through appropriate integrated soil, and striga management interventions in a sorghum-legume cropping system	Generation of agricultural technologies	2210020/ workshop 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2270010/ Travel inland 2240060/ Agric supplies 2240030; Medical &Agric supplies 2240060	Two soil health management practices tested with farmers	6,199.5 10,266 12,266 7,199.5 6,399
3. Breed for resistance to sorghum head smuts and stem borers	Generation of agricultural technologies	2111020/ Contract Staff Salaries (Incl. Casual labourers) 2270010/ Travel inland 2240060/ Agric supplies	10 new crosses made with smut and stemborer resistance in the background	8,532 6,399 6,399
4. To develop the capacity of farmers, post-graduate students and other stakeholders for enhanced sorghum	Research extension interface promoted and strengthened	2210020/ workshop 2111020/ Contract Staff Salaries (Incl. Casual labourers) 2270010/ Travel inland 2240060/ Agric supplies	Trained human resource capacity (at MSc level) Train farmers/ farmer groups in sorghum	23,199.5 6,399 4,266 4,266 13,199.5 11,110

value chain		2270040/ Fuel and lubricants	production practices Design, print and distribute sorghum information materials Peer reviewed journal papers	10,665
Project management efficient	Research extension interface promoted and strengthened	2270010; Travel inland 2270040/ Fuel and lubricants	• Project implemented efficiently • Timely and effective communication enhanced • Mid year Project review meeting	7,110 10,665
Total				183,870

Project 69: Partnership to deliver to market Striga weed resistant maize and finger millet varieties in Kenya and Uganda

TEMPLATE FOR OFF-BUDGET PROJECTS				
PARI:NaSARRI		Project title: Partnership to deliver to market Striga weed resistant maize and finger millet varieties in Kenya and Uganda		PI:Takan John Peter
Start Date: Jan 2018		End Date: Dec 2020	Project funding: Funding Agency (s):BioInnovate Africa Total value (UGX'000)*: 196, 475	
End Project Goal:Release and promote Striga weed resistant finger millet varieties in Uganda				
NARO Strategic Result Addressed**: Result 2: Increased research products and services suited for industry and Result 3: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
Evaluate the performance of Striga weed resistant finger millet varieties	Generation of agricultural technologies	2111020 - Contract staff salaries	At least 2 genotypes tolerant to striga weed identified. One Striga weed tolerant genotype released	18,878
		2220010 Communication and other support services		4,286
		2270010 Travel inland		3,192
Seed multiplication of Striga weed resistant finger millet varieties		2240060-Agricultural Supplies	2 tons foundation seed of NAROMI 4 and 200 kgs 60D of breeder seed produced at NaSARRI	11,400
		2111020 - Contract Casual labourers		24,320
		200 kgs (NAROMI 1-3 & 5)		14,820
On-farm promotion of Striga weed resistant finger millet varieties.		2111020 - Casual labourers	8 demonstration sites for newly released finger millet varieties (NAROMI 1-5 and 60D) established in eastern and northern At least 1 field day conducted	9,500
		2270010 Travel inland		16,340
Total				59,538

Project 70: Unraveling the molecular genetics of finger millet blast disease and the existing resistance for the development of high-yielding resilient varieties

PARI: NaSARRI	Project title: Unraveling the molecular genetics of finger millet blast disease and the existing resistance for the development of high-yielding resilient varieties		PI: Takan John Peter	
Start Date: Oct 2015	End Date: Sept 2019		Project funding: <i>Funding Agency (s):</i> Bill Melinda Gates Foundation (BMGF) <i>Total value (UGX'000)*:</i> 597,287	
End Project Goal: Generate information on distribution and virulence /aggressiveness of finger millet blast pathotypes across eastern Africa and establish a well characterized set of blast resistant germplasm to be used as sources of resistance				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
Infection of a panel of 10 finger millet different varieties with 24 monoconodial isolates in greenhouse	Generation of agricultural technologies	2111020 - Contract staff salaries	At least 2 virulent/aggressive pathotype isolates are identified and used for further germplasm screening	28,557
		2210020-Meetings & Seminars		14,117
		2111020 - Contract Casual labourers		10,640
				3,800
Screen a panel of 120 finger millet genotypes with 2 aggressive pathotypes in a greenhouse	Generation of agricultural technologies	2111020 - Contract staff salaries	Information on type and level of resistance of different varieties to different pathotypes identified New sources of resistance to blast disease identified	22,477
		2270010- Travel inland		14,117
		2111020 - Contract Casual labourers		4,560
				3,800
Evaluate the resistance of the 120 genotypes under field conditions	Generation of agricultural technologies	2111020 - Contract staff salaries	Information (level resistance) on blast obtained from the greenhouse validated	21,717
		2111020 - Contract Casual labourers		14,117
				7,600

TOTAL				72,991
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Project 71: Evaluation of sunflower hybrids from Advanta Seed Company for improved yield and good quality products

PARI: NaSAARI	Project title: Evaluation of sunflower hybrids from Advanta Seed Company for improved yield and good quality products	PI: Walter O. Anyanga
Start Date: 2018	End Date: December 2019	Project funding: <i>Funding Agency (s): Advanta Seed Company</i> <i>Total value (UGX'87,000'000)*</i>

End Project Goal:

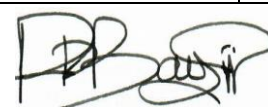
- Productivity of high yielding sunflower hybrids with good oil quality.

NARO Strategic Result Addressed:** Communities using improved agricultural technologies and innovations

Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
5. To increase sunflower productivity and enhance income of farmers through public/private partnership	Research extension interface promoted and strengthened	2111020- Contract staff salaries and casual labour	At least 6 NARO TVCs and 6 On-farm sites used for the sunflower evaluation for adaptability	45,783
		2240020- Agric. supply goods and services		13,182
		2270010- Travel inland		2,300
		2270040- Fuel lubricants and oils		22,834
				7,467
Total				45,783

Project 72: Strengthening Seed Delivery System for Dryland Cereals and Legumes in Drought-prone Areas of Uganda

Drought-prone Areas of Uganda					
PARI: NaSARRI	Project title: Strengthening Seed Delivery System for Dryland Cereals and Legumes in Drought-prone Areas of Uganda		PI: Joseph Andrew Wandulu		
Start Date: June 2016	End Date: May 2019 (To request for project duration extension, work not yet completed)		Project funding: <i>Funding Agency (s): European Union</i> <i>Total value (UGX' 1,138,689,000)*:</i>		
End Project Goal: Enhance food security and adaptation to climate change in drought prone areas of Uganda through strengthening seed systems in farming communities to produce quality seeds for high productivity and develop sustainable seed delivery and conservation.					
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations					
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)	
1). A diverse base of local and improved plant genetic resources for the target crops adapted to drought-prone areas assembled for access by farming and research communities.	Agricultural research capacity strengthened	2111020 - Contract staff salaries 2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils	a). A total of 419 germplasm (sorghum, finger millet, pearl millet, cowpea, pigeon pea, ground nuts) conserved with the National Plant Genetic Resources Centre, Uganda. b). 90 Drought tolerant germplasm identified. c). 65 Early maturing genotypes identified. d). 505 genotypes with novel traits identified.	17,000	
				2,000	
				8,000	
				4,000	
2). Effective and sustainable seed delivery model established to increase access to quality seed.	Agricultural research capacity strengthened	2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars	a). 600 (300 male and 300 female) resource poor farmers in the three districts mobilised to produce and conserve quality seed. b). 15 Community seed bank management committees established and trained. c). 15 small community seed banks (granaries) constructed and stocked	127,610	
				7,000	
				5,000	
				100,610	



			with seed. Note: This budget was retained by the donor to process procurement of construction in Uganda.	3,000
			d). 600 farmers accessing quality seed from the community seed banks/granaries established.	6,000
			e). Exchange visits organised in the three project districts.	6,000
			f). Field days organised in the three project districts.	
3). The capacity of farming communities to produce and conserve quality seed built.		2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils	a). 600 farmers trained in crop production and conservation of quality seed. b). 600 farmers equipped with knowledge and skills in post-harvest handling and stores management.	11,665.75 3,000 8,665.75
4). Project Management		2250010 - Consultancy services (short Term) 2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils	a). One project planning and review meeting held. b). Procurement of the remaining project equipment. b). A Project monitoring and evaluation exercise conducted c). A project impact study conducted. d). End of project workshop conducted.	13,390 1,200 1,350 2,000 5,000 3,840
TOTAL				169,665.75

Project 73: Triggering a mungbean transformation in Africa

PARI: NaSARRI	Project title: Triggering a mungbean transformation in Africa		PI: Mbeyagala K Emmanuel	
Start Date: 2018	End Date: 2020		Project funding: a) Funding Agency (s): UKAID through World Vegetable Centre b) Total value (UGX'000)*: 243,200	
End Project Goal: Increased agricultural productivity through the adoption of improved mungbean varieties and good agricultural practices by smallholder farmers in Africa				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Discovery of mungbean genotypes with potential resistance/tolerance to major biotic and abiotic stresses Uganda	Generation of agricultural technologies	2111020- Contract Staff Salaries (Incl. Casual labourers) 2210110- Printing, Stationery, Binding 2270010- Travel inland 2270040- Fuel, Lubricants & Oils 2240010- Medical & Agric. Supplies	293 accessions from mungbean mini-core collection characterized	49,000 10,000 6,000 20,000 8,000 7000
2. Determine the high potential mungbean lines already grown in Asia for their performance in Uganda	Generation of agricultural technologies	2111020- Contract Staff Salaries (Incl. Casual labourers) 2210110- Printing, Stationery, Binding 2270010- Travel inland 2270040- Fuel, Lubricants & Oils 2240010- Medical &	Adapted, high potential lines identified for further testing in farmer's fields	30,000 6,000 3,000 7,000 4,000 5,000



		Agric. Supplies 2240020 - General supply goods and services		5,000
3. To build capacity of farmers and other mungbean stakeholders in production techniques	Research extension interface promoted and strengthened	2111020- Contract Staff Salaries (Incl. Casual labourers) 2210110- Printing, Stationery, Binding 2270010- Travel inland 2270040- Fuel, Lubricants & Oils 2240010- Medical & Agric. Supplies 2240020 - General supply goods and services	200 farmers trained in improved mungbean production practices	25,000 3,000 12,000 5,000 3,000 2,000
4. To enhance seed production capacity and seed access	Research extension interface promoted and strengthened	2111020- Contract Staff Salaries (Incl. Casual labourers) 2210110- Printing, Stationery, Binding 2270010- Travel inland 2270040- Fuel, Lubricants & Oils 2240010- Medical & Agric. Supplies 2240020 - General supply goods and services	50 farmers trained in quality mungbean seed production practices	21,000 3,000 2,000 8,000 4000 2,000 2,000
Total				125,000

Project 74: Development and deployment of iron dense mungbean genotypes for nutrition security in the drought prone areas of East Africa

PARI: NaSARRI	Project title: Development and deployment of iron dense mungbean genotypes for nutrition security in the drought prone areas of East Africa		PI: Mbeyagala K Emmanuel	
Start Date: 2019	End Date: 2021	Project funding: a) <i>Funding Agency (s):</i> African Union b) <i>Total value (UGX'000)*:</i> 4,559,766		
End Project Goal: To reduce the malnutrition burden among smallholder farming communities in the drought prone areas of East Africa using iron rich mungbean varieties.				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To select and characterize advanced mungbean lines for iron content and other nutrients	Generation of agricultural technologies	2111020- Contract Staff Salaries (Incl. Casual labourers)	Mungbean varieties rich in iron identified and promoted	244,000
		2210110- Printing, Stationery, Binding		5,000
		2270010- Travel inland		3,000
		2270040- Fuel, Lubricants & Oils		20,000
		2240010- Medical & Agric. Supplies		7,000
		2210080-Computer supplies and IT		5,000
		2280020-Maintainence-vehicles		10,000
		2280020-Transport Equipment		2,000
				2,000
2. Develop and promote efficient mungbean processing and utilization technologies	Generation of agricultural technologies	2111020- Contract Staff Salaries (Incl. Casual labourers)		38,000
		2210110- Printing, Stationery, Binding		3,000
		2270010- Travel inland		4,000
		2270040- Fuel, Lubricants & Oils		10,000
		2240010- Medical & Agric. Supplies		3,000
		2210080-Computer supplies and IT		5,000
		2280020-Maintainence-vehicles		10,000
		2280020-Transport Equipment		3,000
3. To strengthen mungbean seed	Research extension	2111020- Contract Staff Salaries		38,500

production and delivery systems	interface promoted and strengthened	(Incl. Casual labourers) 2210110- Printing, Stationery, Binding 2270010- Travel inland 2270040- Fuel, Lubricants & Oils 2240010- Medical & Agric. Supplies 2210080-Computer supplies and IT 2280020-Maintainence-vehicles		5,000 6,000 15,000 7,000 5,000 3,000 2,500
4. To develop and promote suitable production and integrated pest management packages	Generation of agricultural technologies	2111020- Contract Staff Salaries (Incl. Casual labourers) 2210110- Printing, Stationery, Binding 2270010- Travel inland 2270040- Fuel, Lubricants & Oils 2240010- Medical & Agric. Supplies 2210080-Computer supplies and IT 2280020-Maintainence-vehicles		36,500 5,000 3,000 14,000 5,000 5,000 2,000 2,500
Total				357,000

Project 75: Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers

PARI: NaSARRI	Project title: Enhancing institutional breeding capacity in Ghana, Senegal and Uganda to develop climate resilient crops for African smallholder farmers		PI: Kalule Okello David Co-PI: Mbeyagala K Emmanuel	
Start Date: 2018	End Date: 2021		Project funding: Funding Agency (s): IFAD through IBP/AfricaRice Total value (UGX’000)*: 277,000	
End Project Goal: To contribute to enhanced food security and poverty alleviation by increasing smallholder productivity and income in the 3 target countries in Africa (Uganda, Senegal, Ghana).				
NARO Strategic Result Addressed: 1. Communities increasingly using improved agricultural technologies and innovations 2. Institutional orientation to agricultural transformation				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
1. Delivery chain and knowledge platform-Engaging smallholder farmers	Generation of agricultural technologies	2111020- Contract Staff Salaries (Incl. Casual labourers)	25 pre-released /advanced cowpea lines evaluated in mother and baby trials	40,500
		2210110- Printing, Stationery, Binding		5,000
		2270010- Travel inland		4,000
		2270040- Fuel, Lubricants & Oils		20,500
		2240010- Medical & Agric. Supplies		8,000
2. Delivery chain and knowledge platform-Linking with the seed business	Research extension interface promoted and strengthened	2111020- Contract Staff Salaries (Incl. Casual labourers)	Youths involved in agriculture equipped with skills to produce quality seed of cowpea	3,000
		2210110- Printing, Stationery, Binding		17,000
		2270010- Travel		2,500
				2,000

		inland		8,000
		2270040- Fuel, Lubricants & Oils		3,000
		2240010- Medical & Agric. Supplies		1,500
3. Integrating modern approaches in cowpea breeding	Generation of agricultural technologies	2111020- Contract Staff Salaries (Incl. Casual labourers)	At least 200 MAGIC and 300 cowpea mini-core lines evaluated for heat and drought tolerance	20,000
		2210110- Printing, Stationery, Binding		2,500
		2270010- Travel inland		2,000
		2270040- Fuel, Lubricants & Oils		10,000
		2240010- Medical & Agric. Supplies		3,000
		2240020 - General supply goods and services		1,500
				1,000
(i)Delivery chain and knowledge platform (ii) Improved data management and digitalising breeding (iii) Breeding: integrating modern approaches	Generation of agricultural technologies	Equipment & Materials	• 30 farmers hosting trials (FPVS)	199,500
		Goods Services and Inputs	• Eight advanced lines tested on farm	122,500
		Travel	• 100 farmers received foundation seeds	35,000
		Workshops	• 2000 dissemination materials (flyers, factsheets, brochures, posters etc) distributed	14,000
		Operating Cost 8%	• Format to capture farmers' feedback on trait preferences and new germplasm evaluation developed and being implemented	14,000
			• BMS contact person identified at	

			NaSARRI (Owiny Ronald) • Identifying Breeding areas that need improvement identified • 600-800 couried to Uganda for GRD, LLS, yield and agronomic attributes phenotyping	
(iv) Capacity enhancement (human and infrastructure)			PhD student enrolled (Achola Esther) Capacity to produce seed off season and generation advance cycles of segregating population increased (Irrigation system installed)	
Total				277,000

Project 79: Promoting open source seed system for common beans, forage legumes, finger millet and sorghum for climate change adaptation in Kenya, Uganda and Tanzania

PARI: NARL- PGRC	Project title: Promoting open source seed system for common beans, forage legumes, finger millet and sorghum for climate change adaptation in Kenya, Uganda and Tanzania		PI: Joyce Adokorach	
Start Date: January 2017	End Date: December 2019		Project funding: <i>Funding Agency (s):</i> FAO <i>Total value (UGX'000)*:</i> 222,300	
End Project Goal: To improve adaptation to climate change and enhance the food and nutrition security of resource-poor farmers in Kenya, Tanzania and Uganda, through the availability, sustainable management and use of a wider range of quality plant agricultural biodiversity.				
NARO Strategic Result Addressed**: Strategic result 3: communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1.To improve adaptation to climate change and enhance the food and nutrition security of resource-poor farmers in Kenya, Tanzania and Uganda, through the availability, sustainable management and use of a wider range of quality plant agricultural biodiversity	01.Generation of Agricultural Research Technologies	211020-Contract Staff salaries & wages(Incl. casual labour) 2210020-Workshops & seminars 2220010-Communications 2270010-Travel Inland	Capacity development of 50 farmers to develop the ability to produce good quality seeds	55,575 20,000 10,000 5,575 20,000
Total				55,575

Project 80: Agro-biodiversity and landscape restoration for food security and nutrition in East Africa

PARI:NARL-PGRC	Project title: Agro-biodiversity and landscape restoration for food security and nutrition in East Africa			PI: RoseNankya
Start Date: 2018	End Date: April, 2020		Project funding: <i>Funding Agency (s):IFAD</i> <i>Total value (UGX'000)*:608,000</i>	
NARO Strategic Result Addressed**: Strategic Result 3: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1.To mobilize diverse agricultural biological resources to support targeted restoration interventions through diversifying farming systems and landscapes	1.Generation of Agricultural Research technologies	2111020-Contract staff salaries & wages(Incl.Causallabour)	1.30% Targeted male and female farmers integrated the target food tree and crop portfolio into their farming systems	250,000 15,000
		2210010-Communications	Food plant species increased on 2.70% of the targeted male and female farmers	10,000
		2210020- Workshops and seminars	3.50% of targeted male and female farmers increased their dietary diversity	50,000
		2240060-Agricultural Supplies		114,000
		2270010-Travel inland		30,000
		2270040- Fuels, Oils & Lubricants		23,000
		2280020- Maintenance vehicle		8,000
Total				250,000

Project 81: Consultative process for developing an On-farm Research Network on Post-harvest Handling Technologies for Smallholder Farmers of Eastern Uganda

PARI: NARL	Project title: Consultative process for developing an On-farm Research Network on Post-harvest Handling Technologies for Smallholder Farmers of Eastern Uganda			PI: Florence LubwamaKiyimba
Start Date: December 2018	End Date: November 2019	Implementing Agencies: NARO, Makerere University and VEDCO	Project funding: a) Funding Agency (s): McKnight Foundation b) Total value (UGX'000)*: 143,875	
End Project Goal: Enhanced participation/involvement of smallholder farmers in postharvest handling initiatives that will improve food security, nutrition and incomes of their communities				
NARO Strategic Result Addressed: Strategic Result 3:Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Setup an on-farm Farmer Research Network of smallholder farmers on Postharvest Handling Technologies	Research-Extension Interface promoted and strengthened	2111020-Contract Staff salaries & wages(Incl Causal labour) 2220010-Telecommunication 2210020-Workshops &Seminars 2270010-Inland travel	Farmer Research Network on Postharvest Handling technologies	130,795 39,134 10,073 22,573 59,216
2. Effective project coordination and management	Agricultural research capacity strengthened	2210020-Workshops & seminars 2270010 - Inland travel	Improved Project performance	13,079 6,000 7,079
Total				143,875

Project 82: Baseline Survey on the status of Mechanization in Africa

PARI: NARL	Project title: Baseline Survey on the status of Mechanization in Africa		PI: Florence LubwamaKiyimba	
Start Date: December 2017	End Date: December 2019		Project funding: a) Funding Agency (s): KAFACI b) Total value (UGX'000)*: 94,500	
End Project Goal: To understand the status of agricultural mechanization in Uganda				
NARO Strategic Result Addressed: Strategic Result 3:Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
To identify constraints and opportunities to the adoption of the improved agricultural mechanization technologies and innovations in Uganda	01.Generation of Agricultural technologies	2270010 - Inland travel 2210110 - Printing Stationery and Binding 2111020-Labour	Information on the Status of Agricultural Mechanisation in Uganda	48,440
To make technical and policy recommendations for enhanced adoption of agricultural mechanization practices	04.Agricultural Research Capacity Strengthened	2270010 - Inland travel 2210110 - Printing Stationery and Binding 2111020-Labour	Policy Recommendations	39,050
Effective project coordination and management	04.Agricultural Research Capacity Strengthened	2270010 - Inland travel	Improved Project performance	7,010
Total				94,500

Project 83: Breeding RTB Products for end-user preference (Cooking Bananas)

PARI:	Project Title: Breeding RTB Products for end-user preference (Cooking Bananas)		PI: KephasNowakunda	
Start Date: November, 2017	End Date: November, 2022		Project funding: <i>Funding Agency (s): CIRAD</i> <i>Total value (UGX'000)*: 1,341,628</i>	
End Project Goal: To develop quantitative high throughput tools for selecting end-user-acceptable cooking banana genotypes.				
NARO Strategic Result Addressed: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Understanding the drivers of trait preference and the development of end-user profiles	Generation of Agricultural Technologies	2111020-Contract Staff salaries & wages (Incl. Causal labour)	A profile of consumer preferred traits for cooking bananas	153,512
		2111030-Allowances		7,600
		2240010-Medical & Agricultural supplies		30,192
		2270010-Travel Inland		22,484
		2210030-Staff Training		29,184
		2270020-Travel abroad		34,092
		2270040-Fuels & Oils		19,000
				10,960
2. Sensory and biophysical characterization of preferred quality traits	Generation of Agricultural Technologies	2111020-Contract Staff salaries & wages (Incl. Causal labour	Sensory descriptions of preferred quality traits in cooking banana	89,330
		2240010-Medical & Agricultural supplies		29,462
		2270040-Fuels, Oils & Lubricants		39,418
				20,450
Total				242,842

Project 84: Development of Water and Crop Management Techniques and Adoption of Cost-effective Citrus Disease Management in Teso Region

PARI	Project title: Development of Water and Crop Management Techniques and Adoption of Cost-effective Citrus Disease Management in Teso Region		PI: John Adriko	
Start Date: February 2018	End Date: December 2020		Project funding Funding Agency(s): KOPIA Total value (UGX ‘000): 418,000	
End Project Goal: To increase production and yields of citrus and incomes of citrus farmers in Teso region as a result of adoption of cost-effective water, crop and disease management technologies by 50%				
NARO Strategic Result Addressed: 2: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/2020	Annual Budget (UGX’000):
1. To develop and promote at least two cost-effective citrus disease and soil & water management technologies	01: Generation of Agricultural Research Technologies	2111020-Contract Staff salaries wages(Incl causal labour)	Two cost-effective citrus disease and soil & water management technologies developed, promoted and adopted by at least 50 new farmers	133,000
		221010-Printing,Stationery & Binding		17,290
		2210020-Workshops &seminars		7,600
		2220010-Communications		9,500
		2240060-Agricultural supplies		11,400
		2270010-Travel Inland		19,600
		2270020-Travel abroad		36,640
		2280020-Maintenance Vehicles		7,600
		2280030- Maintenance		8,000
				11,970
Total				133,000

Project 85: Enhancing Climate-Resilience of Agricultural Livelihoods (Education and Research to Improve Climate Change Adaptation-Uganda) PHASE 2

PARI NARL	Project title: Enhancing Climate-Resilience of Agricultural Livelihoods (Education and Research to Improve Climate Change Adaptation-Uganda) PHASE 2		PI: Laurence Jassogne NARL contact: EverlineKomtunga	
Start Date: 01.06.2018	End Date: 31.05.2022		Project funding Funding Agency(s): USAID Total value (UGX ‘000): 760,000	
End Project Goal: To scale climate-smart knowledge and tools for agriculture in Uganda				
NARO Strategic Result Addressed: 3: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/2020	Annual Budget (UGX’000)
2. Improve understanding and enhance awareness on climate variability and promote the use of seasonal characteristics tool to guide farming decision making	01: Generation of Agricultural Research Technologies	2111020-Contract Staff salaries & wages(incl Causal labour)	Updated and refined cropping calendar tool	77,117
		2210110-Stationery, Printing & Binding	Seasonal characteristics tool migrated into dissemination platforms (mobile app, online)	21,660
		2210020-Workshops & seminars		9,000
		2220010-Communications		7,912
		2270010-Travel Inland		8,500
		2270040-Fuels, Oils & Lubricants		11,200
		2280020-maintenance Vehicles		10,700
				3,800
3. Fully engage stakeholder innovation, action and reflection platforms (learning alliances) for effective up scaling of proven climate change adaptation technologies	02: Agricultural research Extension interface Strengthened.	2111020-Contract Staff salaries & wages(incl Causal labour)	Multi-stakeholder, multi-level, innovation, action and reflection platforms for effective up scaling of proven climate change adaptation technologies engaged	4,345
		2210110-Stationery, Printing & Binding		86,404
		2210020-Workshops & seminars		15,990
		2220010-Communications		7,250
		2270040-Travel Inland		11,917
		2270040-Fuels, Oils & Lubricants		6,800
		2280020-maintenance Vehicles		26,047
				11,200
		7,200		
Total				163,521

Project 86: Poverty alleviation and food security in Africa through the implementation of small-scale technologies in integrated crop-livestock systems

PARI: NARL	Project title: Poverty alleviation and food security in Africa through the implementation of small-scale technologies in integrated crop-livestock systems		PI: Charles Mutumba	
Start Date: November 2017	End Date: November 2020	Project funding: Funding Agency (s): FUNARBE Total value (UGX'000)*: 727,769		
End Project Goal: To enhance food security, incomes and livelihoods of smallholder farmers				
NARO Strategic Result Addressed: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Evaluate use of Hydraulic ram pump and SisteminhaEmbrapa concept for poverty reduction and food security	Generation of agricultural technologies	2310050-Machinery and Equipment	Assorted field & office equipment	38,000
2. Train researchers from Africa in Brazil and vice-versa	Research-Extension Interface promoted and strengthened	2240060-Agricultural Supplies	Assorted small technologies for alleviation of poverty and hunger established among resource constrained communities.	125,600
		2270010-Travel Inland	Project supervision, backstopping,& reviews	43,010
		2270020-Travel Abroad	Researchers both local and international convene to share and review progress	19,260
3. Promote promising technologies to uptake pathways	Research-Extension Interface promoted and strengthened	2111020-Contract Staff salaries & wages(Incl. Causal labour)	Field assistants & extension service providers facilitated to pass on knowledge in use of hydraulic ram pump and associated technologies	9,019
		2270010-Travel Inland	Project supervision, backstopping,& reviews	40,020

		2270020-Travel Abroad	Researchers both local and international convene to share and review progress	19,260
		2250010-Consultancy services	Soils and water tested for suitability	3,800
		2220010-Telecommunications	Generated information shared among stakeholders	5,130
Effective project coordination and management	Agricultural research capacity strengthened	2210110-Printing, Stationery & binding	Improved project performance	5,060
		2280020-maintenance Vehicles		10,900
Total				319,059



Project 87: Improving the availability and use of diverse seed and other planting materials to reduce vulnerability and improve food security for smallholders in vulnerable ecosystems

PARI:NARL-PGRC	Project title: Improving the availability and use of diverse seed and other planting materials to reduce vulnerability and improve food security for smallholders in vulnerable ecosystems		PI:Ms. Rose Nankya	
Start Date:2018	End Date: December 2021	Project funding: Funding Agency (s):SDC Total value (UGX'000): 570,000		
End Project Goal:				
NARO Strategic Result Addressed**: Strategic result 3: communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1.To support diversification of seed suppliers through community seed banking	01.Generation of Agricultural Research Technologies	2111020-Contract staff salaries & wages (Incl. Causal labour)	Varieties adapted to environmental conditions and market demands are accessible by smallholder farmers in the target sites	200,000
		2220010-Communications		28,000
		2210020-Workshops & seminars		7,500
		2270010-Travel Inland		43,400
		2270040-Fuels, Oils & Lubricants		76,150
		2280020- Maintenance Vehicles		19,750
				25,200
Total				200,000



**Project 88: Promotion of post-harvest disinfestations treatment in Kenya and Uganda:
Facilitation of market access for mango, avocado, French bean and bell pepper**

PARI: NARL	Project title: Promotion of post-harvest disinfestations treatment in Kenya and Uganda: Facilitation of market access for mango, avocado, French bean and bell pepper	PI: HarietMuyinza		
Start Date: February, 2018	End Date: December, 2020	Project funding: <i>Funding Agency (s):</i> ICIPE <i>Total value (UGX'000)*:</i> 76,032		
End Project Goal: To enhance food and nutritional security, improve incomes for better livelihoods of smallholder fruit/vegetable growers in Kenya and Uganda.				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
3. Validate proven postharvest hot water disinfestations of mango/avocado against fruit flies and French bean against thrips on large scale and adapt them for bell pepper against false codling moth	Generation of Agricultural Technologies	2111020-Contract Staff salaries & wages (Incl. Causal labour 2111030- Allowances. 2240010-Medical & Veterinary 2240060-Agricultural Supplies 2270010-Travel Inland 2270020-Travel Abroad 2270040-Fuels, Oils & Lubricants	Parameters for post harvest disinfestations treatment and their effect on fruit flies in mangoes	76,032 10,260 10,260 29,064 10,260 11,400 5,700 9,348
Total				76,032

Project 89: Piloting Smallholder Mechanization Adaptation and Demonstration in Acholi Sub-region and Adjumani district in Northern Uganda

PARI: NARL	Project title: Piloting Smallholder Mechanization Adaptation and Demonstration in Acholi Sub-region and Adjumani district in Northern Uganda			PI: Okurut Samuel
Start Date: August- 2017	End Date: 2022		Project funding: Funding Agency (s): IFAD Total value (UGX'000): 3,230,000	
End Project Goal: To enhance production and productivity of maize, rice, beans and cassava through piloting smallholder mechanization in Acholi Sub-region and Adjumani district, Northern Uganda.				
NARO Strategic Result Addressed: Strategic Result 3:Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Enhance and sustain production and productivity of maize, rice, beans and cassava	01.Generation of Agricultural technologies	2270010-Inland travel	Awareness created on smallholder mechanization technologies	58,000 58,000
	01.Generation of Agricultural technologies	2111020-Contact Staff Salaries & Wages(Incl. Causal labour) 2240060-Agricultural Supplies	Animal Drawn Ripper Planters	265,000 15,000 250,000
	01.Generation of Agricultural technologies	2111020-Contact Staff Salaries & Wages(Incl. Causal labour) 2240060-Agricultural Supplies 2270010-Inland travel	Information on productivity enhancement through use of different mechanization technologies	165,000 45,000 20,000 100,000
2. Test and validate business models for linking actors to farmers	01.Generation of Agricultural technologies	2270010-Inland travel	A suitable farmer financing model for mechanization	12,500 12,500
	01.Generation of Agricultural technologies	2270010-Inland travel	A functional machinery hire service model	12,500 12,500
	01.Generation of Agricultural technologies	270010-Inland travel	Appropriate model for produce marketing	12,500 12,500
3. Improve and sustain capacity for technical, business and	02.Research extension interface strengthened	2210020-Workshops, Seminars & Training 2240060-Agricultural supplies	Skills of farmer entrepreneurs enhanced in operating 2WT & ADP as machinery hire service business	150,000 60,000 5,000 85,000

marketing of relevant actors		2270010-Inland travel		
	Research extension interface strengthened	2210020-Workshops, Seminars & Training 2240060-Agricultural supplies 2270010-Inland travel	Farmers have demonstrable knowledge on post-harvest handling and processing machinery practices	163,000 45,500 37,500 80,000
	02.Research extension interface strengthened	2210020-Workshops, Seminars & Training 2240060-Agricultural supplies 2270010-Inland travel	Skills of local artisans and technicians enhanced on fabrication of spares of demand driven 2WT and ADP implements	125,000 37,400 70,000 17,600
	02.Research extension interface strengthened	2210020-Workshops, Seminars & Training 2240060-Agricultural supplies 2270010-Inland travel	Local mechanics have demonstrable skills on repair and maintenance of 2WT and Processing equipment	59,500 26,900 15,000 17,600
	4. Document and disseminate lessons learnt in the pilot smallholder mechanization	02.Research extension interface strengthened	2210110-Printing, stationery and binding	Leaflets prepared 19,000 19,000
		02.Research extension interface strengthened	2210110-Printing, stationery and binding	Posters prepared 15,000 15,000
		02.Research extension interface strengthened	2210110-Printing, stationery and binding	journal articles published 10,000 10,000
5. Effective project coordination and management	04.Agricultural Research Capacity Strengthened	2210110- printing, stationery and binding 2220010- Telecommunications 2230050-Electricity 2280020-Vehicle maintenance 2270040-Fuel, Lubricants and Oils 2270010-Inland travel 2210140-Bank charges and Bank related costs 2210020-Workshops, Seminars & Trainings 2111030- Allowances	Improved project performance	221,000 16,000 16,500 20,000 60,000 42,000 20,000 2,500 10,000 34,000

Total				1,288,000
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Project 90: Improvement of bananas for smallholder farmers in the Great Lakes region

PARI: NARL	Project title: Improvement of bananas for smallholder farmers in the Great Lakes region		PI: Jerome Kubiriba	
Start Date: November 2014	End Date: September 2019	Project funding: <i>Funding Agency (s):</i> BMGF <i>Total value (UGX'000)*:</i> 8,721,779		
End Project Goal: 95 promising Matooke hybrids selected for preliminary yield trial evaluation				
NARO Strategic Result Addressed**: Strategic Result 1: Increased niche markets for communities in agricultural sector; Result 3: Communities increasingly using improved agricultural technologies and innovations; Strategic Result 4: Institutional orientation to agricultural transformation.				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Widen the banana female fertile profile	01.Generation of Agricultural Technologies	2111020 – Contract staff salaries& wages (incl. causal labour)	Three more more female parents incorporated into the banana breeding programme	25,000
		2240060- Agricultural Supplies		30,041
		2270010 - Travel inland		26,400
		2270020-Travel Abroad		5,000
2. Integrate 10 new diploids into the breeding programme	01.Generation of Agricultural Technologies	2111020 – Contract staff salaries& wages (incl. causal labour)	5 diploids with nematode resistance (both introduced and improved) incorporated into the breeding programme	92,700
		2240060- Agricultural Supplies		225,000
		2270010 - Travel inland		68,064
		2270020-Travel Abroad		25,000
3. Improve banana breeding efficiency through	01.Generation of Agricultural Technologies	2111020 – Contract staff salaries& wages (incl. causal	Markers for weevil genotyping developed	118,600

underlying genetics and DNA marker based early selection		labour)		
		2240060-Agricultural Supplies		300,000
		2270010 - Travel inland		45,000
		2270020-Travel Abroad		105,045
4. At least 2,500 Matooke hybrids evaluated in Early Evaluation Trials (EET) for agronomic performance	01.Generation of Agricultural Technologies	2111020 - Contract staff salaries& wages (incl. causal labour)	Over 3,000 matooke hybrids evaluated in EET	115,000
		2240060-Agricultural Supplies		236,645
		2270010 - Travel inland		87,000
		2270020-Travel Abroad		80,000
5. 18 Matoke hybrids from EET evaluated for yield, pest and disease response and consumer acceptability in Preliminary Yield Trials (PYT)	01.Generation of Agricultural Technologies	2111020 - Contract staff salaries& wages (incl. causal labour)	25Matoke hybrids selected from EET advanced for PYT evaluation	40,000
		2240060-Agricultural Supplies		75,882
		2270010 - Travel inland		36,000
		2270020-Travel Abroad		21,000
6. Advance NARITA (matookehybrids) for release to banana farming communities	01.Generation of Agricultural Technologies	2111020 - Contract staff salaries& wages (incl. causal labour)	Four NARITA hybrids advanced for evaluation on-farm.	10,000
		2240060-Agricultural Supplies		38,441
		2270010 - Travel inland		26,000
		2270020-Travel Abroad		12,000
Total				1,728,818

Project 91: Improvement of banana using Biotechnology Tools

PARI: NARL	Project title: Improvement of banana using Biotechnology Tools	PI: Jerome Kubiriba		
Start Date: November 2018	End Date: October 2020	Project funding: <i>Funding Agency (s):</i> Bioversity International <i>Total value (UGX'000)*:</i> 2,596,935		
End Project Goal: Develop nematode and weevil transgenic resistance				
NARO Strategic Result Addressed**: Strategic Result 4: Institutional orientation to agricultural transformation				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Building capacity for genetic engineering of crops.	04. Agricultural Research Capacity Enhanced & Strengthened	2310050 - Machinery/Equipment (Tissue culture lab Construction)	Capacity to conduct genetic engineering research enhanced	2,596,935 2,596,935
Total				2,596,935

Project 92: Micronutrient Biofortified Cooking Bananas for East Africa

PARI: NARL	Project title: Micronutrient Biofortified Cooking Bananas for East Africa	PI: Prof. Wilberforce Tushemereirwe		
Start Date: March 2018	End Date: October 2021	Project funding: <i>Funding Agency (s):</i> BMGF <i>Total value (UGX'000)*:</i> 5,737,179		
End Project Goal: Two elite lines of Nakitembe and M09 submitted for deregulation				
NARO Strategic Result Addressed**: Strategic Result 1: Increased niche markets for communities in agricultural sector; Strategic Result 4: Institutional orientation to agricultural transformation				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. 20 elite lines of Nakitembe and M09 selected for multilocation Confined field trials	01.Generatio n of Agricultural Technologies	2111020 – Contract staff,	20 elite transgenic lines of Nakitembe and M09 with enhanced PVA levels, no yield penalty selected	132,000
		2270010 - Travel inland		32,000
		2240010-Medical and veterinary Drugs		132,000
		2240060 –Agricultural Supplies		124,597
2. M09 and Nakitembe multi-location CFT established and lines for deregulation selected	01.Generatio n of Agricultural Technologies	2111020 – Contract staff Salaries &wages(Incl.Causallab our)	20 elite lines of Nakitembeand M09 with enhanced PVA levels, no yield penalty planted	148,000
		2240010-Medical and veterinary Drugs		152,000
		2240060-Agricultural Supplies		180,000
		2270010 - Travel inland		145,000
		2270020 – Travel abroad		75,000
3. A stewardship plan implemented	01.Generatio n of Agricultural Technologies	2210020 - Workshops and seminars, trainings	Barcoding function added to banana tracker	160,398
		2240060-Agricultural Supplies		55,000
		2270010 - Travel inland		34,000
		2270020 –Travel Abroad		10,000
Total				1,381,992

Project 93: Sustainable banana productivity in East Africa

PARI: NARL	Project title: Sustainable banana productivity in East Africa	PI: Dr. Jerome Kubiriba		
Start Date: July 2017	End Date: September 2020	Project funding: <i>Funding Agency (s):</i> BMGF <i>Total value (UGX'000)*:</i> 9,132,491		
End Project Goal: Increase banana productivity from 10t/ha/yr to 25t/ha/yr and initially scale to 25,000 farmers in Uganda and Tanzania				
NARO Strategic Result Addressed**: Strategic Result 1: Increased niche markets for communities in agricultural sector; Result 3: Communities increasingly using improved agricultural technologies and innovations; Strategic Result 4: Institutional orientation to agricultural transformation.				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Developing prototype decision support tool and recommendation domains	01.Generation of Agricultural Research Technologies	2111020 – Contract Staff salaries& wages (Incl Causal Labour)	Version1 decision support tools for plant population optimization and for potassium application	130,926
		2240010 –Medical & veterinary Supplies		125,000
		2270010 - Travel inland		135,000
2. Adapt and validate decision support tools for banana agronomy	01.Generation of Agricultural Research Technologies	2111020 – Contract staff Salaries & Wages(Incl. Causal labour)	Banana productivity increased by 5 t/ha/yr on over 100 demos across 3 sites	140,089
		2240060-Agricultural Supplies		247,300
		2270010 - Travel inland		199,000
3. Facilitation of the use of decision support tools	02.Agricultural Research Extension Interface enhanced & Strengthened	2111020 – Contract staff Salaries & wages (Incl. Causal labour)	500 farmers and scaling agents exposed to banana agronomy practices significantly increasing banana productivity	166,000
		2210020- Workshops, seminars		265,000
		2240010 –Medical & veterinary Supplies		195,000
		2270010 - Travel inland		175,852
4. Project governance and administration	04. Agricultural Research capacity Strengthened	2210020 - Workshops and seminars,	Project annual review workshop held	125,463
		2270010 - Travel inland		25,463
		2270020- Travel Abroad	Project activities monitored in 5 project sites in Uganda and Tanzania	45,000



Total				1,954,629
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Project 94: Enhancing Resilience and Adaptive Agricultural Livelihoods in Uganda

PARI: NaCORI	Project title: Enhancing Resilience and Adaptive Agricultural Livelihoods in Uganda		PI: Godfrey H. Kagezi	
Start Date: 2018	End Date: 2022		Project funding: <i>Funding Agency (s): USAID</i> <i>Total value: (UGX'253,088,000)*:</i>	
End Project Goal: To scale-up knowledge, technologies and practices while building resilience of agricultural livelihoods in Uganda				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To develop response models to moisture and temperature dynamics for Robusta coffee	Agricultural research capacity strengthened	2270010: Travel inland 2210110: Printing and stationery '2240060: Agricultural supplies 2111030: Contract staff salaries 2270040: Fuel, oils and lubricants	Robusta coffee response models to moisture and temperature dynamics	66,000 21,200 3,000 3,000 26,800 12,000
2. To determine the performance of Robusta under selected management systems	Agricultural research capacity strengthened	2270010: Travel inland 2210110: Printing and stationery 2111030: Contract staff salaries '2240060: Agricultural supplies 2111030: Contract staff salaries 2280020: Maintenance -	Inventories of incidence and damage of pests and diseases, litter fall and decomposition rates, nitrogen flux and yield of Robusta coffee under selected management systems	82,880 21,200 3'680 2,000 4,000 53,800 12,000

		Vehicle		
3. To determine water use efficiency in Robusta coffee grown under selected management systems	Agricultural research capacity strengthened	2270010: Travel inland 2210110: Printing and stationery '2240060: Agricultural supplies 2111030: Contract staff salaries 2270040: Fuel, oils and lubricants 2280020: Maintenance - Vehicle	Water loss and retention rate in Robusta coffee grown under selected management systems	90,408 21,200 2,308 6,000 45,900 6,000 9,000
TOTAL				253,088

Project 95: Enhancing productivity of coffee and cocoa in Uganda

PARI: NaCORI	Project title: Enhancing productivity of coffee and cocoa in Uganda		PI: Godfrey H. Kagezi	
Start Date: 2019	End Date: 2022		Project funding: <i>Funding Agency (s): EU</i> <i>Total value: (UGX'174,050,000)*:</i>	
End Project Goal: To increase coffee and cocoa productivity in Uganda by 10% by 2022				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX '000)
1. To develop high yielding Arabica coffee varieties which are resistant to diseases and pests with desirable market traits	Agricultural research capacity strengthened	2270010: Travel inland 2240060: Agricultural supplies 2250010: Consultancies (coffee quality analysis)	Performance of Arabica coffee varieties in multi-location evaluation trials	24,600 10,800 1,500 12,300
2. To characterize the Ugandan cocoa germplasm	Agricultural research capacity strengthened	2270010: Travel inland 2210110: Printing and stationery 2111030: Contract staff salaries 2240060: Agricultural supplies (lab equipment and supplies)	Phenotypic and genetic makeup of the Ugandan cocoa germplasm	46,950 7,000 600 13,650 25,700
3. To develop Good Agronomic Practices (GAP's) packages for cocoa	Agricultural research capacity strengthened	2270010: Travel inland 2210110: Printing and stationery 2240060: Agricultural supplies 2111030: Contract staff salaries 2250010: Consultancies (soil analysis)	Packages for good agronomic practices (GAP's) for cocoa	43,050 9,650 2,050 600 20,500 10,250



4. To develop management packages for cocoa pests and diseases	Agricultural research capacity strengthened	2270010: Travel inland 2210110: Printing and stationery 2240060: Agricultural supplies 2111030: Contract staff salaries 2250010: Consultancies (pests and disease diagnosis)	Packages for managing pests and diseases of cocoa	34,850 11,000 2,050 2,000 11,600 8,200
5. To determine the competitiveness of the coffee and cocoa enterprises in Uganda	Agricultural research capacity strengthened	2270010: Travel inland 2210110: Printing and stationery 2111030: Contract staff salaries 2270040: Fuel, oils and lubricants 2280020: Maintenance - Vehicle	Socio-economic frameworks for coffee and cocoa	24,600 6,800 1,400 4,100 4,100 8,200
TOTAL				174,050



Project 96: Directing cocoa waste to wealth using known yeast strains from Ugandan Box fermentation

PARI: NaCORI	Project title: Directing cocoa waste to wealth using known yeast strains from Ugandan Box fermentation		PI: Muganga Lawrence	
Start Date: Dec 2018	End Date: Nov 2019	Project funding: <i>Funding Agency (s): SCGI, ACTS & UNCST</i> <i>Total value: (UGX' 107,912,000)*:</i>		
End Project Goal: To boost the income generating capacity of cocoa farmers in Uganda through the development of appropriate and innovative technologies for the commercial processing of cocoa and cocoa by - products.				
NARO Strategic Result Addressed**:				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To design a single cocoa fermentation box	Agricultural research capacity strengthened	2111020 - Contract staff salaries 2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2310050: Purchase of specialized machinery and equipment	A Prototype of a single cocoa fermentation box	17,764 990 5,344 7,488 1,782 2,160
2. To design stainless steel tank for cocoa pulp juice extraction	Agricultural research capacity strengthened	2310050: Purchase of specialized machinery and equipment 2240020 - General supply goods and services 2270010 - Travel inland 2270040 - Fuel lubricants and oils	Prototype of a stainless steel tank for cocoa juice extraction	8,176 5,400 2,000 576 198
3. To study the diversity of pectinolyase producing yeast strains isolated from Ugandan	Agricultural research capacity strengthened	2111020 - Contract staff salaries 2240010: Medical and veterinary supplies 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2210020 - Workshops and seminars 2210110: Printing, Stationery Binding 2220010: Telecommunications	At least 0.5 litre pectinolyase yeast starter culture ready for up-scaling and commercialization	39,546 900 22,050 9,216 1,584 5,364 252 180
4. To promote farm level cocoa			10 Cocoa extension officers trained in PHH	37,026

processing and local use of the by- products		2250010: Consultancy (short-term)		1,800
		2240010: Medical and veterinary supplies		3,600
		2240060: Agricultural supplies		3,600
		2270010 - Travel inland		11,664
		2270040 - Fuel lubricants and oils		4,518
		2210020 - Workshops and seminars		7,830
		2210110: Printing, Stationery Binding		2,880
		2220010: Telecommunications		54
		2220010: Documentation of innovation		1,080
		2641010: Contribution to Autonomous institutes		5,400
TOTAL				107,912



Project 97: Support from Uganda Coffee Development Authority (UCDA)

Project 37: Support from Uganda Coffee Development Authority (UCDA)				
PARI: NaCORI	Project title: Support from Uganda Coffee Development Authority (UCDA)		PI: Geoffrey Arinaitwe	
Start Date: 2018	End Date: 2023		Project funding: Funding Agency (s): UCDA Total value: (UGX'1,948,245,000)*:	
End Project Goal: To enhancing productivity of coffee in Uganda				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Development of strategic direction for the Institute and compliance with Government regulations and the Coffee Research Agenda	Agricultural research capacity strengthened	2210060: Committee, Council and Board expenses 2111030: Contract staff salaries 2210090: Welfare and Entertainment 2210110: Printing and Stationery 2220050: Electricity 2240060: Agricultural supplies 2270010: Travel inland 2280010: Maintenance Civil 2280020: Vehicle Maintenance 2280040: Maintenance others	Proper functioning of the Institute throughout the year	133,810 24,000 11,750 8,180 5,890 2,400 1,470 56,920 8,000 9,000 6,200
2. Developing high yielding and disease resistant Arabica and Robusta coffee varieties with desirable market traits	Agricultural research capacity strengthened	2240060: Agricultural supplies 2111030: Contract staff salaries 2210010: Advertising & public relations 2210020: Workshops & seminars 2210060: Committees, Council and Board expenses 2210110: Printing and stationery 2210120: Small office Equipment 2220010: Telecommunication 2220030: Information communication technology 2250010: Consultancy-short time 2270010: Travel in-land 2280020: Vehicle maintenance	Release of new high yielding, disease and drought tolerant varieties of Arabica and Robusta coffee	441,800 49,690 64,000 1,000 13,800 3,000 15,900 7,900 1,000 2,000 11,000 196,200 76,310
3. Developing technologies	Agricultural research		Sustainable and cost-effective	321,830

Project 98: Restoration of Livelihoods in Northern Uganda (PRELNOR)

PARI: Abi ZARDI	Project title: Restoration of Livelihoods in Northern Uganda (PRELNOR)		PI: Odama Emmanuel	
Start Date: July, 2017	End Date: June 2021		Project funding: <i>Funding Agency (s): IFAD</i> <i>Total value (UGX'000)*: 1,050,000</i>	
End Project Goal: Priority crop production systems are more climate resilient				
NARO Strategic Result Addressed**: Strategic Result 3: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To source breeder seeds for on-station foundation seed multiplication and avail to farmers for on-farm production	Generation of agricultural technologies	2240060: Agricultural supplies	Most adaptable and farmer-preferred varieties recommended for adoption by farmers	92,000
		2270010: Travel inland		30,000
		2210020: Workshops & seminars		10,000
		2210080: Computer Supplies & IT Service		8,000
		2280020: Maintenance - Vehicles		10,000
2. Establish and conduct on-farm adaptive trials on selected commodities of PRELNOR	Generation of agricultural technologies	2240060: Agricultural supplies	Adequate quantities of bean, cassava, maize and rice improved varieties produced on-station	48,000
		2270010: Travel inland		29,968
		2111020: Contract labour		15,000
		2210020: Workshops & seminars		30,000
3. To promote climate smart agricultural practices (SLM, water harvesting and conservation) for agricultural productivity	Research extension interface	2240060: Agricultural supplies	Climate smart SLM and SWC practices promoted at adaptive trial sites	10,000
		2270010: Travel inland		50,000
		2210020: Workshops & seminars		17,000
		2111020: Contract labour		8,000
Total				357,968

Project 99: Enhancing production and utilization of Energy and Micronutrient rich crop varieties among refugees and host communities in West Nile region of Uganda

PARI: Abi ZARDI	Project title: Enhancing production and utilization of Energy and Micronutrient rich crop varieties among refugees and host communities in West Nile region of Uganda		PI: SadikKassim	
Start Date: February 2019	End Date: January 2021		Project funding: <i>Funding Agency (s):</i> IDB <i>Total value (UGX'000):</i> 380,000	
End Project Goal: To build a center for sustainable production and supply of quality foundation seed in West Nile				
NARO Strategic Result Addressed**: Strategic Result 3				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Build institutional and community capacity for sustainable supply of Foundation seed in West Nile.	02: Strengthening agricultural research capacity	2210020: Workshops and seminars	Stakeholders along Foundation Seed value chain brought on board; Demand for Foundation Seed and Quality Declared Seed (QDS) captured;	7,600
		2270010: Travel-inland		21,771
		31222020: Machinery and equipment		6,861
		3122030: Infrastructure		73,889
2. Produce and increase supply of high quality foundation seed of improved varieties of cassava, maize and beans with high dietary energy and nutrient value in West Nile.	03: Research Extension interface	2240060: Agricultural supplies	Adequate inputs acquired and foundation seed fields planted; Adequate quality foundation seed produced and made available to targeted Local Seed Business (LSB) groups.	30,788
		2111020: Casual labour		39,738
		2270010: Travel-inland		3,167
3. Increase community access to Quality Declared Seed of improved varieties	03: Research Extension interface	2210020: Workshops and seminars	Knowledge and skills of LSB members enhanced in QDS production; Knowledge and skills of Farming communities enhanced in grain production to increase demand for QDS	37,665
		2270010: Travel-inland		39,742
		2240060: Agricultural supplies		25,016

Total				286,237
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Project 100: Scaling up Agroforestry, multiple stress tolerant crop varieties and soil and water conservation technologies in CCAFS Hoima learning site, Uganda

PARI: Bulindi ZARDI	Project title: Scaling up Agroforestry, multiple stress tolerant crop varieties and soil and water conservation technologies in CCAFS Hoima learning site, Uganda			PI: Ronald Kakeeto	
Start Date: 2010	End Date: 01/01/ 2022		Project funding: <i>Funding Agency (s):</i> CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) <i>Total value (UGX'000)*:</i> 81,876		
End Project Goal: To enhance resilience adaptation of communities (Hoima climate-smart village) to the effects of climate change and climate variability					
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations					
Project Objectives	Vote Function Output	Expenditure Code/Description		Annual output for FY 2019/20	Annual Budget (UGX'000)
		Expenditure Code	Description		
To create awareness about climate change and its effects on Agriculture	Research extension interface promoted and strengthened	2210020	Workshop (assorted stationary)	Increased adoption of climate-smart agricultural technologies	1,920
		2210020	Workshop (refreshments)		16,000
		2210020	Workshop (sanitation and cleaning)		300
		2210020	Workshop (certificates)		1,920
		2210020	Workshop (advertisement/ announcements/ talk shows)		750
		2210020	Workshop (perdiem)		3,360
		2210020	Workshop (fuel)		1,750
Sub-total					26,000
To demonstrate best practices for mitigation of climate change effects on Agriculture	Research extension interface promoted and strengthened	2111020	Contract staff salaries (bush clearing)		560
		2111020	Contract staff salaries (ploughing)		2,100
		2111020	Contract staff salaries (planting)		700
		2111020	Contract staff salaries (weeding)		1,400
		2270010	Travel inland (officers)		2,520
		2270010	Travel inland (technicians)		1,960,
		2270010	Travel inland (drivers)		840
		2270040	Fuel lubricants & oils		2,250
		2210020	Workshop (advertisement/ announcements/ talk shows)		786
	2240060	Agricultural supplies (seed, cuttings, stakes, sisal strings,		1,820	

			tape measure, etc)		
Sub-total					25,856
To assess farmers' adoption of climate-smart agriculture options (best practices), following trends and identification of enabling as well as constraining factors	Research extension interface promoted and strengthened	2270010	Travel inland (officers)		3,780
		2270010	Travel inland (technicians)		3,920
		2270010	Travel inland (drivers)		840
		2270040	Fuel lubricants & oils		2,625
		2210020	Workshop (advertisement/ announcements/ talk shows)		935
		2210020	Workshop (assorted stationary)		1,920
		2210020	Workshop (refreshments)		16,000
Sub-total					30,020
Total					81,876

Project 101: Increasing Potato Productivity and Farmers' Income through Supplying of Quality Seed Potatoes

PARI: Kachwekano ZARDI	Project title: Increasing Potato Productivity and Farmers’ Income through Supplying of Quality Seed Potatoes	PI: Arinaitwe Abel Byarugaba		
Start Date: 2018	End Date: 2020	Project funding: <i>Funding Agency (s): KOPIA</i> <i>Total value (UGX’432,000,000)*:</i>		
End Project Goal: To increase the capacity of the seed potato production system for mass production and supply of high quality seed potato in Uganda and raising household income				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
4. To increase seed potato production capacity and supply	Agricultural research capacity strengthened		Current seed potato production increased by 86 tons	70,000
		2111020 - Contract staff salaries		10,000
		2240020 - General supply goods and services		20,000
		2270010 - Travel inland		20,000
		2270040 - Fuel lubricants and oils		20,000
5. To build the capacity of in proper seed production techniques	Agricultural research capacity strengthened		600 seed potato farmers trained on quality seed potato production and management	57,400
		2240020 - General supply goods and services		7,000
		2270010 - Travel inland		20,000
		2270040 - Fuel lubricants and oils		10,000
		2210020 - Workshops and seminars		20,400
TOTAL				127,400

Project 102: Confined field evaluation of genetically modified potatoes for resistance to late blight

PARI: Kachwekano ZARDI	Project title: Confined field evaluation of genetically modified potatoes for resistance to late blight		PI: Alex Barekye	
Start Date: 2014	End Date: 2020		Project funding: <i>Funding Agency (s): CIP</i> <i>Total value (UGX') 152,000,000*:</i>	
End Project Goal: To develop a potato variety with extreme resistance to late blight				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To assess the agronomic performance of the lead transgenic events in different agro-ecologies	Generation of agricultural technologies	2111020 contract staff salaries 80,000 2240020 General supply goods and services 20,000 2270010 Travel inland 25,000 2270040 Fuel lubricants and oils 27,000	One transgenic event with extreme resistance and higher yield identified	152,000
Total				152,000

Project 103: National yield performance of Dutch based potato varieties in Uganda

PARI: Kachwekano ZARDI	Project title: National yield performance of Dutch based potato varieties in Uganda	PI: Arinaitwe Abel Byarugaba		
Start Date: 2019	End Date: 2019	Project funding: <i>Funding Agency (s): IFDC</i> <i>Total value (UGX')*60,000,000:</i>		
End Project Goal: To identify new potato varieties of Netherlands origin with better yield and processing qualities for utilisation in Uganda				
NARO Strategic Result Addressed**: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
To assess adaptability and yield of different Dutch based potato varieties in different agro-ecologies of Uganda	Generation of agricultural technologies	2111020 contract staff salaries 10,000 2240020 General supply goods and services 20,000 2270010 Travel inland 15,000 2270040 Fuel lubricants and oils 15,000	At least 5 better performing and high yielding varieties identified and recommended for utilisation in Uganda	60,000
Total				60,000

Project 104: On-site air-to-fertilizer mini-plants relegated by sensor-based ICT technology to foster African agriculture

PARI:MUZARDI	Project title: On-site air-to-fertilizer mini-plants relegated by sensor-based ICT technology to foster African agriculture		PI: Stella Kabiri-Marial	
Start Date: 2018	End Date: 2021		Project funding: c) <i>Funding Agency (s): European Union &UNCST</i> d) <i>Total value (UGX’838,867,000)*:</i>	
End Project Goal: To develop a green-energy driven technology solution to support the on-site fertiliser production in Africa, providing cost-affordable, green-made fertilisers to local small-scale farms.				
NARO Strategic Result Addressed**: Strategic Result 2: <i>Increased research products and services suited for industry</i>				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX’000)
5. Install a small scale Plasma assisted N ₂ fertilizer plant in Uganda for production of fertilizer using locally available energy sources (e.g. solar or bio energy)	Generation of agricultural technologies	2111020 - Contract staff salaries 2270010 - Travel inland 2240060 - Agricultural supplies 2210080 - Computer Supplies & IT Service 2220010-Communication	One mini-fertilizer plant intalled at Kamenyamigo Station, Lwengo district	38,280 9,720 282,613 22,430 2,621
6. Test fertilizer installation plant running to optimization of local conditions	Generation of agricultural technologies	2111020 - Contract staff salaries 2270010 - Travel inland 2220010-Communication	Flexible Nitrogen formulation in liquid fertilizer with N concentration upto 10%.	38,280 9,720 2,621
7. Feasibility of supply fertilizer to local farmers (fertilizer productivities and local acceptance and ICT integration	Generation of agricultural technologies	2111020 - Contract staff salaries 2210020 - Workshops & seminars 2270010 - Travel inland 2220010 - Communication 2210110 - Printing, Stationery, Binding	A social economic report on the potential acceptance of local fertilizer production.	38,280 35,888 9,720 2,621 449



TOTAL				493,243
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Project 105: Plasma N₂: Emissions Saving Through Production of Low Cost Fertilizers Using Air as a Raw Material

PARI:MUZARDI	Project title: Plasma N ₂ : Emissions Saving Through Production of Low Cost Fertilizers Using Air as a Raw Material			PI: Stella Kabiri-Marial
Start Date: 2019	End Date: 2020	Project funding: a) Funding Agency (s): African Academy of Science (AAS), Climate Research 4 Development (CR4D) b) Total value (UGX'376,618,000)*:		
End Project Goal: To decrease industrial CO ₂ emissions by demonstrating a green-energy driven technology solution for Nitrogen fertilizer production using air as a raw material.				
NARO Strategic Result Addressed**: Strategic Result 2: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
8. To Install a small scale Plasma assisted N ₂ fixation plant in Uganda	Generation of agricultural technologies	2111020 - Contract staff salaries 2240020 - General supply goods and services 2250010 - Consultancy services-short term 2270020 -Travel abroad 2270010 - Travel inland 2270040 - Fuel lubricants and oils	One mini-fertiler plant intalled at Kamenyamigo Station, Lwengo district	40,584 185,098 7,142 21,600 6,055 6,055
9. Evaluate production costs of Plasma N ₂ using locally available energy sources (e.g. solar or bio energy).	Generation of agricultural technologies	2111020 - Contract staff salaries 2270010 - Travel inland 2270040 - Fuel lubricants and oils	Nox gases yield >2%, selectivity of N ₂ higher than 60% with Energy consumption <2.5 MJ/mols from renewable energy sources.	40,584 6,055 6,055
10. Assess the chemical Stability of Plasma N ₂	Generation of agricultural technologies	2111020 - Contract staff salaries 2270010 - Travel inland 2270040 - Fuel lubricants and oils	Decomposition, hydrolysis and oxidation of Plasma N ₂ by physicochemical factors such as pH, metals, enzymes, light,	40,584 6,055 6,055



			heat, humidity and oxygen determined.	
TOTAL				376,618

Project 106: Project for Restoration of Livelihood in Northern Region (PRELNOR)

PARI: Ngetta ZARDI	Project title: Project for Restoration of Livelihood in Northern Region (PRELNOR)		PI: Godfrey Otim	
Start Date: 2016	End Date: 2022		Project funding: <i>Funding Agency (s): IFAD</i> <i>Total value:</i> <i>Approximately(UGX'4,000,000,000)*:</i>	
End Project Goal: Increase Income , food security and reduced vulnerability of poor rural households in the project area.				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1: To develop Simple key messages on good agronomic practices for key commodity crops, with clear illustrations, produced for front line subcounty Agricultural officers	Generation of Technologies.	2111020 - Contract staff salaries 2210070 – Advertising and public relations. 2270010 - Travel inland 2270040 - Fuel lubricants and oils	Simple key message on good agronomic practices for key commodity crops, with clear illustrations, produced for front line sub-county Agricultural officers, by; - Producing 4,000 community guides for each crop. - Run for 4 radio talkshows in the region.	111,360 60,000 18,000 27,360 6,000
2: To multiply adequate quantity of foundation seeds of the major selected crop varieties for seed multiplication	Research Interface.	2240010 – Supply of Agric goods and services 2280010 – Maintenance	Adequate quantity of foundation seeds of the major selected crop varieties produced annually to meet the seed demands of the community seed multiplication groups by; - procuring seed produced by LSBs.	466,385 417,385 49,000

farming practices.		Wages 2240010 - Supply of Agric goods & Services. 2270010- Travel inland	- Establishing and managing trials in , minimum tillage, noval varieties, soil cover and crop rotation.	13,550 51,940
6: To coordinate and manage the affairs of the project.	Agricultural research capacity strengthened	2210020 - Workshops & Seminars 2210080 - Computer & ICT services 2230050 - Electricity 2230060 - Water 2270010- Travel inland 2270040- Fuel lubricants and Oil. 2280020- Repair and service of Vehicles	Management and coordination by; - Planning, coordinating, reporting and monitoring .	93,000 34,000 7,000 2,000 2,000 24,000 16,000 8,000
ANNUAL TOTAL				1,307,358

Project 107: Livestock improvement and crop technology transfer to Karamoja farmers

PARI: Nabuin ZARDI	Project title: Livestock improvement and crop technology transfer to Karamoja farmers		PI: Paul Boma	
Start Date: 2018	End Date: 2020		Project funding: <i>Funding Agency (s): OPM</i> <i>Total value (UGX'600,000,000)*:</i>	
End Project Goal: To increase the agricultural productivity and technology transfer to Karamoja region for improved resilience and household income				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
6. To increase pasture production and promote dry season feeding technologies	01: Generation of agricultural technologies	2111020 - Casual labour 2240010 – Medical and Agric. supplies 2240060-Agric supplies 2210110-Printing, Stationery and Binding 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2280020-Vehicle maintenance	200 farmers accessing, growing and preserving pastures for dry season feeding	50,000 13,000 5,000 15,000 1,000 10,000 4,000 2,000
7. To increase number of livestock bred through Artificial Insemination in Karamoja region	01: Generation of agricultural technologies	2111020 - Casual labour 2240010 – Medical and Agric. supplies 2210110-Printing, Stationery and Binding 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2280020-Vehicle maintenance	300 cattle inseminated with pedigree semen	50,000 5,000 28,000 1,000 10,000 4,000 2,000
8. Participatory evaluation and utilisation indigenous plant products to control ticks and tick-borne	01: Generation of agricultural technologies	2240060: Agricultural supplies 2210020: Travel inland 2111020: Casual labour 2280020: Maintenance vehicle 2210110: Stationery, printing and binding	In vitro and participatory in vivo efficacy of three indigenous plant species against ticks (<i>Rhipicephalus appendiculatus</i> , <i>Rhipicephalus decoloratus</i> and <i>Amblyommavariegatum</i>)	50,000 30,000 10,000 4,000 4,000 2,000



diseases among cattle			of cattle determined and promoted amongst pastoralists	
9. To enhance fish production through cage fish farming on Arecek dam for improved food security and income	01: Generation of agricultural technologies	2111020 - Casual labour 2240010 - Medical and Agric. supplies 2240060-Agric supplies 2210110-Printing, Stationery and Binding 2270010 - Travel inland 2270040 - Fuel lubricants and oils 2280020-Vehicle maintenance	100 farmers trained in key aspects of cage fish farming 1 metric ton of Tilapia (<i>Oreochromis niloticus</i>) produced by participating farmers in collaboration with Nabuin ZARDI	50,000 10,000 1,000 28,000 1,500 3,000 4,000 2,000
TOTAL				200,000

Project 108: Crop technology transfer to Karamoja farmers

PARI: Nabuin ZARDI	Project title: Crop technology transfer to Karamoja farmers	PI: VallenceNsabiyera		
Start Date: 2018	End Date: 2020	Project funding: <i>Funding Agency (s): OPM</i> <i>Total value (UGX'300,000,000)*:</i>		
End Project Goal: Improved quality seed production and distribution to improve farmer income and livelihoods in Karamoja				
NARO Strategic Result Addressed**: 3 Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
10. To increase seed production and supply for selected resilient crops' (Cassava, sorghum, sunflower, rice)	2: Research extension interface promoted and strengthened	2111020 - Casual labour	50 tons of seed for selected drought resilient crops produced and distributed	60,000
		2240060 – Agric. supplies		15,000
		2270010 - Travel inland		30,000
		2270040 - Fuel lubricants and oils		10,000
11. To build farmers' capacity on quality seed production and management techniques of drought resilient crops	2: Research extension interface promoted and strengthened	2210020 - Workshops and seminars	400 farmers trained on quality seed production and management	5,000
		2210110 – Printing stationery and binding		8,000
		2270010 - Travel inland		2,000
		2270040 - Fuel lubricants and oils		
Total				100,000

Project 109: Introduction and promotion of improved upland rice crop production and productivity in Teso and Karamoja sub-regions

PARI: Nabuin ZARDI	Project title: Introduction and promotion of improved upland rice crop production and productivity in Teso and Karamoja sub-regions		PI: VallenceNsabiyera	
Start Date: 2018	End Date: 2019		Project funding: <i>Funding Agency (s): KAFACI</i> <i>Total value (UGX'57,000,000)*:</i>	
End Project Goal: Improve farmer livelihoods in Teso and Karamoja sub-regions through introduction and promotion of improved upland rice varieties.				
NARO Strategic Result Addressed**: 2: Increased research products and services suited for industry				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To identify high yielding rice varieties suitable for Karamoja and Teso sub-region dry-lands	1: Generation of agricultural technologies	2111020 - Casual labour 2270010 - Travel inland 2270040 - Fuel lubricants and oils	2 adapted upland rice varieties identified for promotion	7,362.5 3,000 3,000 1,362.5
2. To train farmers and promote appropriate integrated crop, pest and disease management practices for improved rice productivity	2: Research extension interface promoted and strengthened	2210020 – Workshops and seminars 2270010 - Travel inland 2270040 - Fuel lubricants and oils	200 rice farmers trained integrated pest/ disease management and rice agronomy	5,600 2,000 3,000 600
3. To improve availability and access to rice and seed production in KaramojaandTeso sub-region	2: Research extension interface promoted and strengthened	2240060 – Agric. supplies 2270040 - Fuel lubricants and oils	500kgs of adapted rice varieties distributed to in Teso and Karamoja to pilot farmers	2, 000 1,500 500
TOTAL				14,962.5

Project 110: Commercializing Pasture seed production technologies to enhance productivity in smallholder livestock production systems in the south eastern agro-ecological zone of Uganda

Uganda

PARI: Buginyanya ZARDI	Project title: Commercializing Pasture seed production technologies to enhance productivity in smallholder livestock production systems in the south eastern agro-ecological zone of Uganda		PI: Brian Owoyesigire	
Start Date: July 2019	End Date: June 2022		Project funding: <i>Funding Agency (s): KOPIA</i> <i>Total value (UGX'000)*: 166,934</i>	
Goal: The overall objective of the project is to increase livestock productivity for increased household incomes and nutrition security in smallholders crop-livestock production systems in south eastern Agro-ecological zone of Uganda				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Enhance access and production of quality drought tolerant pasture seeds	Research Extension Interface	2240010 Agricultural supplies	Capacity of participating 28 farmer groups in production and marketing of quality pasture seeds strengthened	17,100
		2270010 Travel		15,960
		2111020 Contract labour		16,644
		2210020 Workshops and seminars		12,160
		2210080 Computer supplies		3,686
2. Widen farmers' entrepreneurship skills for commercial seed production in the zone	Research Extension Interface	2210020 Workshops and seminars	Increased availability of quality pasture seeds of improved pasture species for increased milk production in the zone.	10,640
		2210120 Small office equipments		2,698
		2210010 Promotional activities + adverts		7,600
		2270040 Fuel lubricants and oils		4,370
3. Enhance the capacity of farmers in production of high quality hay and silage products for increased livestock production in the zone	Research Capacity Strengthened	2111020 Contract labour	Improved nutrition of livestock and increased milk production in the zone	20,596
		2210010 Advertisements		15,580
		2210020 Workshops		18,240
		2270010 Travel		10,260
		2270040 Fuel, oils & lubricants		7,600
		2280020 Vehicle maintenance		3,800
		Printing & stationery Telecommunication		
Total				166,934



Project 111: Improving nutrition security through participatory development of high yielding and pest resistant pea varieties in Uganda

PARI: Buginyanya ZARDI	Project title: Improving nutrition security through participatory development of high yielding and pest resistant pea varieties in Uganda	PI: BoscoChemayek		
Start Date: July 2019	End Date: June 2022	Project funding: <i>Funding Agency (s): KOPIA</i> <i>Total value</i> <i>(UGX'000)*:201,400</i>		
Goal: Increase field pea productivity for improved household nutrition and household incomes				
NARO Strategic Result Addressed**: Increased niche markets for communities in agricultural sector				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To determine the farmer/consumer preferred peas attributes and identify cowpea production constraints in the highlands of Uganda	Research Capacity Strengthened	2240010 Agricultural supplies 2270010 Travel 2210020 Workshops and seminars 2210080 Computer supplies 2210110 Printing stationery & binding 2280020 Vehicle maintenance	Farmer and stakeholder preferences, and production constraints determined for effective interventions	30,536 11,807 16,883 4,343 4,343 12,649
2. To characterize local and elite pea germplasm and develop improved pea cultivars with resistance to major pests and diseases.	Agricultural technologies developed	2210020 Workshops and seminars 2210120 Small office equipments 2270040 Fuel lubricants and oils 2111020 Contract staff labour 2280020 Vehicle maintenance	Two improved cultivars developed for adoption by farmers	16,693 5,429 13,544 10,857 3,827
3. To develop an appropriate production system for field peas in the highlands of Uganda	Research Extension Interface	2111020 Contract labour 2210010 Advertisements 2210020 Workshops 2270010 Travel 2270040 Fuel, oils &	Two field pea production enhancement technologies developed and promoted to uptake	9,229 7,559 9,229 4,750



		lubricants 2280020 Vehicle maintenance 2210110 Printing & stationery 2220010 Telecommunication	pathways.	4,750 2,538 2,226
4. To develop pro-poor seed production and delivery systems through outreach, training, demonstration/farmer field schools, and community seed multiplication groups.	Research Extension Interface	2111020 Contract labour 2210020 Workshops 2270010 Travel 2270040 Fuel, oils & lubricants 2280020 Vehicle maintenance 2210110 Printing & stationery 2220010 Telecommunication	Awareness of improved fieldpea cultivars and other technology enhancement technologies promoted to at least 500 farmers	7,329 4,655 6,786 4,071 4,343 1,669 1,357
Total				201,400

Project 112: Enhancing production of potato foundation seed in eastern Uganda

PARI: Buginyanya ZARDI	Project title: Enhancing production of potato foundation seed in eastern Uganda		PI: Lawrence Owere	
Start Date: July 2019	End Date: December 2020		Project funding: <i>Funding Agency (s): ISSD</i> <i>Total value (UGX'000)*:114,000</i>	
Goal: Development of a functional, efficient and pluralistic potato seed system for eastern Uganda				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. Build capacity of the LSBs to sustainably handle quality seed potato production and marketing in the highlands of Uganda	Research Extension Interface	2240010 Agricultural supplies 2270010 Travel 2210020 Workshops and seminars 2210110 Printing stationery & binding 2280020 Vehicle maintenance	Capacity of 30 LSBs built to efficiently produce quality potato seed in addition to a functional seed systems MSIP	5,000 13,000 12,450 1,200 1,200
2. Improve ZARDI capacity to produce basic seed	Research Capacity Strengthened	2210120 Small office equipments 2270040 Fuel lubricants and oils 2111020 Contract staff labour 2280020 Vehicle maintenance	Produce at least 200t of Foundation Seed for the season 2019A of both Rwangume and Kinigi, each 100 tons	1,000 6,500 6,400 1,200
3. Promote the provision of storage facilities, packaging and delivery of seed foundation seed of potato	Research Capacity Strengthened	2111020 Contract labour 2210010 Advertisements 2210020 Workshops 2270040 Fuel, oils & lubricants 2280020 Vehicle maintenance 2220010 Telecommunication 3122020 Machinery & Equipment	Quality seed produced processed, tested, appropriately Bagged, labelled, branded and marketed in the zone.	6,600 4,500 8,000 3,800 1,200 1,000 40,950
Total				114,000

Project 113: Strengthening seed potato value chain by providing quality early generation planting materials at Buginyanya station

PARI: Buginyanya ZARDI	Project title: Strengthening seed potato value chain by providing quality early generation planting materials at Buginyanya station		PI: Arthur Wasukira	
Start Date: July 2019	End Date: June 2021		Project funding: g) <i>Funding Agency (s): GIZ</i> h) <i>Total value (UGX'000)*:250,000</i>	
Goal: <i>To strengthen the seed potato early generation system which in turn will result into a thriving seed and ware potato industry for eastern Uganda.</i>				
NARO Strategic Result Addressed**: Communities increasingly using improved agricultural technologies and innovations				
Project Objectives	Vote Function Output	Expenditure Code/Description	Annual output for FY 2019/20	Annual Budget (UGX'000)
1. To update and functionalize the screen-house based production of early generation seed potato (minitubers) at Buginyanya station through sand and hydroponics	Research Capacity Strengthened	2240010 Agricultural supplies	Refurbished and functional lab/ greenhouses, for production of tissue culture materials	25,000
		2270010 Travel		7,000
		2280020 Vehicle maintenance		5,450
		2270040 Fuel lubricants and oils		1,200
		2111020 Contract labour		11,085.656
2. To provide technical planning and production support to screen-house and field based seed potato operators in the zone	Research Extension Interface	2210120 Small office equipments	Enhanced capacity of stakeholders to effectively handle quality seed production	2,000
		2270040 Fuel lubricants and oils		4,500
		2111020 Contract staff labour		5,000
		2280020 Vehicle maintenance		3,200
		2210020 Workshops		21,800
		2210010 Advertisements		2,000
		2220010 Telecommunication		2,000
3. To establish a rapid multiplication facility for potato plantlets through tissue culture at Buginyanya ZARDI	Research Capacity Strengthened	2111020 Contract labour	Infrastructure Upgraded and Equipped to facilitate Quality seed production marketing.	4,600
		2210010 Advertisements		
		2270040 Fuel, oils & lubricants		1,500
		2280020 Vehicle maintenance		5,000



		2220010 Telecommunication 3122020 Machinery & Equipment 2240010 Agricultural supplies 2270010 Travel		3,800 1,200 5,000 16,137.753 4,000
	Research Capacity Strengthened	2111020 Contract labour 2270040 Fuel, oils & lubricants 2280020 Vehicle maintenance 3122020 Machinery & Equipment 2240010 Agricultural supplies 2270010 Travel	Laboratory space remodelled, equipped and customised as a Tissue culture laboratory to handle potato	10,000 5,000 5,000 5,200 60,000 5,064.556
4. To support the quality seed system through provision of critical services	Research Capacity Strengthened	2111020 Contract labour 2210010 Advertisements 2270040 Fuel, oils & lubricants 2280020 Vehicle maintenance 2220010 Telecommunication 3122020 Machinery & Equipment 2270010 Travel	Critical services timely provided to support quality seed production and delivery to end users	4,000 2,000 4,400 6,000 2,000 7,000 2,862.123
Total				250,000

Project 114: Utilizing sustainable Agriculture for increased Crop Productivity along River Mpanga Catchment Area: A participatory Action Research Approach

PARI: Rwebitaba ZARDI	Project title: Utilizing sustainable Agriculture for increased Crop Productivity along River Mpanga Catchment Area: A participatory Action Research Approach		PI: Mutebi Douglas Jjemba	
Start Date: 2018/2019	End Date: 2019/2020		Project funding: <i>Funding Agency (s):</i> Iles de Paix (IDP) <i>Total value (UGX'000) :</i> 44,832,90	
End Project Goal: To contribute to improved incomes and food security among Mpanga Super farmers program beneficiaries				
NARO Strategic Result Addressed: Results 2, 3 and 4				
Project Objectives	Vote Function Output	Annual output for FY 2019/20	Expenditure Code/Description	Annual Budget (UGX'000)
Identify and promote adaptable and popular varieties for maize and beans	01-Generation of Agricultural technologies	Adaptable and high yielding varieties of maize and beans identified and promoted.	2270010- Travel inland (per diem)	21,794
			2210110-Printing stationery and binding	1,150.45
			2111020-Contract staff salaries (inc. casual labourers)	0
			Sub total	22,944.45
To formulate ecologically friendly pests and disease management strategies for bean wilting and yellowing, coffee berry borer and banana bacterial wilt.	01-Generation of Agricultural technologies	Ecologically friendly pests and disease management strategies formulated for bean wilting and yellowing, coffee berry borer and banana bacterial wilt.	2270010- Travel inland (per diem)	20,098
			2210110-Printing stationery and binding	1,150.45
			2111020-Contract staff salaries (inc. casual labourers)	640
			Subtotal	21,888.45
Grand total				44,832. 90