Vote: 142 National Agricultural Research Organisation

Structure of Submission

QUARTER 2 Performance Report

Summary of Vote Performance

Cumulative Progress Report for Projects and Programme

Quarterly Progress Report for Projects and Programmes

QUARTER 3: Workplans for Projects and Programmes

QUARTER 4: Cash Request

Submission Checklist

Vote: 142 National Agricultural Research Organisation

HALF-YEAR: Highlights of Vote Performance

V1: Summary of Issues in Budget Execution

This section provides an overview of Vote expenditure

(i) Snapshot of Vote Releases and Expenditures

Table V1.1 below summarises cumulative releases and expenditures by the end of the quarter:

Table V1.1: Overview of Vote Expenditures (UShs Billion)

(i) Excluding Arrears, Taxes		Approved Budget	Released by End	Spent by End Dec	% Budget Released	% Budget Spent	% Releases Spent
Recurrent	Wage	15.409	8.967	7.718	58.2%	50.1%	86.1%
	Non Wage	9.132	3.970	3.650	43.5%	40.0%	91.9%
Development	GoU	9.547	3.791	3.791	39.7%	39.7%	100.0%
	Donor*	48.990	20.239	14.153	41.3%	28.9%	69.9%
GoU Total		**34.088**	**16.728**	**15.159**	**49.1%**	**44.5%**	**90.6%**
Total GoU+Donor (MTEF)		**83.078**	**36.967**	**29.312**	**44.5%**	**35.3%**	**79.3%**
(ii) Arrears and Taxes	*Arrears*	*0.000*	*0.000*	*0.000*	*N/A*	*N/A*	*N/A*
	*Taxes***	*17.368*	*0.000*	*0.000*	*0.0%*	*0.0%*	*N/A*
Total Budget		**100.446**	**36.967**	**29.312**	**36.8%**	**29.2%**	**79.3%**
(iii) Non Tax Revenue		*4.241*	*0.820*	*0.775*	*19.3%*	*18.3%*	*94.5%*
Grand Total		**104.687**	**37.787**	**30.087**	**36.1%**	**28.7%**	**79.6%**
Excluding Taxes, Arrears		*87.319*	*37.787*	*30.087*	43.3%	34.5%	79.6%

The table below shows cumulative releases and expenditures to the Vote by Vote Function :

Table V1.2: Releases and Expenditure by Vote Function*

Billion Uganda Shillings	Approved Budget	Released	Spent	*% Budget Released*	*% Budget Spent*	*% Releases Spent*
VF:0151 Agricultural Research	87.32	37.79	**30.09**	*43.3%*	*34.5%*	*79.6%*
Total For Vote	**87.32**	**37.79**	**30.09**	***43.3%***	***34.5%***	***79.6%***

* *Excluding Taxes and Arrears*

(ii) Matters to note in budget execution

1. Introduction

The National Agricultural Research Organization (NARO) is mandated to coordinate, oversee and guide agricultural research in Uganda. Its mission is to generate and disseminate appropriate, safe and cost-effective technologies. To fulfill its mandate and mission, NARO receives support from Government of Uganda (GoU), under the Recurrent and Development Expenditure and the World Bank for the EAAPP, JICA, USAID, KAFACI and other development partners. This report covers the reporting period October–December 2012 for funds received during the Financial Year (FY), 2012/2013

2. Justification for the variances in budget execution – A description of issues and challenges faced in

Vote: 142 National Agricultural Research Organisation

HALF-YEAR: Highlights of Vote Performance

budget execution

This second quarter period, october-december 2012, NARO received shs.6,805,871,487/= for recurrent expenditure and shs.1,426,879,686/= under development expenditure, which is up to 85.61% of the expected funds. This shortfall affected the overall performance of the organisation during the quarter considering that number of new planned activities and ongoing activities.

In addition, there was a shortfall in the funds allocated to staff salaries. This caused an unexpected freeze on recruitment which further affected the implementation of some research activities in remote stations. NARO needs to continually attract scientific staff to be deployed in all the Public Agricultural Research Institutes to improve the delivery of agricultural Information, agricultural goods and services to rural areas. This will in turn improve agricultural production and agricultural productivity. It must be recalled that between 2002 and 2006 NARO experienced a ban on recruitment from which the recovery was about to be insight. There is need for the Government to protect budgetary allocations especially for staff salaries.

There has been the Government restriction on purchase of vehicles. NARO provides oversight to Public Agricultural Research Institutes located in remote areas characterised by tough rugged terrain. Hence, the continued need for the availability of new vehicles equal to the task and the terrain. There is need to for the Government to consider lifting this restriction on the organization or selectively implement the restriction. The current fleet of vehicles needs to be reinforced in numbers and quality

Table V1.3: High Unspent Balances and Over-Expenditure in the Domestic Budget (Ushs Bn)

(i) Major unpsent balances	
Programs and Projects	
1.57Bn Shs	Programme/Project: 01 Headquarters
Reason:	
(ii) Expenditures in excess of the original approved budget	

* *Excluding Taxes and Arrears*

V2: Performance Highlights

This section provides highlights of output performance, focusing on key outputs and actions impelemented to improve section performance.

Table V2.1: Key Vote Output Indicators and Expenditures*

Vote, Vote Function Key Output	**Approved Budget and Planned outputs**	**Cumulative Expenditure and Performance**	**Status and Reasons for any Variation from Plans**
Vote Function: 0151 Agricultural Research			
Output:015101	**Generation of agricultural technologies**		

Vote: 142 National Agricultural Research Organisation

HALF-YEAR: Highlights of Vote Performance

Vote, Vote Function Key Output	**Approved Budget and Planned outputs**	**Cumulative Expenditure and Performance**	**Status and Reasons for any Variation from Plans**
Description of Performance:	1.Technologies for enhancing productivity of - Crops (new, intermediate), - Livestock (new and intermediate), - Fisheries (new and intermediate) - Forestry (new and intermediate). 2.Cross cutting outputs to include but not limited to the Environment, HIV/AIDS 3.New varieties of submitted for release 4.New CGS studies conducted	New varieties: /2 – Bananas (M19 and M20), 4-Climbing beans F4:834ML-14/4 (dark red mottled), 2) F4:8 34ML-2/3 (Pinkish), 3) F5:8 90ML-2/1/3a, (Light red mottled) and 4) F6:8 90 ML-5/13 (Red); 7- Beans Released - NABE 17,18,19,20,21,22 & NABE 23; 11 maize varieties released; 1 cassava, 7 upland rice, 5 paddy, 3 wheat Technologies generated: Fisheries, 17 final; crops 120-interim, 11-final; Dairy 5-interim , Forestry 1. CGS Studies: (0 new, 13 on going).	Under CGS, new research areas are being identified while the demand articulation and prioriy setting guidelines for NARO and NAADS are being harmonised. New CGS calls will be made before the end of the third quarter.
Performance Indicators:			
No. of research studies under competitive grants scheme	60	13	
No. of production technologies generated	80	40	
No. of new varieties/ prototypes submitted to Variety Release Committee for release	33	29	
Output Cost:	UShs Bn: 7.509	UShs Bn: 0.890	% Budget Spent: 11.9%

Output: 015102 Research extension interface promoted and strengthened

Vote: 142 National Agricultural Research Organisation

HALF-YEAR: Highlights of Vote Performance

Vote, Vote Function Key Output	**Approved Budget and Planned outputs**	**Cumulative Expenditure and Performance**	**Status and Reasons for any Variation from Plans**
Description of Performance:	1.Foundation seed provided to seed companies; 2.Breeder seed provided to seed companies; 3.Clean/Improved planting materials multiplied and availed to uptake pathways; 4.On-farm trials conducted; 5.Technology demonstrations held on station and technology parks; 6.Capacity of Farmers and Farmer Groups to make choices and implement decisions that affect their livelihoods enhanced; 7.Dissemination and Training workshops held for subject matter specialists and other service providers; 8.Scientific conferences, dissemination workshops and seminars for scientists, extension agents and policy makers conducted; 9.Scientific & extension dissemination materials developed and published; 10.Design and development of Farming manuals; 11.Publicity and News articles developed and published, 12.Audio Visuals in English and local languages developed and availed to uptake pathways; 13.Radio talk shows conducted;	Platforms (1 cassava, 1 banana, 5 platforms, 5 rice value chains. Pathways (8 cassava, 1 Fisheries).	New platforms will be initiated in the next half of the FY.
Performance Indicators:			
No. of technological innovations delivered to uptake pathways	5	3	
No. of technological innovation platforms established/supported	30	15	
Output Cost:	UShs Bn: 4.283	UShs Bn: 0.288	% Budget Spent: 6.7%
Output: 015105	**Generation of technologies for priority commodities**		

Vote: 142 National Agricultural Research Organisation

HALF-YEAR: Highlights of Vote Performance

Vote, Vote Function Key Output	**Approved Budget and Planned outputs**	**Cumulative Expenditure and Performance**	**Status and Reasons for any Variation from Plans**
Description of Performance:	1.Technologies for enhancing productivity of Crops (new, intermediate), Livestock (new and intermediate), 2.New varieties of submitted for release 3.Foundation seed provided to seed companies; 4.Breeder seed provided to seed companies; 5.Clean/Improved planting materials multiplied and availed to uptake pathways; 6.On-farm trials conducted; 7.Technology demonstrations held on station and technology parks; 8.Capacity of Farmers and Farmer Groups to make choices and implement decisions that affect their livelihoods enhanced;	NA	NA
Output Cost:	UShs Bn: 16.043	UShs Bn: 1.107	% Budget Spent: 6.9%
Vote Function Cost	***UShs Bn: 87.319***	***UShs Bn: 30.087***	***% Budget Spent: 34.5%***
Cost of Vote Services:	*UShs Bn:* **87.319**	*UShs Bn:* **30.087**	*% Budget Spent:* **34.5%**

* *Excluding Taxes and Arrears*

Salient events in the second quarter

1. NARO Scientific conference

Section 7, subsection 2 of the NAR Act 2005 requires the NARO to convene a meeting at least once a year of representatives of agricultural research service providers, farmers, private sector and civil society and other stakeholders for the purpose of discussing issues relevant to agricultural research and setting agricultural research priorities. NARO conducted a scientific conference between 1-3 October 2012.

2. During the scientific conference NARO launched book on 50 years contribution of agricultural research to the national development.

3.The first internation workshop of the Korea-Africa Food and Agricultural cooperative Initiative (KAFACI) - International conference on Technology dissemination was held in Uganda 24-26 October 2012. The workshop was jointly organised by KAFACI Secretariat and NARO.

3 World Food Day

NARO is the Gou technical arm in organising the WFD celebrations. The day is held every 16th October. For the last two years now, NARO has been hosting the national celebrations in Mukono ZARDI , Abi ZARDI in Arua district. During the WFD, a myriad of improved technologies are displayed, demonstrated and availed to farmers and other stakeholders, in addition farmers and other stakeholders interface with scientists, advisory and extension workers and others. This year, the WFD will be hosted at the Mbarara Zonal Agricultural Research and Development Institute.

4. EAAPP Midterm Review

NARO has been implementing EAAPP which was declared effective in 2011. The World Bank conducted

Vote: 142 National Agricultural Research Organisation

HALF-YEAR: Highlights of Vote Performance

an EAAPP midterm review in November 2012 to ascertain the progress since the inception at the regional level. NARO is implementing EAAPP on behalf of the Government of Uganda, Ministry of Agriculture, Animal Fisheries and Fisheries.

Table V2.2: Implementing Actions to Improve Vote Performance

Planned Actions:	Actual Actions:	Reasons for Variation
Vote: 142 National Agricultural Research Organisation		
Vote Function: 01 51 Agricultural Research		
Implementation of research activities under ATAAS and EAAPP.	**70 on going projects approved by NARO Council.**	None

V3: Details of Releases and Expenditure

This section provides a comprehensive summary of the outputs delivered by the Vote and further details of Vote expenditures by Vote Function and Expenditure Item.

Table V3.1: GoU Releases and Expenditure by Output*

Billion Uganda Shillings	Approved Budget	Released	Spent	*% GoU Budget Released*	*% GoU Budget Spent*	*% GoU Releases Spent*
VF:0151 Agricultural Research	**34.09**	**16.73**	**15.16**	***49.1%***	***44.5%***	***90.6%***
Class: Outputs Provided	*29.10*	*15.09*	*13.52*	*51.9%*	*46.5%*	*89.6%*
015101 Generation of agricultural technologies	1.90	0.98	**0.98**	*51.9%*	*51.9%*	*100.0%*
015102 Research extension interface promoted and strengthened	0.52	0.29	**0.29**	*55.2%*	*55.2%*	*100.0%*
015103 Internal Audit	0.06	0.03	**0.03**	*50.0%*	*50.0%*	*100.0%*
015104 Agricultural research capacity strengthened	24.07	12.68	**11.11**	*52.7%*	*46.2%*	*87.6%*
015105 Generation of technologies for priority commodities	2.55	1.11	**1.11**	*43.4%*	*43.4%*	*100.0%*
Class: Outputs Funded	*1.56*	*0.78*	*0.78*	*50.0%*	*50.0%*	*100.0%*
015151 Payments to International Organisations (CGIAR, ASARECA, WARDA)	1.56	0.78	**0.78**	*50.0%*	*50.0%*	*100.0%*
Class: Capital Purchases	*3.43*	*0.86*	*0.86*	*25.0%*	*25.0%*	*100.0%*
015172 Government Buildings and Administrative Infrastructure	1.00	0.25	**0.25**	*25.0%*	*25.0%*	*100.0%*
015176 Purchase of Office and ICT Equipment, including Software	0.50	0.13	**0.13**	*25.0%*	*25.0%*	*100.0%*
015177 Purchase of Specialised Machinery & Equipment	1.08	0.27	**0.27**	*25.0%*	*25.0%*	*100.0%*
015178 Purchase of Office and Residential Furniture and Fittings	0.85	0.21	**0.21**	*25.0%*	*25.0%*	*100.0%*
Total For Vote	**34.09**	**16.73**	**15.16**	***49.1%***	***44.5%***	***90.6%***

* *Excluding Taxes and Arrears*

Table V3.2: 2012/13 GoU Expenditure by Item

Billion Uganda Shillings	Approved Budget	Releases	Expend-iture	% Budged Released	% Budget Spent	%Releases Spent
Output Class: Outputs Provided	***29.10***	***15.09***	***13.52***	***51.9%***	***46.5%***	*89.6%*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	15.59	8.98	**7.73**	57.6%	49.6%	86.1%
211103 Allowances	0.14	0.06	**0.06**	44.6%	44.6%	100.0%
212201 Social Security Contributions	2.07	1.26	**1.12**	60.9%	53.9%	88.5%
213001 Medical Expenses(To Employees)	0.10	0.05	**0.03**	50.0%	25.0%	50.0%
213002 Incapacity, death benefits and funeral expenses	0.58	0.15	**0.06**	25.0%	10.1%	40.4%
213004 Gratuity Payments	1.13	0.39	**0.32**	34.2%	28.6%	83.4%
221001 Advertising and Public Relations	0.05	0.01	**0.01**	27.2%	27.2%	100.0%
221002 Workshops and Seminars	0.12	0.15	**0.15**	123.7%	123.7%	100.0%
221003 Staff Training	0.52	0.17	**0.17**	33.1%	33.1%	100.0%
221004 Recruitment Expenses	0.10	0.06	**0.06**	61.1%	61.1%	100.0%
221005 Hire of Venue (chairs, projector etc)	0.11	0.07	**0.07**	63.4%	63.4%	100.0%
221006 Commissions and Related Charges	0.38	0.10	**0.10**	26.2%	26.2%	100.0%

Vote: 142 National Agricultural Research Organisation

HALF-YEAR: Highlights of Vote Performance

Billion Uganda Shillings	Approved Budget	Releases	Expend-iture	% Budged Released	% Budget Spent	%Releases Spent
221007 Books, Periodicals and Newspapers	0.09	0.04	**0.04**	45.2%	45.2%	100.0%
221008 Computer Supplies and IT Services	0.20	0.07	**0.07**	33.7%	33.7%	100.0%
221009 Welfare and Entertainment	0.17	0.04	**0.04**	24.8%	24.8%	100.0%
221011 Printing, Stationery, Photocopying and Binding	0.19	0.10	**0.10**	54.8%	54.8%	100.0%
221012 Small Office Equipment	0.09	0.02	**0.02**	24.6%	24.6%	100.0%
221014 Bank Charges and other Bank related costs	0.00	0.01	**0.01**	N/A	N/A	100.0%
221016 IFMS Recurrent Costs	0.12	0.05	**0.05**	40.4%	40.4%	100.0%
221017 Subscriptions	0.00	0.00	**0.00**	25.0%	25.0%	100.0%
222001 Telecommunications	0.11	0.06	**0.06**	56.0%	56.0%	100.0%
222002 Postage and Courier	0.03	0.03	**0.03**	125.4%	125.4%	100.0%
222003 Information and Communications Technology	0.14	0.04	**0.04**	29.9%	29.9%	100.0%
223004 Guard and Security services	0.11	0.05	**0.05**	42.2%	42.2%	100.0%
223005 Electricity	0.30	0.15	**0.15**	49.4%	49.4%	100.0%
223006 Water	0.03	0.02	**0.02**	48.5%	48.5%	100.0%
223901 Rent (Produced Assets) to other govt. Units	0.02	0.01	**0.01**	24.2%	24.2%	100.0%
224001 Medical and Agricultural supplies	2.63	1.15	**1.15**	43.6%	43.6%	100.0%
224002 General Supply of Goods and Services	0.80	0.41	**0.41**	51.6%	51.6%	100.0%
225001 Consultancy Services- Short-term	0.08	0.06	**0.06**	79.3%	79.3%	100.0%
226001 Insurances	0.51	0.16	**0.16**	31.7%	31.7%	100.0%
227001 Travel Inland	0.73	0.33	**0.33**	44.8%	44.8%	100.0%
227002 Travel Abroad	0.04	0.06	**0.06**	142.5%	142.5%	100.0%
227004 Fuel, Lubricants and Oils	0.54	0.34	**0.34**	62.9%	62.9%	100.0%
228001 Maintenance - Civil	0.64	0.19	**0.19**	29.9%	29.9%	100.0%
228002 Maintenance - Vehicles	0.48	0.21	**0.21**	43.5%	43.5%	100.0%
228003 Maintenance Machinery, Equipment and Furniture	0.12	0.04	**0.04**	30.9%	30.9%	100.0%
228004 Maintenance Other	0.05	0.01	**0.01**	24.5%	24.5%	100.0%
Output Class: Outputs Funded	***1.56***	***0.78***	***0.78***	***50.0%***	***50.0%***	*100.0%*
262101 Contributions to International Organisations (Curre	1.55	0.78	**0.78**	50.0%	50.0%	100.0%
264101 Contributions to Autonomous Inst.	0.01	0.01	**0.01**	50.0%	50.0%	100.0%
Output Class: Capital Purchases	***20.80***	***0.86***	***0.86***	***4.1%***	***4.1%***	*100.0%*
231001 Non-Residential Buildings	1.00	0.25	**0.25**	25.0%	25.0%	100.0%
231005 Machinery and Equipment	1.58	0.40	**0.40**	25.0%	25.0%	100.0%
231006 Furniture and Fixtures	0.85	0.21	**0.21**	25.0%	25.0%	100.0%
312206 Gross Tax	17.37	0.00	**0.00**	0.0%	0.0%	N/A
Grand Total:	**51.46**	**16.73**	**15.16**	**32.5%**	**29.5%**	**90.6%**
Total Excluding Taxes and Arrears:	**34.09**	**16.73**	**15.16**	**49.1%**	**44.5%**	**90.6%**

Table V3.3: GoU Releases and Expenditure by Project and Programme*

Billion Uganda Shillings	Approved Budget	Released	Spent	*% GoU Budget Released*	*% GoU Budget Spent*	*% GoU Releases Spent*
VF:0151 Agricultural Research	**34.09**	**16.73**	**15.16**	***49.1%***	***44.5%***	***90.6%***
Recurrent Programmes						
01 Headquarters	21.08	11.50	**9.93**	*54.6%*	*47.1%*	*86.4%*
02 Competitive Grant scheme Secretariat	0.00	0.00	**0.00**	*N/A*	*N/A*	*N/A*
07 National Crops Research	0.62	0.23	**0.23**	*38.0%*	*38.0%*	*100.0%*
08 National Fisheries Research	0.31	0.12	**0.12**	*39.1%*	*39.1%*	*100.0%*
09 National Forestry Research	0.20	0.09	**0.09**	*45.6%*	*45.6%*	*100.0%*
10 National Livestock Research	0.30	0.11	**0.11**	*38.1%*	*38.1%*	*100.0%*
11 National Semi arid Research	0.29	0.13	**0.13**	*45.0%*	*45.0%*	*100.0%*
12 National Laboratories Research	0.69	0.30	**0.30**	*43.0%*	*43.0%*	*100.0%*

Vote: 142 National Agricultural Research Organisation

HALF-YEAR: Highlights of Vote Performance

13	Abi ZARDI	0.11	0.04	**0.04**	*41.9%*	*41.9%*	*100.0%*
14	Bulindi ZARDI	0.10	0.04	**0.04**	*40.9%*	*40.9%*	*100.0%*
15	Kacwekano	0.12	0.05	**0.05**	*40.5%*	*40.5%*	*100.0%*
16	Mukono ZARDI	0.13	0.05	**0.05**	*39.4%*	*39.4%*	*100.0%*
17	Ngetta ZARDI	0.13	0.06	**0.06**	*43.5%*	*43.5%*	*100.0%*
18	Nabium ZARDI	0.10	0.04	**0.04**	*39.8%*	*39.8%*	*100.0%*
19	Mbarara ZARDI	0.10	0.04	**0.04**	*43.1%*	*43.1%*	*100.0%*
20	Buginyaya ZARDI	0.17	0.08	**0.08**	*44.9%*	*44.9%*	*100.0%*
21	Rwebitaba ZARDI	0.05	0.02	**0.02**	*40.7%*	*40.7%*	*100.0%*
26	NARO Internal Audit	0.06	0.03	**0.03**	*50.0%*	*50.0%*	*100.0%*
Development Projects							
0382	Support for NARO	9.55	3.79	**3.79**	*39.7%*	*39.7%*	*100.0%*
1138	EAAPP	0.00	0.00	**0.00**	*N/A*	*N/A*	*N/A*
1139	ATAAS (Grant) EU, WB and DANIDA Funded	0.00	0.00	**0.00**	*N/A*	*N/A*	*N/A*
Total For Vote		**34.09**	**16.73**	**15.16**	***49.1%***	***44.5%***	***90.6%***

* *Excluding Taxes and Arrears*

Table V3.4: Donor Releases and Expenditure by Project and Programme*

Billion Uganda Shillings	**Approved Budget**	**Released**	**Spent**	*% GoU Budget Released*	*% GoU Budget Spent*	*% GoU Releases Spent*
VF:0151 Agricultural Research	**48.99**	**20.24**	**14.15**	***41.3%***	***28.9%***	***69.9%***
Development Projects						
1138 EAAPP	18.99	10.52	**7.35**	*55.4%*	*38.7%*	*69.9%*
1139 ATAAS (Grant) EU, WB and DANIDA Funded	30.00	9.72	**6.81**	*32.4%*	*22.7%*	*70.0%*
Total For Vote	**48.99**	**20.24**	**14.15**	***41.3%***	***28.9%***	***69.9%***

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

Outputs Funded

Output: 01 51 51 Payments to International Organisations (CGIAR, ASARECA, WARDA)

Annual Planned Outputs:

quarterly GOU subscriptions transferred to international organisations (ASARECA, CGIAR, etc)

Cumulatie Outputs Achieved by the end of the Quarter:

Payment to CGIAR made.

Reasons for Variation in performance

None

Item	*Spent*
262101 Contributions to International Organisations (Current)	325,000
264101 Contributions to Autonomous Inst.	2,500
Total	**327,500**
Wage Recurrent	*0*
Non Wage Recurrent	*327,500*
NTR	*0*

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

1. Competitive research agenda developed;
2. Competitive research projects processed and implemented
3. Quality management system established
6- UJAS production operationalised
7 - Office equipment for UJAS Secretariat acquired
8- UJAS Journal Publicised and popularised
9 - At least 3 UJAS Editorial Board meetings held
10 - At least 3 UJAS Editorial Board meetings held
11- UJAS Secretarial work done
12- UJAS Miscllleneous expenditures paid.

2.NARO Scientific Conference held;
3.Annual planning and Review meeting held`
4.Quarterly planning and Review meetings conducted
5.Conduct monitoring and evaluation of research.

Updated research priorities and agenda incorporating emerging & crossscutting issues developed and implemented.

Demand -driven, market -responsive and client oriented research priority setting and process strengthens.

Core national and zonal strategic research programmes implemented.

Sufficient funds for agricultural research mobilised and disbursed.

Increased visibility , public acceptance & appreciation of NARO
Lessons & experiences shared with different stakeholders.

Effective and good IPR Policy
Well equipped law library.

HR/ADMIN:

6.Water utility bills paid; Electricity utility bills paid; Telephone,

Item	*Spent*
211103 Allowances	6,753
221011 Printing, Stationery, Photocopying and Binding	18,558
222001 Telecommunications	12,580
223006 Water	1,150
224002 General Supply of Goods and Services	134,052
227004 Fuel, Lubricants and Oils	25,516

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

Cumulatie Outputs Achieved by the end of the Quarter:

- 1 M and E missions was conducted in the Abi ZARDI.
- Organised the NARO Scientific conference.
- Organised KAFACI international workshop.

Q1
- Preparation for the NARO Scientific conference have been conducted;
- Annual research planning and review meeting in the PARIs have been held;
- 3 M and E missions have been conducted in the PARIs.

Reasons for Variation in performance

None

Total	**204,908**
Wage Recurrent	*0*
Non Wage Recurrent	*204,908*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Annual Planned Outputs:

DG's office:

Good governance and corporate social responsibility ensured and promoted.

NARO's contribution towards national Agricultural Research .
Networking, Partnership and collaboration stakeholders meetings held;

Stakeholders sensitisation workshops/meetings of conducted;

1.NARO-NAADS Joint workshops and meetings conducted;
2.Stakeholders trained in IAR4D
3.Joint stakeholder Planning/Review/Feedback/ workshops and meetings held;
4.membership to local Associations made and update
5.Networking, Partnership and collaboration stakeholders meetings held;
6.stakeholders sensitisation workshops/meetings of conducted;
7.Participate in open days/Farmer field schools/exhibitions/trade fairs/Agricultural show/Field days;
8.Extension and promotional materials developed and disseminated

Item	*Spent*
221002 Workshops and Seminars	14,393
221008 Computer Supplies and IT Services	2,500
227001 Travel Inland	40,000

Cumulatie Outputs Achieved by the end of the Quarter:

- Organised the World food day celebrations in Mbarara ZARDI.

Q1
- 2 NARO-NAADS joint M and E meeting on conducted;
- Participated in preparations for the Jinja Agricultural show;
- Extension and promotional materials developed and ready for printing and dissemination

- Improved quality of agricultural research service provision.

Reasons for Variation in performance

None

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

Total	**56,893**
Wage Recurrent	*0*
Non Wage Recurrent	*56,893*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

HR:

1.Staff Salaries and other contract salaries paid
2.Good Governance and corporate social responsibility ensured and promoted; Leadership and oversight Management of agricultural research provided;
3.Staff recruited and trained
4.Stationery and office consumables procured;
5.Office equipment maintained;
Postage and courier services used;
7.Vehicles serviced; Office buildings maintained; Compound maintained;
8.Maintain effective ICT facilities and Subscription for internet paid;

10.Acquisition of books, agric. Information magazines and newspapers;
11.security maintained
12.Break tea and Refreshments provided ;
9.Facilitate Technical meetings (Heads of Units) and other stakeholder workshops.

Research implementation at institutes guided.
Well motivated staff retained in the organization.
Improvement in performance management and recruitment skills.
70 positions filled by December 31, 2012.
Organizational objectives achieved and individual tasks accomplished.
Staff motivated
A safe environment provided for NARO assets.
Staff Development and training.

PROCUREMENT:

Proper procurement documents prepared and efficient

HR:
supervision of works.
ICT facilities and Subscription for internet paid;

11.security maintained
12.Break tea and Refreshments provided ;
9.Facilitate Technical meetings (Heads of Units) and other stakeholder workshops;

ACCOUTS:
1) Computerised Financial Information, under "Solomon" accounting Package-Micro-soft Dynamics SL

Quarterly entity accounts, financial statements, commitment control reports, several manual books of accounts maintained.

Periodical Financial Budgets

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	7,629,773
212201 Social Security Contributions	1,115,751
213001 Medical Expenses(To Employees)	25,000
213004 Gratuity Payments	321,476
221003 Staff Training	8,450
221004 Recruitment Expenses	12,500
221016 IFMS Recurrent Costs	25,500
223004 Guard and Security services	5,400
224002 General Supply of Goods and Services	978
228002 Maintenance - Vehicles	24,533

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

NARO- "IFMS"
Capacity Development
Annual financial audit

Fulfilment of Banking obligations
Government Taxes
WorldBank Financial Reports.

PR:

Backstop research institutes in areas of Public Relations & Development Communication as well as branding concepts;
13.Participate in Agricultural exhibitions, trade fairs, shows and Open days;
14.Undertake Corporate Marketing and Promotional activities;
15.agricultural research finding published (both hard and soft);
16.Facilitate the approval and registration of all non-PARI research service providers;
17.Participate in donor dialogues meeting.

Improved quality of agricultural research service provision.

Sufficient funds for agricultural research mobilised and disbursed.

Increased visibility , public acceptance & appreciation of NARO
Lessons & experiences shared with different stakeholders .

Effective and good IPR Policy
Well equipped law library

Knowledge of all legal problems affecting the institutes
An effective legally recognized logo.

ICT:

1.30% staff at NARO are trained in ICDL to ensure efficient use of ICT equipment.
2.ICT technical staff certify in appropriate ICT technical & ICT support courses (ITIL, BCP, SAN CISCO, ORACLE, & Microsoft)

Cumulatie Outputs Achieved by the end of the Quarter:

Staff salaries paid for the months October-December 2012.
- New NARO council induction conduted;
- More staff on longtime training
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- 2 Vehicles serviced; Office buildings maintained; Compound maintained;
- Maintain effective ICT facilities and Subscription for internet paid;
- Acquisition of books, agric. Information magazines and newspapers;
- Security maintained
- Break tea and Refreshments provided

Q1
- Staff salaries for July-September 2012 paid;
- New NARO council launched;
- Staff recruited and trained
- Stationery and office consumables procured;
- Office equipment maintained;

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

- Postage and courier services used;
- Vehicles serviced; Office buildings maintained; Compound maintained;
- Maintain effective ICT facilities and Subscription for internet paid;
- Acquisition of books, agric. Information magazines and newspapers;
- Security maintained
- Break tea and Refreshments provided ;
- Facilitate Technical meetings (Heads of Units) and other stakeholder workshops.
- Staff Development and training.
- Contracts committee meetings held
- ICT facilities and Subscription for internet paid;
- Computerised Financial Information, under -Micro-soft Dynamics SL maintained;
- Quarterly entity accounts, financial statements, commitment control reports, books of accounts maintained.

Reasons for Variation in performance

None

Total	**9,345,576**
Wage Recurrent	*7,629,773*
Non Wage Recurrent	*1,714,825*
NTR	*978*

Programme 07 National Crops Research

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

1. Uninterrupted & Constant Supply of Electricity and water
2. Activities at different sites carried out according to plan
3. Effective running operational activities
4. Functional Generators in working condition
5. Various types of reports produced for effective management on a day - day basis
6. 4 Staff trained through short courses & Workshops in Finance, Audit Administration, Procurement)
7. 5 Staff trained in various areas of Administration,Finance,Procurement, Audit & Science
8. Required inputs made available for experiment and trials

Item	*Spent*
211103 Allowances	6,000
221002 Workshops and Seminars	5,075
221011 Printing, Stationery, Photocopying and Binding	23,010
222001 Telecommunications	3,600
223005 Electricity	31,500
227004 Fuel, Lubricants and Oils	45,200

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintainence of fences for field trial plots, Including weeding, application of herbicides and fertilisers);
- Maintainence of multiplication sites for breeder seed and improved planting materials.(weeding, pruning and application of herbicides)

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Inadquate and late release of funds.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 07 National Crops Research

Total	**114,385**
Wage Recurrent	*0*
Non Wage Recurrent	*114,385*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

NaCRRI and COREC

1.Well maintained compounds and roads for a good working enviroment
2 Staff Recruited in finance and audit units
3.Establishment of Policy guidelines, recommendations & review
4.Represention/Attendance of Official Meetings
5.Activities in 8 Trial sites in COREC Bugusege & Kiige are carried according to Plan
6.Constant /Uninterrupted Flow of Communication
7.Well maintained and functional information processing system
8.A well maintained and functional telephone network for NaCRRI
9.A well motivated staff to ensure efficent and effective performance
10.A well motivated staff with working tools to ensure efficent and effective performance
11.Institute Assets protected from thieves & Vandalisation
12.At least 80% of NaCRRI vehicle are functional to ensure easy transported and activities
13.All parts of NaCRRI is accessable and have sanitation facility
14.Institute Assets protected from thieves & Vandalisation
15.Office buildings maintained to provide good working condition

Item	*Spent*
221003 Staff Training	6,900
223004 Guard and Security services	4,800
224002 General Supply of Goods and Services	74,531
228002 Maintenance - Vehicles	32,000

Cumulatie Outputs Achieved by the end of the Quarter:

- October-December 2012 utility bills paid for Namulonge and Kituza;
- Assortment of stationery and office consumables procured;
- Office equipment maintained;
Subscription for internet paid and newspapers;
- Break tea and Refreshments provided ;
- compound and roads maintained;

Q1
- Utility bills paid for Namulonge and Kituza;
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced; Office buildings maintained; Compound maintained;
- Maintain effective ICT facilities and Subscription for internet paid;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided
- security maintained
- Break tea and Refreshments provided ;
- compound and roads maintained;

Reasons for Variation in performance

Inadquate funds released.

Total	**156,551**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 07 National Crops Research

Wage Recurrent	*0*
Non Wage Recurrent	*82,021*
NTR	*74,531*

Output: 01 51 05 Generation of technologies for priority commodities

Item	*Spent*
224001 Medical and Agricultural supplies	37,856

Annual Planned Outputs:

Released and near release bean varieties produced and maintained, Stress tolerant / resistant bean genotypes identified and incidence & severity of major bean pests & diseases determined
Stress tolerant maize varieties released, released maize varieties purified, pests & diseases yield loss determined
Cassava lines resistant to stress with desirable attributes released, Virus disease maps generated, Early warning systems developed, nutrient-use-efficiencies of elite cassava genotypes determined
Stress tolerant rice varieties released, released rice varieties purified, pests & diseases yield loss determined &performance of new upland and rain fed low land rice lines determined
Coffee varieties with high yields, resistant to stress developed, Technologies for control of pests and diseases developed and Effective soil fertility and water management options developed
Information on best agronomic practices generated and availed, Extent of pest infestation in tea growing areas determined & management options of major pests developed
Effective soil fertility and water management options for new varieties and non-traditional areas developed

Cumulatie Outputs Achieved by the end of the Quarter:

Tea
-The major diseases found in Kanungu were Armillaria mellea and Xylaria
cassava
Coffee
- Comprehensive national surveys for spread and impact covered Bunyoro sub-region. Manuscript for spread and impact studies submitted for publication in a refereed journal.
- Monthly data collection on community-based participatory approaches implemented in Mukono and Nakaseke districts comparing phyto-sanitary farms with non-phyto-sanitary ones was done and undergoing analysis.
- Running cultures of entomo-pathogens B. bassiana and M. anisopliae established in the laboratory at Kituza
Maize
- Yield potential for 3 maize (Longe 4, 5 and MM3) and elite sorghum varieties (E1-E11) were established under 3 different spacing and no nutrient supplement and rain fed conditions in West nile zone
Beans
- Bush varieties Nabe 3, Nabe 5, K131, Nabe 2 and Nabe 1 yielded 2.7t, 2.52t, 2.4t, 2.3t and 2.3t and 2.1t and 2.0t/ha compared to local varieties Kamwanyi 0.7t and Bulangiti 0.4t respectively
- 1 Variety evaluation trial established and at physiological maturity stage. Varieties Nabe 3, Nabe 5 and K131, and Nabe 2 appear suprerior expected to yield above 1.8t/ha
- 1 ha of onstation seed multiplication for promising varieties at grain filling stage. 1000kg expected (low due to poor season)

Q1
- Maintainence of field trial plots;

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 07 National Crops Research

- Maintainence of multiplication sites for breeder seed and improved planting materials.

Reasons for Variation in performance

Inadquate release of funds.

Total	**37,856**
Wage Recurrent	*0*
Non Wage Recurrent	*37,856*
NTR	*0*

Programme 08 National Fisheries Research

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

Technology/knowledge/ information generated for at least one core research study

Knowledge and information on Aquqtic Biodiversity disseminated to students in mid secondary level.

Office and stationery supplies procured.

Enhanced research through improved networking capacity.

Smooth running of research activities.

Smooth running of research activities.

Technology/knowledge/ information generated for at least one core research study.

Back to office and Feedback reports.

Item	*Spent*
211103 Allowances	4,680
221002 Workshops and Seminars	3,000
221011 Printing, Stationery, Photocopying and Binding	3,380
222001 Telecommunications	3,600
223005 Electricity	12,112
223006 Water	5,505
227004 Fuel, Lubricants and Oils	8,356

Cumulatie Outputs Achieved by the end of the Quarter:

One reconnaissance surveys were conducted in the inshore waters of the Ugandan part of Lake Victoria and geo-referenced data was captured for 157 grounds identified as potential fish breeding/nursery grounds.

Q1
- Marine facilities, buildings maintained;

Reasons for Variation in performance

Inadquate and late release of funds.

Total	**40,633**
Wage Recurrent	*0*
Non Wage Recurrent	*40,633*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 08 National Fisheries Research

Annual Planned Outputs:

Improved awareness in ways of increasing fish production.

Capacity for producing dissemination outreach materials using ICT facilities.

Coordinated research managemnt

Cumulatie Outputs Achieved by the end of the Quarter:

1000 NAFIRRI brochures printed

Q1
Management meeting held

Reasons for Variation in performance

Inadquate release of funds.

Item	*Spent*
221007 Books, Periodicals and Newspapers	3,002
221008 Computer Supplies and IT Services	1,900
227001 Travel Inland	3,807

Total	**8,709**
Wage Recurrent	*0*
Non Wage Recurrent	*8,709*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

Smooth running of research activities and management.

Public awareness of institute research programmes.

Skilled manpower.

Staff recruited into idendified vacant positions.

Smooth research implemenation and management.

ICT capacity strengthened for effective delivery of research outputs.

Enhanced team work and motivation.

Smooth office operations.

Enhanced research through improved networking capacity.

Security to Institute premises and property.

Technical assistance/advice to support research.

Annual insurance cover for institute property e.g. vehicles.

Back to office and Feedback reports.

institute building and infrastructure maintained.

Operational institute vehicles.

Operational institute Machinery and equipment.

Operational other institute property not mentioned above

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	9,600
221003 Staff Training	7,100
221004 Recruitment Expenses	3,200
223004 Guard and Security services	9,000
224002 General Supply of Goods and Services	34,361
228002 Maintenance - Vehicles	11,116

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 08 National Fisheries Research

Compound and ponds maintained
ThreeInstitute guest houses provided with electricity
Three Institute guest houses provided with running water
Protection of Institute premises and property strengthened
Well maintaned Institute tractor
Regular civil maitainance of institute buildings and infrastructure
Well maintaned Institute lorry
Regular civil maitainacnes of institute building and infrastructure
Well maintaned Institute boats
Maintenance of Three NTR bank accounts.
Administrative travels to the Secretariate and other areas of operations facilitated

Cumulatie Outputs Achieved by the end of the Quarter:

- October-December 2012 utility bills paid for Jinja and Kajansi stations
- 3 Vehicles repaired.
- Directors supervision travels facilitated.
- October-December 2012 internet subscription paid.

Q1
- Office buildings maintained; - Compound maintained;
- Maintain effective ICT facilities and Subscription for internet paid in Jinja and Kajjansi;
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided ;
- one contracts committee meeting held
- ICT facilities and Subscription for internet paid.

Q1
- Office buildings maintained; - Compound maintained;
- Maintain effective ICT facilities and Subscription for internet paid in Jinja and Kajjansi;
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided ;
- one contracts committee meeting held
- ICT facilities and Subscription for internet paid.

Reasons for Variation in performance

Inadquate funds released.

Total	**122,506**
Wage Recurrent	*9,600*
Non Wage Recurrent	*43,262*
NTR	*69,644*

Output: 01 51 05 Generation of technologies for priority commodities

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 08 National Fisheries Research

Annual Planned Outputs:

Fish diversity, Reproductive Ecology and Improvement of Genetics and Culture Practices of Commercial value fishes

Cumulatie Outputs Achieved by the end of the Quarter:

- Three reconnaissance surveys were conducted in the inshore waters of the Ugandan part of Lake Victoria and geo-referenced data was captured for 157 grounds identified as potential fish breeding/nursery grounds.
- Draft map outputs produced for the locations of fish breeding/nursery grounds in Lake Victoria.

Q1
Aquaculture structures and compound maintained (2000m3 earthen pond prepared for happa fry nursing & broodstock holding).

Reasons for Variation in performance

Inadquate and late release of funds.

Item	*Spent*
224001 Medical and Agricultural supplies	20,263

Total	**20,263**
Wage Recurrent	*0*
Non Wage Recurrent	*20,263*
NTR	*0*

Programme 09 National Forestry Research

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

1.Improved management of On-station experiments and Kifu research forest.
2.NaFORRI Kifu Forest Management plan developed
3.Quality of research and research output enhanced
4.Regional and international partnership enhanced
5.Sawmill & carpentry workshop equipment maintained
6.Uninterrupted access to electricity, telephone and water services
7.NaFORRI physical facilities maintained, Assets secured and kifu forest managed

Cumulatie Outputs Achieved by the end of the Quarter:

•In diagnostic surveys of key diseases of pine and eucalyptus tree species Bacterial blight, Mycosphaerellaleaf spot, Powdery mildew,Botryosphaeriacankers, and dumping off were identified in eucalyptus nurseries, whereas Pine wilts, Fusariumwilt, Armillaria, Alternaria and root rot diseases were identified in eucalyptus nurseries.

Q1
- Maintenance of on station trees and plantation

Reasons for Variation in performance

None

Item	*Spent*
211103 Allowances	13,725
221011 Printing, Stationery, Photocopying and Binding	6,000
222001 Telecommunications	3,500
223005 Electricity	9,000
224001 Medical and Agricultural supplies	12,624
224002 General Supply of Goods and Services	26,100
227004 Fuel, Lubricants and Oils	7,175

Total	**78,124**
Wage Recurrent	*0*
Non Wage Recurrent	*78,124*
NTR	*0*

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 09 National Forestry Research

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

1.NaFORRI's capacity for effective information management and communication enhanced
2.Generation of NTR improved
3.Management enhanced and Perfomance of staff improved
4.Vehicles for activities maintained.
5.Fuel, Lubricants and oils procured

Cumulatie Outputs Achieved by the end of the Quarter:

-Utility bills paid for October -December 2012.
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- 2 Vehicles serviced;
- October -December 2012 subscription for internet paid;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided ;

- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced; Office buildings maintained; Compound maintained;
- ICT facilities and Subscription for internet paid;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided ;
- one contracts committee meeting held

Reasons for Variation in performance

Inadquate release of funds.

Item	*Spent*
223004 Guard and Security services	5,940
224002 General Supply of Goods and Services	14,178

Total	**29,074**
Wage Recurrent	*0*
Non Wage Recurrent	*14,897*
NTR	*14,178*

Programme 10 National Livestock Research

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

Disease surveillance in border districts of Busia, Tororo, Manafwa, Bududa and Butaleja

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintenance (drugs, feeds suppliments) of on station test breeds/test animals in Serere, Toror and Namulonge

Q1
- Maintenance of on station test breeds/test animals

Reasons for Variation in performance

Late release of funds

Item	*Spent*
221002 Workshops and Seminars	1,161
221011 Printing, Stationery, Photocopying and Binding	5,728
222001 Telecommunications	3,600
223005 Electricity	6,000
223006 Water	2,250
224001 Medical and Agricultural supplies	13,850
224002 General Supply of Goods and Services	1,457
227004 Fuel, Lubricants and Oils	11,128

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 10 National Livestock Research

Total	**45,173**
Wage Recurrent	*0*
Non Wage Recurrent	*45,173*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

	Item	*Spent*
Annual Planned Outputs:	221001 Advertising and Public Relations	1,000
NaLIRRI research actuvites and functions demystified		
Cumulatie Outputs Achieved by the end of the Quarter:		
Printing of 500 NALIRRI brochures.		
Q1		
Office expenses		
Reasons for Variation in performance		
Late release of funds.		

Total	**1,000**
Wage Recurrent	*0*
Non Wage Recurrent	*1,000*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

	Item	*Spent*
Annual Planned Outputs:	221003 Staff Training	10,500
Renovated Staff houses and Institute Guest House	224002 General Supply of Goods and Services	11,187
Cumulatie Outputs Achieved by the end of the Quarter:	228002 Maintenance - Vehicles	15,100
- Office utility bills paid for Namulonge, Tororo and Serere.		
- Office printers and photocopiers serviced;		
- Assortment of office stationery and office consumables procured;-		
Postage and courier services used;		
- 2 Vehicles serviced;		
- Office buildings maintained; - Compound maintained;		
- October-December 2012 subscription for internet paid;		
- Acquisition of newspapers;		
- security maintained		
- Break tea and Refreshments provided ;		
Q1		
- Stationery and office consumables procured;		
- Office equipment maintained;		
- Postage and courier services used;		
- Vehicles serviced; Office buildings maintained; Compound maintained;		
- Maintain effective ICT facilities and Subscription for internet paid;		
- Acquisition of books, agric. Information magazines and newspapers;		
- security maintained		
- Break tea and Refreshments provided ;		
- one contracts committee meeting held		
- ICT facilities and Subscription for internet paid;		
Reasons for Variation in performance		
Late release of funds.		

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 10 National Livestock Research

Total	**61,355**
Wage Recurrent	*0*
Non Wage Recurrent	*44,645*
NTR	*16,710*

Output: 01 51 05 Generation of technologies for priority commodities

Annual Planned Outputs:

Tse-tse fly and ticks management options, Forage management, Pest and disease management
Tse-tse fly and ticks management options, Forage management, Apiary, Livestock breeding and disease management

Cumulatie Outputs Achieved by the end of the Quarter:

- A decision support tool for optimizing forage utilization in smallholder dairy production systems was improved and was tested on 10 household farms ---an average increase (20%) in milk yield during the dry season due to availability of high quality feeds.
- Maintenance of on station 150 dairy test breeds/test animals in Serere, Tororo and Namulonge.

Q1
- Maintenance of on station dairy test breeds/test animals

Reasons for Variation in performance

Late release of funds.

Item	*Spent*
224001 Medical and Agricultural supplies	21,731

Total	**21,731**
Wage Recurrent	*0*
Non Wage Recurrent	*21,731*
NTR	*0*

Programme 11 National Semi arid Research

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

Germplasm collected ,characterized and evaluated, variety maintenance, seed multiplication of priority crops (cotton.sorghum,finger millet, sun flower, sesame, groundnuts and cow peas).

Cumulatie Outputs Achieved by the end of the Quarter:

- 18 entries are planted at 8 multilocation sites at NaSARRI; ZARDIs (Mbarara, Bulindi, Mukono, Ngetta, Abi); TVCs (Pader, Amuria, Nakabango) representing. Major groundnut agro-ecologies in Uganda. Selections are ongoing for yield, leafspots, rosette and confectionery traits. The plant stands at emergence were good at most sites except Kuju TVC. The crops are past 75% anthesis and we anticipate harvestings in late January/early February.
- Maintenance of sorghum, finger millet, groundnut, sesame, and sunflower field trial plots;

Q1
- Maintenance of field trial plots;
- Maintenance of multiplication sites for breeder seed and improved planting materials.
- Maintenance of on-farm trials selected commodities.

Item	*Spent*
221002 Workshops and Seminars	2,760
221007 Books, Periodicals and Newspapers	1,250
221011 Printing, Stationery, Photocopying and Binding	6,760
222001 Telecommunications	1,500
223005 Electricity	1,565
224001 Medical and Agricultural supplies	15,480
224002 General Supply of Goods and Services	24,101
227004 Fuel, Lubricants and Oils	9,005

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 11 National Semi arid Research

- Maintenance of demonstration plots;

Reasons for Variation in performance

Late release of funds.

Total	**62,420**
Wage Recurrent	*0*
Non Wage Recurrent	*62,420*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Annual Planned Outputs:

1.NARO-NAADS Joint workshops and meetings conducted;
2.Capacity development workshops for IARD;
3.Planning/Review/Feedback/ workshops and meetings held;
4.Make contributions to NGOs and CBOs; subscribe to associations;
5.Networking ,Partnerships and collaboration stakeholders meetings held;
6.sensitisation workshops and meetings of stakeholders conducted;
7.Conduct open days/farmer field schools, and participate in exhibitions/trade fairs/Agricultural show/Field days;
8.Production of extension and promotional materials in the media facilitated;
9.Production of research promotional materials for the media facilitated;
10.Sensitisation/training farmers;
11.Establishment on-farm trials in the AEZs;
12.Radio talk shows conducted;
13.Development/Production of extension materials;
14.Promote NARO technologies in the AEZs;
15.Advocacy and promotional workshops and meetings held;
16.Establishment of demonstration sites with farmer groups in the AEZs;
17.Establishment of mother gardens in the AEZs;
18.Agricultural technologies and information availed to uptake pathways;

Item	*Spent*
221002 Workshops and Seminars	2,760
221007 Books, Periodicals and Newspapers	1,250
221008 Computer Supplies and IT Services	5,250

Cumulatie Outputs Achieved by the end of the Quarter:

- 2 training manuals for the use of forage sorghum for livestock feeding developed.

Q1

One workshop for IARD, one workshop on planning/review, held.

Reasons for Variation in performance

Inadquate release of funds.

Total	**9,510**
Wage Recurrent	*0*
Non Wage Recurrent	*9,510*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 11 National Semi arid Research

Annual Planned Outputs:

1. Stationery and office consumables procured;
2. Office equipment maintained;
3. Electricity utility bills paid;
4. Telephone, Postage and courier services used;
5. Vehicle serviced;
6. Road infrastructure maintained ;
7. Office buildings maintained;
8. Laboratory buildings maintained;
9. Residential houses - buildings maintained;
10. Farm buildings maintained;
11. Compound maintained;
12. Field plot/paddocks maintained;
13. Maintain effective ICT facilities;
14. Subscription for internet;
15. 4 Management committee meetings;
16. 1 Annual review and planning meeting held;
17. 3 Quarterly entity accounts, Financial statements, commitment control reports, several manual books of accounts maintained. Bank charges timely paid;
18. Maintenance of machinery;
19. Water system maintainance paid.
20.Monitoring and evaluation of research activities in the PARI conducted;
21.MIS institutionalised in the PARIs.

Cumulatie Outputs Achieved by the end of the Quarter:

- Office utility bills paid.
- Office computers, 1 laptop, 2 printers and 1 photocopier serviced;
- Assortment of office stationery and office consumables procured;- Postage and courier services used;
- 3 Vehicles serviced;
- Office buildings maintained; - Compound maintained;
- October-December 2012 subscription for internet paid;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided ;

Q1
- Management and maintenance of physical infrastructure, buildings and research fields in Serere
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced; Office buildings maintained; Compound maintained;
- Maintain effective ICT facilities and Subscription for internet paid;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided ;
- one contracts committee meeting held
- ICT facilities and Subscription for internet paid;
- Management and supervision of research.

Reasons for Variation in performance

Late release of funds.

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	21,600
221003 Staff Training	7,500
221004 Recruitment Expenses	1,000
224002 General Supply of Goods and Services	936
228002 Maintenance - Vehicles	12,500
Total	**69,081**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 11 National Semi arid Research

Wage Recurrent	*21,600*
Non Wage Recurrent	*34,923*
NTR	*12,559*

Programme 12 National Laboratories Research

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

1. Improved fertiliser recommendation and extension packages in place
2. Maintenance of cover crop demonstrations at NARL
3. Mass production of bioagents and field releases
4. Increased centralized germplasm base collection for target species. 5. Work animal-drawn implements for small and large grain seeded crops developed

6. Analysed products free of heavy metals.
7. Production of user mannual of dyring technologies to reduce post harvest losses.
8. Equiping First aid boxes with the necessary consumables and drug, 20 techinicians who handle chemicals provided with protective gear by June 2013
9.Telephone bill settled
10. Purchase lab consumables, 250 corporate wear, 10 sign posts designed

Cumulatie Outputs Achieved by the end of the Quarter:

- Designed maize post harvest handling leaflet in conjunction with ARIS leaflet ready for multiplication
- 80 demos on fertilizer the use for increased production implemented

Q1
Seed multiplication seeds fields established, mantanance of cover crop demonstrations,
Drying methods to reduce losses in harvest,
Equiping first aid boxes with the necessary consubles and drugs,

Reasons for Variation in performance

Inadquatre release of funds.

Item	*Spent*
211103 Allowances	750
221002 Workshops and Seminars	3,650
221007 Books, Periodicals and Newspapers	3,100
221011 Printing, Stationery, Photocopying and Binding	1,000
222001 Telecommunications	10,000
223005 Electricity	52,500
223006 Water	1,750
227004 Fuel, Lubricants and Oils	20,500

Total	**93,250**
Wage Recurrent	*0*
Non Wage Recurrent	*93,250*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Annual Planned Outputs:

1Science conference,1 open day, 1 Annual review planning worshop,4 peer review seminars , 1 staff AGM, 1 Budget retreat and one budget conference by June 2013.
NARO research results , outputs, products and services published promoted and disseminated in Agricultural production and mngt text books, booklets mannuals and pamplets
A website providin g uptodate information on NARL
Hiring venue for workshops, seminars and retreats.

Item	*Spent*
221002 Workshops and Seminars	8,000
221008 Computer Supplies and IT Services	1,000

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 12 National Laboratories Research

50 computers serviced and repaired, Quarterly internet, modem and website subscriptions.
Printing of brochures, banners, sign posts

Cumulatie Outputs Achieved by the end of the Quarter:

Printing 500 NARL brochures

Q1
Assortment of stationery purchased

Reasons for Variation in performance

Inadquate release of funds

Total	**9,225**
Wage Recurrent	*0*
Non Wage Recurrent	*9,225*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

Salaries to 40 Casual staff supporting research activities

Costs to burial arrangement and material provided by June 2013
2 TV shows, 4 News paper supplements, 4 Adverts, 4 radio talk shows run
Atleast 50 staff trained in refresher courses, and 10 trained in longterm and atleast 4 communal trainings
Atleast 15 NARO staff recruited by end of 2013 and 10 contract staff recuited
4 MC meetings, 4 sub-committee meetings,8 NARL finance/management meetings, staff review meetings
12 month reunion teas provided, Working day break teas.
100 photocopying reams, 1000 calenders, 300 diaries, Printing services
Heavy duty punch, stapler,Big clips,Desk organiser, calculators
Maintenace of IFMS computerised accounting systems.
Settlement of Telephone, airtime and internet bills
Annual subscription,Postage of documents and samples of scientific materials for analysis.

Electcity bills for Labs and offices paid on quarterly basis
Hosting consultants for specific research activities.
Payment of motor third party, personnel and vehicle insurance
Director, Finance,InternalAudit,Administrator travel for 3 nights per quarter to monitor research activites and value for money audit. Including fuel for internal travel
Travel to Research collaborators overseas and organised research events
Fuel for operations,Officers, Staff bus, compound maintenance
Repair of institute buildings
Repair of institute vehicles

Repair of 2 tractors, 2 mowers, 3 photocopiers,2 fax, 6 printers.
Maintenance of 3 water pump, opening of drainage channels,etc.Clean planting materials
Analysed plant and soil samples for improved productivity
Availability of plant species
Revenue from gate collections
Rent recovered
Agricultural implements and equipments
Hired Agricultural implements and equipments

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	62,500
221003 Staff Training	2,500
221004 Recruitment Expenses	348
221016 IFMS Recurrent Costs	250
223004 Guard and Security services	500
224002 General Supply of Goods and Services	106,245
227001 Travel Inland	53,171
228002 Maintenance - Vehicles	44,000

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 12 National Laboratories Research

Train stakeholders on Agricultural engineering techniques

Cumulatie Outputs Achieved by the end of the Quarter:

- Management and maintenance of physical infrastructure, buildings and research plots in Namalere, Kawanda and Entebbe BG
- Assortment of stationery and office consumables procured;
- Office equipment (1 Photocpoier, 2 printer, 2 PC) maintained;
- 2 Vehicles serviced;
- Compound maintained;
- October-December 2012 subscription for internet paid;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Inadquate release of funds.

Total	**297,298**
Wage Recurrent	*42,500*
Non Wage Recurrent	*125,985*
NTR	*128,813*

Output: 01 51 05 Generation of technologies for priority commodities

Item	*Spent*
224001 Medical and Agricultural supplies	26,453

Annual Planned Outputs:

Banana hybrids tolerance stress, high yielding and with consumer acceptable qualities generated and technologies that enhance the banana value chain developed and promoted
Develop technology options for exploitation of renewable energy resources, irrigation schedules established
Develop technology options for water provision and management

Cumulatie Outputs Achieved by the end of the Quarter:

Banana
- M9 and FHIA 17 promoted in 30 districts. 8 farmers in each district hosting the demos. Iganga,mayuge,kaliro,Sironko,Butalegya,Jinja, Kasese, Bushenyi, Kabalore, Kanungu, Rukungiri, Ruwelo,Mukono, Mubende, Kiboga, Apac,Nebi and Lira, Masindi and Hoima.

Q1
High yield and with consumer acceptable qualities varieties mantained. One banana cultivars multiplied

Reasons for Variation in performance

Inadquate release of funds

Total	**26,453**
Wage Recurrent	*0*
Non Wage Recurrent	*26,453*
NTR	*0*

Programme 13 Abi ZARDI

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 13 Abi ZARDI

Annual Planned Outputs:

Institute reports effectively produced

Institute effectively supplied with various goods and services

Fuel supply mantained for administrative activities

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintainence of beans, maize, cassava field trial plots;
- Maintainence of cassava multiplication sites for
- Maintainence of on station demonstration fish ponds.

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Inadquate and late release of funds

Item	*Spent*
211103 Allowances	12,900
221011 Printing, Stationery, Photocopying and Binding	1,497
222001 Telecommunications	600
227004 Fuel, Lubricants and Oils	5,055

Total	**20,052**
Wage Recurrent	*0*
Non Wage Recurrent	*20,052*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

Institute adminstrative activities efficiently and effectively carried out

Corporate image of the institute enhanced

Improved
perfomance of the institute workforce

Overall mandate and functions of management committee effectively exercised

Accessiblity of information on current affairs enhanced

The institute computer services well maintained

Commited and well motivated workforce

Offices adequately equiped

Communication system effectively mantained

Staff travels facilitated

Institute buildings maintained

Institute vehicles maintained

Institute Machinery Equipment and furniture well mantained

Communication system effectively mantained

Item	*Spent*
221003 Staff Training	5,000
224002 General Supply of Goods and Services	37,453
227001 Travel Inland	7,488
228002 Maintenance - Vehicles	3,005

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 13 Abi ZARDI

Various farm and administrative activities implemented

Institute premises efficiently supplied with electricity

Admistrative and farm yard blocks supplied with water

Researh farm inputs procured

Committed and motivated staff

Improved Non Tax Revenue generation and accountability

Workshop participants well fed and entertained

Institute NTR Bank accounts maintained

Cumulatie Outputs Achieved by the end of the Quarter:

- Office utility bills paid for the second quarter
- Assortment of office stationery and consumables procured;
- Some office equipment (laptop and photocpier) maintained;
- 2 Vehicles serviced;
- Compound maintained;
- Acquisition of newspapers;
- security maintained at Namulone and Kituza
- Break tea and Refreshments provided ;

Q1
- Management and maintenance of physical infrastructure, buildings and research fields at Abi
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced; Office buildings maintained; Compound maintained;
- Maintained ICT facilities and Subscription for internet paid;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Late and inadquate release of funds.

Total	**61,243**
Wage Recurrent	*0*
Non Wage Recurrent	*23,145*
NTR	*38,099*

Output: 01 51 05 Generation of technologies for priority commodities

Annual Planned Outputs:

Appropriate agronomic technologies that increase bean yields developed
New cassava varieties resistant to CMD and CBSV; with other farmer-preferred attributes developed
New rice varieties availed to farming communities and Farmers trained on recommended agronomic and post-harvesting techniques of rice
High yielding forage cultivars disseminated, Performance of 5 cross breed calves determined, Concentrates for supp. feeding developed

Item	*Spent*
224001 Medical and Agricultural supplies	1,471

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 13 Abi ZARDI

Aquaculture pond Productivity improved to at least 2.0 kg/m2 for catfish and to 1.0 kg/m2 of pond area
Appropriate soil & water management interventions developed, Integrated nutrient management (INM) practices adopted by farmers in west Nile

Cumulatie Outputs Achieved by the end of the Quarter:

- 12.5 new acres planted with NASE 14 cassava varietiy;
- On station multiplications fields for maize varieties Longe 4 and 5 were harvested;
- On station multiplications fields for rice Nerica 1, 4 and 10

Q!
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Inadquate release of funds.

Total	**1,471**
Wage Recurrent	*0*
Non Wage Recurrent	*1,471*
NTR	*0*

Programme 14 Bulindi ZARDI

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

1.Improving livestock productivity in the mid western zone of Uganda
2. Improved livestock breeds introduced and evaluated in the MWZ
3. Maintenance of On-Station Casual Labour
4. Mechanisms for efficient institutional management strengthened
5. Director to attend meetings and workshops
6. Utilities & other charges paid
7. Telephone, postage and courier expenses paid
8. Management committee meetings Held
9. Maintained computers and accessories
10.Maintained Vehicles and Motor Cycles
11. Stationery and office consumables procured;

Item	*Spent*
221002 Workshops and Seminars	3,120
221011 Printing, Stationery, Photocopying and Binding	1,000
222001 Telecommunications	2,500
223005 Electricity	3,000
224002 General Supply of Goods and Services	4,058
227004 Fuel, Lubricants and Oils	10,000

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintainence of farm livestock (pigs and goats);
- Maintainence of multiplication sites for sweet potatoes and cassava

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.
1

Reasons for Variation in performance

Late release of funds.

Total	**23,678**
Wage Recurrent	*0*

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 14 Bulindi ZARDI

Non Wage Recurrent	*23,678*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

	Item	*Spent*
Annual Planned Outputs:	221008 Computer Supplies and IT Services	2,000
1. Increased public awareness and access to knowledge, skills and technologies generated by BuZARDI		
Cumulatie Outputs Achieved by the end of the Quarter:		
Office equipment maintained.		
Q1 **Institute vehicle mantance expenses paid**		
Reasons for Variation in performance		
Late release of funds		

Total	**2,000**
Wage Recurrent	*0*
Non Wage Recurrent	*2,000*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

	Item	*Spent*
Annual Planned Outputs:	224002 General Supply of Goods and Services	15,863
1. Improving livestock productivity in the mid western zone of Ugand	228002 Maintenance - Vehicles	3,550
2. Improved livestock breeds introduced and evaluated in the zon		
3. Priority multi-purpose trees and shrubs promoted and planted for sustainable utilization in the MWZ		
4. Muiltiplication of technologies and generation of income (Maize, Rice and Cassava)		
5. Mechanisms for efficient institutional management strengthened		
6. Building a motivated and self inspired staff		
7. Vehicles and Generator Fueled		
.		
Cumulatie Outputs Achieved by the end of the Quarter:		
- Subscription for October-December 2012 internet paid; **- Stationery and office consumables procured;** **- Office equipment maintained;** **- Postage and courier services used;** **- 3 Vehicles serviced;** **- Acquisition of newspapers;** **- security maintained** **- Break tea and Refreshments provided ;** **- Stationery and office consumables procured;** **- Office equipment maintained;** **- Postage and courier services used;** **- Vehicles serviced;** **- ICT facilities and Subscription for internet paid;** **- Acquisition of books, agric. Information magazines and newspapers;** **- security maintained** **- Break tea and Refreshments provided ;** **- one contracts committee meeting held** **- ICT facilities and Subscription for internet paid;**		

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 14 Bulindi ZARDI

- Management and maintenance of physical infrastructure, buildings and research fields at Kalyengere and Kachwekano and
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced; Office buildings maintained; Compound maintained;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided ;
- one contracts committee meeting held
- ICT facilities and Subscription for internet paid;

Q1

Reasons for Variation in performance

Lat release of funds.

Total	**24,411**
Wage Recurrent	*0*
Non Wage Recurrent	*8,549*
NTR	*15,863*

Output: 01 51 05 Generation of technologies for priority commodities

Item	*Spent*
224001 Medical and Agricultural supplies	5,487

Annual Planned Outputs:

High yielding and high quality rice varieties and lines for small scale farmers are selected, seed systems developed & disseminated
Technologies for producing fish seed developed & Cage farming experiment studies set up in L. Albert
Impacts of climate change determined, Drought tolerant disseminated & Animal feed species with high carbon sequestration popularised

Cumulatie Outputs Achieved by the end of the Quarter:

- 8 acres of cassava (NASE 14) multiplication established on station
- Baseline data on aquaculture status of kibaale district; Majority are small scale farmers, and have indicated shortage of inputs as the most important limiting factor to the enterprise
- Pond design of the aquaculture site on station developed and approved for implementation

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Late release of funds.

Total	**5,487**
Wage Recurrent	*0*
Non Wage Recurrent	*5,487*
NTR	*0*

Programme 15 Kacwekano

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 15 Kacwekano

Annual Planned Outputs:

1. Office utilities maintained
2. 4 office telephone lines maintained
3.Sufficient stationery availed
4. News papers and periodicals availed
5. 800m of access road maintained free of weeds

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintainence of on station potato and apple field trial plots at Kalyengyere;
- Maintainence of potato multiplication sites for breeder seed and improved planting materials.
- Maintainence of on station goats

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Inadquate and late release of funds.

Item	*Spent*
221007 Books, Periodicals and Newspapers	270
221011 Printing, Stationery, Photocopying and Binding	2,316
222001 Telecommunications	800
223005 Electricity	4,500
223006 Water	1,440
227004 Fuel, Lubricants and Oils	7,320

Total	**16,646**
Wage Recurrent	*0*
Non Wage Recurrent	*16,646*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

1. 3 quarterly Management Committee meetings
2. Two procurement sub-contracts committee meetings held
3. Atleast 2 staff participating in various adminstrative meetings/ actvities
4. Wages paid at KAZARDI out stations
5. 12 monthly financial and audit reports compiled and delivered to NAROSEC
6. Number of vehicles, mowers and generators being maintained and running
7. KAZARDI physical infrastructure maintained and secured
8. Vehicles for research activities maintained.
9. KAZARDI physical infrastructure maintained
10. Vehicles for research activities maintained
11. Machinery for the institute maintained
12. Contract staff health protected
13. Office utilities maintained
14. Institute Human Resource capacity for research improved.
15. Adequate computer supplies and IT services availed, 1 internet connection serviced
16. Institute Human Resource capacity for research improved.
17. 1 bank account maintained
18. None core staff engaged and facilitated to support core staff in implementing planned project activities
19. Agroinputs procured

Cumulatie Outputs Achieved by the end of the Quarter:

- Minor maintenance of physical infrastructure at Kachwekano;

Item	*Spent*
221004 Recruitment Expenses	4,220
223004 Guard and Security services	9,509
224002 General Supply of Goods and Services	38,248
227001 Travel Inland	9,905
228002 Maintenance - Vehicles	5,290

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 15 Kacwekano

- 2 Vehicles serviced;
- 3 office computer serviced;
- Assortment of Office stationery and consumables procured;
- Acquisition of some books and newspapers;
- security maintained
- Break tea and Refreshments provided ;

Q1
- Management and maintenance of physical infrastructure, buildings and research fields at Kalyengere and Kachwekano and
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced; Office buildings maintained; Compound maintained;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided ;
- one contracts committee meeting held
- ICT facilities and Subscription for internet paid;

Reasons for Variation in performance

Inadquater and late release of funds.

Total	**77,647**
Wage Recurrent	*0*
Non Wage Recurrent	*30,784*
NTR	*46,863*

Output: 01 51 05 Generation of technologies for priority commodities

Item	*Spent*
224001 Medical and Agricultural supplies	2,284

Annual Planned Outputs:

Limitations of fish breeding in the natural ecosystems & Environmental parameters on fish rearing established

Cumulatie Outputs Achieved by the end of the Quarter:

- Aquaculture experimental holding facilities located and selected in Kisoro, Kanungu and Kabale. Technical back stopping extended to farmers on rehabilitating the facilities and training regarding best management practices in aquaculture provided
- Fish Laboratory consumables such as retort stands, burrettes, funnels and clips were procured
- Maintainence of cassava field trial plots;
- 160 farm fields established each with 1 kg of NERICA 4 rice variety. Farmers were trained in rice seed production and management. Monitoring of performance of NERICA 4 under farmer multiplication was conducted and was performing better than the local variety WHITE which had high incidence of rice blast and poor vigor.

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Inadquate and late release of funds.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 15 Kacwekano

Total	**2,284**
Wage Recurrent	*0*
Non Wage Recurrent	*2,284*
NTR	*0*

Programme 16 Mukono ZARDI

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

Maintenance of vehicles in good conditions for effectiive execution of research activities in the zone

Fuels for implementing Institute research activities.
Development of materials that publise the research activities of the institute

Purchase of office stationery
Payment for utility bills
Funds required to implenment research activities in the zone well managed

Compound development and maintenance and improvement of the road network to to facilitate agricultural research

Maintanance of Institute Infrastructure and Assets

Procurement of Lavatories & office cleaning materials (Assorted)

Item	*Spent*
221011 Printing, Stationery, Photocopying and Binding	8,224
222001 Telecommunications	1,800
223005 Electricity	5,559
224002 General Supply of Goods and Services	5,659
227004 Fuel, Lubricants and Oils	4,538

Cumulatie Outputs Achieved by the end of the Quarter:

Rice
•Rice intercropping trials established in the 3 districts in 2nd season 2012. Data collection done on germination percentage, tiller number, plant heights, pest and disease incidence and growth vigour. Germination percentage ranged from 75% to 98 % in the different crops. Major diseases included maize streak virus, groundnut rosette disease, leaf spot and bean rust. Severity increased with disease progress.
- Two (2) feedback meetings on improving productivity, Marketability and profitability of fish farming; involving 80 households were successfully conducted in 2 districts (Masaka-Lwengo) and Mpigi.
- 1,250 elite coffee seedlings and 1000 clonal coffee plantlets availed to farmers of Masaka, Mukono and Kayunga. 0.25 acre of coffee wilt resistant varieties planted for demonstration.
- Establish a new banana mother garden with 150 tissue culture plantlets

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Inadquate release of funds.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

Total	**25,778**
Wage Recurrent	*0*
Non Wage Recurrent	*25,778*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Annual Planned Outputs:

Capacity of MUZARDI information resource centre enhanced; publicity materials developed, printed and disseminated

Cumulatie Outputs Achieved by the end of the Quarter:

Internet subscription for october-December 2012 paid.

Q1
Few stationery purchased.

Reasons for Variation in performance

Inadquate fundsreleased.

Item	*Spent*
221007 Books, Periodicals and Newspapers	2,500

Total	**2,500**
Wage Recurrent	*0*
Non Wage Recurrent	*2,500*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

1.Capacity in information systems developed, facilitation of Institute activities and internet services

2. Purchase of small office equipment

3.Refreshments for official guests

4.Staff motivation and meals

7. Purchase of office stationery

8. Settlement of utility bills
.
Eco-tourism site developed

Appropriate Agro-forestry practices evaluated, developed and disseminated

Bee keeping husbandry pactices evaluated and disseminated

Improved fruit trees evalluated, adapted and disseminated in the zone

Cumulatie Outputs Achieved by the end of the Quarter:

- Office utility bills paid for october-December 2012.
- Maintenance of 2 institute office buildings;
- Assortment of office stationery and consumables procured;
- 2 office computers maintained;
- 2 Vehicles serviced;
- Acquisition of newspapers;

Item	*Spent*
223004 Guard and Security services	2,710
224002 General Supply of Goods and Services	196,662
227001 Travel Inland	2,010

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

- security maintained
- Break tea and Refreshments provided

Reasons for Variation in performance

Late release of funds.

Total	**211,178**
Wage Recurrent	*0*
Non Wage Recurrent	*14,517*
NTR	*196,662*

Output: 01 51 05 Generation of technologies for priority commodities

Annual Planned Outputs:	*Item*	*Spent*
Management & sustainable use of NR enhanced & Optimum application rate of Metarhizium anosopliae determined Highest yielding rice intercropping systems identified and samples analysed MSIP meeting conducted Effect of graded levels of protein on fish performance evaluated & farmed fish decision support tool developed Factors relating to adoption and management of small scale irrigation practices established	224001 Medical and Agricultural supplies	6,587

Cumulatie Outputs Achieved by the end of the Quarter:

- 1,250 elite coffee seedlings and 1000 clonal coffee plantlets availed to farmers of Masaka, Mukono and Kayunga. 0.25 acre of coffee wilt resistant varieties planted for demonstration.
- Establish a new banana mother garden with 150 tissue culture plantlets

Q1
- Maintenance of multiplication sites for breeder seed and improved planting materials.
- Maintenance of demonstration plots;
- Maintenance of field trial plots;
- Maintenance of on-farm trials selected commodities

Reasons for Variation in performance

Late release of unds.

Total	**6,587**
Wage Recurrent	*0*
Non Wage Recurrent	*6,587*
NTR	*0*

Programme 17 Ngetta ZARDI

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:	*Item*	*Spent*
1.Issues concerning the Organisation discussed and resolved	221011 Printing, Stationery, Photocopying and Binding	2,240
2.Management & committee meetings held	222001 Telecommunications	2,600
4.Utilities & other charges paid.	223005 Electricity	3,000
6.Staff motivated.	223006 Water	3,436
	224002 General Supply of Goods and Services	3,924
	227004 Fuel, Lubricants and Oils	3,420

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 17 Ngetta ZARDI

8.Telephone, postage and courier services used.

9.Water systems maintenace paid

10.Bank charges and commssion paid

11.Farm groups capacity enhanced

13.Farm demonstration trials sustained

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintainence of field cassava, rice, maize, beans trial plots;
- Maintainence of multiplication cassava sites .
- Maintenance of sesame finger millet and sorghum demonstration plots;

Reasons for Variation in performance

Inadquate funds received.

Total	**18,620**
Wage Recurrent	*0*
Non Wage Recurrent	*18,620*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

	Item	*Spent*
Annual Planned Outputs:	227001 Travel Inland	9,450

1.Disemination of research findings made

2.Utilisation of improved farming practices enhanced

Cumulatie Outputs Achieved by the end of the Quarter:

Utility bills paid

Q1
Small amounts of stationery purchased

Reasons for Variation in performance

Very inadquate release of funds.

Total	**9,450**
Wage Recurrent	*0*
Non Wage Recurrent	*9,450*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

	Item	*Spent*
Annual Planned Outputs:	221003 Staff Training	5,600
1. Staff technical capapcity developed	224002 General Supply of Goods and Services	63,766
	227001 Travel Inland	7,000
3.Compounds, roads,farm buildings & structures maintained.	228002 Maintenance - Vehicles	6,525

5.Vehicles,machineries & equipment maintained

6.Staff motivated.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 17 Ngetta ZARDI

7.Compounds, roads,farm buildings & structures maintained.

10.Bank charges and commssion paid

11.Farm groups capacity enhanced

12.Farm buildings and structures maintained

13.Farm demonstration trials sustained

Cumulatie Outputs Achieved by the end of the Quarter:

- Assortment of office stationery and consumables procured;
- 2 Office computers maintained;
- 3 Vehicles serviced;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided

Q1
- Management and maintenance of physical infrastructure, buildings and research fields;
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced; Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided

Reasons for Variation in performance

Inadquate release of funds.

Total	**89,217**
Wage Recurrent	*0*
Non Wage Recurrent	*25,452*
NTR	*63,766*

Output: 01 51 05 Generation of technologies for priority commodities

Item	*Spent*
224001 Medical and Agricultural supplies	4,377

Annual Planned Outputs:

Improved/new varieties of rice adapted
Performance of 4 pasture species compared on-station & High yielding grass and legume pasture species adapted.
Optimum catfish & tilapia stocking ratios established, Performance of fish feeds documented and Feed rations/ regimes developed.

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintainence of field cassava, rice, maize, beans trial plots;
- Maintainence of multiplication cassava sites .

Reasons for Variation in performance

Late release of funds.

Total	**4,377**
Wage Recurrent	*0*
Non Wage Recurrent	*4,377*
NTR	*0*

Programme 18 Nabium ZARDI

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 18 Nabium ZARDI

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

Management practices that affect the performance of goats assessed and appropriate interventions recommended in Teso and Karamoja sub-regions.
Efficative botanicals in controlling crop pests and diseases identified.
Appropriate water harvesting (two) and conservation techniques (two) identified and promoted for the semi-arid areas by year 2013.
t least 2 tree species for food production on station identified and promoted by 2013.
Opportunities and necessities for use of research outputs for innovation identified.

Cumulatie Outputs Achieved by the end of the Quarter:

Pigs
- Maintained 8 cambrough pigs and 6 piglets as pure/parent stock for technology dissemination and research purposes
Poultry
- 52 Kuroiler chicken availed to nine famers in Bukedea, Moroto and Nakapiripiriti districts. Evaluation of their performance at free range to start next quarter.
- Goats
- Maintained 12 goats of Mubende breed on-station

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Inadquate and late release of funds

Item	*Spent*
221002 Workshops and Seminars	1,000
221007 Books, Periodicals and Newspapers	400
221011 Printing, Stationery, Photocopying and Binding	1,030
222001 Telecommunications	200
223005 Electricity	240
223006 Water	200
227004 Fuel, Lubricants and Oils	2,080

Total	**5,150**
Wage Recurrent	*0*
Non Wage Recurrent	*5,150*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Annual Planned Outputs:

At least 2 Apiary demo sites established and maintained at Nabuin and Serere.
At least 3 farmer trainings on apiary management held in the zone.
At least 10 TOTS in each district in Karamoja and Teso backstopped on Apiary management.
Honey processing equipment and improved beehives procured.

Cumulatie Outputs Achieved by the end of the Quarter:

Germplasm of Sorghum, pearl millet, maize,finger millet, sunflower, simsim, and other minor crops collecdted from Karamoja being tested on station.

Q1
Weed management carried out, Diseases and pests controlled, one sensitisation workshop held.

Item	*Spent*
221002 Workshops and Seminars	4,222
227001 Travel Inland	3,200

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 18 Nabium ZARDI

Reasons for Variation in performance

Funds were received late in the quarter.

Total	**7,422**
Wage Recurrent	*0*
Non Wage Recurrent	*7,422*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

1. Investment in business/income generating activities for support and supplement NabuZARDI budget.
2. Policy guidelines for efficient management of Nabuin designed and produced.
3. Efficient and effective decission making for proper managemnt of Nabuin.
4. Financial reports submitted on time to meet the required deadlines to faclitate a steady flow of funds.
5. Audit reports submitted on time to meet the required deadlines for quick dcission making.
6. Procuremant reports submitted on time as required by world bank & PPDA .
7. Financial policy guidelines developed & existing ones reviewed to stregthen the system .
8. Routine administrative & research activities undertaken.
9. Necessary services from service providers like banks provided.
10. Routine administrative over heads activities undertaken.
11. Human resource issues managed effectively.
12. Institute reports, workplans, communications and other documents written.
13. Availability of the necessary utilities services like water,eletricity and telephone.
14. Office space for staff-Moroto acquired.
15. Efficient fleet management ensured.
16. Physical infrastructure and human resource to do research maintained.
17. NabuZARDI Research publicized and promoted.

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	2,735
221003 Staff Training	4,792
221004 Recruitment Expenses	1,000
224002 General Supply of Goods and Services	11,607
227001 Travel Inland	650
228002 Maintenance - Vehicles	2,000

Cumulatie Outputs Achieved by the end of the Quarter:

- Some assorted stationery and office consumables procured;

Q1
- Office rent paid in Moroto and Management and maintenance of physical infrastructure in Serere;
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided ;
- one contracts committee meeting held
- ICT facilities and Subscription for internet paid;

Reasons for Variation in performance

Late release of funds.

Total	**27,063**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 18 Nabium ZARDI

Wage Recurrent	*2,735*
Non Wage Recurrent	*11,973*
NTR	*12,355*

Output: 01 51 05 Generation of technologies for priority commodities

Annual Planned Outputs:

Livestock management options developed, Technologies for water harvesting/harnessing and storage evaluated
Livestock management options developed
Labour saving animal drawn technologies catalogued and its efficacies established
Technologies for water harvesting/harnessing and storage evaluated

Cumulatie Outputs Achieved by the end of the Quarter:

- Two multiplication and demonstration sites for 15 pasture and fodder species maintained on-station
- Collected samples of Brachiaria brizantha (C. 26110), Lablab purpureus, Canavalia brasiliensi, Brachiaria hybrid (CIAT 36087 cv Mulato II), Brachiaria brizantha (CIAT 26024) and mulato II from two evaluation trials of Serere and Katakwi districts. Pasture samples undergoing laboratory analysis for dry matter content and crude protein. - Maintained evaluation trials of Gliricidia and Brachiaria mixture for the establishment period in Amuria and Kumi districts

Q1
- Maintenance of multiplication sites for breeder seed and improved planting materials.
- Maintenance of field trial plots;
- Maintenance of on-farm trials selected commodities.
- Maintenance of demonstration plots;

Reasons for Variation in performance

Inadquate release of funds

Item	***Spent***
224001 Medical and Agricultural supplies	12,797
Total	**12,797**
Wage Recurrent	*0*
Non Wage Recurrent	*12,797*
NTR	*0*

Programme 19 Mbarara ZARDI

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

Validation and evaluation of agricultural technologies in the Zone supported.

Cumulatie Outputs Achieved by the end of the Quarter:

- Three mothergardens for improved citrus and avocado varieties established in Ntungamo district
- 2,000 rootstocks for mango and citrus fruits were raised
- Documentation of pests and diseases affecting improved fruits in zone completed (500 posters printed and disseminated)

Q1

Item	***Spent***
221011 Printing, Stationery, Photocopying and Binding	2,500
222001 Telecommunications	2,000
223005 Electricity	5,000
227004 Fuel, Lubricants and Oils	3,200

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 19 Mbarara ZARDI

- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Late release of funds

Total	**12,700**
Wage Recurrent	*0*
Non Wage Recurrent	*12,700*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

	Item	*Spent*
Annual Planned Outputs:	221008 Computer Supplies and IT Services	1,600
Computers serviced and maintained		
Cumulatie Outputs Achieved by the end of the Quarter:		
Activities of the livestock disease multi-stakeholder innovation platform monitored in Mbarara district.		
Q1 **None**		

Reasons for Variation in performance

Inadquate funds released

Total	**1,600**
Wage Recurrent	*0*
Non Wage Recurrent	*1,600*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

	Item	*Spent*
Annual Planned Outputs:	224002 General Supply of Goods and Services	60,330
1. Financial, Audit,Procurement and Stores reports prepared and submitted to NAROSEC. Accounting stationary collected from NAROSEC. Professional bodies confrence,Finance Officers' workshop,Sub-contract Committee and bid evaluation meetings attended.	227001 Travel Inland	15,200
	228002 Maintenance - Vehicles	3,417
2. Institute administrative activities efficiently managed		
3. Annual subscription to professional bodies paid and professional bodies conferences attended		
4.Human Resource reports prepared and submitted to NAROSEC		
5.Management and Administrative meetings attanded at NAROSEC		
6. Meetings and other administrative matters attended.		
7. Farm infruatructure improved		
8.Animal diseases prevetion and controlled		
9.Improved Animal production and productivity		

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 19 Mbarara ZARDI

10.Well motivated and hard working herdsmen

11.Staff houses in habitable condition at all times

12. Management Committee meetings facilitated.

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintenance of research fields and paddocks;
- Assortment of office stationery and consumables procured;
- Acquisition of newspapers;
- Office photocopier maintained;
- 2 vehicles serviced;
- Internet subscription for October-December 2012 paid;
- security maintained
- Break tea and Refreshments provided

Q1
- Management and maintenance of physical infrastructure, buildings and research fields and fences;
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced;
- ICT facilities and Subscription for internet paid;
- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided
- one contracts committee meeting held

Reasons for Variation in performance

Inadquate funds were released.

Total	**82,947**
Wage Recurrent	*0*
Non Wage Recurrent	*22,617*
NTR	*60,330*

Output: 01 51 05 Generation of technologies for priority commodities

Annual Planned Outputs:	*Item*	*Spent*
IPM options for beans developed and disseminated Nutrients limiting banana production on at least two different soil types in Isingiro district documented Appropriate method for control of FMD and ECF validated & documented and Extent of feed conservation determined & Methods used to conserve feed identified and evaluated FCR of farm made and commercial pellets of Jorda services and Ugachick on pond & caged determined At 1 coffee wilt disease tolerant variety disseminated in 4 districts by June 2013 Agro forestry technologies for production and utilization of fodder adapted and disseminated in the zone	224001 Medical and Agricultural supplies	5,308

Cumulatie Outputs Achieved by the end of the Quarter:

Bananas
- Nutrient flow balances with major nutrient management documented .
Approximately 33.8 %, 25.3 % of the sampled household use FYM and crop residues as sources of nutrients

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 19 Mbarara ZARDI

- Approximately 39.5 %, 32.5 % and 20.9 % of banana fields posess trenches, dug-out ditches and grass bund as measures against soil erosion and surface runoff
- Only 2.1 % of the total income from banana sales is invested back into natural resource management
- Only 19.4 % of the sampled households have soil conservation measures placed in banana fields
- 1500 copies of bean, groundnut and sweet potato management and production brochures produced and disseminated in within and outside the SWAEZ.

Q1
- Maintenance of demonstration plots;
- Maintenance of multiplication sites for breeder seed and improved planting materials.
- Maintenance of field trial plots;
- Maintenance of on-farm trials selected commodities.

Reasons for Variation in performance

Late release of funds and prolonged drought in the zone.

Total	**5,308**
Wage Recurrent	*0*
Non Wage Recurrent	*5,308*
NTR	*0*

Programme 20 Buginyaya ZARDI

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Annual Planned Outputs:

1.1: Farming systems and livelihood characteristics including farmers' agricultural needs, constraints and opportunities in the Busoga subzone validated and documented
3.1:Three (3) cost effective fungicide spray regimes identified for management of Coffee Berry Disease (CBD) on farm in Bulambuli, Kapchorwa and Sironko Districts
3.2 Effective soil nutrient options that improve arabica coffee plant nutrient staus identfied
3.3: 5000 seedlings availed to uptake pathways and capacity of farmers to produce quality arabica coffee seedlings enhanced
4.1: 25 t Quality basic seed potato produced and availed to uptakepathways
5.1: Quality and quantity of fruit production in the old orhcard enhanced, Plants in the new orchard maintained and growing well
6.1: High quality sweet potato varieties and their technology validated and recommended for production in the mid altitude areas of the SEAEZ
6.2: High quality maize varieties validated for production in the mid altitude areas of the U'SEAEZ
6.3: High quality farmer preffered bean varieties validated and recommended for production in the mid altitude areas of the SEAEZ
6.4: High quality farmer preffered cassava varieties multiplied for uptake pathways in the mid altitude areas of the SEAEZ
7.1: Disease tolerant cassava varities identified and validated for multiplication and availability to Iganga, Kamuli, Palisa, Mayuge, Busia districts
7.2: Farmer preffered quality cassava planting material availed to uptake pathways

Item	*Spent*
221002 Workshops and Seminars	2,226
221011 Printing, Stationery, Photocopying and Binding	8,902
222001 Telecommunications	3,441
223005 Electricity	1,200
227001 Travel Inland	15,222
227004 Fuel, Lubricants and Oils	8,158

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 20 Buginyaya ZARDI

7.3: High quality disease resistant groundnut lines identified for release Iganga, Kamuli, Palisa, Mayuge, Busia districts
8.1: Promising Integrated weed management options in maize validated with farmer groups on-farm in Pallisa, Iganga, Mayuge, Kamuli and Busia
9.1: Promising fertilizer application options in a maize based intercropping system identified for validation in Pallisa, Iganga, Mayuge, Kamuli and Busia
10.2: Stock of different goat genotypes (Boer, Toggenburgs and Indigenous goats) mantained for experimentation at Bulegeni station
10.3: Capacity of the farmers in profitable management of goats in the selected districts enhanced
13a.1a: Management committee and staff meetings conducted
12a.4: Improved communication, Telecommunication, Internet services and other Utilities i.e Electricity
12a.5: Staff capacity to deliver services on demand and respond to stakeholders needs enhanced
12a.7: Staff kept abreast of current affairs and new information in the market

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintainence of field wheat, apples, sweet potatoes trial plots;
- Maintainence of arabica coffee, barley, wheat, apples, sweet potatoes multiplication sites for breeder seed and improved planting materials.

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.
V

Reasons for Variation in performance

Late release of funds.

Total	**39,148**
Wage Recurrent	*0*
Non Wage Recurrent	*39,148*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

12a.1b:Institute property secured and protected from fire hazzard
12a.2: Institute premises and facilities maintained in an Environmentally friendly way
12a.3: Improved running of office activities, documentation and presentation eased
12a.6: Morale of staff and their health kept at high levels for effective delivery of services

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	12,052
221003 Staff Training	6,308
223004 Guard and Security services	300
224002 General Supply of Goods and Services	16,657
227001 Travel Inland	3,884
228002 Maintenance - Vehicles	1,744

Cumulatie Outputs Achieved by the end of the Quarter:

- Management and maintenance of physical infrastructure, buildings and research fields at Ikulwe
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- Vehicles serviced;
- Maintained ICT facilities and Subscription for internet paid;

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 20 Buginyaya ZARDI

- Acquisition of books, agric. Information magazines and newspapers;
- security maintained
- Break tea and Refreshments provided

Reasons for Variation in performance

Late release of funds.

Total	**45,876**
Wage Recurrent	*12,052*
Non Wage Recurrent	*17,168*
NTR	*16,657*

Output: 01 51 05 Generation of technologies for priority commodities

	Item	*Spent*
Annual Planned Outputs:	224001 Medical and Agricultural supplies	6,695

High quality maize varieties validated for production in the mid altitude areas of the SEAEZ
High quality farmer preferred cassava varieties multiplied for uptake pathways in the mid altitude areas of the SEAEZ and Disease tolerant cassava varieties identified and validated
Promising Integrated weed management options in rice validated with farmer groups
Cost effective fungicide spray regimes identified for management of CBD, soil nutrient options that improve Arabica coffee productivity identified and coffee seeds and seedlings availed
Soil and water conservation measures identified and Promoted, partnerships developed and strategies fro adoption of SLM produced and sensitisations held

Cumulatie Outputs Achieved by the end of the Quarter:

- 8 acres of cassava (NASE 14) multiplication established on station.
- Maintenance of 1 acre of beans, 2 acres maize and rice demonstration plots.

Q1
- Maintenance of demonstration plots;
- Maintenance of multiplication sites for breeder seed and improved planting materials.
- Maintenance of field trial plots;
- Maintenance of on-farm trials selected commodities.

Reasons for Variation in performance

Late release of funds.

Total	**6,695**
Wage Recurrent	*0*
Non Wage Recurrent	*6,695*
NTR	*0*

Programme 21 Rwebitaba ZARDI

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 21 Rwebitaba ZARDI

Annual Planned Outputs:

1. High yielding and quality tea planting materials developed.

2.Tea germplasm preserved.

3. Reaction of clones to tea pests determined.

4. Extent of pest and disease infection in tea growing areas known and management options of major pests and diseases developed

5. Reaction of clones to tea diseases determined.

6. Tea clones tolorant to Xylaria disease selected for the Western highland agro-ecological zone.

7. Selection of high yielding tea clones in Western highland agro-ecological zone.

8. Tea yields improved through improved soil fertility and water management interventions.

9. Tea yields improved through improved soil fertility and water management interventions.

10. Profitability of tea growing developed by end of June 2013.

11. Appropriate tea mechanical plucking technologies developed.

12. Biochemical profiles of different Ugandan tea clones established.

13. Increased farmers access to improved livestock breeds.

14. Appropriate trees and shrubs with potential for agroforestry adoption selected and evaluated for the Western highland agro-ecoogical zone .

15. Priority multi-purpose trees and shrubs promoted and planted for sustainable utilization in the zone.

16.Improved livestock breeds introduced and evaluated in the zone.

17. Improved egg hatchability and chick survival generated.

18.Nutritive pasture species introduced and adapted in the zone.

19. Cultivars of bananas adapted to the Western highland agro-ecoogical zone promoted .

20. Strategies to increase production of honey and other bee products enhanced amongst beekeepers in the zone.

Cumulatie Outputs Achieved by the end of the Quarter:

- Maintainence of field cassava, beans and agroforestry tree trial plots;
- Maintainence of multiplication sites for rice breeder seed and cassava improved planting materials.

Item	*Spent*
222001 Telecommunications	300
223005 Electricity	600
227004 Fuel, Lubricants and Oils	3,500

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 21 Rwebitaba ZARDI

Q1
- Maintainence of field trial plots;
- Maintainence of multiplication sites for breeder seed and improved planting materials.
- Maintainence of on-farm trials selected comodities.

Reasons for Variation in performance

Inadquate release of funds.

Total	**4,400**
Wage Recurrent	*0*
Non Wage Recurrent	*4,400*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Annual Planned Outputs:	***Item***	***Spent***
1.Collaboration between Rwebitaba ZARDI and stakeholders strengthened. 2.Institutional mechanisms that promote farmer innovations and technology adoption promoted.	221001 Advertising and Public Relations	1,750

Cumulatie Outputs Achieved by the end of the Quarter:

Held a zonal priority setting meeting

Reasons for Variation in performance

Inadquate funds.

Total	**1,750**
Wage Recurrent	*0*
Non Wage Recurrent	*1,750*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:	***Item***	***Spent***
1. Provision of security services 2. Stationery and office consumables procured; 3. Office equipment maintained; 4. Water system maintenance paid; 5. Electricity utility bills paid; 6. Telephone, Postage and courier services used; 7. Vehicle serviced; 8. Road infrastructure maintained; 9. Office buildings maintained ; 10. Residential houses - buildings maintained ; 11. Farm buildings maintained ; 12. Compound maintained ; 13. Field plot maintained ; 14. Maintain effective ICT facilities; 15. Subscription for internet; 16. 4 Management committee meetings; 17. Quarterly entity accounts, Financial statements, commitment control reports, several manual books of accounts maintained. Bank charges timely paid; 18. Acquisition of books, agric. Information magazines and newspapers;	221004 Recruitment Expenses	1,400
	223004 Guard and Security services	600
	227001 Travel Inland	2,400
	228002 Maintenance - Vehicles	1,360

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 21 Rwebitaba ZARDI

19. Break tea and Refreshments provided to staff.

Cumulatie Outputs Achieved by the end of the Quarter:

-October-December 2012 utility bills paid
- Assortment of office stationery and consumables procured;
- 1 office printer serviced;
- 2 Vehicles serviced; Office buildings maintained;
Rwebitaba and Kyembog station compounds maintained;
- Acquisition of new vision and monitor newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Inadquate release of funds.

Total	**13,816**
Wage Recurrent	*0*
Non Wage Recurrent	*7,267*
NTR	*6,549*

Output: 01 51 05 Generation of technologies for priority commodities

Annual Planned Outputs:	*Item*	*Spent*
High yielding and quality tea planting materials developed, Tea germplasm preserved and Reaction of clones to tea pests & pests determined, high yielding and tolerant to Xylaria disease selected	224001 Medical and Agricultural supplies	5,261

Cumulatie Outputs Achieved by the end of the Quarter:

- 20 tea fields (tea gene bank) maintained on-station.
- 20 acres of cassava (4271 variety) established and maintained on-station

Q1
- Maintenance of multiplication cassava sites for breeder seed and improved planting materials.

Reasons for Variation in performance

Inadquate funds.

Total	**5,261**
Wage Recurrent	*0*
Non Wage Recurrent	*5,261*
NTR	*0*

Programme 26 NARO Internal Audit

Outputs Provided

Output: 01 51 03 Internal Audit

Annual Planned Outputs:	*Item*	*Spent*
Internal Controls reviewed and key risks controlled.	221002 Workshops and Seminars	10,000
	221003 Staff Training	1,769
Adherence to laid down regulations and policies.	221016 IFMS Recurrent Costs	4,500
	224002 General Supply of Goods and Services	5,000
Minimized cases of disagreements with auditors and management arising from their reports.	227001 Travel Inland	7,500
Payroll embracing all NARO staff audited.		

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 26 NARO Internal Audit

Proper accountability of resources and correct recording of transactions.
Internal audit work conducted professionally at Institutes.

Losses/fraud minimized.

Updated asset register verified as per the physical Items and Cash controls strengthened.
Independence of Internal Auditors strengthened.

Improved accountability.
Internal Auditors Capacity strengthened.

Internal Auditors capacity improved.
Governance and corruption issues identified.

Cumulatie Outputs Achieved by the end of the Quarter:

- Traveled to 3 institutes to review the issues raised in their internal raudit eports

Q1
Internal Controls reviewed at Headquarters and at all the institutes.
Traveled to institutes to Reviewed the issues raised in their reports

Reasons for Variation in performance

None

Total	**28,769**
Wage Recurrent	*0*
Non Wage Recurrent	*28,769*
NTR	*0*

Development Projects

Project 0382 Support for NARO

Capital Purchases

Output: 01 51 72 Government Buildings and Administrative Infrastructure

Annual Planned Outputs:

Proper equipment for the production of drawings and documents accessed
improved sanitary facilities
Hygienic and clean kitchen for staff tea at NAROSEC.

Renovated laboratory at NARL.

Good quality control of construction works.
Better working environment for staff.

Better working environment for staff and scientists.

ABIZARDI Quality and Quantity of research outputs and staff working environment improved.

Number of houses maintained

Better working environment for researchers and scientists

Finishes of hall done
Improved quality and quantity of research outputs and staff working environment.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

BuZARDI

Rehabilitation of existing structures and buildings.

KaZARDI

1 Laboratory renovated and 1 seed store repaired.

MuZARDI

At least 1 fish rearing unit constructed
At least 1 organic feeding research house constructed
Construction of vehicles shelter.

RwebiZARDI.

1 office block in Rwebitaba sub- station and 3 office blocks in Kyembogo station

Cumulatie Outputs Achieved by the end of the Quarter:

NA

Reasons for Variation in performance

NA

Total	**250,000**
GoU Development	*250,000*
Donor Development	*0*
NTR	*0*

Output: 01 51 75 Purchase of Motor Vehicles and Other Transport Equipment

Annual Planned Outputs:

Nil

Cumulatie Outputs Achieved by the end of the Quarter:

NA

Reasons for Variation in performance

NA

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 51 76 Purchase of Office and ICT Equipment, including Software

Annual Planned Outputs:

ICT:

ICT and all the accessories in respect of the equipment and Software purchased;
- MIS applications developed
- Web portal developed.

HQs:

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Streamlined collaboration services.
1.Required software acquired and updated
2.Existing Licenses renewed.

ICT Infrastructure and equipment procured for NARO and NAADS joint platform.

Cumulatie Outputs Achieved by the end of the Quarter:

NA

Reasons for Variation in performance

NA

Total	**125,000**
GoU Development	*125,000*
Donor Development	*0*
NTR	*0*

Output: 01 51 77 Purchase of Specialised Machinery & Equipment

Annual Planned Outputs:

PR:
Necessary tools & equipments procured.

PROCUREMENT:

Various Specialised Agricultural and Laboratory Machinery & Equipment procured

Cumulatie Outputs Achieved by the end of the Quarter:

NACRRI
- Infrastructure rehabilitated and one equipment procured

NARL
- A food grade grater and a press procured

KACHWEKANO ZARDI
- Laboratory consumables such as retort stands, burettes, funnels and clips were procured

Reasons for Variation in performance

NA

Total	**270,000**
GoU Development	*270,000*
Donor Development	*0*
NTR	*0*

Output: 01 51 78 Purchase of Office and Residential Furniture and Fittings

Annual Planned Outputs:

Variuos furniture and residential fittings procured.

Cumulatie Outputs Achieved by the end of the Quarter:

NACRRI
- Infrastructure rehabilitated and one equipment procured

RWEBITABA ZARDI

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

- 4 Desktop computers, 4 printers, 1 camcorder procured
- 10 Office chairs procured, 10 Office desks procured, 5 Office cabins procured

Reasons for Variation in performance

NA

Total	**212,500**
GoU Development	*212,500*
Donor Development	*0*
NTR	*0*

Outputs Funded

Output: 01 51 51 Payments to International Organisations (CGIAR, ASARECA, WARDA)

Item	***Spent***
262101 Contributions to International Organisations (Current)	450,000
264101 Contributions to Autonomous Inst.	2,500

Annual Planned Outputs:

Payment to international organisations made

Cumulatie Outputs Achieved by the end of the Quarter:

Additional partial payment to CGIAR made.

Q1
Partial payment to CGIAR effected.

Reasons for Variation in performance

Working within the available resource envelop.

Total	**452,500**
GoU Development	*452,500*
Donor Development	*0*
NTR	*0*

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Item	***Spent***
221007 Books, Periodicals and Newspapers	22,440
224002 General Supply of Goods and Services	94,924

Annual Planned Outputs:

NAROSEC :
Demand driven, market responsive and client oriented research agenda developed

Quality management system established

Institutes ISO certified
Quality management system established
Research activities effectively supervised, monitored and managed
General administrative activities.

Water utility bills paid;
Electricity utility bills paid;
Telephone,

ACOUNTS:

Clearance of Bank dues

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

ABI ZARDI
New cassava varieties resistant to CMD and CBSV; with other farmer-preferred attributes developed100 hybrids of CBSD tolerant varieties evaluated for reaction to major diseases
Two survey reports on spread and damage by CBSD in 8 west Nile districts
Increased number of farmers growing, processing and marketing improved cassavaAnnual cassava production survey report

Current cereal production constraints in west Nile understood
Appropriate agronomic technologies that increase groundnut and bean yields developed

Improved varieties appropriate for WNR developed

New varieties of groundnuts and beans screened for high yield potential, drought tolerance and resistance to major pests and diseases in the zone suitable non fruit provenances/ species and varieties for fodder, food and soil fertility management identified.

Goat husbandry technologies for improving productivity developed

Efficacious medicinal plants availed to technology up take pathways .

BuGIZARDI
1.1 Farming systems and livelihood characteristics including farmers' agricultural needs, constraints and opportunities in the Busoga subzone validated and documented

2.1a)Soil and water conservation measures suitable for Bulambuli, Sironko and Bududa (Mt.Elgon sub-zone) identified and promoted

24 on-farm stakeholders capacity in disease management conducted at 5 sub-counties in various districts in Elgon zone .

5.5. Three (3) apple orchards rehabilitated

5.8. Amnistration of project supported and faciliated

6.3: High quality farmer preffered bean varieties validated and recommended for production in the mid altitude areas of the SEAEZ
Improved technologies for weed management in rice validated and promoted on farm in Pallisa, Iganga, Mayuge, Kamuli and Busia

Performance of introduced goat genotypes established on station
10.2: Stock of different goat genotypes (Boer, Toggenburgs and Indigenous goats) mantained for experimentation at Bulegeni station

2.1a)Soil and water conservation measures suitable for Bulambuli, Sironko and Bududa (Mt.Elgon sub-zone) identified and promoted

24 on-farm stakeholders capacity in disease management conducted at 5 sub-counties in various districts in Elgon zone .

5.5. Three (3) apple orchards rehabilitated

5.8. Amnistration of project supported and faciliated

6.3: High quality farmer preffered bean varieties validated and

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

recommended for production in the mid altitude areas of the SEAEZ
Improved technologies for weed management in rice validated and promoted on farm in Pallisa, Iganga, Mayuge, Kamuli and Busia

Performance of introduced goat genotypes established on station
10.2: Stock of different goat genotypes (Boer, Toggenburgs and Indigenous goats) mantained for experimentation at Bulegeni station

Promising good performing wheat lines with resistance to Ug99 identified for adaptation trials
Promising wheat lines with heat and drought tolerance identified for Uganda agro-ecology
Solutions to improved egg hatchability and chick survival generated for local chicken
Low cost diets formulated for pigs & poultry

Pasture and fodder species with high carbon sequestration potentials populized in the zone
Baseline parameters of the production and utilization systems established
Suitable location-specific crop varieties and production practices for different agro ecologies in the MWZ identified

Technology users / clients with in the community identified

Appropriate IPM technology packages for control of pests in 3 priority crops and 1 fruit tree introduced and evaluated onstation

4. Stakeholder awareness levels and knowledge on new IPM innovations increased

A regional apiculture research unit developed and institutionalised in the MWZ

Actual and potential soil fertility constraints and limitations to crop productivity identified
Appropriate soil and water conservation (S&WC) technologies established on farm

Priority multi-purpose trees and shrubs promoted and planted for sustainable utilization in the MWZ
Enhanced land productivity, access and use of sustainable agroforestry-based technologies amongst farming communities in MWZ

At least 2 potato genotypes with torelance to Bacterial wilt selected for on-farm evaluations
Media composition that optimumly supports the in vitro performance of the selected varieties determined and recommended for daily use in tissue culture of potatoes
Subculture level for optimum minituber productivity for selected potato varieties determined
At least 1.5 tonnes of prebasic seed potato generated
About 24 tonnes of prebasic seed generated by June 2013
About 48 tonnes of basic seed generated by June 2013

Inbreeding controlled among 8 farmer groups
Preliminary information generated on incidence, economic injury level and level of resistance to nematodes for different goat genetic breed levels
Atleast 30 breeding/ foundation stock produced and 100 quality goats maintained and availed for experiments and uptake pathways
Data base of indigenous and exotic fish species in the zone generated

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Information on performance of potential apple and pear cultivars generated (On-station)
Information on performance of potential apple and pear cultivars generated (On-farm)

Atleast 10,000 Clean planting materials of apples and 1000 pears generated
In situ conservation orchard maintained and information for morphological characterisation genarated
Information generated on nutrient requirements that optimizes apple productivity and recommended
A protocol for rapid and mass production of apple root stalks generated
Atleast five sorghum cultivars selected for on-farm evaluation

Appropriate conventional method for control of FMD, ECF, Helminthosis and New Castle disease validated and improved
ITK technologies used in Helminthosis and new castle disease (NCD) management evaluated
Information on prevalence, risk factors and incidence patterns of common cattle diseases documented
Extent of feed conservation in the SWAEZ determined
Methods used to conserve feed in the SWAEZ identified and evaluated
High yielding, marketable and user preferred new improved crop varieties evaluated and promoted.
Major pests and diseases affecting priority crops identified and alternative control strategies developed.
New bio-fortified sweet potato varieties suitable for semi-arid conditions selected and disseminated
At 1 coffee wilt disease tolerant variety disseminated in 4 districts by June 2013
Nutrients limiting banana production on at least two different soil types in Isingiro district documented
FCR of farm made and commercial pellets of Jorda services and Ugachick on pond Nile tilapia and African catfish determined
FCR for Ugachic pellets on caged Nile tilapia and catfish determined in Mabira and Rwabigyemano reservoirs.
High yielding improved fruit varieties for mangoes, citrus and avocadoes adetermined and disseminated in the zone
Effective and economically viable integrated fruit pest and disease management technologies determined and disseminated in the zone
Agro forestry technologies for production and utilization of fodder adapted and disseminated in the zone.

MUZARDI
At least 2 acres of each of the 11 priority crops established and/maintained at the institute
At least 1579 litres of fuels for on-station adaptive research activities purchased.

At least 8 farmer managed demonstrations of the new varieties established by 2012

5. Foundation seed/ planting materials of improved crop varieties of prioritised crops made available to the uptake pathways.

Agricultural innovation system analyzed and diagnosed
Identification of the opportunities and necessities for use of research outputs for innovation

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

NGETTA

Performance of 4 pasture species compared on-station
Fish ponds stocked with tilapia and catfish maintained.

Improved varieties of groundnut, simsim, cassava, rice and beans adapted.

Tea germplasm preserved
Reaction of clones to tea pests determined
Reaction of clones to tea diseases determined

Appropriate tea mechanical plucking technologies developed

Appropriate trees and shrubs with potential for agroforestry adoption selected and evaluated for the Western highland agro-ecoogical zone

Improved livestock breeds introduced and evaluated in the zone.

Strategies to increase production of honey and other bee products enhanced amongst beekeepers in the zone.

KaZARDI:

At least 2 potato genotypes with torelance to Bacterial wilt selected for on-farm evaluations
Media composition that optimumly supports the in vitro performance of the selected varieties determined and recommended for daily use in tissue culture of potatoes
Subculture level for optimum minituber productivity for selected potato varieties determined
At least 1.5 tonnes of prebasic seed potato generated
About 24 tonnes of prebasic seed generated by June 2013
About 48 tonnes of basic seed generated by June 2013

Inbreeding controlled among 8 farmer groups
Preliminary information generated on incidence, economic injury level and level of resistance to nematodes for different goat genetic breed levels
Atleast 30 breeding/ foundation stock produced and 100 quality goats maintained and availed for experiments and uptake pathways
Data base of indigenous and exotic fish species in the zone generated
Information on performance of potential apple and pear cultivars generated (On-station)
Information on performance of potential apple and pear cultivars generated (On-farm)

Atleast 10,000 Clean planting materials of apples and 1000 pears generated
In situ conservation orchard maintained and information for morphological characterisation genarated
Information generated on nutrient requirements that optimizes apple productivity and recommended
A protocol for rapid and mass production of apple root stalks generated
Atleast five sorghum cultivars selected for on-farm evaluation.

MBaZARDI:

Appropriate conventional method for control of FMD, ECF, Helminthosis and New Castle disease validated and improved

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

ITK technologies used in Helminthosis and new castle disease (NCD) management evaluated
Information on prevalence, risk factors and incidence patterns of common cattle diseases documented
Extent of feed conservation in the SWAEZ determined
Methods used to conserve feed in the SWAEZ identified and evaluated
High yielding, marketable and user preferred new improved crop varieties evaluated and promoted.
Major pests and diseases affecting priority crops identified and alternative control strategies developed.
New bio-fortified sweet potato varieties suitable for semi-arid conditions selected and disseminated
At 1 coffee wilt disease tolerant variety disseminated in 4 districts by June 2013
Nutrients limiting banana production on at least two different soil types in Isingiro district documented
FCR of farm made and commercial pellets of Jorda services and Ugachick on pond Nile tilapia and African catfish determined
FCR for Ugachic pellets on caged Nile tilapia and catfish determined in Mabira and Rwabigyemano reservoirs.
High yielding improved fruit varieties for mangoes, citrus and avocadoes adetermined and disseminated in the zone
Effective and economically viable integrated fruit pest and disease management technologies determined and disseminated in the zone
Agro forestry technologies for production and utilization of fodder adapted and disseminated in the zone .

RWEBITABA

Tea germplasm preserved
Reaction of clones to tea pests determined
Reaction of clones to tea diseases determined

Appropriate tea mechanical plucking technologies developed

Appropriate trees and shrubs with potential for agroforestry adoption selected and evaluated for the Western highland agro-ecoogical zone

Improved livestock breeds introduced and evaluated in the zone

Strategies to increase production of honey and other bee products enhanced amongst beekeepers in the zone.

NaLIRRI:

Low cost Multi-nutrient mineral blocks (MNB) supplements produced and evaluated
Socio economic factors affecting use of MNB identified

Increased availability of feed resources in the smallholder dairy system through utilization of crop residues/wastes and agro-industrial by-products

Institutional research capacity improved in animal nutrition
Project effectively implemented
Document on N-balance based characterisation of dairy production systems

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Decision support tool feed database broadened .
Effective selected climate change adaptation and mitigation strategies evaluated in livestock based systems

Operational NaLIRRI M&E data base

NARL:

Appropriate methods and management practices for proper utilization of inorganic and organic fertilizers developed
Output 1: Soil fertility and soil erosion/ water management technologies for selected enterprises evaluated
Farmers opinions and profitability of different soil fertility management and soil erosion control/water management technologies assessed
Use of appropriate Integrated crop, soil & water management technologies promoted.
13.1 Prototypes of animal drawn implements for planting, weeding, ridging, harvesting and transportation of selected small and large grain seeded crops developed
13.2 Prototypes of single axle tractor implements for planting, weeding, ridging, harvesting and transportation of selected small and large grain seeded crops developed

Transformation procedures/ protocols for millet/groundnut. Cowpea and tomato published.

IPM packages for management of BBW and other pests developed
Environmentally friendly technologies for CWD management identified
Molecular characterisation of 7 coffee wilt disease resistant varieties completed.
Released and near release bean varieties produced and maintained (Breeder, basic and foundation seeds of all released varieties and segregating population produced)
Introduction, collection and identification of weevil resistant bean genotypes
Generation and evaluation of new cassava genotypes for adaptability and acceptability
New stress tolerant germplasm in place
Fruit and vegetable varieties with resistance to pests/diseases, high yields and consumer acceptable qualities generated and evaluated .

NaCRRI:

IPM packages for management of Fruit flies seed weevil and other pests identified
Superior orange-fleshed sweet potato (OFSP) clones with high beta-carotene developed
A sweet potato seed system developed in pilot districts
Uninterrupted & Constant Supply of Electricity and water
Activities at different sites carried out according to plan
Effective running operational activities
Functional Generators in working condition
Various types of reports produced for effective management on a day -day basis
4 Staff trained through short courses & Workshops in Finance, Audit

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Administration, Procurement)
5 Staff trained in various areas of Administration, Finance, Procuremnet, Audit & Science
Required inputs made available for experiment and trials .

NaFIRRI:

Appropriate sites for cage fish culture in central Uganda identified and mapped out for farmers/investors, service providers, policy makers etc
Policy brief on recommendations/strategies for mitigating any potential negative impacts of aquaculture practices (cage farming) on the environment
At least one capture fisheries and two aquaculture technologies developed and disseminated
At least one capture fisheries and two aquaculture technologies developed and disseminated.

NaFORRI:

Annual economic value of forest socio-economic functions determined
Current carbon stocks in various land use systems in Uganda determined
Carbon sequestration rates of selected plantation tree species in Uganda determined
Strategies for accessing carbon credits developed

NaSARRI:

1.5 Consultative meetings held
1.7 participated in world food day celebrations
1.8 Participated in agricultural shows
2.2 Over 2 technical peer review meetings held
1.2 60 crosses made involving 3 resistant parents & 3 susceptible parents to scab, over 10 F 2s planted & data recorded
1.3 16 crosses made & over 10 F 2s'planted on which selections are made for resistance against cowpea scab & leaf blight
2.2 5 synthetic fungicides screened for effectiveness against cowpea scab & leaf blight ; 2 synthetic fungicides effective against laef blight & scab identified
1. 1 20 accessions of cowpea assembled
1.2 6 elite lines with high yield potential evaluated on station -NaSARRI
1.3 7 lines that high yielding, drought tolerant and less shattering selected for advanced yield trials
1.4 2 sets of trials on cowpea yield, shattering & drought tolerance established in 3 TVCs'
1.1 50 accessions assembled and characterised
1.2 45 sweet sorghum accessions planted & screened against local pests & diseases
1.1 80 accessions assembled & characterized

2.1 20 accessions planted & screened against drought, striga, leaf blight and smuts & 15 most promising lines planted & screened against local pests &diseases
1.1 30 accessions assembled & characterized
2.1 30 sorghum accessions planted & screened for pest & disease resistance
1.1 75 accessions assembled and characterized
1.2 70 single plant selections of crosses evaluated for high oil content & limited shattering.

1.3 60 single plant selections evaluated for resistance to Cercospora

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Cylidrosporium leaf spots in sesame
2.1 7 evaluated for effectiveness to gall midge & webworm
2.2 6 botanical insecticides screened on station and TVCs.
2.3 3 cultural management options for gall midge & webworm tested in 4 agro-ecological zones
4.4 One improved sesame variety disseminated
Ten lines with improved blast resistance and drought tolerance identified and released

12000 kg of certified seed produced on-farm by farmers. On-farm seed demonstration plots established
10 Elite lines and two agronomic management packages validated on-farm in 5 districts
1.1 100 additional accessions of groundnuts assembled and 200 characterized
1.4 4 advanced lines developed for resistance to leaf spots and rosette
1.5 1 mechanism of rosette resistance understood
2.1 10 studies conducted to ascertain levels of aflatoxin contamination in groundnuts .

2.2 techniques that minimize aflatoxin contamination levels in groundnuts and groundnut based products developed
2.3 1 mechanism of aflatoxin contamination in groundnuts understood
40 cotton accessions collected and characterised.
12 parents selected for crossing
2.1 Six defoliants and 3 growth regulators tested at TVCs.

4.3 Effectiveness of 5 promising pesticides against major cotton pests evaluated at TVCs and farmers' fields
4.4 Four intercropping system evaluated at TVCs
5.1 Races of fusarium wilt prevalent in Uganda determined

3 new seed dressing chemicals tested for the control of bacterial blight and fusarium wilt

2.1 2 trials on 10 chemicals, 10 cultural practices & 8 biorationals evaluated at 6 TVCs'
2.2 IPM options for control of sclerotinia leaf crinkle, head & stalk rot & blotch virus in sun flower evaluated (7 intercropping systems, 8 biorationals tested & 10 cultural practices)
2.3 Sunflower samples collected from 8 locations; 10 elite lines inoculated with isolates in the screen house & in the field; Pathogenecity of the isolates evaluated at 10 TVCs'
3. 1 The compatability of sunflower with other crops evaluated using 3 trials; 6 promising intercropping patterns tested at 4 TVCs' & 4 promising intercropping patterns tested in farmers fields
4.1 3 tons of new sunflower varieties produced; over 130 farmers trained on improved management practices
4.2 20 information sharing methods tested with 16 famers & 6 information sharing methods suitable for different farmer groups popularized .

Cumulatie Outputs Achieved by the end of the Quarter:

- Research activities effectively supervised, monitored in 2 PARIs.
- General monitoring of NARO land in 9 PARIs.

Research priority setting guidelines reviewed and first draft ready for harmonisation with NAADS.

Reasons for Variation in performance

Inadquate release of funds.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Total	**179,756**
GoU Development	*179,756*
Donor Development	*0*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Item	*Spent*
221005 Hire of Venue (chairs, projector etc)	67,051
221008 Computer Supplies and IT Services	23,038
227001 Travel Inland	87,459

Annual Planned Outputs:

NAROSEC:

MIS institutionalized and Infrastructure established
Research-extension interface activities in the PARIs effectively implemented supervised, monitored and managed
Research-extension interface activities in the PARIs effectively implemented supervised, monitored and managed.

PR:
Branding initiative/campaigns strengthened
Branding initiative/campaigns strengthened
Publications & productions strengthened.

Publications & productions strengthened
Publications & productions strengthened
External public relations strengthened with different stakeholders.

UJAS editorial committee meetings facilitated;

DG's office:

Membership to vital clubs
Good governance and corporate social responsibility ensured and promoted
NARO-NAADS collaboration activities promoted
Sufficient funds for agricultural research mobilized and disbursed.

ACCOUNTS:

Timely Financial Budgets.

Better functional performance

Better Co-ordinated functions

ABI
Capacity of farmers annd extension staff to manage and improve soil fertility built.

BuGIZARDI

4.2: 120 farmers capacity to produce own quality seed potato enhanced by using SSPT from Kween, Sironko and Manafwa

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

7.3: High quality disease resistant groundnut lines identified for release Iganga, Kamuli, Palisa, Mayuge, Busia districts

Farmers capacity to identify and manage major emerging pests and diseases of cassava and groundnuts enhanced.

BuZARDI

Institutional mechanisms that promote farmer innovations and technology adoption promoted.

MbaZARDI
A range of technology innovations for improving productivity of the farming systems and farmers livelihood tested

Generated information Disseminated to uptake pathways
Information on activities in the SWAEZ collected
Partnership visits to sister institutes & partner organizations conducted
Conducting radio programmes/features and Television Documentaries on MbaZARDI research activities & products

Printing of MbaZARDI Calenders
2. Generated information disseminated to uptake pathways
Farmers trained in technology management and marketing.

MuZARDI

At least 8 new technologies identified for zonal adaptation
Monitor the existing on-farm trials & establish at least 18 new on-farm trials in at least 3 districts
At least 5 new research technology intervations availed in at least 3 districts
Atleast 5 stakeholder workshops on promotion and dissemination of technologies for integrating crops, agroforestry, apiculture and livestock enterprises for improvement of soil/crop productivity in the zone
At least 3 information sharing and training workshops stakeholders in agricultural research and development conducted in 3 districts
At least 1 semi annual and one annual review and planning meetings held
Atleast 1680 litres of disel fuel procured
Contibution to at least 2 magazines, NARO year planner, publishing of at least 4 newspaper articles and production of 160 copies of MUZARDI Newsletter

NGETTA

Knowledge and skills of farmers in Amuru district in appropriate labour saving technologies and practices enhanced.
Information on propagation and post-harvest handling of Shea nut disseminated to beneficiaries.
Information on incidence and severity of simsim pests and diseases in Lira and Alebtong districts generated.

NALIRRI:

Feedback and review meetings conducted involving extension staff of local governments and NGOs
Dissemination of findings in conferences
Information on MNB disseminated to stakeholders.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

NACRRI:

IPM packages for management of BBW and other pests developed and promoted
At least 50,000 leaflets, 5,000 coffee calenders developed and promoted
Promotional materials including brochures, leaflets, posters developed, produced and circulated
Stakeholders capacities enhanced through training and awareness created
Demonstrations and field days set up and awareness about improved bean production technologies increased/improved.
Demonstrations set up
Community of farmer groups registered and schools involved in seed production
Opinion leader sensitized.

NAFIRRI:

2. Technical report on mapping and database of aquaculture produced and results disseminated.

Cumulatie Outputs Achieved by the end of the Quarter:

- Updated the NARO website with a conference module.
NARO 2013 calenders and diaries.
- Organised World food day
- Participated in organizing the Jinja agricultural show.

Q1
- Prepared demonstration gardens and information materials to Demonstrate research technologies for farmer adoption & displayed information materials including posters , brochures , banners, and leaflets during the world Food Day in Mbarara ZARDI and Jinja agricultural show.
- Painted NARO exhibition hall at Jinja agricultural show for improved corporate image

Reasons for Variation in performance

Inadquate release of funds.

Total	**177,548**
GoU Development	*177,548*
Donor Development	*0*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

NAROSEC:
Consultancy fees paid

2. Good Governance and corporate social responsibility ensured and promoted; Leadership and oversight Management of agricultural research provided;
3. Staff recruited and staff training - (Local and International)
4. Stationery and office consumables procured;
5. Office equipment maintained;
Postage and courier services used;
6. Vehicles serviced;
7. Office buildings maintained ;

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	9,541
211103 Allowances	6,860
221002 Workshops and Seminars	90,400
221003 Staff Training	105,660
221004 Recruitment Expenses	36,546
221006 Commissions and Related Charges	50,413
221011 Printing, Stationery, Photocopying and Binding	9,352
221014 Bank Charges and other Bank related costs	14,028
221016 IFMS Recurrent Costs	18,390
222001 Telecommunications	4,011

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*	
Vote Function: 0151 Agricultural Research		
Development Projects		
Project 0382 Support for NARO		
8. Compound maintained ; 9. Maintain effective ICT facilities; 10. Subscription for internet paid. HRA quarterly meeting held Council, Management Committees and staff members sensitized. An automated records management system 30) Organised archive management system Updating NARO Asset Register Travel to institutes to carry out HR functions	222002 Postage and Courier	32,213
	222003 Information and Communications Technology	36,988
	223005 Electricity	5,611
	224002 General Supply of Goods and Services	114,772
	225001 Consultancy Services- Short-term	58,627
	226001 Insurances	78,881
	227001 Travel Inland	62,655
	227002 Travel Abroad	55,144
	227004 Fuel, Lubricants and Oils	116,902
	228001 Maintenance - Civil	156,468
	228002 Maintenance - Vehicles	44,784
	228003 Maintenance Machinery, Equipment and Furniture	15,853
ACCOUNTS: 12. Quarterly entity accounts, financial statements, commitment control reports, several manual books of accounts maintained. Bank charges timely paid; Better quality of accounting information. Timely Financial Budgets Effective financial Management system in accordance to GOU & Donor policies Fully embrace the government business transactional procedures. Accounts staff Development.		
16. Acquisition of books, agric. Information magazines and newspapers; 17. Provision of security services; 18. Break tea and Refreshments provided to staff and visitors; 19. 3 Preparatory meetings for NARO Scientific Conference; 20. Organising NARO Scientific Conference; 21. 1 Annual planning and Review meetings; 22. 3 Quarterly planning and Review meetings; 23 2 Dissemination and Internal review workshops; Sensitised PARIs on Institutionalisation of Quality Assurance in NARS Build capacity of selected staff on Web 2.0 Tools. Policies implemented and adopted New performance appraisal instrument developed printed and circulated Improved staff wellbeing Building plans produced Research activities effectively supervised, monitored and managed Consultancy Services IFMS Recurrent costs. Budgets/workplan prepared, management, monitoring & evaluation reports.		

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Accounts information/reports generated and reviewed, analysed and distributed.

Internal Audit out-puts:

Internal Controls reviewed and key risks controlled.

Adherence to laid down regulations and policies.

Mminimized cases of disagreements with auditors and management arising from their reports.

Payroll embracing all NARO staff audited.
Proper accountability of resources and correct recording of transactions.

Internal audit work conducted professionally at Institutes

Losses/fraud minimized.
Updated asset register verified as per the physical Items and Cash controls strengthened.

Independence of Internal Auditors strengthened.
Improved accountability.

Internal Auditors Capacity strengthened
Internal Auditors capacity improved.

Governance and corruption issues identified.

Engineering dept out-puts:

Good engineering structures ensured

Efficient service delivery
Building plans produced
Improvement of Sewerage infrastructure
improved kitchen facility for staff tea
improved quality laboratory
Structural integrity of Office building restored
Aesthetically pleasing environment
Enhanced knowledge and better equipped staff
Enhanced knowledge and better equipped staff
Improvement of other works infrastructure

ABI

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

New ideas and information acquired
Improved perfomance of the institute workforce
Vacant positions in the establishment filled
Fuel supply mantained for administrative activities
Institute buildings maintained
Institute vehicles maintained
Institute reports effectively produced.

BugiZARDI

2 farmer groups involved in identification of ITK and goat feeding options validated in Bukwo, Kapchwora, Bulambuli and Mbale districts

10.3: Capacity of the farmers in profitable management of goats in the selected districts enhanced.
Efficient implementations of farm and office operations

Improved communication and services

Institute property secured .

BuZARDI

Mechanisms for efficient institutional management strengthened.

KaZARDI

4 quarterly planning meetings held
Atleast 2 staff participating in various adminstrative meetings/ actvities
4 staff participating in finance, audit,human resource and procurement workshops
1 stakeholders planning meeting held
Human Resource & administrative, and Audit reports prepared and submitted to NAROSEC
2 quarterly monitoring of research & development activities and value for money and audit activities
12 monthly financial reports compiled and delivered to NAROSEC
4 quarterly Management Committee and 2 sub-committee meetings held
6 procurement sub-contracts committee meetings held
Generators for research activities maintained.
Generators for research activities maintained.
Vehicles for research and administration activities maintained
Welfare items availed for staff
1 end of year gathering organized.

MbaZARDI.

Facilitation of Management Committee meetings
6 monthly hired labour contracts paid by June 2012
Human resource development
6 guarding invoices paid by June 2013
Procurement of internet services
Meetings and other administrative matters attended by director
Assets engraved.

MuZARDI

At least 8 MC meetings held

Vote: 142 National Agricultural Research Organisation

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Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Staff recruitment
At least 4 budget meetings held
At least 3 visits by members of staff to other NARO institutes
Members of staff participate in at least 1 agricultural shows & 1 one field day
At least 8 members of staff attend local training courses
No. of conferences and seminars attended for capacity building
At least one annual event for staff motivation held
At least one farmer exchange visit for 30 farmers conducted
Assorted stationery procured
At least 1 potting shed renovated
At leasty one hatchery unit renovated
At least 20 security lights installed
Atleast one main hall tiled
At least 1 staff office block renovated
Stores renovations.

NabuZARDI

Funds to supliment Institute budget generated
Funds to supliment Institute budget generated from hiring out chairs and tents.

Efficient and effective decission making for proper managemnt of Nabuin

Procurement reports submitted on time as required by world bank & PPDA .

Financial policy guidelines & review of the existing ones to stregthen the system designed
Routine support of administrative & research activities made Necessary services from other service providers like banks provided.

Materials needed for report writing & other office use in place.

Office space for staff acquired in Moroto .

NGETTA

Equipment for tree mensuration acquired
Mandate and functions of management committee effectively exercised.

Motor cycles for research activities in good working condition.
Uninterupted internet connection.
Stationary available for office use.
Ngetta ZARDI GoU-Devt bank account operational.
Capacity of staff in research and research management enhanced.
Ngetta ZARDI physical facilities in good condition.

Research capacity strengthened.

RwebiZARDI

At least 4 Management committee meetings held at the institute .

- Improved reporting.

NaLIRRI:

A well planned, supervised and co-rdinated system achieved

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Office, laboratories, access roads and compound mentained
Capacity building through short term training of staff achieved
Supply of utilities to the Institute achieved
Various coordination activities including attending workshops and meetings executed .

NARL:

Providing oversight of research activities
Providing oversight of research activities.

NaCRRI:

At least 5 COREC staff members undergo specialised cources (training in Project management, ICT and Laboratory procedures)
Well maintained compounds and roads for a good working enviroment
2 Staff Recruited in finance and audit units
Establishment of Policy guidelines, recommendations & review
Represention/Attendance of Official Meetings
Activities in 8 Trial sites in COREC Bugusege & Kiige are carried according to Plan
Constant /Uninterrupted Flow of Communication

Well maintained and functional information processing system
A well maintained and functional telephone network for NaCRRI
A well motivated staff to ensure efficent and effective performance
A well motivated staff with working tools to ensure efficent and effective performance
Institute Assets protected from thieves & Vandalisation
At least 80% of NaCRRI vehicle are functional to ensure easy transported and activities
All parts of NaCRRI is accessable and have sanitation facility
Institute Assets protected from thieves & Vandalisation
Office buildings maintained to provide good working condition.

NaFIRRI:

Staff capacity enhanced to respond to challenging research environment
Research dissemination materials (calendars, t-shirts, christmas cards) produced and distributed
Timely communication and follow-up on institute activities
At least one capture fisheries and two aquaculture technologies developed and disseminated.

Executed routine administrative duties
At least one capture fisheries and two aquaculture technologies developed and disseminated
Executed routine administrative duties
Well maintained office infrastructure
At least 10 vehicles maintained
At least 10 functional outboard engines and one welding generator
Workshop machinery mained
Research outputs disseminated to stakeholders:

NaSARRI:

Executed routine administrative duties
At least one capture fisheries and two aquaculture technologies developed and disseminated
Executed routine administrative duties

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Well maintained office infrastructure
At least 10 vehicles maintained
At least 10 functional outboard engines and one welding generator
Workshop machinery mained
Research outputs disseminated to stakeholders.

Cumulatie Outputs Achieved by the end of the Quarter:

- Organised and held the NARO scientific conference.
- Published UJAS VOL. 13. NARO calenders and diaries.
- Conducted 2 M and E missions in the PARIs.
- Updated the NARO website with a conference module.
-
Q1
NARO Secretariat
- NARO Council meeting held
- 2011/12 quarter IFR sent to world bank. 2nd Withdrawal Application made.
- Conducted 2 preparatory meetings of the NARO Scientific conference to be held in 1-3 October 2012.
- Conducted 1 M and E missions in the PARIs.
- Updated the NARO website
- Review Harmonizing the Priority Setting guidelines NARO

PUBLIC RELATIONS
- Draft NARO communications strategy developed
- Arranged for 10 journalists to visit NaCRRI during the Second Global Cassava Partnership Conference (GCPII) in Kampala
- Arranged two media press briefings at the Uganda Media Centre for the ministry and NARO management
- Five articles prepared for magazine and newspapers
- Collaborated closely with Entebbe Municipal Council to celebrate Uganda's 50 year anniversary

HUMAN RESOURCES
- Two positions of PARI Directors, 15 positions of scientists and 3 positions at NAROSEC were advertised; 15 candidates were selected to fill scientific positions; 2 candidates shortlisted to fill 1 position of Directors; 10 candidates shortlisted to fill NAROSEC vacant positions.
- Proposals for 40 candidates were vetted for PhD and 8 for MSc scholarships out of which 31 were selected for PhD and 4 for MSc scholarships.
- The training committee held a meeting to review budgets for recommended students and to review proposal for students

PROCUREMENT AND DISPOSAL
- Cleaning services
- Conference facilities for NARO scientific conference, for compilation, Editing and writing Workshop of book NARO at 50 years, for Harmonization and reviewing of guidelines for priority setting, EAAPP planning and review Workshop 16th -18th July.

Reasons for Variation in performance

Inadquate release of funds.

Total	**1,173,473**
GoU Development	*1,173,473*
Donor Development	*0*
NTR	*0*

Output: 01 51 05 Generation of technologies for priority commodities

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Annual Planned Outputs:

Released and near release bean varieties produced and maintained, Stress tolerant / resistant bean genotypes identified and incidence & severity of major bean pests & diseases determined
Stress tolerant maize varieties released, released maize varieties purified, pests & diseases yield loss determined
Cassava lines resistant to stress with desirable attributes released, Virus disease maps generated, Early warning systems developed, nutrient-use-efficiencies of elite cassava genotypes determined
Stress tolerant rice varieties released, released rice varieties purified, pests & diseases yield loss determined &performance of new upland and rain fed low land rice lines determined
Coffee varieties with high yields, resistant to stress developed, Technologies for control of pests and diseases developed and Effective soil fertility and water management options developed
Information on best agronomic practices generated and availed, Extent of pest infestation in tea growing areas determined & management options of major pests developed
Effective soil fertility and water management options for new varieties and non-traditional areas developed
Banana hybrids tolerance stress, high yielding and with consumer acceptable qualities generated and technologies that enhance the banana value chain developed and promoted
Develop technology options for exploitation of renewable energy resources, irrigation schedules established
Develop technology options for water provision and management
Fish diversity, Reproductive Ecology and Improvement of Genetics and Culture Practices of Commercial value fishes
Tse-tse fly and ticks management options, Forage management, Pest and disease management
Tse-tse fly and ticks management options, Forage management, Apiary, Livestock breeding and disease management
Appropriate agronomic technologies that increase bean yields developed
New cassava varieties resistant to CMD and CBSV; with other farmer-preferred attributes developed
New rice varieties availed to farming communities and Farmers trained on recommended agronomic and post-harvesting techniques of rice
High yielding forage cultivars disseminated, Performance of 5 cross breed calves determined, Concentrates for supp. feeding developed
Aquaculture pond Productivity improved to at least 2.0 kg/m2 for catfish and to 1.0 kg/m2 of pond area
Appropriate soil & water management interventions developed, Integrated nutrient management (INM) practices adopted by farmers in west Nile
High quality maize varieties validated for production in the mid altitude areas of the SEAEZ
High quality farmer preferred cassava varieties multiplied for uptake pathways in the mid altitude areas of the SEAEZ and Disease tolerant cassava varieties identified and validated
Promising Integrated weed management options in rice validated with farmer groups
Cost effective fungicide spray regimes identified for management of CBD, soil nutrient options that improve Arabica coffee productivity identified and coffee seeds and seedlings availed
Soil and water conservation measures identified and Promoted, partnerships developed and strategies fro adoption of SLM produced and sensitisations held
High yielding and high quality rice varieties and lines for small scale farmers are selected, seed systems developed & disseminated
Technologies for producing fish seed developed & Cage farming

Item	*Spent*
224001 Medical and Agricultural supplies	950,000

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

experiment studies set up in L. Albert
Impacts of climate change determined, Drought tolerant disseminated & Animal feed species with high carbon sequestration popularised
Limitations of fish breeding in the natural ecosystems & Environmental parameters on fish rearing established
IPM options for beans developed and disseminated
Nutrients limiting banana production on at least two different soil types in Isingiro district documented
Appropriate method for control of FMD and ECF validated & documented and Extent of feed conservation determined & Methods used to conserve feed identified and evaluated
FCR of farm made and commercial pellets of Jorda services and Ugachick on pond & caged determined
At 1 coffee wilt disease tolerant variety disseminated in 4 districts by June 2013
Agro forestry technologies for production and utilization of fodder adapted and disseminated in the zone
Management & sustainable use of NR enhanced & Optimum application rate of Metarhizium anosopliae determined
Highest yielding rice intercropping systems identified and samples analysed MSIP meeting conducted
Effect of graded levels of protein on fish performance evaluated & farmed fish decision support tool developed
Factors relating to adoption and management of small scale irrigation practices established
Livestock management options developed, Technologies for water harvesting/harnessing and storage evaluated
Livestock management options developed
Labour saving animal drawn technologies catalogued and its efficacies established
Technologies for water harvesting/harnessing and storage evaluated
Improved/new varieties of rice adapted
Performance of 4 pasture species compared on-station & High yielding grass and legume pasture species adapted.
Optimum catfish & tilapia stocking ratios established, Performance of fish feeds documented and Feed rations/ regimes developed.
High yielding and quality tea planting materials developed, Tea germplasm preserved and Reaction of clones to tea pests & pests determined, high yielding and tolerant to Xylaria disease selected

Cumulatie Outputs Achieved by the end of the Quarter:

NACRRI
*** Maintainace of on station trial fields of Maize, Beans, coffee, cassava, rice**
*** Maintainace of on station trial fields of Maize, Beans, coffee, cassava, rice**

Tea
*** Conducted a survey on major tea pests and diseases in the western highlands**
*** The major diseases found in Kanungu were Armillaria mellea and Xylaria**
*** 20 tea fields (tea gene bank) maintained on-station at Rwebitaba**

Fish
*** Three reconnaissance surveys were conducted in the inshore waters of the Ugandan part of Lake Victoria and geo-referenced data was captured for 157 grounds identified as potential fish breeding/nursery grounds.**
*** Draft map outputs produced for the locations of fish breeding/nursery grounds in Lake Victoria.**

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QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

*** In Abi ZARDI Preliminary results for feeding ecology indicates that Alestes baremoze feeds on a great diversity of food items with Ephemeroptera nymph dominating as the most prey item and photo period has an influence on stomach content fullness**

cassava
*** 12.5 new acres planted with NASE 14 cassava variety in Abi ZARDI**
*** Acquired 14 bags of NASE 14 cassava variety from NaCRRI for Ikulwe**
*** 1ha of multiplication garden established at Ikulwe station & at 30 cm height**
Banana
*** M9 and FHIA 17 promoted in 30 districts. 8 farmers in each district hosting the demos. Iganga,mayuge,kaliro,Sironko,Butalegya,Jinja, Kasese, Bushenyi, Kabalore, Kanungu, Rukungiri, Ruwelo,Mukono, Mubende, Kiboga, Apac,Nebi and Lira, Masindi and Hoima.**
Coffee
*** Comprehensive national surveys for spread and impact covered Bunyoro sub-region. Manuscript for spread and impact studies submitted for publication in a refereed journal.**
*** Monthly data collection on community-based participatory approaches implemented in Mukono and Nakaseke districts comparing phyto-sanitary farms with non-phyto-sanitary ones was done and undergoing analysis.**
*** Running cultures of entomo-pathogens B. bassiana and M. anisopliae established in the laboratory at Kituza**
*** 2.2 MT of arabica coffee seed available for uptake pathways in Mbale, Kapchorwa, Kween, Sironko**
*** 4500 seedlings avaliable for uptake pathways in in Mbale, Kapchorwa, Kween, Sironko, Manafwa,**
Dairy cattle
*** 16 forage choppers were demonstrated and availed to farmers in Masaka and Ngora districts. This meant a reduction (30%) in of time spent on the processing forage.Wastage of forage was reduced by 30%; Chopping related accidents were considerably reduced; Size of the machine eased its movement**
*** A Decision support tool for optimizing forage utilization in smallholder dairy production systems was improved and was tested on 10 household farms ---an average increase (20%) in milk yield during the dry season due to availability of high quality feeds.**
Maize
*** Yield potential for 3 maize (Longe 4, 5 and MM3) and elite sorghum varieties (E1-E11) were established under 3 different spacing and no nutrient supplement and rain fed conditions in West nile zone**
Beans
*** Total of 258kg of foundation seed produced at Bulegeni.**

Q1
NACRRI
Rice
- Determine level of parasitism of the AfRGM in farmers' fields: Two species of parasitoids were identified and were able to cause mortality of 75% of the AfRGM in farmers' fields. Aprostocetus procerae caused 60% of the total mortality whereas Platygaster diplosisae caused 40%. In all the three sites close to 60% of the insects that emerged were males and 40% females.
- Thesis on CBSD epidemiology and genetic diversity studies

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QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

submitted for examination
- Produced NERICA 638 Kg of NERICA foundation seed (NERICA 1 – 210 Kg; NERICA 4 – 157 Kg and NERICA 10 – 271 Kg)
Cassava
- Molecular analysis of parental lines for specificity of CBSD resistance and genotyping of progenies between Namikonga and elite varieties continues at NaCRRI and BECA respectively
- 5 data sets generated from replanted S1 partial inbreds and 2 data sets collected from clonal evaluation trial being evaluated for CBSD & CMD resistance
- Eight data sets generated from each of the CMD2, CMD and CBSD durability CFTs
Horticulture
- Pest and disease epidemiology surveys: Four surveys conducted in 12 districts of Uganda
Bananas
- Collected data on 2 advanced matooke hybrids (M19 and M20) needed for their release; data presented to the Variety release Committee and cleared for pre-release
- 24 matooke lines with antinematode transgenes have been planted in a CFT
- Transformed M9 with BBW resistance pflp genes
- Established BBW demonstration trials in Ankole region
- Data collected on water stress effects on selected culltivars
Sweet potatoes
- Established a new crossing block with 28 parents replicated 25 times.
- Monitored breeding trials at NaCRRI, NaSARRI, Ngetta and KaZARDI.
- Monitored on-farm trials in Buikwe, Kamuli, Kabale, Luweero and Wakiso districts.
- Evaluation of weevil resistant SP clones: Incubation bioassay showed that New Kawogo, ARA228 and LIR 302 had lower C. puncticollis adult emergence compared to NASPOT 1 and Tanzania (susceptible vars).
- Variety transformation: Kyebandula and Bwanjule were successfully regenerated through shoot organogenesis, although regeneration efficiency was very low (at 9% and 11%, respectively).
Beans
- Submitted an application for release of 4 promising climbing bean genotypes to the variety release committee namely: F4:834ML-14/4 (dark red mottled), 2) F4:8 34ML-2/3 (Pinkish), 3) F5:8 90ML-2/1/3a, (Light red mottled) and 4) F6:8 90 ML-5/13 (Red)
- Four new climbing bean genotypes were released
- NABE 12C Lines with incorporated resistance to Pythium root rot: Using MAS, resistant plants were selected carrying all the three target genes and used them for crossing to generate the second backcross hybrid (BC2F1)
- Released 7 new bean varieties (NABE 17- NABE 23)
- Evaluation and release high nutrient-dense bean lines for adaptability in different agro ecologies in Uganda: Genotypes BRB 194; MORE88002, NUA 99, NUA 69, RWR 2154, and RWR 2245 were most resistant to diseases across locations. Diseases ALS, CBB and FLS were the most prevalent and most severe diseases across locations.
- Multiplication trial of the nutrient dense bean lines: Seed obtained ranged from 0.7-3.5 kg per genotypes and genotypes HM21-7, RWR10, RWR 2154, and RWR 2245 yielded the highest yield and genotypes MAC 44. ICYANA, G 59/1-2 and KAB06F2-8-27, yield the least.
- Determination of farmers' perceptions, incidence and distribution of

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QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

bean bruchids in selected districts in Uganda: The study report was finalized
- Baseline survey to characterize technologies, gaps and opportunities for establishing sustainable bean platforms: The report was completed and submitted
- Baseline on NABE 12C production, processing and marketing: A draft report was produced
- Established ten staking option trials/demonstrations for climbing beans in Kabale and Kisoro to provide alternative staking options to farmers.
- Quality standards of beans for regional and export markets were established

Maize QPM (technology dissemination):
- Promotion of QPM technologies using participatory uptake pathways: Conducted baseline survey
- A total of 47 ToTs were trained in disseminating and scaling up QPM technologies and innovations
- Produced a draft communication strategy at the inception work shop; Conducted the baseline in the 3 IPTA Bugiri, Luwero and Masindi

NAFIRRI
- A geo-referenced database of aquaculture sites is being developed. New sites in r Mukono, Kayunga, Luwero, Nakaseke, Buikwe and Kaliro districts have been surveyed. These include 50 fish farms in Mukono, 44 in Luwero, 28 in Nakaseke, 21 in Kaliro, 19 in Kayunga and 18 in Buikwe
- A survey to identify aquaculture production sites in region Western and Central regions was conducted. 3 reservoirs were visited in Isingiro district: Kagango dam was selected as the most suitable for design of aquaculture system.
- 4 reservoirs were visited in Sembabule: Rwamakara was selected for the aquaculture development design.
- Potential sites for cage fish culture at the northern portion of lake Victoria have been identified. These include Kaliyambuze, Nabinoonya, Bwanja, Semondo . Water quality parameters were within the recommended levels for cage fish culture i.e: DO, 5.46-8.07mg/l, Temp. 24.4-28.3oC, pH 6.0-7.5, ammonia less than 0.2mg/liter, water tranparency of 105-295cms, minimum water flow rate of 10 meters / second, water depth above 4 meters
- 3 ornamental fish species from Lake kyoga system selected, namely: Zebra, Red tail, and Flame back. Live samples of 3 selected ornamental fish species collected and reared for culture trials.
- A draft technical report on prevalence of aquatic weeds, heavy metal pollution hotspots, water quality and socio-economic indices of fisherfolk is being finalised
- The status of water quality in Lake Kyoga has been established. The water quality indicated the following physicochemical conditions; dissolved oxygen ranged between 4.7 – 9.2mg/L; pH, 6.3 - 10.6, conductivity, 120 – 540uScm-1; water temperature , 25.8 – 27.1; turbidity, 0 – 1152.7 FTU; redox, 625.6 – 918.4mV and salinity, 0.06 – 0.26ppt.
- Status of the selected heavy metal pollutants (Lead, Zinc, Copper, Iron, Manganese and Nickel) in the sediment and bottom water were established and compared with natural background level. Cu and Fe was observed to be high in the water column. Cu, Zn and Ni were high in sediments.

NARL

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QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Water provision and management
- Three (3) water storage tanks (Lined with HDPE) Constructed in Masaka District for vegetable production
- Finalizing fabrication of a pond aerator prototype (diffuser type)
Exploitation of renewable energy resources
- 1 model of biogas cooking stove appliances developed; on-station evaluation completed and farmer selection done in Jinja and Iganga districts
- 1 Open-sun drying technology for local rice varieties developed and established on-farm and farmer selection done in Hoima district
- 1 model stove prototype for utilisation of rice husks fabricated and being tested on-station; Farmers for on-farm evaluation selected
- 1 Fireless cooker prototype under fabrication. Farmers for on-farm testing selected in Masaka and Hoima districts
Implements for diversifying use of work animals and single axle tractors
- 1 prototype of efficient animal-drawn planter for selected small and large grain seeded crops developed
- On-farm evaluation is in progress of a prototype of stainless steel hopper and cutting surfaces for grating and chipping cassava
IPM Options
- Determination of parasitism rate of stem borer species and level of damage on maize: Cultures of Buseola fusca stem borer species (on maize) established in the screen house to rear egg parasitoids of stem borers for field releases
- Determination of prevalence of Wolbachia bacteria in white fly (Bemisia tabaci) populations: The 16S rDNA gene of Wolbachia amplified to confirm its presence showed an approximate band size of 394bp and revealing an overall infection frequency of 77.5%. The genetic identity of field collected B. tabaci populationfrom Nakasongola district determined by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) of the mitochondrial cytochrome oxidase I (mtCOI) gene using Taq1 restriction enzyme showed the restriction pattern not typical of what has previously been observed and reported using this same method, suggesting the possibility of a new and/or an unidentified biotype of B. tabaci
- Survey on abundance of cassava pests on cassava varieties: Out of 11 cassava varieties screened in the field at NaCRRI, high white fly population densities were recorded on /0057, TME204, NASE12 (over 27 adult white flies/leaf) and the lowest white fly population densities were recorded on MM97/2961, BAM.NKA and I92/0067). Cassava green mite population trend was similar to white flies on cassava varieties
- Evaluation of efficiency of arboreal termite sp in controlling subterranean termites: A total of 5 damaging subterranean termite species were identified in rangeland habitats prior to introduction of arboreal termites; macrocerotermes spp was the most abundant termite species. Species richness of damaging termites was higher in bare ground than in dense vegetation cover. Recoveries made after one month of release of Kamwenge arboreal termites introduced to control subterranean termites in rangelands in Nakasongola district
- Novel IPM strategies for control of mango fruit flies: Fruit fly species varied with seasons and diversity of fruit fly species varies with abundance of hosts; Bactrocera invadens and Ceratitis anona were recovered in low numbers in monitoring studies conducted in Southwestern Grass Farmlands (Kalungu, Rakai, Kiruhura and Mbarara districts) and South western Highlands (Kabale district) during the off season mango fruiting
- Eight mango varieties studied for host suitability in terms of fruit

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QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

fly responses (sex, survival and body size) showed exotic varieties were more suitable than the local varieties. Five additional wild hosts of B. invadens identified and confirmed. Actual and potential distribution of Dacus spp and Ceratitis spp mapped through modelling. B. invadens from 3 Agro ecological zones (Northern Moist Farmlands, Lake Victoria Crescent and Western Mid High Altitude) have been digitized. Species diversity analysis showed high diversity from the Mid High Altitude

- Factors influencing mango fruit fly infestation were established: Mango fruit maturity stage, peel thickness and fruit firmness were found to have the highest contribution to fruit fly infestation among the various factors such as vitamin C and fibre content, fruit size and peel colour that were analysed (MSc. Thesis)

- Validation of management options for control of mango fruit flies: A combination of BAT, MAT and orchard sanitation recorded lower fruit fly counts and 40% improvement due to low trap catches in Masindi and 60% in Luwero district

- Information packages on fruit fly management: 1200 brochures produced on the ecology of mango fruit flies and distributed to stakeholders. Posters produced and shared with stakeholders

- Management of bean root rot and Phytophthora damping off seedling diseases: Identification of pythium root rot strains- A total of 800 diseased plant samples collected from 9 districts in Midwestern, Central Uganda and Mount Elgon region awaiting isolation characterization. 26 have been cultured and Trichoderma isolates recovered from 81% of the cultures made

Novel value-added

- Products from Agricultural produce and Fisheries: Levels of PAH assessed in farmed Clarias: Chromatographic analyses showed presence of PAH in clarius fish obtained in Kampala markets. Profiles and levels of PAH when mango was used to smoke clarius fish have been documented

- Small-sized pelagic based products: Macro-nutrients and selected micro-nutrients determined. Fatty acid profile of fresh pelagics determined

- Tamarind product development: 4 prototypes sensorial evaluated, Tannins of young fruit determined. Yeast and moulds isolated and quantified. Pulper tested

- Assessment of market viability of glucose and fructose syrup products: 5 litres of caramelized and 10 litres of non-caramelised glucose ready for trials in industry.

Soil & Water management:

- Economic viability of soil fertility & soil-water management package: Data on banana and pineapple production costs, emerging yield and expected income collected

- Sustainable Land Management (SLM): On-station trials planted at Mubuku Prison Farm - Kasese and Nakasongola Prison Farm in Nakasongola districts, respectively. On-farm trials planted in the 2 districts

- Climate change: Innovators in the energy sector mapped. Evaluated climate related vulnerability over Uganda and crop suitability. Characterized livelihood profiles and agricultural decision systems of smallholder farmers.

- Increased awareness of fertilizer use: Established 80 on-farm demonstrations in eastern and northern Uganda

- A manual on pineapple production and Processing compiled for production

- Agricultural publications and information management: 100 new titles collected from Kachwekano ZARDI, Mbarara ZARDI, Bulindi ZARDI, NALIRRI, NASARRI. A total of 100 documents were

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

digitized and entered into a database. Information service delivered through QAS. Ninety requests for information received and their answers processed.
Post-harvest:
- Produced a draft leaflet on post-harvest handling of maize. Manuscript on effect of splitting cowpea & pigeon pea in place. Held feedback workshops on market needs and opportunities of mango and pineapple in Kasese and kyenjojo respectively. Workshop reports were produced.
Value-chain:
- Cassava value chain analysis tools circulated within the East african region. Flagship products identified (high cassava quality chips, flour, starch & glucose). Key opportunities for these include: existing growing markets for chips, flour, glucose, and starch; Potential markets (for modified starch, biodegradable packaging materials). Key constraints include: poor quality cassava chips & flour, milk and milk products; disorganised markets and poor market information systems; limited technological options; and limited product-base & scope of utilisation identified.

NASARRI
Cotton
- One hundred seventeen cotton accessions planted on-station for phenotypic evaluation. Data collection still in progress.
- 139 BC2 crosses have been successfully made between long staple donor parents and are being advanced to BC3. F1 crosses made between the three parents (brown lint, branchless cotton and okra leaf type) and long staple cotton have been planted for advancement to F2 populations.
- Thirty-two elite cotton lines with GOT>40% and fibre length of >30 mm planted in five sites of Kuju, Pallisa, NaCRRI, Ngetta and NaSARRI for multi-location testing
- Thirty (30) genotypes under test and which were planted under Advanced Yield Trials (AYT) in four TVCs of Arapai, Kuju, Kaberamaido and Ngetta in May 2012 have been harvested. Appropriate data were taken from them and are being organized for analyses.
Sesame
- A trial to evaluate intercrops and intercrop patterns for the control of Cercospora Cylindrosporium leafspots in sesame was established and managed on station.
- Soil fertility improvement options for increased sesame are being developed. Trials for evaluating inorganic & organic fertilizers have been planted trial at 3 sites.
Millets
- 45 finger millet lines resistant to blast have been identified; 13 lines with tolerance to drought identified; 3 Msc students attached to the programme have finished their Msc dissertation and ready to defend their work.
- Selected 40 advanced lines;
- 3 Selected 5 lines for further analysis
- 4 F1 generation planted. 230 F2 progenies planted
- Six legume species planted on-station for seed increase
- 10 promising pearl millet lines identified
Sorghum
- 35 BC3 drought and striga resistant sorghum lines introduced from ARC- Sudan were characterized for the frist season at NaSARRI. 6 lines showed superior agronomic performace
- 10 promising NaSARRI selections and 6 BC3 drought and striga resistant sorghum lines were planted in 3 location for evaluation.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

- 20 BC1F1 crosses genarated, 25 BC5 lines were advanced to BC6 generation
- 3 integrated striga management training manuals developed.
- 14 demonstrations plots of Striga resistant sorghum varieties established in Kumi and Katakwi districts.
- 4 promising sorghum lines that showed tolerance to smuts were identified from the 15 NaSARRI selections.
- 40 drought and striga resistant sorghum lines were screened for resistance to shootfly and stemborers. 19 of the lines showed resistance to shoot fly and 5 showed resistance to stem bores.
- 15 lines of sweet sorghum were submitted to Makerere for analysis for bio- fuel production .
- 3 sweet sorghum accessions identified to be promising at NaSARRI.
- 16 sweet sorghum lines were screened at NaSARRI for resistance to major insect pest and diseases . 10 out of the 16 showed low pest and disease reactions.
- Two Support staff trained on crossing sorghum and screening segregating populations.
- 40 forage sorghum accessions introduced from INTSORMIL and 4 local accessions were characterized from NaSARRI for adaptation. 8 of the lines showed superior agronomic performances.
- 16 elite forage sorghum lines were planted for evaluation in 3 different locations
- 44 forage sorghum accesssions were screened for resistance to major insect pest at NaSARRI. 33 of the accessions showed resistance to shootfly, and 9 showed resistance to stem bores.
- 24 BC3 forage sorghum lines were advanced to BC4 and 13 BC2 davanced to BC3
- 2 training manuals for the use of forage sorghum for livestock feeding developed
- 10 demostrations of forage sorghum established in two subcounties (Gweri and Arapai) Soroti District and 6 more demonstrations were planted in Katakwi District.
- Draft guidelines for groundnuts completed
- Draft guidelines for cowpea and sorghum developed
- Demonstrations were put up at the CIC and on station

ABI ZARDI
- Evaluation trial for the bitter local; IITA mosaic tolerant varieties maintained
- Cassava multiplication blocks maintained on-station with improved varieties; TME14, 2961, and MM96/4271
- The six newly released varieties were obtained from NaCRRI and planted for on-station multiplication
- About 25 acres of land planted with cassava Variety NASE 14 on-station
- Cassava breeding block was weeded and fertilized
- Groundnuts, bush beans and climbing beans trials have been established
- An IPM package for management of bean fly produced
- Needs assessment conducted on farmer dairy production practices and common feedstuffs used in the districts of Adjumani, Moyo, Yumbe, Maracha, Nebbi and Zombo
- Data on milk yields collected for 3 animals at different stages of lactation
- Cover crops for soil improvement have been harvested. 10 kg of Mucuna, 5 kg of Lablab, 4 kg of Glycine and 3 kg of Centrocema

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

BUGINYANYA ZARDI

- One experiment on quantification of soil and nutrients loss conducted in Kween; 407 run off samples collected and analysed at Kawanda; report writing is in progress

- Treatments of available fungicides on the market applied on experimental plots; Biofungicide, Copper Nordox and Kocide treatments yielded highest in round 1 of harvest (4 Kg of cherry in a plot of 7.2Mx7.2M)

- Evaluation of improved beans varieties: -Data collected on agronomic aspects & yield of the 20 varieties in the trial; Data collected on flowering, podding and yield from fertilizer trial at Bulegeni

- Determination of yield of maize under IWM techniques: Tentative results indicate pre-emergence Atrazine followed by 1 hand weeding as cost effective in weed management (yields of 5.3 t /Ha)

- A total of 23 indigenous goats (10 gestating) and 1 Boer breeding buck maintained at Bulegeni for breeding purposes

BULINDI ZARDI

- Performance trials on 3 priority crops (Cassava, maize and rice) established on station was conducted. Yield data collected from 1 acre of demonstration field of priority crops (Maize, established on station collected for 2012A. Established trials (variety trials, seeding rate and weeding effect) for 2012B 1 acre of rice (0.5 acres of NERICA 1 and 0.5 acres of NERICA 10) and 1 acre of beans foundation seed established on station . Field maintainace in 10 acres of cassava multiplication fields planted on station under EAAPP Project. Established one and half acres of multiplication fields for Upland rice (NERICA 1 (0.4ha), 4 (0.1ha) and NERICA 10 (0.1ha).

- Work on evaluation of high yielding, high quality NERICA and Upland rice varieties for promotion in the MWZ was conducted. Preliminary trials were established for NERICA 1-18. Farmer training and selection of host farmers for upland rice performance trials conducted in Hoima district. 0.3 acres of foundation seed of NERICA 1 and NERICA 10 established on station

- The development and promotion of agroforestry technologies with intensified the utilization of diverse tree species and technologies in farming systems of mid western zone of Uganda. Surveys to select appropriate shrubs and trees for agroforestry development conducted in Masindi. Farmers selected, Farmer training conducted and performance trials for Mangoes and Citrus Oranges in Hoima District established

- Conducted an on farm activity to Integrate Farmer Field School Approach to Promote Integrated Pest Management (IPM) in Kiryandongo district. Four farmer groups identified to incorporate FFS approach to promote IPM

KACHWEKANO ZARDI

- About 76 potato clones of NPR1A genes, 120 potato clones of NPR1B and 84 potato clones of PFLP genes were generated

- Efficiency of transformation was higher in Rutuku (19%), followed by Victoria (10%) and Kachpot 1 (7%)

- Developed a methodology of generating inputs and outputs of the different technologies of generating potato seed

- Screening appropriate potato varieties for adaptation to diverse agro ecologies and disease pressure: Data collected on number of leaves, branches, petiole length, leaf length and width, number of flowers, and height to the first leaf-indicated variations among 12clones in the trial. These findings show different potentials for drought resistance among the clones. 2. Yield results also indicated

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

variations among the testing clones.
- Management options for improved productivity of goats: Faecal and blood samples were collected and analysed. Preliminary findings indicate that haemonchus is the most pathogenic Nematode in goats closely followed by Trichostrongylus spp. and Oesophagostomum respectively
- Produced the final study report on profitability of goat breeds and associated management practices in the zone
- Detailed report written on the status of aquaculture in the zone, defined measures and protocols for introducing cold tolerant fish strains addressed and discussed with the commissioner for fisheries (MAAIF)

MBARARA ZARDI
- Held one multi-stakeholder meeting for key livestock disease control actors in Ntungamo district
- Collected data on major livestock diseases including risk factors, prevalence and incidence patterns in Ntungamo district
- Tools for banana bacterial disease monitoring and surveivllance studies in 10 districts of the SWAEZ have be jointly developed, implementation to start in Mid September 2012
- Evaluation of priority crops in the zone. Preliminary results indicate:

Beans
- Beans: NABE, PYT and NARBL varieties were evaluated for fungal disease and yield.
- Kawanda and NABE varieties: K131, NABE 2 & NABE 6 expressed high tolerance to Angular leaf spot. Best yielding vaieties: K131 2.3 t/ha, K132 (2.5t/ha), NABE 14 (2.5t/ha), NABE 2 (2.5t/ha), NABE 15 (2.2t/ha), NABE 3 (2.4 t/ha), NABE 6 & NABE 4 (2.1t/ha).
- NARBL: NARBL 244, 39, 40-3, 50-1 & 53-1 were the most promising in terms of anthracnose and rot root disease tolerance and yielding (1.9, 1.9, 2.1, 2.0 & 2.0 t/ha, respectively.)
- PYT lines: The most high yielding promising varieties were PYT 104, 132, 107, 21, 3, 52 & 64.

Soils
- Work on soils and soil fertility was conducted. Samples of fermented animal liquid manure from cattle, goats and pigs were. Analysis to be done next quarter. Documentation of nutrient flow balances in banana production under major nutrient management was conducted. Preliminary studies indicate phosphorus had positive nutrient balance (1.67 kg/ha). There was annual losses of 18.28, 83.02, and 2.55 kg/ha of nitrogen, potassium and magnesium from banana fields in Sheema, Ibanda, and Rubirizi districts; Soils in fields that were under continuous cultivation showed low nutrient levels of nitrogen (0.13 %) and potassium (0.38 cmolc/kg).

NGETTA ZARDI
Cassava
- Six adaptive trials of 5 CBSD tolerant cassava varieties (Nase 14, Nase 15, Nase, 16, Nase 18, Nase 19 and 52 TME 14) established on-farm.
Dairy
- 3 experiments set up for evaluation of 6 pasture species for alternative feed resources for livestock during the dry season feeding strategies were established on-station.
Fish
- Stocked nine ponds under 3 different catfish tilapia stocking ratios.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

- Stocked twelve happas with Tilapia and catfish fingerlings for local feed evaluation trial.
- 4 on-farm citrus and 3 mango fields for farmer participatory evaluation of management options of pests and diseases established
- Experiment for evaluating Citrus canker management strategies maintained on-station.

NABUIN ZARDI
- 4 Pastures have been established in on station evaluation trials for dry matter yield, nutritive value and adaptability. They include Brachiaria species, Desmanthus virgatus, Sweet Lupin, Desmanthus Uncinatum, Cratylia argentea, Lablab Purpureus, Canavalia brasiliensis, Vicia villosa, Desmodium intortus, Burgundy bean in Katakwi and Serere districts.
- 2 Pastures have been established in on station trials for Brachiaria and Gliricidia combinations to evaluate for dry matter yield, nutritive value and adaptability in Kumi and Amuria districts. Data collection to start in next quarter
- Two multiplication and demonstration sites for 15 pasture and fodder species maintained on-station

RWEBITABA ZARDI
Tea
- 11 by 40 mts field layout and preparation for nursery site capable of handling 40000 plantlets done at Rwebitaba Tea Research Centre
- Maintainaence of the tea genebank and tea on station trials of 23 fileds and Fifty two (52) experiments identied and labeled, Fertilizer application done in 10 tea fields, 20 tea fields weeded. Conducted baseline survey on status of tea pests in Kyenjojo District
- 20 soil samples taken from tea field one. GPS Coordinate readings recorded from tea field one. Tea growers trained and advised on soil fertility management
- 6 acres prepared for on-station evaluation trials of fruit trees

Dairy cattle
- 1. Five (5) varieties of pasture species (Bricharia Toredo, B. Ruziteriensis, B. Mulato, B. Brizantha and Mulato 2/Hybrid) procured for on-station evaluation 2. Field preparation for evaluation trials on pasture and fodder species 3. Fencing of sites for fodder and pasture evaluation trials and fodder bank

Banana
- Three (3) acres for evaluation site identified and prepared on-station
- Participated in formulation of Multi stakeholder Innovation Platforms (MSIPs) for cassava and banana under NARO-NAADS partnership
- Evaluation of soil fertility in banana trial

Reasons for Variation in performance

None

Total	**950,000**
GoU Development	*950,000*
Donor Development	*0*
NTR	*0*

Project 1138 EAAPP

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

Capital Purchases

Output: 01 51 75 Purchase of Motor Vehicles and Other Transport Equipment

Annual Planned Outputs:

MOTORVEHICLES AND OTHER TRANSPORT EQUIPMENT AT ALL EAAPP IMPLEMENTING PARTNERS PURCHASED

Cumulatie Outputs Achieved by the end of the Quarter:

Procure Motor Vehicles & Motor Cycles and Procure Tractors and Implements
Q2
*** Document submitted to Solicitor General for approval.**

Q1
*** Contract signed with M/S Africa Motors and Machinery for the Supply of 17 Double Cabin Pick-Ups.**
World Bank cleared one Solicitation document to accommodate Tractors for both EAAPP.

Reasons for Variation in performance

NA

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 51 76 Purchase of Office and ICT Equipment, including Software

Annual Planned Outputs:

Purchase of Office and ICT Equipment, including Software.

Cumulatie Outputs Achieved by the end of the Quarter:

NA

Reasons for Variation in performance

NA

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 51 77 Purchase of Specialised Machinery & Equipment

Item	*Spent*
231005 Machinery and Equipment	1,365,674

Annual Planned Outputs:

Agric TractorS & its Accessories.

Purchase and installation of liquid nitrogen plan and AI equipment

Cumulatie Outputs Achieved by the end of the Quarter:

Procure Liquid Nitrogen Plant
Q2
- Contract signed for delivery and installation of liquid nitrogen plant.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

Q1

- Bids for Nitrogen Plant and house were received, opened and evaluated. Pre-inspection done by visiting China. Contract signed with M/S Palin Diagnostics U Ltd for delivery of liquid nitrogen containers and semen processing equipment

Reasons for Variation in performance

Procurement process is under the commitment levels

Total	**1,365,674**
GoU Development	*0*
Donor Development	*1,365,674*
NTR	*0*

Outputs Funded

Output: 01 51 51 Payments to International Organisations (CGIAR, ASARECA, WARDA)

	Item	***Spent***
Annual Planned Outputs:	264101 Contributions to Autonomous Inst.	115,000

n/a

Cumulatie Outputs Achieved by the end of the Quarter:

Funds transferred to ASARECA and MAAIF for project activities

Reasons for Variation in performance

NA

Total	**115,000**
GoU Development	*0*
Donor Development	*115,000*
NTR	*0*

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

	Item	***Spent***
Annual Planned Outputs:	224002 General Supply of Goods and Services	132,333

1.Information on cassava production to consumption continuum generated, disseminated and utilized

1.Knowledge on biology and ecology of pests and diseases increased .

2.Cassava varieties with desirable attributes developed.

3.Capacity for cassava tissue culture, genetic transformation and conservation systems developed.

1.Knowledge on markets, profitability, adoption and impact of cassava technologies generated.
2.Knowledge on adaptability and tolerance of rice landraces to major pests and diseases generated

3.New rice genotypes with improved tolerance to rice blast and drought stress generated

4.Information on rice field manangement practices in RYMV prones areas catalogued

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

5.Information on rice field manangement practices in AfRGM prones areas catalogued

6.Information on economic importance of RYMV determined

7.Information on economic importance of AfRGM determined

8.Putative vectors of RYMV identified

9.Determine biotypes of AfRGM
10.Capacity of stakeholders who are active in use and maintenance of rice water harvesting and improved production mechanization increased

11.Appropiate AfRGM control package developed

12.Segregation populations arising from crosses of local materials and introductions generated
13.Promising wheat introductions with resistance to Ug99 identified
14.Promising introductions with heat and drought tolerance identified
15.Promising appropriate packages for production of Ug99 resistant wheat identified.

1. Technologies and innovations that enhance food safety, shelf life, and market value of cassava, rice, wheat and dairy based value added products, generated.

1. Technologies for management of environmental pollutants from cassava, wheat, rice and dairy value-addition processes developed

2.Increased availability of feed resources in smallholder dairy systems through utilization of Napier stunt tolerant varieties

3.Increased availability of feed resources in the smallholder dairy system through utilization of crop residues/wastes and agro-industrial by-products.

4.Improved control of ECF in small holder dairy farming system in Uganda

5.Improved detection and control of drug residues
6.Improved control of milk-borne zoonoses
7.Indigenous cattle with
desirable dairy production
traits identified
8.Genetic diversity of indigenous cattle assessed
9.Pedigree database created
10.Pure breed exotic cattle selected and procured
11.Farmers trained on cattle breeding and improvement
12.Superior Indigenous cattle evaluated on-station and on-farm

13.Dairy Nucleus herds established

14.Capacity of NAGRC&DB Embryo Transfer (ET) unit built

15.4 registry centres equiped with herd recording hardware and software

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

(computers and accessories)
16.Farmers sensitised on national breeding plan and guidelines
17.Dairy breeders selected
18.Dairy breeders cetified and registered
19.Capacity built for breeding activities.

20.Breeding activities regulated
21.Seed Companies technically assisted .

22.Breeder seed in public research institutes multiplied (ZARDIS)
23.Production of seed/planting materials of cassava, rice, wheat and pastures among farmers' groups supported (NAADS)
24.Seed Entrepreneurs given skills on development of business plans

25.Seed enterprises established
26.Rural netowrks of seed and other agro-inputs established
27.Studies on policy dialogue with relevant government agencies performed

28.Seed policy awareness created
29.PVP regulations put in place
30.Seed Regulations awareness created
31.Plant protection and Health awareness created
32.Strategy and action plan for control of CBSD put in place
33.Government labs strengthened .

34.Seed Inspectorate strengthened

35.Varitey Testing Unit strengthened.

36.National, regional and International Seed collaboration/ networks strengthened.

37.Logistical/o
Operation support provided.

Cumulatie Outputs Achieved by the end of the Quarter:

Project Coordination Unit
- Organized 4 Planning meetings for EAAPP Mid-Term Review (MTR) and Regional Wrap-up meetings
- 5 staff attended regional steering committee meeting in Addis Ababa Ethiopia.
- 9 staff attended the regional harmonization meeting in Entebbe. 3 policy frameworks on seed, animal feeds and Intellectual Property Rights (IPR) were reviewed.
- Produced one EAAPP MTR report and submitted to World Bank
- Undertook a rapid assessment survey of EAAPP PDO indicators
- Reviewed and re-aligned EAAPP workplan and Budget following the EAAPP MTR
- Made field visits to 10 EAAPP implementing Agencies for both Pre- and post MTR periods. 2 reports were produced.
- Audit report for EAAPP 2011-12 was generated.
- Progress of various implementing agencies tracked through M&E. One M&E report for the quarter was produced.
- Updated the EAAPP Performance Monitoring Plan for the region.
Cassava Regional Centre of Excellence
Technology Generation

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

-Initiation of crossings and up to 20 cross combinations have been made for each parent of the original previously assembled 30 parental lines with CMD and CBSD resistance.
- Initiated crossings and up to 15 cross combinations have been made for original previous 12 beta carotene parental lines with CMD resistance and 5 white-fleshed parental lines. Collected data on the Planted G X E studies of 12 beta carotene lines in 3 locations. Selfing of 8 beta carotene lines was undertaken..
-
- Data collection continued on AYT trials of 26 clones established at four sites: Namulonge, Masaka, Tororo and Kaberamaido
-In the effort to evaluate of candidate cassava variety from Tanzania (TZ 130), data on 760 genotypes were collected at NaCRRI. Planted OFTs at 9 sites in Uganda: Arua, Lira, Hoima, Nakasongola, Kayunga, Mukono, Busia, Kamuli, & Kumi.
- Data on 840 cassava isolates continued to be collected in order to understanding the biology, ecology, epidemiology and diversity of major pests and diseases of cassava. CBSD pressure & cassava genotype effects continued to be established. 3additional data sets were collected on 4 genotypes at 2 locations creating 12 data sets for eventual analysis.
-
- Data on live cultures of U/CBSV established in screen house were collected. 3 agroecological zones have been surveyed, 3,050 specimens collected, lab testing of 3,050 cassava specimens on CBSD continued during the quarter.
Dairy component
- New Napier sites established at NaLIRRI, Tororo. Sixth season data on napier clones performance were collected . Preliminary analysis indicates that clones 16805, Kakamega 2, 112, and Kakamega 1 are most promising.
- Maintained 6 ha of forage seed established at NaLIRRI, NaCCRI and Masaka
- Maintained 6.75 ha of assorted grasses established at NaCRRI.
- Maintained 3 ha of Brachiaria hybrid cv. Mulato established in Wakiso and Masaka
Rice component
- Continued to participate in the evaluation of the 12 rice variety candidates to be released y MAAIF.
- Information on population dynamics and management of AfRGM was generated. It was established that 35% of the farmers were aware of the pest problem. The attack on the Rice was confirmed to be severe at the tillering stage. Two species of parasitoids were identified; Platygaster diplosisae and Aprostocetus procerae . Aprostocetus procerae caused 60% of the total mortality whereas Platygaster diplosisae caused 40% .The Larvae that were not parasitized were able to develop into adult insects. The sex ratio of emerged AfRGM was confirmed to be 3:2(male: female) .
- In major rice growing areas, it has been confirmed established that farmers' currently use manure (15%) and inorganic fertilizers (6%); the RYMV incidence is at 74% incidence through testing 103 lines in three locations in the country. Five RYMV promising genotypes have been selected for advance trials
- A tractor drawn planter modified at NARL was tested and preliminary findings shows that its saves time and money.
- A walking harvester modified at NARL that harvest 1 acre per hour with a fuel consumption of 1L per acre was tested in 8 fields. The overall cost of hire of the harvesting is about 30,000/=.per acre. Harvesting manually varies with field terrain, yield, soil moisture and weed status. Generally an average of 80,000/= is charged for

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

harvesting hectare.
- A diesel engine thresher modified at NARL was tested in 4 rice fields. The threshing capacity was found to be 500kg per hour with fuel consumption of 1.2L per acre. The overall cost of hire of the thresher is about 20,000/=. Threshing is charged 68,000/= per acre. This rate is adjusted upwards if the yield is considered to be high.
Value Addition component
-A cassava value chain analysis was conducted in Luwero, Rakai, Masindi, Soroti, Budakha, Busia, Rubirizi, Kasese, Nebbi, Apac. 5-most traded products and potential markets were identified . 7 post harvest technologies identified during the value chain analysis continued to be evaluated.
- 1 technology is evaluated for commercially viable cassava-based products.
- 8 strategic partnerships have been identified. Glucose and high fructose syrup prototypes developed meet 50% satisfaction of Riham industries, one of the potential consumers.
Wheat component
-Local varieties with potential resistance or tolerance to Ug99 are being developed. 19 uniform local collections showed no disease at Buginyanya. The harvested for seed is being multiplied by 4 farmers for 2012B experiments.
- Promising wheat introductions with resistance to Ug99 are being developed. 90% of the nurseries at Kalengyere continued to show Septoria low severity in all plots. This depicted the low stem rust incidence (6 lines). Nurseries harvested and yield data being compiled for further evaluation. 46 wheat lines at PYT1 showed good plant stature and no rust recorded on the replicated sites.
NAGRC component – Improving the availability of dairy germplasm Subcomponent 3.1
- Out of 225 Ankole cattle inseminated with AI, 180 cattle have been confirmed pregnant at Ruhengere Crossbreeding Ranch.
- Priming the imported120 dairy heifers and trained 5 dairy cattle bulls for semen collection. Use of 3000 doses of sexed semen confined to selected heifers country wide.
- Preparations of launch the dairy farmer groups originally registered underway.
- AI Brochure distributed by NAADS. Over 1000 bronchures have also been shared during the World day celebrations in Ocotber in Mbarara ZARDI.
- 5433 liters of Liquid Nitrogen distributed to 200 AI sub-centers.
- Finalized the Regional Embryo Transfer (ET) manual and harmonization of ET protocols developed in conjunction with regional project participants.
- Farmer to farmer tour held in Kayunga involving 60 dairy farmers.

Q1
Project Coordination Unit
- Organized 1 Planning meeting for EAAPP wrap up meeting. Undertook 3 field trips to assess progress in implementation efforts in Ias.
- Progress of various implementing agencies tracked through M&E. M&E report for the quarter produced.
- Attended project harmonization meeting in Dar es Salaam for Rice RCoE. 9 regional projects finalized.
- Effort has been made to ensure full internalization of the EAAPP's Results Framework to effectively track progress at National and regional level.
Cassava Regional Centre of Excellence
Technology Generation

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

- Assembled 30 parental lines with CMD and CBSD resistance for crossing. Initiation of crossings and up to 20 cross combinations have been made for each parent
- 10 beta carotene parental lines with CMD resistance and 5 white-fleshed parental lines established in crossing block. Initiation of crossings and up to 15 cross combinations have been made for each parent. Planted G X E studies of 12 beta carotene lines in 3 locations, Selfing of 8 beta carotene lines.
- AYT trials of 26 clones established in at four sites: Namulonge, Masaka, Tororo and Kaberamaido
- In the multiplication of candidate varieties (TZ 130) for release 760 genotypes are being evaluated at NaCRRI. Evaluations will continue at Modified Yield Trials. Planted OFTs at 9 sites in Uganda: Arua, Lira, Hoima, Nakasongola, Kayunga, Mukono, Busia, Kamuli, & Kumi
- In understanding the biology, ecology, epidemiology and diversity of major pests and diseases of cassava 840 isolates collected, DNA /RNA extracted, live cultures maintained. 53 isolates cultured, 13 purified, 10 sequenced (full genome). 9 data sets on 6 genotypes at the 3 locations collected. CBSD pressure & cassava genotype effects established. 9 data sets collected on 4 genotypes at 2 locations.
- Live cultures of U/CBSV established in screen house. 3 agroecological zones have been surveyed, 3,050 specimens collected, lab testing on-going. Completed farm characterization in 3 zones, identified 3 groups, 1 per zone
Dairy component
- New Napier sites established at NaLIRRI, Tororo. Fifth season taken. The most promising clones are 16805, Kakamega 2, 112, and Kakamega 1.
- 6 ha of forage seed established at NaLIRRI, NaCCRI and Masaka
- 6.75 ha of assorted grasses established at NaCRRI.
- 3 ha of Brachiaria hybrid cv. Mulato established in Wakiso and Masaka
Rice component
- 5 genotypes with aroma and other preferred grain characteristics have been identified
- A survey to understand farmers knowledge on soil fertility was conducted in Wakiso, Namtumba and data is being analysed
- Two value chain Platform for Bulindi and Ngetta zones established
- Information on population dynamics and management of AfRGM was generated from a survey conducted in Serere, Soroti, Dokolo, Alebtong, Otuke, Lira. It was established that 35% of the farmers were aware and could associate symptoms to the pest problem.Factors responsible for AfRGM are 5 namely late planting, destruction of wild rice, susceptible varieties, weeds and ratoon. The attack on the Rice is severely around June to August when the crop is at the tillering stage. Incidence of the AfRGM is mainly concentrated around the Lake Kyoga Catchment Zone, where it's ranked the second most important pest after the Rice stem borer. Two species of parasitoids were identified; Platygaster diplosisae and Aprostocetus procerae have been identified. Aprostocetus procerae caused 60% of the total mortality whereas Platygaster diplosisae caused 40% .The Larvae that were not parasitized were able to develop into adult insects. The sex ratio of emerged AfRGM was 3:2(male: female) . This could be due to the fact that males tend to emerge fast and have a very short lifespan (2-3 days).
- A tractor drawn planter modified at NARL was tested and preliminary findings shows that its saves time and money.
- A walking harvester modified at NARL that harvest 1 acre per hour with a fuel consumption of 1L per acre was tested in 8 fields. The

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

overall cost of hire of the harvesting is about 30,000/=.per acre. Harvesting manually varies with field terrain, yield, soil moisture and weed status. Generally an average of 80,000/= is charged for harvesting hectare.
- A diesel engine thresher modified at NARL was tested in 4 rice fields. The threshing capacity was found to be 500kg per hour with fuel consumption of 1.2L per acre. The overall cost of hire of the thresher is about 20,000/=. Threshing is charged 68,000/= per acre. This rate is adjusted upwards if the yield is considered to be very high.
- In major rice growing areas, it has been established that farmers' currently use manure (15%) and inorganic fertilizers (6%); the RYMV incidence is at 74% incidence through testing 103 lines in three locations in the country. Five RYMV promising genotypes have been selected for advance trials
Value Addition component
- A cassava value chain analysis was conducted in Luwero, Rakai, Masindi, Soroti, Budakha, Busia, Rubirizi, Kasese, Nebbi, Apac. 5-most traded products identified, 2-opportunities identified, Potential markets identified
- 7 post harvest technologies under evaluation
- 1 technology under evaluation for commercially viable cassava-based products. 8 strategic partnerships identified. Glucose and high fructose syrup prototypes developed meet 50% satisfaction of Riham industries
Wheat component
- Local varieties with potential resistance or tolerance to Ug99 are being developed. 19 uniform local collections showed no disease at Buginyanya & harvested for seed multiplication pending selection by farmers for 2012B experiments
- Promising wheat introductions with resistance to Ug99 are being developed. 90% of the nurseries at Kalengyere showed Septoria severity of 3 in all plots. This depicts the low stem rust incidence (6 lines) & high incidence of yellow rust in all experimental plots. Nurseries harvested and yield data being compiled for further evaluation. 46 wheat lines at PYT1 showed good plant stature and no rust recorded
NAGRIC component – Improving the availability of dairy germplasm Subcomponent 3.1
- 225 Ankole cattle and crosses were synchronized and inseminated with dairy cattle semen at Ruhengere Crossbreeding Ranch
- 120 dairy heifers, 5 dairy cattle bulls and 3000 doses of sexed delivered.
- A farmer registry of 1232 farmers was compiled.
- AI Brochure developed
- 3121 doses of Semen distributed
- 5433 liters of Liquid Nitrogen distributed
- Draft of Regional Embryo Transfer (ET) manual and harmonization of ET protocols developed in conjunction with regional project participants.

Reasons for Variation in performance

NA

Total	**153,895**
GoU Development	*0*
Donor Development	*153,895*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

Annual Planned Outputs:

1.Promising technologies of the four priority enterprises promoted

2.Innovation Plafroms developed and exsiting ones strengthened.

3.Production and Value Addition Technologies and value added products promoted

4.New learning platforms established and existing ones strengthened

5.Advisory services/extension strengthened

6.Capacity built among dairy stakeholders regarding NSD control
7.4. Strategic Public - Private Partnerships and networks for increased market access of cassava, rice, wheat and dairy value added products fostered

Cumulatie Outputs Achieved by the end of the Quarter:

Cassava Regional Centre of Excellence
- Published 15,000 copies of enhanced information on CMD and CBSD and shared
Value Addition component
- Two staff jointly with NAADS trained 40 equipment fabricators
NAGRIC component - Improving the availability of dairy germplasm Subcomponent
- A farmer registry of 1232 farmers was compiled.
- AI Brochure developed
- Draft of Regional Embryo Transfer (ET) manual and harmonization of ET protocols developed in conjunction with regional project participants.
- 65 MOU and RELINE farmers undertaking recording
- 40 participants trained in ent
NAADS component Training and Dissemination – (by NAADS)
- NAADS Team conducted a nationwide exercise to identify farmers to participate in the multiplication of new cassava varieties particularly MM96/4271. Data generated on GPS locations of all the sites with improved varieties. -Acreage of each plot with improved varieties established. Disease incidence (ACMD and CBSV) determined on plots. 3 NGOs/Farmer groups were identified to multiply improved cassava varieties 96/4271. The groups signed an MOU with NAADS and district local governments to abide by all the rules of multiplication of certified seed materials. 40 acres of cassava established and maintained.
- 3 cassava platforms formed in Mukono, Ngetta and Rwebitaba (210 stakeholders- 37F)
- 1 Rice platform formed in Bulindi (75 stakeholders- 10F), 1 platform for dairy formed in Mbarara (80 stakeholders- 10F). Steering committees selected for all platforms.
- Trained 80 farmers (12F) farmers in Animal Breeding- Katakwi with NaLIRRI
- Trained 72 farmers (14F) on cassava agronomy (Rwebitaba)
Dairy component
- Increased awareness and demand of NSD tolerant Napier grass varieties through training of 70 farmers in Masaka and Jinja (39F)

Item	*Spent*
221001 Advertising and Public Relations	68,005
221002 Workshops and Seminars	585,565
221007 Books, Periodicals and Newspapers	9,200
221011 Printing, Stationery, Photocopying and Binding	72,549
224002 General Supply of Goods and Services	888,555

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

MAAIF - Improving the availability of planting materials, and seeds Subcomponent 3.1.
- 100 acres established (BulZARDI 30; NgeZARDI 35 & AbiZARDI 35) and Materials being distributed through NAADS

Q1
Cassava Regional Centre of Excellence
*** Published 15,000 copies of enhanced information on CMD and CBSD distributed during the World Food day in Mbarara.**
Value Addition component
*** Two staff jointly with NAADS trained 40 equipment fabricators (continued from last quarter).**
NAGRC component - Improving the availability of dairy germplasm Subcomponent
*** Farmer to farmer tour involving 60 dairy farmers in Kayunga.**
*** Exhibited Ayrshire and Ankole dairy crosses during World Food Day in Mbarara. Participants were exposed to high growth rate, high milk production and survivability within the region of these crosses.**
*** 1000 AI Brochures distributed distributed during the World Food day in Mbarara.**
*** Finalization of the Regional Embryo Transfer (ET) manual and harmonization of ET protocols in conjunction with regional project participants.**
*** Backstopping of 65 MOU and RELINE farmers undertaking recording continued.**
*** Shared the synergies built between NaLIRRI, NAADS and NAGRC&DB.**
NAADS component Training and Dissemination – (by NAADS)
*** NAADS Team conducted a nationwide exercise to identify farmers to participate in the multiplication of new cassava varieties particularly MM96/4271. Data generated on GPS locations of all the sites with improved varieties. -Acreage of each plot with improved varieties established. Disease incidence (ACMD and CBSV) determined on plots. 3 NGOs/Farmer groups received technical support in cassava seed multiplication. The groups signed an MOU with NAADS and district local governments to abide by all the rules of multiplication of certified seed materials. 1043 acres of cassava established and maintained.**
*** 3 cassava platforms formed in Mukono, Ngetta and Rwebitaba (210 stakeholders- 37F)**
*** Strengthened 6 farmer platforms formed in Bulindi , Mbarara, Ngetta and Mukono.**
*** Disseminated over 12,000 bronchures on CBSD and CMD during the World Food Day celebrations and EAAPP regional wrap-up meeting in November 2012.**
Dairy component
*** Increased awareness and demand of NSD tolerant Napier grass varieties through training of 125 farmers in Masaka, 45 in Wakiso and 30 Jinja (39F)**
MAAIF - Improving the availability of planting materials, and seeds Subcomponent 3.1.
100 cassava acres established (BulZARDI 30; NgeZARDI 35 & AbiZARDI 35). Mature materials was distributed through NAADS. Over 1000 acres of cassava for multiplication has been established.

Reasons for Variation in performance

NA

Total **1,623,873**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

GoU Development	*0*
Donor Development	*1,623,873*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

1.Critical mass of well trained staff in various disciplines built.

1.Rice- Formal training for 2 PhD degree commence.

2.Rice- Formal training for 1 MSc degree commence.

3.Rice- Short courses

4.Rice- Vehicle purchased and maintained.

5.Rice- ommunication facilities purchased and used.

6.Capacities in wheat research and improvement enhanced.

1.Institutional research capacity improved in animal nutrition
2.Institutional research capacity built by training one PhD student
3.Institutional research capacity built by training one MSc student
4.Institutional research capacity improved im molecular pathogen identification and characterization
5.Institutional research capacity improved in animal breeding
6.Annaual Dairy Breeders For a/Platform held
7.Artificial Insemination techncians trained
8.Training and backstopping registered breeders undertaken
9.Vist to Dairy RCoE by NAGRC techncal Staff undertaken.

1.Vist to Dairy RCoE by Dairy breeders undertaken
2.Short course on Planning and Management of National Breeding Program undertaken
3.Short course on advanced technologies on AI & MOET
4.Short course on Finance Management undertaken
5.Short cource on Procurement Management Undertaken
6.International For a on Animal Genetic resources attended
7.Masters in Livestock Planning and Development and in Agriculture Economics at MU K started
8.Coordination of EAAPP activities meant for NAGRC&DB undertaken

9.DAPM activities coordinated

10.Regional research and training and dissemination activities implemented according to plan

11.Harmonized M&E system for RCoEs in cooperation with ASARECA

Item	*Spent*
221003 Staff Training	724,825
224002 General Supply of Goods and Services	473,395
225001 Consultancy Services- Short-term	73,284
227001 Travel Inland	1,307,787
227002 Travel Abroad	231,761
227004 Fuel, Lubricants and Oils	266,675
228002 Maintenance - Vehicles	187,494

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

developed, adopted and implemented
12.Harmonized M&E system for RCoEs in cooperation with ASARECA developed, adopted and implemented .

1.Improved means of transport to carry out research activities

2.RCoE – Cassava CAPACITY ENHANCED.

Cumulatie Outputs Achieved by the end of the Quarter:

Project Coordination Unit
Human Resource Capacity Building
- 3 PhD students received University admissions
- Applicants shortlisted for vacant training posts
- Consultants for Cassava RCoE shortlisted for interface
- Students identified for MSc. (6) & PhD (5) scholarships; Staff adverts due.
Dairy component
. PhD student recruited
Value Addition component
- One staff attended 2-short courses on Leadership and management skills
- A staff attended 1-short course in Laboratory management skills
- One PhD (product development) and one MSc (food safety) degree candidates admitted.
Wheat component
- Uganda team attended training on wheat pests and disease diagnostics in Ethiopia.
NAGRIC component
- Liquid nitrogen containers delivered still undergoing clearance
MAAIF - Improving the availability of planting materials, and seeds Subcomponent 3.1.
- Recruited Seed Specialist to support seed industry
- Recruited seed policy consultant
- Recruited Food safety
- Prepared a schedule for interaction with Parliament to finalize PVP Bill.
- Evaluation of 7 upland, 5 paddy rice and 3 wheat candidate lines for release

Q1
Project Coordination Unit
Human Resource Capacity Building
*** 18 Consultants for Cassava RCoE selected.**
*** Identification of students for MSc. (6) & PhD (5) scholarships continued;**
Dairy component
*** PhD student recruited**
Value Addition component
*** One staff attended a pre-EAAPP MTR preparatory meeting in Addis Ababa. One PhD (product development) and one MSc (food safety) degree candidates admitted.**
Wheat component
*** 3 staff attended a Wheat for Food Security in Africa Symposium in Addis Ababa, Ethiopia. 2 papers were presented on the status of wheat in Uganda.**
NAGRC component
*** 60 Liquid nitrogen containers and AI flasks delivered and cleared for use.**
MAAIF - Improving the availability of planting materials, and seeds Subcomponent 3.1.
*** Recruited Food safety consultant and has submitted an acceptable**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

concept paper.
*** Prepared a schedule for interaction with Parliament to finalize PVP Bill.**
*** Evaluation of 7 upland, 5 paddy rice and 3 wheat candidate lines for release continues.**

Reasons for Variation in performance

NA

Total	**3,973,288**
GoU Development	*0*
Donor Development	*3,973,288*
NTR	*0*

Output: 01 51 05 Generation of technologies for priority commodities

Annual Planned Outputs:

Cassava lines resistant to stress with desirable attributes released, Virus disease maps generated, Early warning systems developed, nutrient-use-efficiencies of elite cassava genotypes determined
Stress tolerant rice varieties released, released rice varieties purified, pests & diseases yield loss determined &performance of new upland and rain fed low land rice lines determined
Tse-tse fly and ticks management options, Forage management, Pest and disease management
New cassava varieties resistant to CMD and CBSV; with other farmer-preferred attributes developed
New rice varieties availed to farming communities and Farmers trained on recommended agronomic and post-harvesting techniques of rice
High yielding forage cultivars disseminated, Performance of 5 cross breed calves determined, Concentrates for supp. feeding developed
High quality farmer preferred cassava varieties multiplied for uptake pathways in the mid altitude areas of the SEAEZ and Disease tolerant cassava varieties identified and validated
Promising Integrated weed management options in rice validated with farmer groups
High yielding and high quality rice varieties and lines for small scale farmers are selected, seed systems developed & disseminated
Appropriate method for control of FMD and ECF validated & documented and Extent of feed conservation determined & Methods used to conserve feed identified and evaluated
Highest yielding rice intercropping systems identified and samples analysed MSIP meeting conducted
Livestock management options developed, Technologies for water harvesting/harnessing and storage evaluated
Improved/new varieties of rice adapted
Performance of 4 pasture species compared on-station & High yielding grass and legume pasture species adapted.

Item	*Spent*
224001 Medical and Agricultural supplies	115,000

Cumulatie Outputs Achieved by the end of the Quarter:

Cassava Regional Centre of Excellence
Technology Generation
- Assembled 30 parental lines with CMD and CBSD resistance for crossing. Initiation of crossings and up to 20 cross combinations have been made for each parent
- 10 beta carotene parental lines with CMD resistance and 5 white-fleshed parental lines established in crossing block. Initiation of crossings and up to 15 cross combinations have been made for each parent. Planted G X E studies of 12 beta carotene lines in 3 locations,

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

Selfing of 8 beta carotene lines.
- AYT trials of 26 clones established in at four sites: Namulonge, Masaka, Tororo and Kaberamaido
- In the multiplication of candidate varieties (TZ 130) for release 760 genotypes are being evaluated at NaCRRI. Evaluations will continue at Modified Yield Trials. Planted OFTs at 9 sites in Uganda: Arua, Lira, Hoima, Nakasongola, Kayunga, Mukono, Busia, Kamuli, & Kumi
- In understanding the biology, ecology, epidemiology and diversity of major pests and diseases of cassava 840 isolates collected, DNA /RNA extracted, live cultures maintained. 53 isolates cultured, 13 purified, 10 sequenced (full genome). 9 data sets on 6 genotypes at the 3 locations collected. CBSD pressure & cassava genotype effects established. 9 data sets collected on 4 genotypes at 2 locations.
- Live cultures of U/CBSV established in screen house. 3 agroecological zones have been surveyed, 3,050 specimens collected, lab testing on-going. Completed farm characterization in 3 zones, identified 3 groups, 1 per zone
Dairy component
- New Napier sites established at NaLIRRI, Tororo. Fifth season taken. The most promising clones are 16805, Kakamega 2, 112, and Kakamega 1.
- 6 ha of forage seed established at NaLIRRI, NaCCRI and Masaka
- 6.75 ha of assorted grasses established at NaCRRI.
- 3 ha of Brachiaria hybrid cv. Mulato established in Wakiso and Masaka.

Q1
Cassava Regional Centre of Excellence
Technology Generation
- Maintained 2 acres of 30 parental lines with CMD and CBSD resistance for crossing and 1 acre of 10 beta carotene parental lines with CMD resistance and 5 white-fleshed parental lines established in crossing block. - - Maintained AYT trials of 26 clones established in at four sites: Namulonge, Masaka, Tororo and Kaberamaido
- Maintained 2 acres of candidate varieties (TZ 130) for release. Maintained OFTs at 9 sites in Uganda: Arua, Lira, Hoima, Nakasongola, Kayunga, Mukono, Busia, Kamuli, & Kumi.
- Maintained 6 ha of forage seed established at NaLIRRI, NaCCRI and Masaka
- Maintained 6.75 ha of assorted grasses established at NaCRRI.
- Maintained 3 ha of Brachiaria hybrid cv. Mulato established in Wakiso and Masaka

Reasons for Variation in performance

NA

Total	**115,000**
GoU Development	*0*
Donor Development	*115,000*
NTR	*0*

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Capital Purchases

Output: 01 51 72 Government Buildings and Administrative Infrastructure

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Annual Planned Outputs:

Drawings and Bills of Quantities
Better working environment for scientists at NAFIRRI.
Improved living conditions in residential house.
More room for storage created
Efficient disposal of waste through sewerage system
Safe docking of ships
Better control of environment for scientific research
Improved living conditions as incentives to better work results.
Better working environment for scientists at NARL.
Better control of environment for scientific research
Improved living conditions in residential house.
Access to cleaner and treated water by NARL staff and scientists.
Efficient disposal of waste through sewerage system
Electricity supply in building infrastructure
Better control of environment for scientific research
Better working environment for staff and scientists.
Better working environment for scientists at NASARRI
Improved living conditions in residential house.
Electricity supply in building infrastructure
Better working environment for staff and scientists.
Better working environment for scientists at NALIRRI
Greater scientific developments in research
Improved living conditions in residential house.
Access to cleaner and treated water by NALIRRI staff and scientists.

Efficient disposal of waste through sewerage system
Room created for study of animals
Electricity supply in building infrastructure
Better working environment for staff and scientists.
Proper disposal of infected wastes
Better working environment for staff at BUGINYANYA ZARDI.
Improved living conditions as incentives to better work results.
Better working environment for scientists at BUGINYANYA
Better control of environment for scientific research
Faster advances and developments in scientific research
Improved living conditions in residential house.
Good aesthetics at Residential House.
Access to cleaner and treated water by BUGINYANYA staff and scientists.
More room for storage created
Room created for study of animals
Electricity supply in building infrastructure
Better working environment for staff at BULINDI ZARDI.
Better working environment for scientists at BULINDI
Better control of environment for scientific research
Access to cleaner and treated water by BULINDI staff and scientists.
Room created for study of animals
Better working environment for staff and scientists.
Access to cleaner and treated water by MBZARDI staff, scientists and livestock.
More room for storage created
Electricity supply in building infrastructure
Better working environment for staff and scientists.
Better working environment for staff at NABUIN ZARDI.
Good living conditions in Staff houses.
Better working environment for scientists at NABUIN
Access to cleaner and treated water by NABUIN staff, scientists and livestock.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

More room for storage created
Room created for study of animals
Electricity supply in building infrastructure
Better control of environment for scientific research
More room for storage created
Better working environment for staff at NGETTA ZARDI.
Improved living conditions as incentives to better work results.
Better working environment for scientists at NGETTA ZARDI.
Better control of environment for scientific research
Improved living conditions in residential house.
More room for storage created
Room created for study of animals
Better working environment for staff and scientists.
Better working environment for scientists at MUKONO

Cumulatie Outputs Achieved by the end of the Quarter:

None

Reasons for Variation in performance

Commitments made

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 51 75 Purchase of Motor Vehicles and Other Transport Equipment

Annual Planned Outputs:

Motor vehicles and Motorcycles
Purchased

BUZARDI:

3 vehicle pickups procured
1vehicle station Wagon procured
4 motorcycles procured
2 generators procured

Cumulatie Outputs Achieved by the end of the Quarter:

None

Reasons for Variation in performance

Commitments made

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 51 76 Purchase of Office and ICT Equipment, including Software

Annual Planned Outputs:

Power requirements identified

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Prerequisite training.
ICTspecialists identified and recruited.

Infrastructure and equipment procured.

Mobile applications , user info needs and Software requirements identified.

- ICT infrastructure and equipment procured;
- MIS applications developed;
- Joint MIS/ME Web portal developed;

Cumulatie Outputs Achieved by the end of the Quarter:

None

Reasons for Variation in performance

Procurement procee under way

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 51 77 Purchase of Specialised Machinery & Equipment

Annual Planned Outputs:

NAROSEC:

PR:
Necessary equipments & tools procured .

NaCRRI
Laboratory equipment
purchased

NaFORRI
Specialized Machinery & Equipment for research activities acquired.

Kachwekano ZARDI
- 1 digital and 1 bench type PH meter procured
- 4 Multi-channel pipettes and 2 Micronic channel pipettes procured
- 1 Micro-organism culture hood procured and installed
- 1 ELISA plate reader procured and installed
- 1 Orbital shaker and 1 Growth Incubator procured
- Procurement of 1 Multi-Lens 1 Microscopes, 1 Digital Colony Counter and 1 Sample storage Freezer conducted.

Kachwekano;
- 1 power generator procured;
- 3 sets of fire safety equipment procured.

NGETTA ZARDI
- machinery and field equipment for research activities acquired.

BUZARDI:

Laboratory and workshop equipment purchased.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

BuZARDI:
2 generators procured

1 tractor procured

Cumulatie Outputs Achieved by the end of the Quarter:

None

Reasons for Variation in performance

Procurement process under way

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 51 78 Purchase of Office and Residential Furniture and Fittings

Annual Planned Outputs:

NAROSEC:

PR:

2 glass fitted book selves procured

NaCRRI - Laboratory furniture & fittings purchased.

Kachwekano ZARDI - Conference/dinning room furnished with 8 tables and 50 modern chairs; Resource center furnished with shelves, lockers, reading tables, chairs.

Ngetta ZARDI- Staff welfare improved.

Cumulatie Outputs Achieved by the end of the Quarter:

None

Reasons for Variation in performance

Commitments made

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Outputs Funded

Output: 01 51 51 Payments to International Organisations (CGIAR, ASARECA, WARDA)

Annual Planned Outputs:

n/a

Item	*Spent*
262101 Contributions to International Organisations (Current)	1,620

Cumulatie Outputs Achieved by the end of the Quarter:

Contributions by NARL towards International Agric Org

Reasons for Variation in performance

na

Total	**1,620**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

GoU Development	*0*
Donor Development	*1,620*
NTR	*0*

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Item	***Spent***
224001 Medical and Agricultural supplies	760,816
224002 General Supply of Goods and Services	693,255

Annual Planned Outputs:

NaLIRRI:

Efficacy of T. vogelli against mites tested and validated on-station.

A document on the "Nutritional values of Urban and peri-urban feed resources in Uganda"

Feed resource availability assessed by season for at least 10 feed resources in at least four sites per study centre by June 2013
Nutritionally enriched rations formulated from available feed resources
Feed formulations from locally based resources evaluated for increased indigenous chicken productivity in Iganga district.

Study sites and stakeholders, participating bee farmers identified

Baseline of level of queen rearing practiced in Uganda validated
Honeybee colonies with the desired characteristics (high production, gentleness, low absconding rates, pest resistant) sourced

Study sites and stakeholders identified

Major honeybees diseases of Uganda identified and characterised.

Prevalence and distribution of honeybee diseases determined
Study sites and stakeholders identified

Honey bee samples collected from each agro-ecological zone and morphologically identified

Appropriate management methods for feeding and disease control in kids in agro-pastoral areas developed by Aug 2013.

Superior productive indigenous chickens and goats flocks established.

Document on pig characteristics and management systems produced
Evaluation of different crossbred pigs initiated in Masaka and Mukono.

Model for predicting outbreak of influenza A viruses developed.

Avian influenza risk map developed.

Seroprevalence of influenza A viruses established

Feedback and review meetings conducted involving extension staff of local governments and NGOs
Dissemination of findings in conferences
Equipments for making MNFB fabricated

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Low cost Multi-nutrient mineral blocks (MNB) supplements produced and evaluated
Socio economic factors affecting use of MNB identified

Enhanced Adoption of appropriate policies to facilitate transfer of genetic materials within the region
Capacity for stakeholders to utilize technologies for managing stunt disease strengthened
Enhanced availability of information on management of Napier stunt
Status of implementation of projects assessed.

Papers presented in scientific conferences
Projects equitably involved in Dairy component activities

Experiments for both on-station and on-farm trials set.

Institutional research capacity improved in animal nutrition
Project effectively implemented

Goat breeding and evaluation centres fully operational at 2 NARIs (NaLIRRI-Tororo and Serere centres)

Document of factors desired by consumers for production of high quality meat produced
Document on growth and reproduction trait performance of different goat breeds
Document on the characteristics of indigenous Uganda turkey and guinea fowls populations into breeds and strains produced.

Units for performance and assessment of production levels of the indigenous Uganda turkey and guinea fowls produced
Reduced acaricide application
for tick control.

Experiments for both on-station and on-farm trials set.

Increased availability of feed resources in the smallholder dairy system through utilization of crop residues/wastes and agro-industrial by-products.

Institutional research capacity improved in animal nutrition
Project effectively implemented
Document on N-balance based characterisation of dairy production systems .

Operational NaLIRRI M&E data base.

NARL:

Beneficial soil bacteria and fungi exploited to improve soil productivity

Principles of conservation agriculture [CA] integrated and adopted .

Area specific fertilizer recommendation system developed for 2 AEZs, Targeted and specific fertilizer recommendations validated by key stake holders in 2 AEZs, ISFM knowledge enhanced among small holder farmers and other stake holders through training of 200 trainers, 3 regional workshops, 20 Field days and 20 farmer workshops
- Quality assurance of Soils' Laboratory improved and utilisation promoted

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Evaluation of best fit integrated soil fertility management options that respond to market opportunities.
Soil and water management technologies for banana and pineapple evaluated
Economic viability and social acceptability of different soil fertility management and soil erosion control technologies in the production of banana, pineapples assessed
Value chains for selected enterprises in the project areas developed
Output 2: Institutional arrangements for sustainable management of natural resources promoted
Capacity of farmers to engage in sustainable management of natural resources enhanced
Carbon stocks in small–scale farming systems in Uganda to promote payment for ecosystem services assessed

4 Uganda soil map sheets digitised, updated soil maps at different scales and made available.
Sustainable land management practices
Development and promotion of soil and water management technologies to mitigate climate variability and change impacts and risks.
Environmental impacts of various land use practices assessed

Adapting to climate change through increased water- and nutrient-use efficiency for increased crop productivity and environmental health upscale.

Identification and characterization of the most vulnerable households, communities and production niches and, and develop a framework for monitoring their performance

Vulnerable hot spots in Uganda for targeted transfer of adapted research technologies for coping and adapting to climate variability/ change mapped

Insect vectors transmitting citrus greening, tristeza and Napier stunt diseases identified

One appropriate local innovation for termite control identified and promoted
Information on at least one land use type that reduces damage by termites generated

Appropriate IPM options for major pests, vectors, diseases and weeds developed and packaged for dissemination to farmers
IPM package with at least 3 management options for control of mango fruit flies developed and promoted in at least 3 agro ecologies
Information on mango fruit fly management disseminated among stakeholders
Information generated on economic impact of invasive plant species.
Appropriate IPM practices integrated in the management of bean root rot and phytopthora damping off seedling diseases.

Information generated on socio economic impact of released biological control agents against insect pests
Information generated on economic impact of new and emerging weeds, pests and diseases in crop production systems
Output 1: Established crossing schemes Output 2: Biomass yield and artemisnin content of Artemisia across ecologies established.
Output 3: Response of different Artemisia lines to

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

major pests and diseases established . Output 4: Policy advice on Artemisia R&D
Output 1: Increased centralized germplasm base collection cereals, legumes, indigenous vegetables and fruits, forages, coffee and medicinal spp. Output 2: Increased utilization of germplasm in research, breeding programs, on-farm and the private sector Output 3: Increased knowledge base on the status of PGR that will better its conservation and utilization plans. Output 4: Public awareness and access to PGR information improved. Output 5: Empowered communities and stake holders as regards decision making on management and utilization of PGR.

4- PH technologies and approaches that add vale and marketability of selected grains developed and promoted to innovation pathways; 1 publication in journal; 2 pamphlets; 1 poster

1-value chain of one selected grain legume analysed and documented; 1 publication in journal
Post-harvest constraints and opportunities for 2-stected fruits and 2-selected vegetables identified and documented; 1- publication
2-technologies that add value and marketability of 2-selected fruits and 2-selected vegetables developed and promoted to innovation pathways; 1 publication in journal; 1-pamphlet

Chemical & microbiological safety of at least two agricultural commodities and their respective products established. 2 publications.

Preparatory protocols for accreditation of chemical and microbiological laboratories put in place.
Develop and assess the market viability (nutritional, safety, health and competitiveness) of novel value-added agricultural products for food and industry .Quality parameters of promising cassava varieties for better glucose production established
Value-added pulse based products developed and promoted
Development and Promotion of Novel Value-added products from priority agricultural produce for improved market access. Establish the safety of selected agricultural commodities and products including survey of GM products

Safety of agricultural products on the market established
12.1 Baseline studies conducted in 5 agro-ecological zones
12.3 Pump prototypes for surface irrigation, drainage & land reclamation adapted to farmer needs
12.4- Modern irrigation methods/ technologies adapted to smallholder farmers requirements
12.5 Irrigation schedules established for smallholder irrigation water management
12.6 Prototypes for fish ponds aeration and compaction developed
12.7 Water recirculation and use efficiency systems in fish ponds adapted
14.1 Baseline studies conducted in 6 agro-ecological zones
14.2 Low cost solar energy systems for household and agricultural production developed
Efficient embryogenic callus regeneration system developed for GN, Cowpea and tomato
Iron and pro-Vitamin A in major millet varieties established.

Generation of transgenic grounnut with resistance to disease and aflatoxin contamination

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Genration of millet transgenic lines with resistance to disease and inproved vitamin A content
Development of trabsgneic cowpea lines with resistance to pests and diseases

Phenotypic and Molecular markers for Uganda elite cotton varieties developed

AFLP and SSR fingerprints for cotton varieties in Uganda to distinguish them from major varieties
Report and publication of molecular characterisation and finger priting of the cotton lines selected
Vectors for Agrobacterium-mediated transformation of passion fruit constructed
Transformation and regeneration systems for passion fruit varieties developed
Transgenic lines of selected passion fruit varieties developed and characterized.

NaCRRI :

Banana hybrids with resistance to pests/diseases, high yields and consumer acceptable qualities generated and evaluated .

Farmers participatory testing of banana hybrids
Banana hybrids and cultivars which tolerate water stress tolerance identified
Technologies that enhance the banana value chain developed and promoted
IPM packages for management of BBW and other pests

Fungi and bacteria with potential to reduce bean pests and diseases isolated
The incidence and severity of major bean pests and diseases determined
Presence or absence of new pathotypes/biotypes determined
Yield losses attributed to ALS and rust diseases; and major pests established
New sources of resistance to bean diseases and pests identified
Robusta coffee varieties with high yields, resistant to CWD and high quality developed
Arabica coffee varieties with high yields, resistant to CLR, CBD and red blister disease and high quality made available
Field robusta coffee quality characterised based on agro-ecological regions
Contemporary technologies for control of stem borers, black twig borers and root mealybugs available
Robusta coffee germplasm conserved at two sites
Packages for water stress/drought management in coffee developed
Effective soil fertility and water management options developed
Suitable shade trees recommended for growing coffee in different ecological areas
Protocols for marker assisted selection for valuable coffee traits developed
100 mother gardens of the 7 CWD resistant varieties established in central Uganda
New high yielding robusta coffee varieties resistant to CWD, good quality developed
Characteridtics of present varieties/clones of tea described
Reaction of elite tea clones to different diseases determined
Genetic description of the current commercial tea clones determined
Reaction of commercial tea clones to major pests established

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Devopment of IPM packages for major tea diseases
Extent of pest infestation in tea growing areas determined and and management options of major pests developed
Tea yields improved through soil fertility interventions. Contemporary technologies for increased tea productivity made available
Use of fertilizers by tea growers increased
Appropriate technologies for soil and water conservation available
Information on appropriate spacing, pruning practices, operations for bringing tea into bearing and plucking practices made available
Technologies for mitigating effects of drought in tea made available
Profitability of tea as an enterprise availed to stakeholders
Information on results of surveys carried out and threat of disease made available to stake holders
IPM packages for management of Mango bacyerial black spot other pests
Devolopment of Mango field managementtechnologies
Devolopment of variation for selection of elite varieties
Aocado cultivars characterized and evaluated by multilocational experimentation
Pest & disease epidemoilogy initiated and understood by 2014
2 new stress torelant maize varietties and 2 rice varieties released in 2012
200 newly maize hybrids and 100 rice genotypes generated for preliminary evaluation
550 new stress torelant inbred lines generated and advanced
300 stress torelant inbred lines and hybrids selected for advancement
1000 promising testcross hybrids evaluated in 6 sites
11 released maize varieties and 3 rice Purified
1000 local maize and rice germplasm collected and finger typed
The incidence and severity of the major Maize and rice diseases determined
Factors responsible for disease development and its effects on maize and rice growth determined
300kg of breeder seed of maize and rice varieties and 2 tonnes of foundation seed for maize and rice produced and distributed
Information on maize adoption rate generated
Crossing block of parental lines for disease/pest resistance and root quality traits established, crosses made and seeds generated
Adaptability and acceptability of advanced cassava genotypes determined

Nutrient requirements and nutrient-use-efficiencies of elite cassava genotypes determined
Foundation material of elite cassava genotypes indexed and multiplied
1. Weevil resistant cultivars developed

2. Sweetpotato breeding, seed multiplication and distribution refined.

3. Sweetpotato virus characterized
4. Participatory breeding and variety selection developed
5. Sweetpotato germplasm (SPG) characterised with molecular markers (MMs)
Transgenic bananas with resistance to pests and enhanced nutrients developed
Transformed emryogenic cell suspensions

Improving efficiency of selection for preferred food traits
At least 200kg of breeder seed and 2 ton of faundation seed of each of the five targeted improved bean varieties (Season 1 for bulking, season two for multiplying)
At least 20 tons of certified and quality declared seed of eachb of the five targeted improved bean varieties
several promissing bean lines and identified ICM options tested. This

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

should lead to release of at least five varieties
4 promotional tools developed and one efficient delivery channel identified.
PMP report semi-annually and annualy to PI AND HVNSCP
Recommendation for more effective and efficient functioning of platforms developed (platform sustainability plan)
Prevalence of major diseases and pests of cassava established
Cassava pest and disease list developed

Increased availalbility of information on strains/species diversity of CBSV and whiteflies
Early warning systems for out break of cassava diseases and pests developed

Cassava germplasm assembled for beta carotene, protein, early bulking, whitefly resistance and CBSD/CMD resistance. Respective segregating populations developed
Parental lines for the marker development assembled and segregating populations generated
National cassava germplasm established
Candidate varieties identified
Cassava virus isolates characterized
Nature and effects of virus/virus-cassava interactions determined
CBB isolates characterized
CBB epidemiology understood
CBSD epidemiology understood
Responses of elite genotypes to infection by CBSD-associated viruses determined
CBSD yield loss and components determined
Cassava whitefly specimens characterized
Cassava yield loss due to whiteflies determined
Whitefly transmission of CBSD-associated viruses characterized
Whitefly biology as influenced by CBSD determined
Responses of cassava genotypes to whitefly infestation
Survival and development of cassava pests as affected by cassava physico-chemical characteristics determined
Cassava genotypes and compounds affecting efficiency of cassava pests identified
Fecundity, survival, sex ratio, development time of cassava pests determined
Ecological factors influencing cassava pest population dynamic infestation and severity determined
Information on cassava marketing channels, market participants, profitability, competitiveness, constraints and coping mechanisms generated
Information on adoption of cassava technologies generated.

NaFIRRI:

1. Information on composition and relative abundance of fish species in Lakes Edward and George
2.Fish species suitable for commercial ornamental aquaculture identified
3. Information on breeding and nursery grounds and seasons for key commercial fish species on Lakes Edward and George
4.Information on reproductive and feeding biology of Semutundu Bagrus docmak from Lakes Edward and George
5. Phenotypic and genotyipic characterisation of Nile tilapia populations from Ugandan major lakes
6. Information on prevalence of fish diseases in commercial fish farms.
1. Estimates of quantities, composition, distribution and trends of fishing

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

inputs in Lake Albert, Kyoga, Edward and George
2. Estimates of quantity, value, trends and optimisation of fish catches Lake Albert, Kyoga, Edward and George
3. Composition, distribution, abundance, biomass, trends and optimisation of fish stocks Lake Albert, Kyoga, Edward and George
4. Appropriate harvesting gears/methods for haplochromines on lakes Edward and George.

Appropriate sites for cage fish culture in central Uganda identified and mapped out for farmers/investors, service providers, policy makers etc
Policy brief on recommendations/strategies for mitigating any potential negative impacts of aquaculture practices (cage farming) on the environment
Information on utilisation of bulk water supply from reservours for aquaculture production obtained
strategies to maximise survival from eggs to fingerlings developed and
Fish Hatchery Productivity and Profitability enhanced
Optimum feeding regims of broodstock established.

Induced spawning techniques, survival rates, & quality of tilapia, catfish and mirror carp optmised

Categories of aquaculture and fisheries enterprises established
Enterprise budget for selected aquaculture enterprises developed
Economic returns on fisheires enterprises determined
Categories of markets for fish established
Market information on key commercial fish species generated for database developed
Natural feeding interactions between the major commercial fish species and key fish food organisms (algae, invertebrates and fish) in selected sites of four major lakes determined

Ten ingredients with potential for formulation of cost-effective fish feed analysed for their nutritional composition; nutritional limitations of 2 industrial and 4 on-farm made fish feeds determined for improvement; and 1 cost -effective feed to be as reference formulated by NaFIRRI.

Alternative livelihood options for fishers and technologies adopted on lakes Edward and Lyoga identified
Level of adoption of aquaculture technologies for Central Uganda established
One geo-referenced map showing distributional and abundance patterns of major water weeds on Lakes Kyoga and Kwania
Baseline information on seasonal variation of water quality in Lakes: Kyoga and Kwania
Heavy metal pollution hotspot areas in Lakes: Kyoga and Kwania mapped
Key socio economic indicators identified on Kyoga and Kwania identified establisehd

NaFORRI:

Priority agroforestry tree species determined
Ideal forms for agroforestry technologies/practices selected
Socio economic attributes and value chain analysis of products from indigenous tree species in the western AEZ
Harvesting and processing methods for products from indigenous tree species evaluated
Characteristic identifiers of the shea zones of Uganda determined

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Superior genetically diverse shea tree butter trees for use in improvement programmes identified
Study sites characterized
Soil and water samples collected
Soil and water samples analyzed for quality indicators
Biology of Cinra spp established
IPM options agaisnt L. invasa developed and promoted

Appropriate propagation methods of at least 2 priority tree species developed
5 PSPs/ trial plots for monitoring growth performance of species established.
Investment efficiency of atleast 5 commercial forestry spp determined
Indigenous and exotic tree species for plantation forestry in 4 AEZ evaluated

At least 10 priority species (each) for improved nutrition, health and income and their distribution determined
Pests and diseases of the 10 priority plants identified and managed
Distribution of endangered and threatened tree spp in Uganda established.
Populations and knowledge on endangered and threatened tree spp in Uganda assessed
Conservation strategies for endangered and threatened tree spp developed
Annual economic value of forest socio-economic functions determined.

Current carbon stocks in various landuse systems in Uganda determined
Carbon sequestration rates of selected plantation tree species in Uganda determined
Strategies for accessing carbon credits developed
Species phenology and gum tapping schedules developed
Suitable biophysical conditions for optimum gum production determined
Strategies for improved gum Arabic production and quality developed
Status of value addition processing and marketing of at least 5 NWFPs established
Networks for atleast 5 NWFPs established and their products and markets developed and diversified
Production to consumption market chains for underutilised timber, poles and thinnings evaluated.

At least 2 efficient energy use technologies evaluated and recommended for use
At least 2 high quality and quantity of clean, efficient, convenient, economically and environmentally energy saving technologies developed
J.curcas and R.communis accessions for oil quality and quantity targeting calorific potential and reduction of pollution profiled
Biodiesel content of existing provenances of Jatropha and Ricinus communis establishedNaSARRI:

1.1 Open day conducted
1.3 Stake holder meetings held for development of NaSARRI strategic plan
1.4 . Plat forms for Stakeholders involvement in research activities established and functional
1.6. Participated in local, regional and national events and exhibitions enhanced

1.9 Impact of NaSARRI's technologies established.
2.1 Qaulity Quarterly and annual progress reports written
1. 1 100 lines planted screened against scab & leaf blight; 10 genotypes

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

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showing resistance to scab & leaf blight selected
2.1 100 seed samples collected from W.Nile and northern districts of Uganda & laboratory & screen house assessment done on them for seed borne pathogens; post harvest handling techniques developed and disseminated.
2.2 5 synthetic fungicides screened for effectiveness against cowpea scab & leaf blight ; 2 synthetic fungicides effective against laef blight & scab identified
2.3 5 biorationals screened and 1 effective biorational against leaf blight & scab identified
2.1 35 accessions of green grams assembled
2.2 2 trials on yield of green grams planted in 3 sites & 8 lines with high yield potential identified
2.3 1 trial on green gram yield evaluation planted on 3 TVCs'
3.1 . 2 trials on intercropping system of new cowpea varieties established
3.2 2 trials of intercropping systems for new pigeon pea varieties planted
1.3 F2 generations of 15 crosses planted & advanced to F 3 generations; 20more crosses made to generate new F1s
2.2 30 segregating populations evaluated & F2s selected advanced to F3s; 30 new crosses made
2.2 F2 segegregating populations advanced to F3s & 15 new crosses made
3.1 Sorghum-legume intercropping systems evaluated in 11 locations in Eastern Uganda
1.4 60 single plant selections evaluated for resistance to gall midge and Webworm

2.4 2 cultural management options & 2 chemicals evaluted for effectiveness against the gall midge & webworm
3.1 2 chemicals identified for the control Cercospora & Cylindrosporium leaf spots
3.2 6 single products and 2 botanical chemicals screened on station and TVCs.
3.3 2 cultural management strategies for cercospora & cylindrosporium leaf spots developed

4.1 3 intercrops evaluated on 2 elite sesame varieties
4.2 4 inorganic & 3 organic fertilizers evaluated on sesame
4.3 2 Efficacy of 4 Weed management options evaluated on sesame

Six crop and soil management options tested at TVCs

One post harvest technology adopted in at least 1 district

1.2 20 Selections and 30 crosses for yield and confectionary traits made;
1.3 10 advanced groundnut lines selected for high yield and good confectionery traits
3.1 Efficacy of 2 chemicals and bio-rationals tested against 2 leaf miner and Aphids; and leaf spots and rosette

3.2 1 alternative host identified for leaf spot and rosette virus vector for groundnuts
3.3 2 Cultural practices (plant density and planting date) evaluated against leaf miner and Aphid; and leaf spots and rosette
4.1 2 intercropping patterns evaluated against 2 elite groundnut varieties;
4.2 2 inorganic fertilizers identified for newly released groundnut varieties
4.3 Appropriate spacing identified for over 10 DUS materials
144 crosses generated

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QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Three types of crop residue and 5 cover crops evaluated at TVCs

Effectiveness of 2 natural enemies evaluated at different agro-ecologies
Three new technologies disseminated to uptahe pathways and end user

1.1 300 crosses made of which 21 selections made for different attributes; 8 lines evaluated & 4 promising genotypes subjected to multilocation testing
1.2 300 crosses made & 10 selections made for oil content & quality; 5 elite lines tested in 10 TVCs'out which 2 elite lines are subjected to multilocation testing
1.3 15 on farm trials involving 30 elite lines conducted &
3.2 6 foliar & 4 seed dressed fertilizers evaluated on sunflower on station.

Evaluated monitoring, evaluation and impact assessment tools for livestock research

Cumulatie Outputs Achieved by the end of the Quarter:

NAFORRI
- 25 Grevillea robusta, 20 Markhamia lutea, 40 Measopsis eminii, 15 Albizia coriaria/zygia, 20 Canariumschweinfurthii, identified, selected and marked for seed collection in Mukono, Masaka, Kalungu, Bukomansimbi, Mbarara, Isingiro and Ntungamo
- Surveys conducted in Gulu and Adjuman districts revealed that trees have intrinsic biophysical attributes which make them more appropriate or less appropriate to different users. The main

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

products were medicine, charcoal, poles and timber. Draft report of a survey on harvesting and processing methods of indigenous tree species.

- Three (3) trials assessed in 2 AEZs namely S.W,(Mafuga and Kiriima conifer plantations) and L.Vicoria crescent(Katugo) for Cinara cronortii population dynamics.

- One trial in L.Victoria crescent assessed for Leptocybe invasa populations. A parasitoid Selitrichodes neseri (Kelly & LaSalle Hymenoptera: Tetratichinae) identified for the management of L. Invasa.

- In diagnostic surveys of key diseases of pine and eucalyptus tree species Bacterial blight, Mycosphaerellaleaf spot, Powdery mildew,Botryosphaeriacankers, and dumping off were identified in eucalyptus nurseries, whereas Pine wilts, Fusariumwilt, Armillaria, Alternaria and root rot diseases were identified in eucalyptus nurseries.

- A survey was conducted on endangered, threatened and over utilised tree spp. 2 FGDs conducted in Ngora district (eastern AEZ); 1 near threatened (Milicia excelsa), 1 confirmed vulnerable (Vitellaria paradoxa) and 3 priority (Mangifera indica, Tamarindus indica, Albizia coriaria) over utilized tree species identified in 1 district of eastern lowland AEZ

- surveys were conducted on forestry technology disseminated to uptake pathways. So far Data on forestry technology dissemination collected in 1 AEZ (L. Vic Crescent); Data for 1,458 farms on forestry technology use in 3 AEZs entered (592 Eastern, 300 Eastern highlands & 566 L. Vic Crescent).

- Studies on the shea nut tree (Vitellaria paradoxa) for improved livelihoods continued. 64 household interviews, 1 key informant interview (DFO – Pader) and 4 focus group discussions conducted on socioeconomic attributes of shea trees in each of northern farming system – Omot s/c (Agago district) and Latanya s/c (Pader district). 77 trees from Omot and Latanya subcounties (Acholi farming system) identified and selected for morphological, molecular and biochemical charactersiation.

- 2 combretrum species in Nakasongola collected and propagated, and planted in a study to restore of the savanna woodland

- 10,000 seedlings of Grevillea, 5,000 grafted mangoes, 15,000 calliandra and 2,000 orange rootstocks raised in the Mbale nursery for demonstration on farms

- Collected 130 herbarium specimens from Mid North AEZ

- Twelve thousand (12,000) specimens in the insect reference collection were curated and preserved.

- Sorted out 36 specimens from unidentified existing specimens and preserved them as vulture specimens.

NALIRRI

- 2 acres of tephrosia were planted for a study to establish the efficacy of tephrosia against ectoparasites (ticks and mites) known

- A study on the effects of veterinary service privatisation and input market liberalisation on drug and acaricide use was initiated. Introductory and inception meetings with 25 stakeholders for veterinary service and input distributors and users each in district of Kiboga, Ibanda and Soroti.

- Selective breeding of honeybees, queen rearing was validated in Buliisa, Hoima and Masindi. 5 honeybee test colonies sourced from Hoima, Buliisa, Masindi. The test colonies were set at Bulindi ZARDI Apiary. Bee Samples taken from each test colony for species identification. Diseased colonies identified and honeybee and bee brood samples collected from Arua, Yumbe and districts. 40 honeybee and bee brood samples a nalyzed. 1 research apiary

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

maintained
NARL
Biotechnology
Finger millet
- Callus from 4 finger millet varieties (SI, SII, SIII, and PI), which are competent to regenerate were obtained
Groundnut
- Experiments from freshly harvested groundnut seeds as explants were initiated for 3 varieties representing the three botanical types
Cotton
- 50 elite germplasm materials collected at Kawanda. Trials already on-going at NaSARRI
- DNA extraction done for 27 out of 50 lines
Passion fruit
- Regeneration experiments initiated
- Pure isolates of Fusarium obtained from 4 central Uganda districts of Wakiso, Mukono and Mpigi. Isolates have been confirmed pathogenic by re-inoculation into tomato plants
- RNA extracted and cDNA synthesised from 20 virus samples
Plant genetics
- 4 medicinal species added to the ex-situ collections
- A draft of the EBG guide
- Maintained the green house species and Infrastructure.
- Monitored and regenerated 5 old and dying species in the living collection
- Controlled pests and prevented disease pressures among collections using fungicides, pesticides, removal of algal blooms from green house and dipping of cuttings into fungicides.
- A draft paper on the species association of A.senegal.
Bio control
**- Highest parasitism level of C. flavipes was 32% on C. partellus,9% on B. fusca and 12% on S. calamistsis in Kasese, Kamwenge, Hoima, Fort Portal, Mubende and Kiboga districts. Highest egg batches of B. fusca parasitized by T. isis was 53% and eggs /batch (45%) **
- Bactrocera invadens was detected in all the 6 districts in the West Nile region, 6 districts in the Northern region which were surveyed
- Field recoveries of arboreal termites made in 7 out of 14 release sites in Nakasongola district after 3 months of release of Kamwenge arboreal termites introduced to control subterranean termites
- During the quarter, a combination of BAT, MAT and orchard sanitation recorded lower fruit fly counts and 30% improvement due to low trap catches in Masindi and 50% in Luwero district.
Food biosciences
- Data on Profiles and levels of PAH obtained for Albizia-smoked clarius.
- Effect of seasonality on chemical composition of Mukene, Neobola bredoi (Nb) and Brycinus nurse (Bn) was studies. Effect of seasonality established; Effect of processing on presence of Omega 3 determined; Omega 3 concentrated from small pelagic; Processed and assessment of Free Fatty Acids conducted; Market-testing of product from small pelagics conducted a long 5 landing sites of Lake Albert.
- Designed maize post harvest handling leaflet in conjunction with ARIS leaflet ready for multiplication
- Process of constraints identification of pineapple and tomato handling in Luwero and Kayunga initiated with a focused group discussion with pineapple stakeholders done; post harvest losses of pineapple still high
- 80 demos on fertilizer the use for increased production implemented NASARRI

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Cow pea

- Preliminary result from available data showed that at least 25% of the 27 lines showed low (<30% incidence) disease prevalence in the plots.

- 75 cow peas genotypes comprising are being tried on-station. Data collection is still on-going. However, preliminary result from available data at vegetative growth stage indicate that scab incidence and severity varied between 10 and 85%, and 2 and 4 (at the scale of 1-5), respectively.

- Scab infected leaf samples were collected from farmers' fields in selected districts of Apac, Lira and Pader, Tororo, Pallisa, Kumi, Soroti, Nebbi, Arua and Yumbe districts. Seed samples were also collected from various markets in selected districts. Farmers' cowpea fields in 4 districts in the northern region comprising the district of Dokolo, Apac, Lira and Pader, and 6 districts in the eastern region (Tororo, Pallisa, Kumi, Bukedea, Serere, and Soroti) were surveyed. GPS data was collected in addition to disease incidence and severity data. Data analysis is still in progress, but preliminary result of analysis showed that the eastern region districts are more affected compared to those in the northern.

- 120 farmers were trained on the skills of identification, control and prevention of cowpea diseases in their fields.

- Two acres of foundation seed planted at NaSARRI

Finger millet

- 398 accessions of pearl millet being characterized

- 5 varieties were identified as being resistant to ergot

- survey on pearl millet diseases in Uganda completed in Katakwi, Lamwo, Arua, Kotido and Kitgum

Groundnut

- 120 germplasm of high yielding rosette and leaf spot resistant groundnut varieties from ICRISAT Malawi are being screened

- 18 entries are planted at 8 multilocation sites at NaSARRI; ZARDIs (Mbarara, Bulindi, Mukono, Ngetta, Abi); TVCs (Pader, Amuria, Nakabango) representing. major groundnut agro-ecologies in Uganda. Selections are ongoing for yield, leafspots, rosette and confectionery traits. The plant stands at emergence were good at most sites except Kuju TVC. The crops are past 75% anthesis and we anticipate harvestings in late January/early February.

Sorghum

- 2 training manuals for the use of forage sorghum for livestock feeding developed

- 15 lines of sweet sorghum were submitted to Makerere for analysis for bio- fuel production .

- 3 sweet sorghum accessions identified to be promising at NaSARRI. Additional data on grain performance was collected during the quarter.

- 16 sweet sorghum lines were screened at NaSARRI for resistance to major insect pest and diseases. 10 out of the 16 showed low pest and disease reactions. Agronomic performance data was additionally collected during the quarter.

- Two Support staff were trained on screening techniques for the segregating populations.

ABI ZARDI

Groundnuts

- 8 newly released groundnut varieties were harvested from on-farm seed multiplication plots

- 12 varieties of project gerplasm were established at NARL-Kawanda for seed increase

Goats

- A trial on appropriate dosage rates of dewormers set up on-station

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Trees
- Planting of tamarind and shea seeds
Finger millet
- On station multiplications fields millet variety seremi II
. BUGINYANYA ZARDI
Temperat fruits
- Biofungicide and Copper oxychloride yielded highest cherry.
- 0.25ha of 2nd season fungicide trial with 3 treatments established at Buginyanya and is at flowering stage
- 100 uprights prepared and site alignment for shade construction completed
- 0.6ha of apples (old and new orchards) nurtured well and plants in new orchard at whip stage due for branch initiation stage
- 786 fruits (510GD and 276WB) harvested
- 60% &78% disease incidence (DI) on leaves and fruits compared to 18% and 20% DI recorded last quater on the same treatment schedule.
- 1st phase of trial conducted with NPK applied at a rate of 300g/tree
- One orchard existing orchard rehabilitated, training of tree canopy (branches) achieved at Kwoti in Kapchorwa branching initiated in one orchard at Kwoti in Kapchorwa
- Rootstock mother garden (MG) well nurtured and 30 plants at harvest stage for expansion of MG and further layering
- FFS curricculm developed and 10 farmers trained on canopy management
Goats
- 23 indigenous goats and thirteen F1 crosses (Boer X Indigenous) maintained for breeding purposes at Bulegeni station
- -200 metres trench dug, PVC-Tubes layed and two water troughs constructed.
-
Wheat
- 21 wheat lines selected for PYT1 and established in 2 sites
- 32 wheat lines out of 49 established at PYT2 in 4 sites and are at flag leaf stage
- 12 lines in AYT2 established at 4 sites and are at flag leaf stage
- Presented the Results of Wheat baseline survey shared at the MTR

- Report of FS&LA secondary data from districts of Budaka, Pallisa, Kibuku, Tororo, Busia and Butaleja updated
- 48,000 tree seedlings planted ,20,763m of trenches and 18,000m of contour bunds maintained in Kapchorwa, Kween &Bukwo
SLM
- Draft paper on Devolution as a Strategy for Scaling up SLM reviewed at the NARO conference
- IP in Kween facilitated in communication process for collective action
potato
- 1.5 ha of basic seed potato planted with 836Kg Victoria and 1,632Kg of Kachpot at Buginyanya on-station
- 3 farmer groups introduced to negative/positive selection in Kween and Kapchorwa

Sweet potato
- 0.3 ha of S/P vine multiplication garden Ridged, planted & managed at Bulegeni station
- 81 bags of quality s/potato vines availed to uptake path ways
- Six (6) S /Potato vine multiplication sites established in the 4 district of Bulambuli & Sironko (2 per district) while Kween & Mbale(1 per district)

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Established 0.7ha for multiplication of wheat lines at AYT and Elite variety UW400
BULINDI ZARDI
Chicken
- Trial to compare the performance of kuroiler and local chicken set up on-station was established. Kuroiler cocks distributed and monitored for their performance on-farm in Masindi, Kiryandongo and Hoima.

Apiculture
A bee forage survey conducted in 4 subcounties (Kyangwali, Kiziranfumbi, Kigorobya and Bugambe) of Hoima district. In Kigorobya subcounty, the most common bee forage species was Calliandra calothyrsus . In Bugambe sub county the most common bee forage plant was Albizia coriaria . In Kiziranfumbi sub county Coffea species and Calliandra calothyrsus were the most common. In Kyangwali sub county Grewia millis was the most common bee forage species.
KACHWEKANO ZARDI
Potatoes
- The performance and yield of selected potato genotypes under farmers' conditions was conducted. Information on growth parameters was generated and indicated that three genotypes out of 6 had good vigor and showed high resistance to late blight.
- Data was collected on growth and incidence of bacterial wilt among the selected 10 potato genotypes and 2 genotypes so far are showing good level of bacterial wilt tolerance with an incidence level of less than 1%
- Trials harvested and data collected on minituber productivity in the screen house. Progress report written and soil sterilized. Results indicate that IBA (1.0mg/l) enhance in vitro performance of Kachpot 1 greatly compared to other auxins studied and consequently led to more minitubers being produced. IBA is therefore recommended for routine micro propagation of potato as an auxin.
- Trial established with five potato varieties and one promising clone
- Procurement and installation of one sub-meter and AV30 to regulate the amount of electricity & planting of 720 plantlets and management of the plantlets in the screen house Information on costs of different techniques (aeroponics and conventional) collected and generated for evaluation
- Data being collected on the units of electricity and materials consumed under aeroponics and conventional techniques of seed production
- Planted 0.5 tonns ha of prebasic seed for 2012 B and management, 12 tonns of pre basic seed planted to generate basic seed
- Confirmed the presence of B-gluconidase gene (gus) in 5 lines of Victoria and Rutuku, NPT II marker gene in 3 lines of Kachpot 2, lines of victoria and 1 line of Rutuku
- Efficiency of transformation established in Rutuku (7%), Victoria (5%) and Kachpot 1 (8%) respectively, multiplied the positive plantlets
- Data for the first set were analyzed, and indicate that there no significant differences between plants raised on hormonal treatments and those without hormonal treatments.
- Preliminary results indicate that Tuber sprouts did not differ from tissue culture raised plantlets for kachpot 1 and Victoria and thus can be used as alternative planting materials.
- Surveyed for the incidence of potato viruses in Kabale, Kisoro, Kanungu, Mbale and Kapchorwa . Viruses PVX and PVS were most

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

common with 18% and 15 % as avarange incidence

- Tested potato mericlones for virus status and in some mericlones, the viruses were eliminated while in others, the viruses were not eliminated

- 10,000 minitubers of Victoria, Rutuku, Kachpot1, Rwangume and Kinigi harvested, 3500 plantlets produced, 2800 transplanted both in mother shades, soil and aeroponic screen houses; and plants maintained in the screen houses.

Goats

- 100 mature goats (5 Boer, 7 of 75% Boer, 6 of 50% Boer and 7 of Kigezi/ Local goats) they were maintained byregular spraying, deworming, repair of broken fences and herding of goats

- 75 mature goats (20 Boer, 11 of 75% Boer, 15 of 50% Boer and 28of Kigezi/ Local goats) and 64 kids of which 22 were born during the quarter (9 Boer, 28 of 75% Boer, 9 of 50% Boer and 18 Kigezi) were maintained

Sorghum

- Threshing, drying, and data collection on grain weight done on introductions from ICRISAT. Twelve varieties were selected for evaluation in advanced yield trial during 2013 season. Yields of most promising ranged from 3500-5000kg/ha and all were tolerant to leaf blight and had maturity period of less than 180 days.. Of the 6 ealier lines, 3 are candidates for release (HLSO/03/016, HLSO/03/017 and HLSO/03/023) based on early maturity (180 days) and high yields compared to the local varieties

Apple

- 4 experimental orchards (1 in Bugongi,1 at Kachwekano, 1 at Kalengyere and 1 at MBAZARDI) were maintained by spraying, weeding and manure application. Growth data collected showing disease pressure due to aple scab and powdery mildew

- 5,420 apple grafted seedlings generated (out of this 3120 sold to groups and individual farmers). 20,000 apple rootstock seedlings raised at the central nursery at Bugongi.

- Accessed species of fruits germplasm maintained by weeding and organic manure application.

- Data collected on responses of apples to white powderly mildew and scab. A survey conducted in the zone found that powdery mildew was the most severe a prevalence of 75-100% rating and severity of 40% compared to apple scab with a prevalence of 60 % and severity of 40%.

- Maintenance of the trials at Kalengyere and Bugongi. Yield data not collected as there was a lot of fruit abortion

- Report written on the study findings on cost-benefit analysis of apple production in the zone

MUKONO ZARDI

Fruits and vegetables

- Established 7 on-farm trials for Solanum aethopicum in Mpigi, and Wakiso districts to determine appropriate fertilizer rates for poultry and NPK. Data collection no crop growth, leaf width, biomass and marketable yield collected for poultry litter trial. Preliminary results indicated that poultry litter manure is likely to perform better than NPK

- A total of 3 on-farm seed multiplication sites for Nakati were set up in Masaka and Wakiso districts. Seed germination for Nakati was above 90%. One paper entitled "Identification of strategies to enhance the contribution of Indigenous Leafy Vegetables (IV's) to household income and nutrition in Central Uganda presented at the NARO Scientific conference

- Survival percentage of citrus and mangoes was generally found to be above 80% and below 50% for avocado in both districts. Eighty

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QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

farmers in each district (Kayunga and Mubende) trained in management aspects of fruit trees. It was also observed that citrus was most affected by orange dog caterpillar, leaf miners, brown leaf spot, scab and greening disease.
Chicken
- 1,000 kuroiler chicken procured and raised. 1,000 kuroiler chicken raised up to state of leaving the brooder. NCD Package was successfully initiated by testing different vaccination schedules and chosing the most cost effective one with the highest survival percentage
- Two hatcheries were identified and selected to host improved fish fry production trials. 400 brood stock males and females were isolated and "set" for conditioning in preparation for breeding
NABUIN ZARDI
Poultry
- Maintained 8 cambrough pigs and 6 piglets as pure/parent stock for technology dissemination and research purposes
- 52 Kuroiler chicken availed to nine famers in Bukedea, Moroto and Nakapiripiriti districts. Evaluation of their performance at free range to start next quarter.
Goats
- Maintained 12 goats of Mubende breed on-station
Multipurpose Trees
- Two surveys to assess the available trees and shrubs for food, forage and fodder, and shrubs for timber, fuel wood and soil fertility were conducted in Soroti, Serere, Abim and Nakapiripiriti District
RWEBITABA ZARDI
Potato
- Acquired potential potato varieties for variety adaptation of potato in the zone from KaZARDI for on-station evaluation

Q1
NACRRI
Rice
- Determine level of parasitism of the AfRGM in farmers' fields: Two species of parasitoids were identified and were able to cause mortality of 75% of the AfRGM in farmers' fields. Aprostocetus procerae caused 60% of the total mortality whereas Platygaster diplosisae caused 40%. In all the three sites close to 60% of the insects that emerged were males and 40% females.
- Produced NERICA 638 Kg of NERICA foundation seed (NERICA 1 – 210 Kg; NERICA 4 – 157 Kg and NERICA 10 – 271 Kg)
Cassava
- Molecular analysis of parental lines for specificity of CBSD resistance and genotyping of progenies between Namikonga and elite varieties continues at NaCRRI and BECA respectively
- 5 data sets generated from replanted S1 partial inbreds and 2 data sets collected from clonal evaluation trial being evaluated for CBSD & CMD resistance
- Eight data sets generated from each of the CMD2, CMD and CBSD durability CFTs
- Thesis on CBSD epidemiology and genetic diversity studies submitted for examination
Horticulture
- Pest and disease epidemiology surveys: Four surveys conducted in 12 districts of Uganda
Bananas
- Collected data on 2 advanced matooke hybrids (M19 and M20) needed for their release; data presented to the Variety release Committee and cleared for pre-release

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

- 24 matooke lines with antinematode transgenes have been planted in a CFT
- Transformed M9 with BBW resistance pflp genes
- Established BBW demonstration trials in Ankole region
- Data collected on water stress effects on selected culltivars
Sweet potatoes
- Established a new crossing block with 28 parents replicated 25 times.
- Monitored breeding trials at NaCRRI, NaSARRI, Ngetta and KaZARDI.
- Monitored on-farm trials in Buikwe, Kamuli, Kabale, Luweero and Wakiso districts.
- Evaluation of weevil resistant SP clones: Incubation bioassay showed that New Kawogo, ARA228 and LIR 302 had lower C. puncticollis adult emergence compared to NASPOT 1 and Tanzania (susceptible vars).
- Variety transformation: Kyebandula and Bwanjule were successfully regenerated through shoot organogenesis, although regeneration efficiency was very low (at 9% and 11%, respectively).
Beans
- Submitted an application for release of 4 promising climbing bean genotypes to the variety release committee namely: F4:834ML-14/4 (dark red mottled), 2) F4:8 34ML-2/3 (Pinkish), 3) F5:8 90ML-2/1/3a, (Light red mottled) and 4) F6:8 90 ML-5/13 (Red)
- Four new climbing bean genotypes were released
- NABE 12C Lines with incorporated resistance to Pythium root rot: Using MAS, resistant plants were selected carrying all the three target genes and used them for crossing to generate the second backcross hybrid (BC2F1)
- Released 7 new bean varieties (NABE 17- NABE 23)
- Evaluation and release high nutrient-dense bean lines for adaptability in different agro ecologies in Uganda: Genotypes BRB 194; MORE88002, NUA 99, NUA 69, RWR 2154, and RWR 2245 were most resistant to diseases across locations. Diseases ALS, CBB and FLS were the most prevalent and most severe diseases across locations.
- Multiplication trial of the nutrient dense bean lines: Seed obtained ranged from 0.7-3.5 kg per genotypes and genotypes HM21-7, RWR10, RWR 2154, and RWR 2245 yielded the highest yield and genotypes MAC 44. ICYANA, G 59/1-2 and KAB06F2-8-27, yield the least.
- Determination of farmers' perceptions, incidence and distribution of bean bruchids in selected districts in Uganda: The study report was finalized
- Baseline survey to characterize technologies, gaps and opportunities for establishing sustainable bean platforms: The report was completed and submitted
- Baseline on NABE 12C production, processing and marketing: A draft report was produced
- Established ten staking option trials/demonstrations for climbing beans in Kabale and Kisoro to provide alternative staking options to farmers.
- Quality standards of beans for regional and export markets were established

Maize QPM (technology dissemination):
- Promotion of QPM technologies using participatory uptake pathways: Conducted baseline survey
- A total of 47 ToTs were trained in disseminating and scaling up QPM technologies and innovations
- Produced a draft communication strategy at the inception work

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

shop; Conducted the baseline in the 3 IPTA Bugiri, Luwero and Masindi

NAFIRRI

- A geo-referenced database of aquaculture sites is being developed. New sites in r Mukono, Kayunga, Luwero, Nakaseke, Buikwe and Kaliro districts have been surveyed. These include 50 fish farms in Mukono, 44 in Luwero, 28 in Nakaseke, 21 in Kaliro, 19 in Kayunga and 18 in Buikwe

- A survey to identify aquaculture production sites in region Western and Central regions was conducted. 3 reservoirs were visited in Isingiro district: Kagango dam was selected as the most suitable for design of aquaculture system.

- 4 reservoirs were visited in Sembabule: Rwamakara was selected for the aquaculture development design.

- Potential sites for cage fish culture at the northern portion of lake Victoria have been identified. These include Kaliyambuze, Nabinoonya, Bwanja, Semondo . Water quality parameters were within the recommended levels for cage fish culture i.e: DO, 5.46-8.07mg/l, Temp. 24.4-28.3oC, pH 6.0-7.5, ammonia less than 0.2mg/liter, water tranparency of 105-295cms, minimum water flow rate of 10 meters / second, water depth above 4 meters

- 3 ornamental fish species from Lake kyoga system selected, namely: Zebra, Red tail, and Flame back. Live samples of 3 selected ornamental fish species collected and reared for culture trials.

- A draft technical report on prevalence of aquatic weeds, heavy metal pollution hotspots, water quality and socio-economic indices of fisherfolk is being finalised

- The status of water quality in Lake Kyoga has been established. The water quality indicated the following physicochemical conditions; dissolved oxygen ranged between 4.7 – 9.2mg/L; pH, 6.3 - 10.6, conductivity, 120 – 540uScm-1; water temperature , 25.8 – 27.1; turbidity, 0 – 1152.7 FTU; redox, 625.6 – 918.4mV and salinity, 0.06 – 0.26ppt.

- Status of the selected heavy metal pollutants (Lead, Zinc, Copper, Iron, Manganese and Nickel) in the sediment and bottom water were established and compared with natural background level. Cu and Fe was observed to be high in the water column. Cu, Zn and Ni were high in sediments.

NAFORRI

- Utilization of indigenous tree species: Socioeconomic attributes of indigenous tree species determined in Gulu and Adjumani. They include sale of charcoal from mainly combretum spp, firewood from Terminalia, Poles from Marhamia, fruits from Borassus palm, Anona muricata, bee hives from 'Tugu'; A desk review of harvesting and processing methods for products from indigenous tree species carried out, with a view of developing sustainable ones

- Acquired 0.5Kg of Pinus caribaea. Germinated and maintained 15,000 seedlongs of E.grandis, 12,000 seedlings of Measopsis & 5,000seedlings of Terminalia ivolensis

- Established 3 trial plots of Measopsis, Eucalyptus and Terminalia in Kyembogo (Kabarole district); Established 2 more trial plots of Measopsis, and Terminalia in Kifu

- Growth perfomance data for Pinus caribaea var. hondurensis collected from plantations in Northern Uganda (Gulu, Opok and Opaka CFRs)

- A number of medicinal plants identified and prioritised in the following districts: Adjumani (127), Gulu (131), Bundibugyo (140), Kyenjojo (154), Kyegegwa (155), Nebbi (107) and Arua (128)

- Baseline data on status (spread & uptake) of 27 forestry technologies/practices collected from 2,100 farm/households in 3

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

AEZs (i.e. Eastern, Eastern highlands & L. Vic Crescent); Secondary data on best-practices in tracking impacts of forestry technologies compiled (ex ante & ex post, onfarm evaluation, adoption etc.)
- 160 household and key informant interviews, 4 focus group discussions on socioeconomic attributes of shea trees conducted in Teso farming system
- Distribution map produced on the genetic diversity of shea tree butter trees; 64 trees identified and selected in Teso farming system
NaLIRRI
NARL
Water provision and management
- Three (3) water storage tanks (Lined with HDPE) Constructed in Masaka District for vegetable production
- Finalizing fabrication of a pond aerator prototype (diffuser type)
Exploitation of renewable energy resources
- 1 model of biogas cooking stove appliances developed; on-station evaluation completed and farmer selection done in Jinja and Iganga districts
- 1 Open-sun drying technology for local rice varieties developed and established on-farm and farmer selection done in Hoima district
- 1 model stove prototype for utilisation of rice husks fabricated and being tested on-station; Farmers for on-farm evaluation selected
- 1 Fireless cooker prototype under fabrication. Farmers for on-farm testing selected in Masaka and Hoima districts
Implements for diversifying use of work animals and single axle tractors
- 1 prototype of efficient animal-drawn planter for selected small and large grain seeded crops developed
- On-farm evaluation is in progress of a prototype of stainless steel hopper and cutting surfaces for grating and chipping cassava
IPM Options
- Determination of parasitism rate of stem borer species and level of damage on maize: Cultures of Buseola fusca stem borer species (on maize) established in the screen house to rear egg parasitoids of stem borers for field releases
- Determination of prevalence of Wolbachia bacteria in white fly (Bemisia tabaci) populations: The 16S rDNA gene of Wolbachia amplified to confirm its presence showed an approximate band size of 394bp and revealing an overall infection frequency of 77.5%. The genetic identity of field collected B. tabaci populationfrom Nakasongola district determined by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) of the mitochondrial cytochrome oxidase I (mtCOI) gene using Taq1 restriction enzyme showed the restriction pattern not typical of what has previously been observed and reported using this same method, suggesting the possibility of a new and/or an unidentified biotype of B. tabaci
- Survey on abundance of cassava pests on cassava varieties: Out of 11 cassava varieties screened in the field at NaCRRI, high white fly population densities were recorded on /0057, TME204, NASE12 (over 27 adult white flies/leaf) and the lowest white fly population densities were recorded on MM97/2961, BAM.NKA and I92/0067). Cassava green mite population trend was similar to white flies on cassava varieties
- Evaluation of efficiency of arboreal termite sp in controlling subterranean termites: A total of 5 damaging subterranean termite species were identified in rangeland habitats prior to introduction of arboreal termites; macrocerotermes spp was the most abundant termite species. Species richness of damaging termites was higher in bare ground than in dense vegetation cover. Recoveries made after

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

one month of release of Kamwenge arboreal termites introduced to control subterranean termites in rangelands in Nakasongola district
- Novel IPM strategies for control of mango fruit flies: Fruit fly species varied with seasons and diversity of fruit fly species varies with abundance of hosts; Bactrocera invadens and Ceratitis anona were recovered in low numbers in monitoring studies conducted in Southwestern Grass Farmlands (Kalungu, Rakai, Kiruhura and Mbarara districts) and South western Highlands (Kabale district) during the off season mango fruiting
- Eight mango varieties studied for host suitability in terms of fruit fly responses (sex, survival and body size) showed exotic varieties were more suitable than the local varieties. Five additional wild hosts of B. invadens identified and confirmed. Actual and potential distribution of Dacus spp and Ceratitis spp mapped through modelling. B. invadens from 3 Agro ecological zones (Northern Moist Farmlands, Lake Victoria Crescent and Western Mid High Altitude) have been digitized. Species diversity analysis showed high diversity from the Mid High Altitude
- Factors influencing mango fruit fly infestation were established: Mango fruit maturity stage, peel thickness and fruit firmness were found to have the highest contribution to fruit fly infestation among the various factors such as vitamin C and fibre content, fruit size and peel colour that were analysed (MSc. Thesis)
- Validation of management options for control of mango fruit flies: A combination of BAT, MAT and orchard sanitation recorded lower fruit fly counts and 40% improvement due to low trap catches in Masindi and 60% in Luwero district
- Information packages on fruit fly management: 1200 brochures produced on the ecology of mango fruit flies and distributed to stakeholders. Posters produced and shared with stakeholders
- Management of bean root rot and Phytophthora damping off seedling diseases: Identification of pythium root rot strains- A total of 800 diseased plant samples collected from 9 districts in Midwestern, Central Uganda and Mount Elgon region awaiting isolation characterization. 26 have been cultured and Trichoderma isolates recovered from 81% of the cultures made
Novel value-added
- Products from Agricultural produce and Fisheries: Levels of PAH assessed in farmed Clarias: Chromatographic analyses showed presence of PAH in clarius fish obtained in Kampala markets. Profiles and levels of PAH when mango was used to smoke clarius fish have been documented
- Small-sized pelagic based products: Macro-nutrients and selected micro-nutrients determined. Fatty acid profile of fresh pelagics determined
- Tamarind product development: 4 prototypes sensorial evaluated, Tannins of young fruit determined. Yeast and moulds isolated and quantified. Pulper tested
- Assessment of market viability of glucose and fructose syrup products: 5 litres of caramelized and 10 litres of non-caramelised glucose ready for trials in industry.
Soil & Water management:
- Economic viability of soil fertility & soil-water management package: Data on banana and pineapple production costs, emerging yield and expected income collected
- Sustainable Land Management (SLM): On-station trials planted at Mubuku Prison Farm - Kasese and Nakasongola Prison Farm in Nakasongola districts, respectively. On-farm trials planted in the 2 districts
- Climate change: Innovators in the energy sector mapped. Evaluated

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

climate related vulnerability over Uganda and crop suitability. Characterized livelihood profiles and agricultural decision systems of smallholder farmers.
- Increased awareness of fertilizer use: Established 80 on-farm demonstrations in eastern and northern Uganda
- A manual on pineapple production and Processing compiled for production
- Agricultural publications and information management: 100 new titles collected from Kachwekano ZARDI, Mbarara ZARDI, Bulindi ZARDI, NALIRRI, NASARRI. A total of 100 documents were digitized and entered into a database. Information service delivered through QAS. Ninety requests for information received and their answers processed.
Post-harvest:
- Produced a draft leaflet on post-harvest handling of maize. Manuscript on effect of splitting cowpea & pigeon pea in place. Held feedback workshops on market needs and opportunities of mango and pineapple in Kasese and kyenjojo respectively. Workshop reports were produced.
Value-chain:
- Cassava value chain analysis tools circulated within the East african region. Flagship products identified (high cassava quality chips, flour, starch & glucose). Key opportunities for these include: existing growing markets for chips, flour, glucose, and starch; Potential markets (for modified starch, biodegradable packaging materials). Key constraints include: poor quality cassava chips & flour, milk and milk products; disorganised markets and poor market information systems; limited technological options; and limited product-base & scope of utilisation identified.
NASARRI
Cow pea
- Trials to evaluate all the 75 accessions were established on-station. Data for last season is in final stages of processing.
- Repeat of screen house and laboratory experiments to screen the 9 cowpea lines for resistance to scab was established and being monitored.
- Two sets of cow pea elite lines (short and medium maturing) giving a total of 27 lines identified
- Three (3) trials of cow pea elite lines for multi-location testing were established at NaSARRI and germination was generally good. In on farm cow pea trials, data was analyzed and five cow pea elite lines showing good attributes identified. A total of 4 cow pea trials established in the T.V.C.s in Kumi and Kaberamaido.
- 77 cowpea evaluated for their performance. Four crosses performed well giving grain yield above 1000 kg/ha
- Three elite green gram trials maintained and yield data collected. Mauritius and black gram gave yields above 2,000 kg/ha. Mauritius was matured early (65 days), while black gram was late maturing (matured at 75 days).
- Cowpea management options have been evaluated. Three and five inter and intra row spacing respectively, evaluated. Spacing of 60 x 20 cm gave highest yield of 2200 kg/ha followed by 50 x 30 cm. Lowest yield (1600 kg/ha) was obtained from the spacing of 70 x 70 cm.
- Two acres of foundation seed multiplication planted at NaSARRI
Sesame
- A trial to evaluate intercrops and intercrop patterns for the control of Cercospora Cylindrosporium leafspots in sesame was established and managed on station.
- Soil fertility improvement options for increased sesame are being

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

developed. Trials for evaluating inorganic & organic fertilizers have been planted trial at 3 sites.
Millets
- 45 finger millet lines resistant to blast have been identified; 13 lines with tolerance to drought identified; 3 Msc students attached to the programme have finished their Msc dissertation and ready to defend their work.
- Selected 40 advanced lines;
- 3 Selected 5 lines for further analysis
- 4 F1 generation planted. 230 F2 progenies planted
- Six legume species planted on-station for seed increase
- 10 promising pearl millet lines identified
Sorghum
- 35 BC3 drought and striga resistant sorghum lines introduced from ARC- Sudan were characterized for the frist season at NaSARRI. 6 lines showed superior agronomic performace
- 10 promising NaSARRI selections and 6 BC3 drought and striga resistant sorghum lines were planted in 3 location for evaluation.
- 20 BC1F1 crosses genarated, 25 BC5 lines were advanced to BC6 generation
- 3 integrated striga management training manuals developed.
- 14 demonstrations plots of Striga resistant sorghum varieties established in Kumi and Katakwi districts.
- 4 promising sorghum lines that showed tolerance to smuts were identified from the 15 NaSARRI selections.
- 40 drought and striga resistant sorghum lines were screened for resistance to shootfly and stemborers. 19 of the lines showed resistance to shoot fly and 5 showed resistance to stem bores.
- 15 lines of sweet sorghum were submitted to Makerere for analysis for bio- fuel production .
- 3 sweet sorghum accessions identified to be promising at NaSARRI.
- 16 sweet sorghum lines were screened at NaSARRI for resistance to major insect pest and diseases . 10 out of the 16 showed low pest and disease reactions.
- Two Support staff trained on crossing sorghum and screening segregating populations.
- 40 forage sorghum accessions introduced from INTSORMIL and 4 local accessions were characterized from NaSARRI for adaptation. 8 of the lines showed superior agronomic performances.
- 16 elite forage sorghum lines were planted for evaluation in 3 different locations
- 44 forage sorghum accesssions were screened for resistance to major insect pest at NaSARRI. 33 of the accessions showed resistance to shootfly, and 9 showed resistance to stem bores.
- 24 BC3 forage sorghum lines were advanced to BC4 and 13 BC2 davanced to BC3
- 2 training manuals for the use of forage sorghum for livestock feeding developed
- 10 demostrations of forage sorghum established in two subcounties (Gweri and Arapai) Soroti District and 6 more demonstrations were planted in Katakwi District.
- Draft guidelines for groundnuts completed
- Draft guidelines for cowpea and sorghum developed
- Demonstrations were put up at the CIC and on station
Cotton
- One hundred seventeen cotton accessions planted on-station for phenotypic evaluation. Data collection still in progress.
- 139 BC2 crosses have been successfully made between long staple donor parents and are being advanced to BC3. F1 crosses made

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

between the three parents (brown lint, branchless cotton and okra leaf type) and long staple cotton have been planted for advancement to F2 populations.
- Thirty-two elite cotton lines with GOT>40% and fibre length of >30 mm planted in five sites of Kuju, Pallisa, NaCRRI, Ngetta and NaSARRI for multi-location testing
- Thirty (30) genotypes under test and which were planted under Advanced Yield Trials (AYT) in four TVCs of Arapai, Kuju, Kaberamaido and Ngetta in May 2012 have been harvested. Appropriate data were taken from them and are being organized for analyses.
Sunflower
- Sixteen (16) sunflower varieties/hybrids genotypes with high oil content were identified from the previous seasons' crossings
- Sixteen (16) sunflower varieties/hybrids genotypes evaluated for yield and desired characters on six farmer fields in the districts of Alebtong, Dokolo and Kaberamaido were harvested and various records taken from them. Analyses is underway.
- Three foliar applications of Megacal and Push were successfully made to sunflower planted at Kuju, Kaberamaido, Bukedea and Kumi TVCs. Appropriate data was recorded and the sunflower is being harvested. For the on-station trial four applications of Megacal, Push, New Suryamine, Bio-phosphorous, Biopotassium and Bio-Zinc were successfully made to sunflower. Data on leaf area indices during 1st & 2nd recording showed superiority of Megacal and Push compared to the other foliar products. Harvesting of on-station trial is due.
- Seed of RHA 373 and RHA 271 each planted in 1 acre of land was harvested. Harvests of CMS 383 and HA 383 each from 2 acres of land have been made. Similarly CMS 383XRHA 373 has been harvested from 3 acres of land. All these indicate a possible production of SESUN 1 H and SESUn 2 H hybrid seed in slightly larger quantities. Eight lines of OPVs were maintained for further multiplication.
ABI ZARDI
- Evaluation trial for the bitter local; IITA mosaic tolerant varieties maintained
- Cassava multiplication blocks maintained on-station with improved varieties; TME14, 2961, and MM96/4271
- The six newly released varieties were obtained from NaCRRI and planted for on-station multiplication
- About 25 acres of land planted with cassava Variety NASE 14 on-station
- Cassava breeding block was weeded and fertilized
- Groundnuts, bush beans and climbing beans trials have been established
- An IPM package for management of bean fly produced
- Needs assessment conducted on farmer dairy production practices and common feedstuffs used in the districts of Adjumani, Moyo, Yumbe, Maracha, Nebbi and Zombo
- Data on milk yields collected for 3 animals at different stages of lactation
- One plant, Grewia spp was evaluated for efficacy against intestinal nematodes in goats. Results showed a 37 % fecal egg reduction count compared to 82% for levamisole
- A trial on appropriate dosage rates of dewormers set up on-station
- Adaptation of agro-forestry technologies continued to be conducted. One on-station and 3 on-farm trials established for 3 varieties of apples. Second set of data collected and trial fields maintained; Acquisition and planting of tamarind and shea seeds

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

- Cover crops for soil improvement have been harvested. 10 kg of Mucuna, 5 kg of Lablab, 4 kg of Glycine and 3 kg of Centrocema
BUGINYANYA ZARDI
- One experiment on quantification of soil and nutrients loss conducted in Kween; 407 run off samples collected and analysed at Kawanda; report writing is in progress
- Treatments of available fungicides on the market applied on experimental plots; Biofungicide, Copper Nordox and Kocide treatments yielded highest in round 1 of harvest (4 Kg of cherry in a plot of 7.2Mx7.2M)
- Determination of most cost-effective fungicides against late blight of potato: Fungicide trial (Atracol, Ridomil and Dithane M-45 fungicides) at harvesting stage. Less disease incidence with atracol than Dithane M-45 when applied thrice at 2.5 kg/ha at 10 days interval
- Maintained 0.6 ha of apple orchards for demonstration in the AEZ.
- Evaluation of improved beans varieties: -Data collected on agronomic aspects & yield of the 20 varieties in the trial; Data collected on flowering, podding and yield from fertilizer trial at Bulegeni
- Evaluation of promising groundnut varieties: 20 elite groundnut lines at Ikulwe harvested with five promising lines (ICGV-SM 03590, ICGV-SM 01510,ICGV-SM 01502,ICGV-SM 02501,ICGV-SM 01514) identified with the farmers
- Determination of yield of maize under IWM techniques: Tentative results indicate pre-emergence Atrazine followed by 1 hand weeding as cost effective in weed management (yields of 5.3 t /Ha)
- A total of 23 indigenous goats (10 gestating) and 1 Boer breeding buck maintained at Bulegeni for breeding purposes
- Evaluation of promising wheat varieties was conducted. 19 uniform local collections showed no disease at Buginyanya & harvested for seed for 2012B experiments; 90% of the nurseries at Kalengyere showed Septoria severity of 3 in all plots.Low stem rust incidence (6 lines) & high incidence of yellow rust in all experimental plots.
- Nurseries harvested and yield data being compiled for further evaluation. 46 wheat lines at PYT1 showed good plant stature and no rust recorded. 20 lines showed no stem rust although low Septoria was recorded
- Full wheat baseline survey report drafted and being reviewed for publication
- Controlled pests, diseases and weeds in 0.022ha mother garden at Buginyanya stations
BULINDI ZARDI
- Performance trials on 3 priority crops (Cassava, maize and rice) established on station was conducted. Yield data collected from 1 acre of demonstration field of priority crops (Maize, established on station collected for 2012A. Established trials (variety trials, seeding rate and weeding effect) for 2012B 1 acre of rice (0.5 acres of NERICA 1 and 0.5 acres of NERICA 10) and 1 acre of beans foundation seed established on station . Field maintainace in 10 acres of cassava multiplication fields planted on station under EAAPP Project. Established one and half acres of multiplication fields for Upland rice (NERICA 1 (0.4ha), 4 (0.1ha) and NERICA 10 (0.1ha).
- Work on evaluation of high yielding, high quality NERICA and Upland rice varieties for promotion in the MWZ was conducted. Preliminary trials were established for NERICA 1-18. Farmer training and selection of host farmers for upland rice performance trials conducted in Hoima district. 0.3 acres of foundation seed of NERICA 1 and NERICA 10 established on station
- The development and promotion of agroforestry technologies with

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

intensified the utilization of diverse tree species and technologies in farming systems of mid western zone of Uganda. Surveys to select appropriate shrubs and trees for agroforestry development conducted in Masindi. Farmers selected, Farmer training conducted and performance trials for Mangoes and Citrus Oranges in Hoima District established

- A regional apiculture research unit is being institutionalized in the LACZ. Site identification, bush clearing of site and planting of bee forage at the new apiculture research and development site. An assessment of apiculture production constraints and opportunities of Bee Keeper Farmer Groups in Kiryandongo, Buliisa, Hoima and Masindi Districts was conducted.

- Work on ground pest and diseases were conducted. From data collected so far indicates, Tobacco formulation + Serenut 3 groundnut variety combination had the least percentage aphid infestation and severity compared to tephrosia, mexican marigold and red pepper

- Conducted an on farm activity to Integrate Farmer Field School Approach to Promote Integrated Pest Management (IPM) in Kiryandongo district. Four farmer groups identified to incorporate FFS approach to promote IPM

- Maintained the available population of kroilers on-station; Kroiler cocks distributed to 30 farmers in Hoima, Masindi and Kiryandongo districts; 500 eggs of kroilers, 100 eggs of local chicken and 100 eggs of improved local chicken collected for hatching.

KACHWEKANO ZARDI

- About 76 potato clones of NPR1A genes, 120 potato clones of NPR1B and 84 potato clones of PFLP genes were generated

- Efficiency of transformation was higher in Rutuku (19%), followed by Victoria (10%) and Kachpot 1 (7%)

- Developed a methodology of generating inputs and outputs of the different technologies of generating potato seed

- Screening appropriate potato varieties for adaptation to diverse agro ecologies and disease pressure: Data collected on number of leaves, branches, petiole length, leaf length and width, number of flowers, and height to the first leaf-indicated variations among 12clones in the trial. These findings show different potentials for drought resistance among the clones. 2. Yield results also indicated variations among the testing clones.

- Management options for improved productivity of goats: Faecal and blood samples were collected and analysed. Preliminary findings indicate that haemonchus is the most pathogenic Nematode in goats closely followed by Trichostrongylus spp. and Oesophagostomum respectively

- Produced the final study report on profitability of goat breeds and associated management practices in the zone

- Detailed report written on the status of aquaculture in the zone, defined measures and protocols for introducing cold tolerant fish strains addressed and discussed with the commissioner for fisheries (MAAIF)

- Prepared draft manuscript on study experiment to determine optimum Nitrogen fertilizer rate for apple tree establishment in SWHAEZ

- Tolerance level of apple cultivars to white powdery mildew and apple scab: Data collected on responses of apples to white powderly mildew and scab. A survey conducted in the zone found that powdery mildew was the most severe a prevalence of 75-100% rating and severity of 40% compared to apple scab with a prevalence of 60 % and severity of 40%

- Evaluation of candidate fungicides for control of scab and white

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

powdery mildew of apples in Uganda: Study report produced and results published
- Of the 24 sorghum lines introduced from ICRISAT, 8 have shown potential for adaptability and will be evaluated next sorghum season. Of the 6 earlier lines, 3 are candidates for release based on early maturity (180 days) and high yields compared to the local varieties76 potato clones of NPR1A genes, 120 potato clones of NPR1B and 84 potato clones of PFLP genes were generated
MBARARA ZARDI
- Held one multi-stakeholder meeting for key livestock disease control actors in Ntungamo district
- Collected data on major livestock diseases including risk factors, prevalence and incidence patterns in Ntungamo district
- Tools for banana bacterial disease monitoring and surveivllance studies in 10 districts of the SWAEZ have be jointly developed, implementation to start in Mid September 2012
- Evaluation of priority crops in the zone. Preliminary results indicate:

Groundnuts
- Serenut, AGRA Red and Spanish evaluated for disease tolerance and yielding. Serenuts 1R, 3R & 2R were highly tolerant to leaf spot. Serenuts S5R, 4R & 6 varieties were highly tolerant to Rosette and best yielding (1.7-2.2 t/ha).
- All AGRA red lines were resistant to leaf spots and Rosette. Best yielding varieties were SGV 990241, 99064, 99046, 99019 & SIR. Yields range 1.9-2.0t/ha.
- Most Spanish varieties were susceptible to leaf spot (0.8-5.8 incidence) and highly tolerant to rosette (1.4-9.7%). Best yielding varieties were ICGV 99568, 01504, 01502, 99555, & 01504. High yield range 1.2-1.6 t/ha.

Beans
- Beans: NABE, PYT and NARBL varieties were evaluated for fungal disease and yield.
- Kawanda and NABE varieties: K131, NABE 2 & NABE 6 expressed high tolerance to Angular leaf spot. Best yielding vaieties: K131 2.3 t/ha, K132 (2.5t/ha), NABE 14 (2.5t/ha), NABE 2 (2.5t/ha), NABE 15 (2.2t/ha), NABE 3 (2.4 t/ha), NABE 6 & NABE 4 (2.1t/ha).
- NARBL: NARBL 244, 39, 40-3, 50-1 & 53-1 were the most promising in terms of anthracnose and rot root disease tolerance and yielding (1.9, 1.9, 2.1, 2.0 & 2.0 t/ha, respectively.)
- PYT lines: The most high yielding promising varieties were PYT 104, 132, 107, 21, 3, 52 & 64.

Sweet potatoes
Farmer participatory palatability and preference evaluation carried out on the third experiment (2011B):
- Ten high yielding sweet potato varieties were: Ejumula (OP) 2005/5 (21.6 t/ha) , Naspot 7 (20.6 t/ha), Nderera (20.1t/ha), Naspot 8 early (18.8t/ha), Naspot 9 early (17.7t/ha), Naspot 1 early (17.0t/ha), Naspot 10 early (16.4t/ha), NKA 108L (14.7t/ha), Ejumula (13.4t/ha), Jewel (OP) 2005/6 (13.1t/ha)
- The ten famer preferred base on sensory evaluation were: Nderera, Naspot 7 , NKA 108L, Jewel (OP), Tanzania (white) , TZ 1927 (OP) white , Naspot 5(OP)2005/13, Naspot 8, Naspot 5 (OP) 2005/8, Naspot 9
- The 10 best varieties and 4 new orange fresh varieties have been planted on station for multiplication (Naspot 7, 1,2,4,10,11,6,8, Ejumula, , SPK / 2006/1136, SPK- Kakamega, 91/2001/2,

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

SOWOLA/A/op/2, 23/60/31. Planting materials purchased

Trees and Fruits
- Data collected on yield performance of improved mango fruits on-station: total varieties (26) had flowered. Haden(140), SSU (120),Keitt (90)and Glen(80)had the highest flower whorls. All fruit fields were maintained in line with silviculture standards

Soils
- Work on soils and soil fertility was conducted. Samples of fermented animal liquid manure from cattle, goats and pigs were. Analysis to be done next quarter. Documentation of nutrient flow balances in banana production under major nutrient management was conducted. Preliminary studies indicate phosphorus had positive nutrient balance (1.67 kg/ha). There was annual losses of 18.28, 83.02, and 2.55 kg/ha of nitrogen, potassium and magnesium from banana fields in Sheema, Ibanda, and Rubirizi districts; Soils in fields that were under continuous cultivation showed low nutrient levels of nitrogen (0.13 %) and potassium (0.38 cmolc/kg).

Chick pea
- One acre of chickpea multiplication established on-station.
- A conference paper titled, "Minor crops for nutrition security: a case of chickpea in western Uganda" was produced. Results were disseminated to district production and NAADS coordinators and farmer representatives
MUKONO ZARDI
Termites
- Three Trials using selected anti termicidal plants established in Nakasongola
- 6 trials established to test the efficacy of fish baits against termites in Nakasongola & Kayunga districts
- Data Collected on the efficacy of the Fish Baits.
Maize and Beans
- Established 2 on station storage pest control validation trials with maize and beans
Poultry
- A total of 1,000 chicks for feed experiements. Farmers identified and sensitized on management of the experiements in 4 sub-counties of Mpigi and Mubende districts
- over 10 locally utilized feed raw materials identified
- Proximate analysis for over 1o locally utilised raw materials doneData collected is yet to be analysed
Agroforestry
- Implementation sites for agro forestry visited to assess performance.
NGETTA ZARDI
Cassava
- Six adaptive trials of 5 CBSD tolerant cassava varieties (Nase 14, Nase 15, Nase, 16, Nase 18, Nase 19 and 52 TME 14) established on-farm.
Dairy
- 3 experiments set up for evaluation of 6 pasture species for alternative feed resources for livestock during the dry season feeding strategies were established on-station.
Fish
- Stocked nine ponds under 3 different catfish tilapia stocking ratios.
- Stocked twelve happas with Tilapia and catfish fingerlings for local feed evaluation trial.
Forestry, Trees and fruit trees
- 1 permanent sample plot in Amolatar district established.

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

- Shea cuttings from recent growth coppices and seeds collected for on-station propagation trial. Shea nut rootstalks established in the field on-station.
- 4 on-farm citrus and 3 mango fields for farmer participatory evaluation of management options of pests and diseases established
- Experiment for evaluating Citrus canker management strategies maintained on-station.
Sesame
- Incidence and severity of pests and diseases of simsim documented in Dokolo and Lira
- 16 lines of simsim was planted on-station at Ngetta and Kitgum SS
NABUIN ZARDI
- 8 cambrough pigs of as pure/parent stock for technology dissemination and research purposes are maintained on station
- Data collected on chicken production from 100 farmers in Bukedea and Kaberamaido. Analysis is under way.
- 100 Kuroilers purchased and raised on-station for evaluation
- Determined the state of efficacy of anthelmintics in gastrointestinal heminths of goats in Nakapiripirit district. Test revealed development of resistance in albendazole (81%), levamisole (63%) but not ivermectin (96%)
- Maintained 12 goats of Mubende breed on-station for evaluation in the AEZ.
- 4 Pastures have been established in on station evaluation trials for dry matter yield, nutritive value and adaptability. They include Brachiaria species, Desmanthus virgatus, Sweet Lupin, Desmanthus Uncinatum, Cratylia argentea, Lablab Purpureus, Canavalia brasiliensis, Vicia villosa, Desmodium intortus, Burgundy bean in Katakwi and Serere districts.
- 2 Pastures have been established in on station trials for Brachiaria and Gliricidia combinations to evaluate for dry matter yield, nutritive value and adaptability in Kumi and Amuria districts. Data collection to start in next quarter
- Two multiplication and demonstration sites for 15 pasture and fodder species maintained on-station
- 1 weeder and 1 seeder prototype identified, 1 trial established in Ngora and 1 in Kaberamaido district and Planting weeding and data collected and harvesting done. Analysis is underway.
- Analysis of farming systems and livelihoods in Karamoja and Teso sub-regions primary data collection has been completed in Napak, Lorengcora sub- county
- Evaluation of agro forestry trees and shrubs for various uses for adaptation in Teso and Karamoja regions has continued. Maintainence of on-station trials of tree and shrub species done. Tree Germplasm was collected from Moroto, Kotido, Soroti and Kumi for mangoes, Balanites, Acacia species like seyal, nilotica, brevispica, Senegal, neem, markhamia, leucaena, sesbania, faidherbia and raised in nurseries on station.
RWEBITABA ZARDI
Tea
- 11 by 40 mts field layout and preparation for nursery site capable of handling 40000 plantlets done at Rwebitaba Tea Research Centre
- Maintainaence of the tea genebank and tea on station trials of 23 fileds and Fifty two (52) experiments identied and labeled, Fertilizer application done in 10 tea fields, 20 tea fields weeded. Conducted baseline survey on status of tea pests in Kyenjojo District
- 20 soil samples taken from tea field one. GPS Coordinate readings recorded from tea field one. Tea growers trained and advised on soil fertility management
- Evaluation of soil fertility in banana trial

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

- 6 acres prepared for on-station evaluation trials of fruit trees

Dairy cattle
- 1. Five (5) varieties of pasture species (Bricharia Toredo, B. Ruziteriensis, B. Mulato, B. Brizantha and Mulato 2/Hybrid) procured for on-station evaluation 2. Field preparation for evaluation trials on pasture and fodder species 3. Fencing of sites for fodder and pasture evaluation trials and fodder bank

Banana
- Three (3) acres for evaluation site identified and prepared on-station
- Participated in formulation of Multi stakeholder Innovation Platforms (MSIPs) for cassava and banana under NARO-NAADS partnership

Potato
- Acquired potential potato varieties for variety adaptation of potato in the zone from KaZARDI for on-station evaluation

Reasons for Variation in performance

None

Total	**1,454,071**
GoU Development	*0*
Donor Development	*1,454,071*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Annual Planned Outputs:

NAROSEC:
Demand -driven, market -responsive and client oriented research priority setting and process strengthened.

Core national and zonal strategic research programmes implemented.

Improved quality of agricultural research service provision

ICT:

1) NARO wide email system 2.) Proposal for bundled bandwidth to cater for both Secretariat and PARIs
Undertake a feasibility study to assess infrastructural and informational needs of NARO/NAADS and the proposed Joint ICT systems.

Perform Needs Assessment,Assess currently available technologiesDesign architecture for elearning resources,Implement and Train users.

Number of functional partnerships
Quantity of planting material availed
Study report.

PROCUREMENT:

Item	*Spent*
221001 Advertising and Public Relations	64,594
221002 Workshops and Seminars	142,792
221005 Hire of Venue (chairs, projector etc)	31,970
221007 Books, Periodicals and Newspapers	127,416
221008 Computer Supplies and IT Services	81,029
221011 Printing, Stationery, Photocopying and Binding	148,494
224002 General Supply of Goods and Services	224,968

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Consolidated Procurement Plan-NARO-wide
No-objections and clearances to procurement stages by the WB, Accounting Officer, Contracts commitees, evaluation committes, MOFPED, Solicitor General, Prime Ministers Office, MAAIF, PPDA etc
Meetings/Workshops

PRO:
Branding initiative strengthened

Publications & productions strengthened.

DG's office:

Leaders ship and oversight management of agricultural research provided
Partnership and linkages with local, regional and international research bodies developed and strengthened
Good governance and corporate social responsibility ensured and promoted

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NaLIRRI:

Feedback and review meetings conducted involving extension staff of local governments and NGOs
Dissemination of findings in conferences
Information on MNB disseminated to stakeholders.

Relevant and effective technology dissemination approaches established
Documentation of policy framework & field practices of veterinary private service provision & input markets .

NARL :

1Agricultural Research and Extension Network (ARENET) system enhanced, promoted and agricultural information from research disseminated
2.An integrated strategy for linking farmers and research developed with partners

3.At least 100 partners and farmer groups represntatives trained to access information from research by Jun 2013
4.At least 1 Researchers of 20 NARs sensitized and trained on ARENET communication strategies by Mar 2013
5. Partner activites monitored quarterly
Scientic local agricultural publications acquired, managed and disseminated

1.Strengthening of information and communication linkages between research and extension systems.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

NARO research routputs, products and services marketed, promoted and disseminated.

NaCRRI :

Brochures promoting proven disease/pest management technologies
12 Brochures and research papers developed
Pest & disease free planting materials of passion fruit, mango, Avocado andCitrus produced
Disease free seeds of Tomatoes and green vegetables dmultiplication
Knowledge/information materials on cassava technologies produced and distributed
Knowledge/awareness and skills of key stakeholders enhanced

1. Brochures leaflets & flyers for promoting sweet potato technologies produced
Number of promotion channels used after year 2protocals for food based bean baskets developed
TOT conducted for men and women.
PMP report semi-annually and annualy to PI AND HVNSCP
Bean Value chain actors linked to promote various commodities/components in the bean value chain.
Atleast two farmer groups using collective bean marketing approach
Economic and social constraints established, explored and analysed.
Finantial Options to increase Farmers' participation identifed and tested
PMP report semi-annually and annualy to PI AND HVNSCP
A Multi-stakeholder forum meeting held
Demonstrations set up
Community of farmer groups registered and schools involved in seed production
Opinion leader sensitized.

NaFIRRI :

7. Information review and packaging
7. Information packaging and dissemination working sessions
8. Consultative meetings with Departmet of Fisheries Resources , districts , BMUs and other stakeholders
2. Technical report on mapping and database of aquaculture produced and results disseminated
Information packages on the status of weeds, water quality and socio-econmic indices of the Kyoga and Kwania systems
Barazas held with fishers to disemminate and discuss research findings at landing sites
Disemmintion workshop on levels of adoption aquaculture technology in Western and Central Uganda
A stakeholders workshop to disemminate and discuss Lakes George and Edward tchnology adoption and alternative livelihood options survey findings.

NaFORRI :

Dissemination approaches for forestry technologies identified
Adoption levels for different forestry technologies established.

Monitoring and evaluation mechanism with stakeholders developed.
Impacts of forestry technologies on people's livelihood assessed.

ABI:

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Improved cassava varieties and processing technologies disseminated to technology uptake pathways
Proper agronomic and post harvest technologies for maize, sorghum, millet and rice developed, updated, packaged and disseminated to technology uptake pathways
Adequate amounts of quality seed of improved varieties of maize, millet, sorghum and rice availed to participating farming communities
Foundation seed of promising groundnut and beans varieties multiplied and disseminated to Technology uptake pathways
Organic sources of fertilizers adopted and disseminated
Potential soil fertility improvement organic cover crops multiplied on farm
At least 50% of commercial fish farmers in the zone marketing 90% of their aquaculture products
Farmers trained on the use of improved feed resources for feeding their animals; goat disease management technologies

The capacity of cassava farmers, processors and marketers in production, processing and marketing respectively improved
Proper agronomic and post harvest technologies for maize, sorghum, millet and rice developed, updated, packaged and disseminated
Appropriate agronomic technologies that increase groundnut and bean yields developed
Capacity for utilisation and management of Agro forestry technologies developed
Quality catfish and Nile tilapia fingerlings being produced within the Zone.

BugiZARDI:

3.3: 5000 seedlings availed to uptake pathways and capacity of farmers to produce quality arabica coffee seedlings enhanced

4.3: 80 farmers capacity in quality seed potato use enhanced through validation of positive and negative selection technology

Seed potato production & available technologies promoted
7.1: Disease tolerant cassava varities identified and validated for multiplication and availability to Iganga, Kamuli, Palisa, Mayuge, Busia districts
7.2: Farmer preffered quality cassava planting material availed to uptake pathways

High quality groundnuts seed availed to uptake pathways.

BuZARDI:

Increased public awareness and access to knowledge, skills and technologies generated by BuZARDI.

Capacity of staff in planning, managing and conducting research enhanced.

KaZARDI:

Four potato varieties (Nakpot 1&5, Kachpot 1&2) popularised in the zone

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

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Available improved management option for apple production popularised to farmers in uganda
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Available improved management option for apple production popularised to farmers in uganda
Available improved management option for apple production popularised to farmers in uganda
Information on production and management of meat goat packaged into various dissemination material and availed
3 genetic breed levels of meat goat breeds popularized in 4 districts of the zone.

MbaZARDI:

• At least two high yielding, marketable and user preferred crop (bean, maize, cassava, banana and groundnut) varieties suitable the SWAEZs selected and promoted by 2014
• At least one new bio-fortified sweet potato variety suitable for semi-arid conditions selected and disseminated
• At least 1 high yielding, coffee wilt disease resistant varieties selected and disseminated in four districts
At least 2 NERICA rice varieties well-adapted to semi-arid condition in SWAEZ selected and promoted
Assessment of nutrients limiting banana production on at least two soil types documented
Effective and economically viable integrated fruit pest and disease management technologies determined and disseminated in the zone
Market channels for improved fruits established
Agro forestry technologies for production and utilization of fodder adapted and disseminated in the zone by June 2015
2. Generated information disseminated to uptake pathways .

NabuZARDI:

The capacity of trainers of trainers on animal traction technologies built

Adequate amount of quality foundation planting materials/seed
NabuZARDI research promoted and publicized and outreach improved.

NGETTA ZARDI:

Skills of fish farmers in the zone in polyculture management improved.
Farmers' knowledge and skills in improved hatchery management practices for fingerlings enhanced.
Information on aquaculture activities in Lango sub-region generated.
3 labour saving technologies identified and evaluated on farm.
Knowledge and skills of farmers in Lira, Apac,Otuke, Alebtong, Dokolo,

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Kole, Agago and Pader districts in appropriate labour saving technologies and practices enhanced.
Map showing the distribution of Shea nut in Uganda produced.
Information on incidence and severity of simsim pests and diseases in Kitgum, Pader, Gulu and Amuru districts generated.
On-farm citrus and mango fields for farmer participatory evaluation of strategies for managing pests and diseases established in Lango and Acholi subregions.
Fruit farmers in Lira, Oyam, Kole, Gulu Pader and Kitgum aware of mango fruit fly pest and practising control measures.
Farmers in Gulu, Amuru, Kitgum and Pader districts aware of CBSD and its management practices.

RwebiZARDI:

Collaboration between Rwebitaba ZARDI and stakeholders strengthened.

Various planned interim and final Outputs and Location under Other grants

Cumulatie Outputs Achieved by the end of the Quarter:

NARL
***15 Farmers' hands-on capacity in Kitenga village Masaka District built on establishment irrigation plot, operation of irrigation kits, operation and servicing of simple pumps for delivering water from water harvesting reservoirs to the plots.**
NAFIRRI
***Consultative interactions with District Fisheries Officers, BMUs and other and Fishers in the operational areas/study lakes on research observations and their perceptions with respect to water environment quality vis-a- vis fish production and other related fishery issues.**
***Research information packaging retreats to analyze collected data produce information packages for stakeholder use**
***Stakeholder workshops for reporting back to stakeholders, stakeholder-researcher interactions and sharing planning for subsequent research activities**
NAFORRI
***500 multi purpose tree seedlings were distributed to farmers during world environment day in Masaka. While improved forestry technologies were demonstrated at jinja show ground,Ngetta ZaRDI and world food day at MBaZARDI.**
***Forest tree germplasm has been acquired, propagated and maintenance. Germinated and maintained 10,000 seedlongs of E.grandis, 1,000 seedlings of E.tereticornis &, 6,000 seedlings of Measopsis eminiii. Established 2 more trial plots of Measopsis, and Terminalia in Kifu. Maintained 5 trials in Kifu & 3 trial in Kyembogo**
ABI ZARDI
***Meeting held with some members of DARSTs to harmonise on-farm trial activities**
***Community sensitization on cage farming has been done in 4 districts of Adjumani, Moyo , Arua and Nebbi and three suitable sites for cage have also been identified in Adjumani and Moyo meeting the following criteria: water temperature: 25°-26°C, depth of 3-3.8 m, free from floating sudds and close to the shore**
***60 farmers received training (30 from Nebbi and 30 Arua) on INM practices, fertiliser use and management**
***One catfish breeder trained Feed and Feeding management,**
***6 new farmer groups established in Nebbi,Maracha and Koboko where on farm adaptive trials of five varieties of mango(bire, boribo palmer, irwin, tommy atikins and pinero) have been established**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

***A total of 35 farmers from 3 research groups (Yumbe, Arua and Nebbi) were trained on goat diseases mgt**
BUGINYANYA ZARDI
***Availed IPs (Chepkwasta, Cheboi, Kapsoyen, Kubobei, Chemwaisus and Amanang) in Bukwo district with 450 kgs of potting material and assorted nursery equipments**
***Management of 8560 arabica coffee seedlings in nursery at Buginyanya station**
***Held 1 field day held at Bulegeni**
***About 6.7 tons of basic seed potato (Victoria [4.7 t] & Kachpot 1 [2.0 t]) harvested on-station for uptake**
***80 farmers from three farmer groups knowledgeable in seed potato production**
***Ten orchards visited and backstopped**
***Establishment of 1 on-farm variety trial using a farmer field school approach in Mbale District**
***Dairy Farmer Field School initiated in Bugaya sub county –Buyende district**
***A total of 1000 bags of Brachiaria mulato (drought tolerant pasture species for goats) available for uptake pathways**
BULINDI ZARDI
***Training of more than 30 farmer groups and agro processors in agroprocessing and particparry market research regarding cassava, maize rice and paoutry in Kiryandongo, Buliisa,Hoima, Masindi and Kibaale**
***Training of more than 30 farmer groups and agro processors in value addition of cassava, maize rice and paoutry in Kiryandongo, Buliisa,Hoima, Masindi and Kibaale**
KACHWEKANO ZARDI
Apples
***Backstopped and provided information to apple farmers in Kanungu, Rukungiri, Kabale and Kisoro. Some farmer's orchards have been identified as training sites (e.g Matayo's in Rukungiri, Keith's and Mbarara's farms in Kabale). Farmer in Rukungiri was backstopped while establishing a 15 acre apple orchard in Buyanja subcounty.**
Goats
***Conducted dissemination and feedback workshops with 52 goat farmers and 12 livestock exstension staff at Sub County level in Kisoro, Kabale, Kanungu and Rukungiri districts**
Strenthened the capacity of 52 goat farmers' group representatives and 12 extension staff on goat health management, record keeping, group dynamics and formation, marketing of goats and goat products for adoption A paper on the the profitability of local & improved goat breeds was presented in the NARO scientific conference.
RWEBITABA ZARDI
***Training plan and curriculum developed for the farmer research groups/Adaptive Research Teams.**
***14 potential potato seed growers from Kabarole, Kyegegwa and Kyenjojo districts trained in collaboration with Zonal NAADS**

Q1
NACRRI
Beans
- 25 and 3500 kg of foundation distributed to seed companies and farmer groups respectively for certified and famer declared seed production in season 2012B
- 86 farmers in three famers groups trained in seed production
- 2323 Kg of foundation bean seed (NABE 4, 12C, 15, 16 and K 132)

Vote: 142 National Agricultural Research Organisation

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was distributed to farmers in Kabale, Kisoro, Kamwenge, Mpigi, Wakiso, Rakai and Bushenyi
Rice
- Held one field day at Pabbo sub-county. 128 farmers attended (Males – 64 and Females 64) to implement rice value chain upgrading through training
- Trained 58 trainers and 1649 farmers in production of nerica rice.
- 1649kg of rice seed distributed
- Trained 10 rice seed technicians in seed companies
- Trained 30 farmer seed growers
- 10 Sudanese trained , 11 Ethiopian trained, 2 South Sudanese trained
- 20 Ethiopians extensionists trained
- Dissemination of rice technologies to stakeholders: Presentation for MPs in West Nile

NARL
- Three farmer groups from Kamuli, Mukono Iganga and Kasese trained on mango fruit fly management
- 68 Fisherfolk at Bugoigo and Walukuba trained processing methods for small-sized pelagics.
- Conducted 2 training workshops for researchers and extension staff in the use of fertilizer optimizer, at NARL and Tororo DATIC
- 120 TOT trained on in ISFM in Busia and Tororo

NAFORRI
- 3 kg of Grevillea, 2 kg of Calliandra acquired and raised in the Mbale tree nursery

NAFIRRI
- BMUs and other fishers in the main beaches of Berkeley, Pringle, MacDonald, Hannington, Thruston and Fielding bays were involved in Barazas to share information on prevalence of major aquatic weeds and potential control options

ABI ZARDI
- A total of 95 farmers trained from Moyo (22), Nebbi (59) and Zombo (14) districts on INM practices

BUGINYANYA ZARDI
- Availed IPs (Chepkwasta, Cheboi, Kapsoyen, Kubobei, Chemwaisus and Amanang) in Bukwo district with 450 kgs of potting material and assorted nursery equipments
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BULINDI ZARDI
- Training of more than 30 farmer groups and agro processors in

Vote: 142 National Agricultural Research Organisation

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agroprocessing and particparry market research regarding cassava, maize rice and paoutry in Kiryandongo, Buliisa,Hoima, Masindi and Kibaale
- Training of more than 30 farmer groups and agro processors in value addition of cassava, maize rice and paoutry in Kiryandongo, Buliisa,Hoima, Masindi and Kibaale

KACHWEKANO ZARDI
- Data collected from on-farm dissemination sites showing that over 50% of the farmers were promoting the meat goat breeds and were managing the herds well. While some of the groups needed regular technical backstopping
- About 7,420 apple grafted seedlings generated (out of this 6420 sold to groups and individual farmers), and the rest disseminated through the scientific week and to BugiZARDI. 500 pear seedlings raised and 5 of the disseminated. About 3,276 apple rootstocks raised
- Fifty farm sites established each with 1 kg of NERICA rice. Farmers trained in rice seed production and management
- Backstopped and provided information to apple farmers in Kanungu, Rukungiri, Kabale and Kisoro. Some farmer's orchards have been identified as training sites (e.g Matayo's in Rukungiri, Keith's and Mbarar's farms in Kabale)
- One farmer field day was conducted in Kabale district
- Linking research to processors: A meeting was held with Tropical Heat Company which agreed to test potato varieties from Kabale for processing qualities
- Capacity built of 58 FFS participants from three sub counties; Bukimbiri in Kisoro ; Muko and Kamuganguzi in Kabale district, in seed potato quality managment

MBARARA ZARDI
- Established an improved banana plantation to be used as source of clean planting materials for farmers.
- Seedlings (277) for improved mango and citrus were availed (sold) to farmers

MUKONO ZARDI
- Monitored 36 on-farm ITK trials in Mityana, Luwero and Masaka districts.
- 6 on-farm IV trials for Solanum aethopicum (Nakati) set up in Masaka on the best performing agronomic practices.
- A total of 83 stakeholders in indigenous vegetable reviewed, shared on the previous achievements for last season. A total of 10 farmers identified to host experiemental trials for 2012 B. 3 on-station fields set up for seed multiplication.
- Trial were set up in three districts of Kayunga, Luwero Kiboga and on station
- Maize, rice, groundnuts, beans were harvested from 3 districts Multiplication/Provision of improved seed and improved planting materials
- 1 acre of sweetpotato multiplication field was established
- 1 acres of cassava and 0.5 acres of sweetpotato were maintained
- 0.5 acres of maize havested and 1,500 kgs of grain obtained
- At least 9 acres of land prepared for 2012B season planting
- 1 acre of beans multiplication garden planted and ½ acre for sweetpotato and cassava. A total of 4 demonstration fields of cabbage, Amarathnus, spinach and Nakati set up
- 100g of Calliandra sown, 1,000 pots filled, 550 seedlings were pricked out (Calliandra, 1,000 Calliandra seedlings were sold
- 2,170 coffee seedlings/plantlets availed to farmers of Jinja, Mukono

Vote: 142 National Agricultural Research Organisation

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Development Projects

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and Kayunga Districts.
- 402 improved banana suckers were prepared and availed to farmers of Mukono, Buikwe and Kampala Districts
- Harvested 3 sweet potato in Kiboga district
- Harvested 3 maize trials in Kiboga district
- Planted new trials of beans (10kgs) in Kiboga district
- Planted new trials of Maize (Longe 10H. Longe 5 (9kgs) in Kiboga district

NGETTA ZARDI
- CBSD awareness created among 1,274 farmers in Amolatar, Oyam, Pader and Alebtong districts.

RWEBITABA ZARDI
Banana
- Participated in formulation of Multi stakeholder Innovation Platforms (MSIPs) for cassava and banana under NARO-NAADS partnership

Reasons for Variation in performance

NA

Total	**821,263**
GoU Development	*0*
Donor Development	*821,263*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Annual Planned Outputs:

NAROSEC:
Capacities in research planning and management developed
Register & train PARSPs
Sustainable funding developed
Sustainable funding developed
Computerized Financial Information, under "Solomon" accounting Package-Micro-soft Dynamics SL
Periodical Financial Budgets
NARO- "IFMS"
NARO- "IFMS"
Contributions to International Organizations and autonomous bodies
Fulfillment of Banking & reporting obligations
Sections of manual reviewed in line with employment act
Staff capacities and Skills Developed
Organizational objectives achieved and individual tasks accomplished.
Moving in tandem across board in building corporate culture
An appropriate working environment provided to staff.

Number of stakeholders trained
Number of PARSP & Trained
Operational ARTF

ACCOUNTS:

Timely preparation of accounting reports
Timely Financial Budgets
Fully embrace the government business transactional procedures

Item	*Spent*
221003 Staff Training	607,721
221004 Recruitment Expenses	58,341
221006 Commissions and Related Charges	48,618
221009 Welfare and Entertainment	26,012
221012 Small Office Equipment	129,647
221016 IFMS Recurrent Costs	48,618
222001 Telecommunications	32,412
222002 Postage and Courier	48,618
223004 Guard and Security services	81,029
223005 Electricity	129,647
224002 General Supply of Goods and Services	73,739
225001 Consultancy Services- Short-term	220,650
226001 Insurances	113,441
227001 Travel Inland	113,441
227002 Travel Abroad	116,682
227004 Fuel, Lubricants and Oils	145,853
228001 Maintenance - Civil	97,235
228002 Maintenance - Vehicles	202,288
228003 Maintenance Machinery, Equipment and Furniture	66,252
228004 Maintenance Other	97,235

Vote: 142 National Agricultural Research Organisation

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Development Projects

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Better functional performance
Fulfillment of GOU membership obligations
Clearance of Bank dues, Taxes & reports.

Audit fees for World Bank audit repots paid.

HR:
Human Resource Policies and strategies Developed.

NARO Staff Terms and Conditions of Service reviewed
Staff Development and training
Performance management framework established and implemented
Popularize & brand NARO
Office equipment, Machinery and Equipmenfurniture, building and compound maintained.

PROCUREMENT:

Consolidated Procurement Plan-NARO-wide
No-objections and clearances to procurement stages by the WB, Accounting Officer, Contracts commitees, evaluation committes, MOFPED, Solicitor General, Prime Ministers Office, MAAIF, PPDA etc

Internal Procurement Performance Assessment of PARI's report
Tenders for invitation of bids (40) appearing in news papers
Capacity Building Assessment and training plan prepared for NARO
Insitute Procurement Officers and Contracts Committee's in Procurement
Better understanding and application of World Bank Procurement guidelines
Delivery of imports to users
Procurement of General supply Goods & Services.

Procurement of Small office Equipment.

Procurement of IFMS.

Procurement of Guard and Security services
Procurement of Consultancy services- short Term
Procurement of Maintenance services - Civil
Procurement of Maintenance - Vehicles
Procurement of Maintenance - Machinery & Equipment.

Internal Controls reviewed and key risks controlled.

Adherence to laid down regulations and policies.

Mminimized cases of disagreements with auditors and management arising from their reports.

Payroll embracing all NARO staff audited.

Proper accountability of resources and correct recording of Internal audit work conducted professionally at Institutes.

Updated asset register verified as per the physical Items and Cash controls strengthened.

Independence of Internal Auditors strengthened.

Vote: 142 National Agricultural Research Organisation

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Improved accountability.

Internal Auditors Capacity strengthened
Internal Auditors capacity improved.

Governance and corruption issues identified.

PRO:
External relations strengthened

****

NaLIRRI:
A well planned, supervised and co-rdinated system achieved
Office, laboratories, access roads and compound mentained
Capacity building through short term training of staff achieved
Supply of utilities to the Institute achieved
Various coordination activities including attending workshops and meetings executed.

Renovated Staff houses and Institute Guest House

Meetings, reporting, supervision and monitoring and infrastructure & equipment maintained, & staff facilitation

NaRL:

Training needs requirement of different staff categories determined.
Workshop & Seminars.

Medical
Use of goods and services.

4 MC, 4 sub-Committees,1 open day, I science conference 12 NARL Management, 2 staff general meeting hel

Mass-Production of planting materials, agricultural equipments and implements, agricultural research information and analysis of soil samples to generate non tax revenue .

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Development Projects

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NaCRRI:

COREC staff trained in specialised skills/courses
200 key stakeholders trained
200 manuals,
postharvest manual, 500copies and 10,000 copies
Maintain effective management communication system
Tractors functioning.

Constant flow of water supply
Clean compound maintained
Power supply constant
Maintain a robust and effective informantion system
damage from from fire outbreak is contained
Office buildings are well maintained
Road accessiblity maintain wihtin NaCRRI
Transport system maintained effective
Information and documentation done
Well Motivated and effective work force
Staff attended short courses
Maintained constant electricity flow
Maintain good working enviroment with assets safety
Compound kept clean
Information printed of authenticated document

Office activities carried effectively
Road safty regulations and other traffic rules adhered to
Field activities carried according to Workplan
Field activities carried according to Workplan
Effective work attendance.

At least 80 Trainers trained on gender
M & E.
PMP report semi-annually and annualy to PI AND HVNSCP.

NaFIRRI:

Information packaging and dissemination working sessions
GIS capacity strengthened.

Smooth project management through administrative support
Smooth project adnminstrative operations.

NaFORRI:

Quality of research and research output enhanced

Improved work environment performance of staff.

Improved efficiency in movement
Regional and international partnership enhanced.

NaSARRI:

2.1 Human Resource Capacity Development.
3.1 NaSARRI Properly Managed
7.1 12 laptop computors procured
9.1 Various officers facilitated on Inland travel
9.4 98% of Institute's assets verified.

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Abi ZARDI :
Staff capacity for research built and strengthened .

BugiZARDI:

2 farmer groups involved in identification of ITK and goat feeding options validated in Bukwo, Kapchwora, Bulambuli and Mbale districts

10.3: Capacity of the farmers in profitable management of goats in the selected districts enhanced.

KAZARDI:

4 quarterly planning meetings held
Atleast 2 staff participating in various adminstrative meetings/ actvities
Priorites for the SWHAEZ reviewed
Institute on-station technologies popularised to stake holders

2 quarterly monitoring of research & development activities and value for money and audit activities

Institute land resource effectively and suitably utilised
Weather station maintained for generation of climatic data
1 internet connection serviced and mobile internet subscription for 8 modems availed
Office utilities maintained

Vehicles for research and administration activities maintained

4 quarterly monitoring and evaluation of KAZARDI Research& Development activities

4 quarterly technical progress reports and 1 annual report generated and submitted to NAROSEC
4 Training committee meetings held
35 staff members trained in relevant skill enhancing short courses
2 staff on PhD training and 1 undertaking Masters studies
3 Technical staff undertaing refresher course on basic livestock diagnostic skills
Staff welfare maintained and interractions promoted

MbaZARD:

Institute administrative activities efficiently managed.
Commercial Livestock production

Establishment of a commercial banana plantation
Establishment of commercial cassava field
Production of diseases free seedlings of assorted tropical fruits.

MuZARDI:

Fuel for administrative activities ie during power cuts & admin. Movements
At least one laboratory renovated
Purchase of services of at least 1 electronic scientific journals (e.g.

Vote: 142 National Agricultural Research Organisation

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Development Projects

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TEEAL)
At least 4 laptops & 2 desktop computers & 2 UPS purchased
At least 4 book shelves purchased
At least one printer procured
At least 6 window curtains procured & installed
Resource centre reading materials (Assorted)
At least 1 wall clock purchased
At least 2 lockable shelves purchased
At least 1 wooden storage cabinate procured
Extension & renovation of the Zonal resource centre
At least 2 ceiling fans procured.

NaBUZARDI:

Procurement guidelines & review of the existing ones to streghten the system formulated
Research out puts for the institute, policy matters & participation in field days reviewed
Human resource issues managed effectively
Human resource to do research established & maintained .

Reseach out puts & ensure value for money reviewed.

NGETTA ZARDI:

Catfish and tilapia breeding capacity strenghened.
New grow out ponds constructed.
Complete set and accessories for animal traction implements in place for farmer training..
Prototypes for post harvest handling of shea nuts developed.
Ngetta ZARDI ATAAS bank account operational.

Ngetta ZARDI supplied with goods and services.
Professional services procured.
Insurance and licences services procured.

RwebiZARDI:

At least 4 Management committee meetings held at the institute

One stakeholders planning meeting held .

Engineering dept:

Good engineering structures ensured

Efficient service delivery

Enhanced knowledge and better equipped staff
Enhanced knowledge and better equipped staff
Improvement of other works infrastructure

Cumulatie Outputs Achieved by the end of the Quarter:

NARO SECRETARIAT
*** A draft document of the National and Zonal demand articulation and priority setting guidelines has been developed.**

Vote: 142 National Agricultural Research Organisation

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*** In developing research areas for CGS, a tool has been designed to track research gaps and research recommendations from PhD, MSc and End of Project Technical reports.**
*** Zonal research priorities for the western highlands zone.**
*** 1 PARI wide supervision mission conducted**
*** Held 2 meetings to review emerging research issues for CGS.**
*** Conducted a results dissemination workshop for 7 concluded CGS projects.**
*** Profiled research results of 7 completed CGS projects.**
*** Disbursed research funds worth UGX 520 million to ongoing CGS projects.**
*** Monitored activities of CGS Projects implemented**
*** Verified technical reports and tracked all accountabilities for 13 CGS projects**
*** Held one review meeting for the on-going 13 CGS projects.**
*** Published and launched the NARO Book on the contribution of agricultural research to development during the recent NARO Scientific Conference held on 1-3 October 2012**
*** Fixing of bases for the car port a doms Fabrication of trusses completed**
*** Modification of the Guard house**
*** Walk in NARO compound completed**
*** the super structure banana screen house at NARL has been completed**
*** Participated in the conference on Global partnership on cassava**
*** ATAAS Officially Launched - After negotiations between the Government of Uganda and development partners, His Excellency, the President of Uganda, Yoweri Museveni, represented by the Vice President, Hon. Edward Ssekandi.**
*** Governance - New NARO Council - The Minister of Agriculture, Animal Industry and Fisheries, Hon. Tress Bucyanayandi inaugurated the new NARO Council, comprising 16 members.**
*** NARO Scientific conference - Section 7, subsection 2 of the NAR Act 2005 requires the NARO to convene a meeting at least once a year of representatives of agricultural research service providers, farmers, private sector and civil society and other stakeholders for the purpose of discussing issues relevant to agricultural research and setting agricultural research priorities.**
*** KAFACI - International conference on Technology dissemination**
*** Participated in organising the World Food Day at Mbarara ZARDI. NARO is the GOU technical arm in organising the WFD celebrations.**
*** Conducted the EAAPP Midterm Review**
NAFIRRI
*** Trained one Research Assistant in sample processing, data analysis and field report writing;**
NAFORRI
*** Assorted laboratory chemicals and apparatus were procured. They include: PDA (2kg), Cool box (1), coverslips (100 pcs), glass petridishes (120), beakers (24), measuring cylinders (7), volumetric flasks (3), reagent bottles (3) boiling tubes (15), droppers (10), separating funnels (2), pipettes (9), timer (1), pipette filters (2) and a lab cabin (1)**
NARL
*** 4 NARL Management meetings held, 1 MC meeting held**
*** Repaired 6 vehicles, 2 printers, one photocopier, paid fuel account for operations**
BUGINYANYA ZARDI
*** 3 houses (2,7 & 11) renovated) at Ikulwe station**
*** Vehicles UG 0383A, UAJ 529X, UAJ 646X, UAJ 249X, UAA 516F,**

Vote: 142 National Agricultural Research Organisation

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UAA 125Y repaired & maintained
*** Fuel and lubricants procured**
*** 3 brush cutters & 2 generators, 14 computers, 6 printers serviced and repaired.**
*** Estates maintained (trimming and mowing of compound) at Buginyanya, Bulegeni and Ikulwe and procurement of tree seedlings for fencing of institute land**
*** Institute property protected**
*** Provided telephone, Internet and electricity services at Buginyanya, Ikulwe and Bulegeni stations**
*** Financial monthly reports for the 2nd quarter submitted to NAROSEC**
*** Goods procured for research & administration verified at Buginyanya station**
*** Assorted stationary procured for quarter two 2012**
*** 1 scientist trained on data management**
*** 1PhD & 1MSc. Students facilitated and monitored for career development.**
*** Director of Research attended PDF meeting held on 29th October 2012 at Rwebitaba**
*** One staff meeting on provident fund held on 17th October 2012**
*** Breakfast provided to staff for quarter 2**
*** News Papers and stationary supplied to the 3 stations**
*** Wages for general labour provided**
*** Payment of Bank charges**
BULINDI ZARDI
*** 12 computers serviced**
*** 1 Directors' forum meeting held**
*** Security Services procured**
*** Travel inland facilitated**
*** Telephone services procured**
*** Electricity supply services procured**
*** Internet Services & Entertainment procured**
*** Salaries & Wages paid**
*** 3 Participatory monitoring exercise conducted**
*** Repairs and maintenance of Vehicles conducted**
*** Office Consumables and office stationery procured**
*** Travel inland facilitated**
*** 1 Participatory monitoring and evaluation exercise conducted**
*** Fuels and lubricants procured and repairs done on 2 vehicles**
*** Institute compound slashed and cleaned**
*** Induction training conducted for new staff**
*** welfare and entertainment facilitated**
KACHWEKANO ZARDI
*** 15,000m2 of compound slashed and all adminstrative building kept conducive for staff**
*** All institute property secured**
*** 1 adminstrative vehicle and 1 adminstrative generator serviced and fuel and lubricants availed for adminstration of research activities**
*** 3 field vehicles and 1 Laboratory generator serviced and fuel and lubricants availed for adminstration of research activities**
*** 1 UTL internet connection serviced and 4 voice telephone lines maintained**
*** 1 AFSAT & 1 UTL internet connection serviced**
*** assorted welfare items procured to ensure conducive working conditions for staff**
*** 3 water and 3 electricity accounts serviced**
*** Atleast 1 quarterly planning meeting conducted**
*** Atleast 2 staff Participated in administrative and finance meetings and back to office reports prepared**

Vote: 142 National Agricultural Research Organisation

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*** Accessing stationery items, periodicals and newspapers**
*** Audit anf financial reports generated and submitted to NAROSEC**
*** Atleast 1 sub-contracts committee meetings held**
*** 4 office telephone lines maintained**
*** Atleast 1 technical quarterly report generated and submitted to NAROSEC**
*** 2 staff on PhD and 1 staff on MSc enroled at various universities**
*** Anumber of staff welfare items for break fast, office cleaning and toilet effects procured**
*** Computer supplies and IT services provided**
*** 1 bank account operational and maintained**
MUKONO ZARDI
*** Printed 250 calendars**
*** Printed 50pcs Christmas cards**
*** 4 copies of the latest version of 2012 Uganda Journel of Agricultural sciences were sources and stored in Information Resource Centre(IRC) for future reference**
*** Copies of the Science times journal that links sceince to society were sourced and stored in the IRC for reference ny the usere**
*** National news newspapers were procured and stored for reference**
*** The wiki and blog are up and being used by the staff**
*** Full time internet service**
*** maintained the electronic board**
*** Maintained the old intercom system.**
*** A well developed website for the Institute**
*** Repairs done on fault equipment**
*** All specification for the software and the supplier are available**
NABUIN ZARDI
*** Held one management committee meetings to approve plans and budgets and giving guidance to the institute**
*** Director participated in three joint planning, reporting and consultative meetings**
*** Three monthly financial plans and reports submitted to NARO secretariat to facilitate accountability and future flow of funds**
*** Three monthly audit reports submitted to NARO secretariat to facilitate timely decision making**
*** Four audit visits to value for money and deliverance of planned outputs carried out**
Electricity supply to the institute maintained
***Telephone and internet services maintained for ease communication with stakeholders**
*** Four motor vehicles maintained for research and development.**
Held one management committee meetings to approve plans and budgets and giving guidance to the institute
NGETTA ZARDI
*** Construction of the fish hatchery house is on-going.**
RWEBITABA ZARDI
*** Hosted the Minister, MAAIF, Tress Bucyanayandi on follow-up of Rwebitaba ZARDI-Kabarole DLG MoU and hand over progress**
*** Hosted NAADS, Executive Director on NARO-NAADS ATAAS project interface progress**
*** Hosted Two (2) NARO-Secretariat Auditors on ATAAS project performance**
*** Developed and submitted concept note on short and long term training strategy, laboratory and other research needs for tea research and development in Uganda to MAAIF**
*** Organized the PARI Directors' Forum meeting held at Rwebitaba ZARDI**
*** Initiated consultations with water companies on the water quality**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

improvement for human consumption on-station
*** Short listing of applicants for the 11 positions of Technicians and support staff conducted**

Q1
NARO SECRETARIAT
- Financial records and bank reconciliations are up to date
- IFMIS was commissioned in September 2012 at the secretariat
- Departmental meeting held during quarter
- 2011/12 quarter IFR sent to world bank. 2nd Withdrawal Application made.
- Conducted 4 preparatory meetings of the NARO Scientific conference to be held in 1-3 October 2012.
- Conducted 2 M and E missions in the PARIs.
- Updated the NARO website
- Review Harmonizing the Priority Setting guidelines NARO

PUBLIC RELATIONS
- Draft NARO communications strategy developed
- Paid membership and annual subscription to Public Relations Association of Uganda (PRAU)
- Arranged for 10 journalists to visit NaCRRI during the Second Global Cassava Partnership Conference (GCPII) in Kampala
- Arranged two media press briefings at the Uganda Media Centre for the ministry and NARO management
- Five articles prepared for magazine and newspapers
- Prepared and circulated press release on appointment of new Director General to key stakeholders including the media
- Transformed "NARO bulletin" into "NARO e- newsletter". The first issue, July-September 2012, was electronically distributed
- Collaborated & worked closely with Entebbe Municipal Council to celebrate Uganda's 50 year anniversary
- Demonstrated research technologies for farmer adoption& displayed information materials including posters , brochures , banners, and leaflets during the world Food Day
- Initiated procurement process for the corporate wear
- Painted NARO exhibition hall for improved corporate image

HUMAN RESOURCES
- Two positions of PARI Directors, 15 positions of scientists and 3 positions at NAROSEC were advertised; 15 candidates were selected to fill scientific positions; 2 candidates shortlisted to fill 1 position of Directors; 10 candidates shortlisted to fill NAROSEC vacant positions.
- Proposals for 40 candidates were vetted for PhD and 8 for MSc scholarships out of which 31 were selected for PhD and 4 for MSc scholarships.
- The training committee held a meeting to review budgets for recommended students and to review proposal for students
- Long term training plan developed and approved by the World Bank.
- Meeting held to brief students on ATAAS training requirements
- The institution processed and promptly paid staff salaries: 843 staff for July, 845 for August and 845 for September 2012
- Records Management Systems in Abi and NaSAARI surveyed. Status of Records Management Systems ascertained
- A total of 18m was paid to 7 staff who retired/left from NARO.
- A total of 540,706,862 was disbursed to the social security scheme.

PROCUREMENT AND DISPOSAL

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

- Cleaning services
- NARO Book writing Workshop 18th -20th July
- Workshop 16th -18th July
- Outside catering facilities for Interviews for scientific posts
- Advert, expression of interest for Procurement Training consultant
- Advert, expression of interest for ISO Accreditation & certification consultant
- Advert, expression of interest for ISO Accreditation & certification consultant
- Repair and Servicing of Photocopiers
- Repair of UAA 848F
- Provision of conference facilities -Harmonisation of guidelines for priority setting
- Conference facilities for compilation of book NARO at 50 years
- Conference facilities for NARO scientific conference
NAFIRRI
- Trained one Research Assistant in sample processing, data analysis and field report writing;
NACRRI
- Infrastructure rehabilitated
- Three staff recruited under WEMA
NARL
- 4 NARL Management meetings held, 1 MC meeting held
- Repaired 6 vehicles, 2 printers, one photocopier, paid fuel account for operations
BUGINYANYA ZARDI
- One Finance & reports committee meeting held
- One PhD and 1MSc. Student recruited.
- One staff trained in Wheat stem rust notes taking and trial nursery management at Njoro, Kenya
- Vehicles UG0383A, UAJ 529X, UAJ 516F, UAA 125Y repaired
- Fuel and lubricants procured
- 3 brush cutters and 2 generators serviced and repaired. 100Kg double face weighing scale procured
BULINDI ZARDI
- Electricity supply to the institute maintained
- Telephone and internet services maintained for ease communication with stakeholders
- Four motor vehicles maintained for research and development
MBARARA ZARDI
- Four scientists exposed to principles of multi-stakeholder innovation platforms
MUKONO ZARDI
- Management Committee recruited 2 administrative officers and generated a hand-over report
- ICT and other Information services in the institute maintained and well managed.
NABUIN ZARDI
- Held one management committee meetings to approve plans and budgets and giving guidance to the institute
- Director participated in three joint planning, reporting and consultative meetings
- Three monthly financial plans and reports submitted to NARO secretariat to facilitate accountability and future flow of funds
- Three monthly audit reports submitted to NARO secretariat to facilitate timely decision making
- Four audit visits to value for money and deliverance of planned outputs carried out
▪ Electricity supply to the institute maintained
▪ Telephone and internet services maintained for ease communication

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

with stakeholders
- Four motor vehicles maintained for research and developmentHeld one management committee meetings to approve plans and budgets and giving guidance to the institute
NGETTA ZARDI
- Construction of the fish hatchery house is on-going.
RWEBITABA ZARDI
- Applications for positions of technicians and support staff rceived at Rwebitaba ZARDI
- Seven (7) appointed scientists reported for their duties at Rwebitaba/Kyembogo
- Held meeting between Director Rwebitaba ZARDI and Kabarole District Local Government officials and draft MoU discussed

Reasons for Variation in performance

NA

Total	**2,457,479**
GoU Development	*0*
Donor Development	*2,457,479*
NTR	*0*

Output: 01 51 05 Generation of technologies for priority commodities

Annual Planned Outputs:

Released and near release bean varieties produced and maintained, Stress tolerant / resistant bean genotypes identified and incidence & severity of major bean pests & diseases determined
Stress tolerant maize varieties released, released maize varieties purified, pests & diseases yield loss determined
Cassava lines resistant to stress with desirable attributes released, Virus disease maps generated, Early warning systems developed, nutrient-use-efficiencies of elite cassava genotypes determined
Stress tolerant rice varieties released, released rice varieties purified, pests & diseases yield loss determined &performance of new upland and rain fed low land rice lines determined
Coffee varieties with high yields, resistant to stress developed, Information on best agronomic practices generated and availed, Effective soil fertility and water management options for new varieties and non-traditional areas developed
Banana hybrids tolerance stress, high yielding and with consumer acceptable qualities generated and technologies that enhance the banana value chain developed and promoted
Develop technology options for exploitation of renewable energy resources, irrigation schedules established
Develop technology options for water provision and management
Fish diversity, Reproductive Ecology and Improvement of Genetics and Culture Practices of Commercial value fishes
Tse-tse fly and ticks management options, Forage management, Pest and disease management
Tse-tse fly and ticks management options, Forage management, Apiary, Livestock breeding and disease management
Appropriate agronomic technologies that increase bean yields developed
New cassava varieties resistant to CMD and CBSV; with other farmer-preferred attributes developed
New rice varieties availed to farming communities and Farmers trained on recommended agronomic and post-harvesting techniques of rice
High yielding forage cultivars disseminated, Performance of 5 cross breed calves determined, Concentrates for supp. feeding developed

Item	*Spent*
224001 Medical and Agricultural supplies	2,072,038

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Aquaculture pond Productivity improved to at least 2.0 kg/m2 for catfish and to 1.0 kg/m2 of pond area

Appropriate soil & water management interventions developed, Integrated nutrient management (INM) practices adopted by farmers in west Nile

High quality maize varieties validated for production in the mid altitude areas of the SEAEZ

High quality farmer preferred cassava varieties multiplied for uptake pathways in the mid altitude areas of the SEAEZ and Disease tolerant cassava varieties identified and validated

Promising Integrated weed management options in rice validated with farmer groups

Cost effective fungicide spray regimes identified for management of CBD, soil nutrient options that improve Arabica coffee productivity identified and coffee seeds and seedlings availed

Soil and water conservation measures identified and Promoted, partnerships developed and strategies fro adoption of SLM produced and sensitisations held

High yielding and high quality rice varieties and lines for small scale farmers are selected, seed systems developed & disseminated

Technologies for producing fish seed developed & Cage farming experiment studies set up in L. Albert

Impacts of climate change determined, Drought tolerant disseminated & Animal feed species with high carbon sequestration popularised

Limitations of fish breeding in the natural ecosystems & Environmental parameters on fish rearing established

IPM options for beans developed and disseminated

Nutrients limiting banana production on at least two different soil types in Isingiro district documented

Appropriate method for control of FMD and ECF validated & documented and Extent of feed conservation determined & Methods used to conserve feed identified and evaluated

FCR of farm made and commercial pellets of Jorda services and Ugachick on pond & caged determined

At 1 coffee wilt disease tolerant variety disseminated in 4 districts by June 2013

Agro forestry technologies for production and utilization of fodder adapted and disseminated in the zone

Management & sustainable use of NR enhanced & Optimum application rate of Metarhizium anosopliae determined

Highest yielding rice intercropping systems identified and samples analysed MSIP meeting conducted

Effect of graded levels of protein on fish performance evaluated & farmed fish decision support tool developed

Factors relating to adoption and management of small scale irrigation practices established

Livestock management options developed, Technologies for water harvesting/harnessing and storage evaluated

Livestock management options developed

Labour saving animal drawn technologies catalogued and its efficacies established

Technologies for water harvesting/harnessing and storage evaluated

Improved/new varieties of rice adapted

Performance of 4 pasture species compared on-station & High yielding grass and legume pasture species adapted.

Optimum catfish & tilapia stocking ratios established, Performance of fish feeds documented and Feed rations/ regimes developed.

High yielding and quality tea planting materials developed, Tea germplasm preserved and Reaction of clones to tea pests & pests determined, high yielding and tolerant to Xylaria disease selected

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Cumulatie Outputs Achieved by the end of the Quarter:

NACRRI
Maize
*** 1400 F4 lines planted for advancement and selection. 2000 testcrosses planted for evaluation. Seed for 2600 F4 lines prepared for next planting**
*** 20 regional trials planted and under evaluation in 6 locations**
*** 4 on-farm trails planted**
*** 150 inbred lines planted for seed increase.**
*** 4 nurseries planted for formation of new crosses; Diallel nursery planted**
*** Seed for 2 synthetics prepared for planting**
*** 4 OPVS planted in isolation**
*** Planted 26 F2 and selfed to F3**
*** 11 new maize varieties released: Namely: ECAVL1/ECAVL18 -(UH5051); ECAVL2/ECAVL17- (UH5052); ECAVL2/ECAVL18-(UH5053); Longe5-New version – (Longe 5D); FH6150; FH5160; VP5120 – (VP Max); KH500-43A; ZM5652; KH600-15A, and KH600-24A -(WANAK)**

Tea
*** Clones collected from Kanungu for pathogenicity tests**
*** The major diseases found in Kanungu were Armillaria mellea and Xylaria**
*****
cassava
*** Completed analysis of samples collected from F1 CBSD crosses and inbreds,**
*** Collected 90 root samples from the 3 harvested CFTs, 320 samples from CBSD versus Age trials at Namulonge and Kayunga, 135 samples β-carotene trialplanted at 3 locations with 15 genotypes, analysis of the collected samples for storage quality attributes has commenced**
*** New moisture -heat stress trial re-established in screen house with 6 varieties; a total of 9 data sets generated at two weeks interval**
*** Collected three data sets from the drought validation trial in Kasese**
Coffee
*** The 1500 CWD resistant accessions at COREC were maintenance and suckers harvested for cloning. 806 cuttings were weaned and ready for planting**
*** Vegetative propagation of 17 Promising hybrids on-going. 146 clones under hardening shade**
*** Data collection on incidence and severity of CLR, and CBD at kituza and Eastern Uganda respectively**
*** Partial survey for selection of suitable coffee farms for evaluation of effect of shade trees in Eastern Uganda, (Kapchorwa, Manafwa and Sironko districts).**
*** Work CLR races characterization began with Standardization of reaction quantities of all reagents at NaCRRI bioscience lab. samples collected from Mityana, Mubende**
*** Comprehensive national surveys for spread and impact covered Bunyoro sub-region. Manuscript for spread and impact studies submitted for publication in a refereed journal.**
*** Trial for in-vitro pesticides tests for protection of nursery materials against BCTB reset with new entries that include Actara, Golan and Sumithion compared against IMAXI and Dursban.**
*** Confirmatory in-vitro tests of suspected alternate hosts continued in the screen-house with 48 entries consisting of fruit and forest tree species. So far 8 entries have been confirmed as BCTB alternate hosts.**
*** Monthly data collection on community-based participatory**

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

approaches implemented in Mukono and Nakaseke districts comparing phyto-sanitary farms with non-phyto-sanitary ones was done and undergoing analysis.
*** Running cultures of entomo-pathogens B. bassiana and M. anisopliae established in the laboratory at Kituza**
*** Manuscript titled "In-vitro evaluation of systemic fungicides for inhibition of ambrosia fungal growth" reviewed and submitted for publication**
*** Maintainance of 104 entries of the germplasm l.**
*** Identified 6 farmers using non chemical fertilizer management options and 8 farmers using non chemical fertilizer optios for arabica coffee in Mbale district. No farmer was oberved to use non chemical fertilizer management options for robusta coffee in the districts of Nakaseke, Mityana and Mubende and 16 farmers were using intgrated methods of soil fertility management**
*** Initial study of 18 farmer in arabica coffee in the districts of Manafa, Sironko and Kapchorwa indicated that of 14 farmers observed, there were at least 16 non fruit species of shade trees used of which the highest incidence of 64 % was for Cordia africana and those with incidences of 40 to 50 % were Ficus ovata, Albizia coriaria, Ficus mucoso. Other notables were Markhamia lutea. In the study of robusta coffee in the districts of Lwenogo, Masaka, Nakaseke covering 18 farmers there were 6 non fruit shade tree species with Ficus natalensis incidence being 88 % and other notables being Albizia coriria, Albizia chinensis , Measopsisi emnii, and Gravellea robusta**
*** Continued to maintain 279 mother bushes of the 7 CWD varieties in buckets by watering, training, spraying insecticides to control pests and adding manure. Hardened 2742 plantlets of the 7 CWD resistant varieties ready for nursery operators. Hardening of 306 plantlets for planting next season. Nurtured 373 plants in weaning bins. Introduced and nurtured 1090 plantlets in weaning boxes**
*** Callus is being developed in 56 flasks on a shaker (liquid medium) 2268 CWD resistant plantlets were maintained in the nursery ready for nursery operators.**
*** 3479 rooted cuttings were generated from 6937 planted coffee cuttings. 3523 additional cuttings are in cages to be sorted next month (Jan 2013).3111 cuttings of the 7 CWD resistant Robusta varieties were planted at Kawanda (still in humidity cages)**
NAFIRRI
*** A combined trawl and hydro acoustic survey undertaken for the first time on Lake Victoria. The last trawl survey on the Uganda waters of Lake Victoria was conducted in November, 2008. Data processing and analysis has been initiated.**
*** A joint Frame Survey was undertaken on Lake Victoria in August, 2012 by NaFIRRI and DFR. The report of this survey indicated a continued increase in fishing effort on the Lake. Landing sites increased from 503 in 2010 to 555 in 2012. There was a noticeable increase in some indicators of fishing effort including the number of fishers, fishing crafts (55% targeting Nile perch) and fishing gears.**
*** 2000m3 earthen pond prepared for happa fry nursing & broodstock holding**
*** Six ornamental fish species (haplochromines) were selected from lakes Nawampasa and Bisina. 2000 samples were collected for morphometrics, feeding and reproductive biology studies. Data processing and analysis has been initiated.**
*** Draft map outputs produced for the locations of fish breeding/nursery grounds in Lake Victoria.**
*** Information on breeding and nursery grounds and seasons for key commercial fish species on Lakes Edward and George has been**

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

generated. Fishes in the river-mouth habitat showed the highest level of breeding.
*** Three reconnaissance surveys were conducted in the inshore waters of the Ugandan part of Lake Victoria and geo-referenced data was captured for 157 grounds identified as potential fish breeding/nursery grounds.**
*** A complete Catch Assessment Survey of Lake Albert and Albert Nile carried out during the month of July, 2012. Results of the assessment indicated a significant reduction in the large sized fishes (< 20%) and increase in the small sized muziri/ragoogi fisheries (>80%) to the contribution of the commercial catches on Lake Albert.**
*** Information for development and mapping has been generated from 811 fish farms in central region. This is estimated to be about 80% coverage of the region. Following completion of the region, a GIS map and technical report will be produced.**
*** A number of bays on L. Victoria were surveyed for their suitability for cage fish culture. Four bays (Kalyambuze, Nabinoonya, Bwanja and Semondo) were found suitable. Water quality parameters were within the recommended levels for cage fish culture i.e: DO, 5.46-8.07mg/l, Temp. 24.4-28.3oC, pH 6.0-7.5, ammonia less than 0.2mg/liter, water transparency of 105-295cms.**
NARL
Banana
*** 250 planted in early evaluation trial (EET) on station**
*** Planted 17 matooke hybrids in PYT**
*** Collected data on 2 advanced matooke hybrids (M19 and M20) needed for their release**
*** 100 lines of 3 trait transgenes were generated**
*** Inoculated transgenic plants with Xanthomonas and nematodes**
*** 60 lines with nematode and weevil resistance were planted in a Confined field trial.**
*** M9 and FHIA 17 promoted in 30 districts. 8 farmers in each district hosting the demos. Iganga,mayuge,kaliro,Sironko,Butalegya,Jinja, Kasese, Bushenyi, Kabalore, Kanungu, Rukungiri, Ruwelo,Mukono, Mubende, Kiboga, Apac,Nebi and Lira, Masindi and Hoima.**
*** Established BBW 10 village demonstration trials in Ankole's 10 districts with at least 150 severely infected fields in each of in July 2012. We continued to train and mobilising communities to control BBW through the the last quarter. An evaluation of Dec 2012 shows that in 7/10 of the villages, 17-97 fields had been cleared of BBW. The rest of fields were still being cleaned up but removing 1-20 infected plants from each farm from more than 100 infected plants in Aug 2012. These are on-farm activities.**
Dairy cattle
*** Studies are being conducted on new napier clones. Data on 6th and 7th harvests were collected from on-farm trials at NaCRRI. Tiller numbers per stool and plant height of the clones varied significantly atp<0.05. The most tillering variety was Kakamega 1 with average tiller number of (6.9±0.5) followed by Kakamega 2 (5.3±0.6). Kakamega 1 and Kakamega 2 were not affected by the disease.**
*** A Decision support tool for optimizing forage utilization in smallholder dairy production systems was improved and was tested on 10 household farms ---an average increase (20%) in milk yield during the dry season due to availability of high quality feeds.**
*** 16 forage choppers were demonstrated and availed to farmers in Masaka and Ngora districts. This meant a reduction (30%) in of time spent on the processing forage.Wastage of forage was reduced by 30%; Chopping related accidents were considerably reduced; Size of the machine eased its movement**
*** 100 (77 women) farmers trained in utilize technologies for**

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

managing stunt disease
*** Highest (5 ton/ha) vegetable yield was achieved at a rate of 6 ton/ha of cattle manure in a study to assess effect of manure rates on Solanumaethiopicum (Ethiopian eggplant)**
*** Sorghum and Tithonia as alternative feed trials were established in Gulu and Soroti districts. Sixty farmers (50 women) attended preparatory farmer meetings. 20 farmers were selected to participate in on-farm trials**
*** 150 kg of Chlorisgayanaseed procured for seed multiplication to Improved availability of forage seed . 300 sacs of Brachiaria splits given to farmers. 120 farmers trained trained on forage seed production**
*** A survey in Butegaya and Bugembe sub-counties to identify and quantify crop residues and agro-industrial by-products to be used in formulation of Multi-nutrient feed blocks. It was established that maize stover and banana peels were the most utilized crop residues and that Molasses and maize bran were the major agro-industrial by-products. A feedback workshop was held and 20 farmers were selected to test feed rations. Additional farmer meetings were held (71 farmers, 44 women) attended.**
*** Trials were established at NaLIRRI to evaluate productivity of 6 drought tolerant forage species**
ABI ZARDI
Fish
*** Preliminary results for feeding ecology indicates that Alestes baremoze feeds on a great diversity of food items with Ephemeroptera nymph dominating as the most prey item and photo period has an influence on stomach content fullness**
Cassava
*** Eighteen cassava landraces collected and screening trial established in two CBSD & CMD hotspots**
*** 12.5 new acres planted with NASE 14 cassava varietiy**
Maize
*** Yield potential for 3 maize (Longe 4, 5 and MM3) and elite sorghum varieties (E1-E11) were established under 3 different spacing and no nutrient supplement and rain fed conditions**
Beans
*** 25 isolates maintained on Potato Dextrose Agar (PDA) at NARL-Kawanda**
*** Crosses were made between the 3 sources of resistance and K132 and F1 seed harvested**
*** On farm beans trials established in 5 locations**
*** 60 West Nile local Bean germplasm was evaluated on-station for characterization and trial was harvested and data collected**
Cattle
*** Data on forage yield collected in trial sites and 26 samples submitted for chemical analysis**
*** Ingredients of Urea Molasses Multinutrinet Blocks (UMMB) procured**
Maize
*** On station multiplications fields for maize varieties Longe 4 and 5 were harvested;**
Rice
*** On station multiplications fields for rice Nerica 1, 4 and 10**
BUGINYANYA ZARDI
Beans
*** Bush varieties Nabe 3, Nabe 5, K131, Nabe 2 and Nabe 1 yielded 2.7t, 2.52t, 2.4t, 2.3t and 2.3t and 2.1t and 2.0t/ha compared to local varieties Kamwanyi 0.7t and Bulangiti 0.4t respectively**
*** Variety evaluation trial established and at physiological maturity**

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

stage. Varieties Nabe 3, Nabe 5 and K131, and Nabe 2 appear suprerior expected to yield above 1.8t/ha
*** Yield (kg/ha) for varieties K132, K131 and Narbl 39 increased by 371, 295 and 182 respectively for 140kg/ha of DAP added to control yields (kg/ha) of 1622, 1927 and 1697 respectively. 140kg/ha of DAP is the most promising rate 2012 second season trial at grain filling stage. Trend similar to that of last season appears to be followed again**
*** 1 bean variety evaluation and promotion site in the district of Mbale. Crop at grain filling stage. Variety K131 and Nabe 3 look promising**
*** Total of 258kg of foundation seed produced at Bulegeni.**
*** 1 ha of onstation seed multiplication for promising varieties at grain filling stage. 1000kg expected (low due to poor season)**
Maize
*** The on-station maize variety trial is at grain filling stage**
*** Hybrids PAN53, CZH0616, CZH0811, CZH0935, 10SADVEI-F2 are promising when grown under farmers' conditions and practices in Eastern Uganda**
Coffee
*** 2.2 MT of arabica coffee seed available for uptake pathways**
*** 4500 seedlings avaliable for uptake pathways**
*** Low CBD disease and no CLR recorded on station**
*** 1 MSIP on coffee established in Bushiribo sub county Bududa District**
*** Maintenance of the coffee trees**
Cassava
*** Acquired 14 bags of NASE 14 cassava variety from NaCRRI.**
*** 1ha of multiplication garden established at Ikulwe station & at 30 cm height**
*** 62 farmers trained in Kamuli, Iganga & Bugiri**
*** The on-farm IWM trials at Bugiri, Iganga and Kamuli are at grain filling stage**
Feed crops
*** 1000 bags of Brachiaria mulato already for uptake pathways available for**
BULINDI ZARDI
Cassava
*** 8 acres of cassava (NASE 14) multiplication established on station**

Fish
*** Baseline data on aquaculture status of kibaale district; Majority are small scale farmers, and have indicated shortage of inputs as the most important limiting factor to the enterprise**
*** Pond design of the aquaculture site on station developed and approved for implementation**
KACHWEKANO ZARDI
Fish
*** Aquaculture experimental holding facilities located and selected in Kisoro, Kanungu and Kabale. Technical back stopping extended to farmers on rehabilitating the facilities and training regarding best management practices in aquaculture provided**
*** Arrangements and discussions held with farmer-hatchery operators for supplying fry for Mirror carp and African catfish**
*** Travelled to River Sipi in Kapchorwa and arrangements made with the care-takers of Rainbow trout fish for introducing the fish in the zone**
*** Laboratory consumables such as retort stands, burrettes, funnels and clips were procured**
Cattle
*** Maintained improved fodder gardens**

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

*** 1 staff attached to National Animal Disease Diagnostics Centre and skills acquired in basic laboratory practice and molecular biology**
Rice
*** 160 farm fields established each with 1 kg of NERICA 4 rice variety. Farmers were trained in rice seed production and management. Monitoring of performance of NERICA 4 under farmer multiplication was conducted and was performing better than the local variety WHITE which had high incidence of rice blast and poor vigor.**
MUKONO ZARDI
Rice
*** Rice intercropping trials established in the 3 districts in 2nd season 2012. Data collection done on germination percentage, tiller number, plant heights, pest and disease incidence and growth vigour. Germination percentage ranged from 75% to 98 % in the different crops. Major diseases included maize streak virus, groundnut rosette disease, leaf spot and bean rust. Severity increased with disease progress.**
Fish
*** Two (2) feedback meetings on improving productivity, Marketability and profitability of fish farming; involving 80 households were successfully conducted in 2 districts (Masaka-Lwengo) and Mpigi.**
Coffee
*** 1,250 elite coffee seedlings and 1000 clonal coffee plantlets availed to farmers of Masaka, Mukono and Kayunga. 0.25 acre of coffee wilt resistant varieties planted for demonstration.**
Banana
*** Establish a new banana mother garden with 150 tissue culture plantlets**
RWEBITABA ZARDI
Tea
*** 20 tea fields (tea gene bank) maintained on-station.**
Cassava
*** 20 acres of cassava (4271 variety) established and maintained on-station**
Maize
*** Four (4) acres of maize boarder crop maintained (Weeding, fertilizer application and pest management).**
Banana
*** Stocks of 10 banana varieties sourced at NARL, Kawanda. Land preparation (slashing, 1st, 2nd ploughing, harrowing, and digging holes) for establishment of 5 acres of on-station banana multiplication site conducted**
Dairy cattle
*** 15 pasture fodder species including Lab lab, Mucuna-white, Mucuna-spotted, Mucuna black etc procured for album establishment. One (1) pasture album of 15 procured fodder species established on-station. Maintenance (weeding) of established Bricharia species evaluation trial**

Q1
NACRRI
Rice
- Determine level of parasitism of the AfRGM in farmers' fields: Two species of parasitoids were identified and were able to cause mortality of 75% of the AfRGM in farmers' fields. Aprostocetus procerae caused 60% of the total mortality whereas Platygaster diplosisae caused 40%. In all the three sites close to 60% of the insects that emerged were males and 40% females.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs and Cumulative Outputs Achieved by End of Quarter (Quantity and Location)	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

- Thesis on CBSD epidemiology and genetic diversity studies submitted for examination
- Produced NERICA 638 Kg of NERICA foundation seed (NERICA 1 – 210 Kg; NERICA 4 – 157 Kg and NERICA 10 – 271 Kg)
Cassava
- Molecular analysis of parental lines for specificity of CBSD resistance and genotyping of progenies between Namikonga and elite varieties continues at NaCRRI and BECA respectively
- 5 data sets generated from replanted S1 partial inbreds and 2 data sets collected from clonal evaluation trial being evaluated for CBSD & CMD resistance
- Eight data sets generated from each of the CMD2, CMD and CBSD durability CFTs
Horticulture
- Pest and disease epidemiology surveys: Four surveys conducted in 12 districts of Uganda
Bananas
- Collected data on 2 advanced matooke hybrids (M19 and M20) needed for their release; data presented to the Variety release Committee and cleared for pre-release
- 24 matooke lines with antinematode transgenes have been planted in a CFT
- Transformed M9 with BBW resistance pflp genes
- Established BBW demonstration trials in Ankole region
- Data collected on water stress effects on selected culltivars
Sweet potatoes
- Established a new crossing block with 28 parents replicated 25 times.
- Monitored breeding trials at NaCRRI, NaSARRI, Ngetta and KaZARDI.
- Monitored on-farm trials in Buikwe, Kamuli, Kabale, Luweero and Wakiso districts.
- Evaluation of weevil resistant SP clones: Incubation bioassay showed that New Kawogo, ARA228 and LIR 302 had lower C. puncticollis adult emergence compared to NASPOT 1 and Tanzania (susceptible vars).
- Variety transformation: Kyebandula and Bwanjule were successfully regenerated through shoot organogenesis, although regeneration efficiency was very low (at 9% and 11%, respectively).
Beans
- Submitted an application for release of 4 promising climbing bean genotypes to the variety release committee namely: F4:834ML-14/4 (dark red mottled), 2) F4:8 34ML-2/3 (Pinkish), 3) F5:8 90ML-2/1/3a, (Light red mottled) and 4) F6:8 90 ML-5/13 (Red)
- Four new climbing bean genotypes were released
- NABE 12C Lines with incorporated resistance to Pythium root rot: Using MAS, resistant plants were selected carrying all the three target genes and used them for crossing to generate the second backcross hybrid (BC2F1)
- Released 7 new bean varieties (NABE 17- NABE 23)
- Evaluation and release high nutrient-dense bean lines for adaptability in different agro ecologies in Uganda: Genotypes BRB 194; MORE88002, NUA 99, NUA 69, RWR 2154, and RWR 2245 were most resistant to diseases across locations. Diseases ALS, CBB and FLS were the most prevalent and most severe diseases across locations.
- Multiplication trial of the nutrient dense bean lines: Seed obtained ranged from 0.7-3.5 kg per genotypes and genotypes HM21-7, RWR10, RWR 2154, and RWR 2245 yielded the highest yield and genotypes MAC 44. ICYANA, G 59/1-2 and KAB06F2-8-27, yield the least.

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Development Projects

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- Determination of farmers' perceptions, incidence and distribution of bean bruchids in selected districts in Uganda: The study report was finalized
- Baseline survey to characterize technologies, gaps and opportunities for establishing sustainable bean platforms: The report was completed and submitted
- Baseline on NABE 12C production, processing and marketing: A draft report was produced
- Established ten staking option trials/demonstrations for climbing beans in Kabale and Kisoro to provide alternative staking options to farmers.
- Quality standards of beans for regional and export markets were established

Maize QPM (technology dissemination):
- Promotion of QPM technologies using participatory uptake pathways: Conducted baseline survey
- A total of 47 ToTs were trained in disseminating and scaling up QPM technologies and innovations
- Produced a draft communication strategy at the inception work shop; Conducted the baseline in the 3 IPTA Bugiri, Luwero and Masindi

NAFIRRI
- A geo-referenced database of aquaculture sites is being developed. New sites in r Mukono, Kayunga, Luwero, Nakaseke, Buikwe and Kaliro districts have been surveyed. These include 50 fish farms in Mukono, 44 in Luwero, 28 in Nakaseke, 21 in Kaliro, 19 in Kayunga and 18 in Buikwe
- A survey to identify aquaculture production sites in region Western and Central regions was conducted. 3 reservoirs were visited in Isingiro district: Kagango dam was selected as the most suitable for design of aquaculture system.
- 4 reservoirs were visited in Sembabule: Rwamakara was selected for the aquaculture development design.
- Potential sites for cage fish culture at the northern portion of lake Victoria have been identified. These include Kaliyambuze, Nabinoonya, Bwanja, Semondo . Water quality parameters were within the recommended levels for cage fish culture i.e: DO, 5.46-8.07mg/l, Temp. 24.4-28.3oC, pH 6.0-7.5, ammonia less than 0.2mg/liter, water tranparency of 105-295cms, minimum water flow rate of 10 meters / second, water depth above 4 meters
- 3 ornamental fish species from Lake kyoga system selected, namely: Zebra, Red tail, and Flame back. Live samples of 3 selected ornamental fish species collected and reared for culture trials.
- A draft technical report on prevalence of aquatic weeds, heavy metal pollution hotspots, water quality and socio-economic indices of fisherfolk is being finalised
- The status of water quality in Lake Kyoga has been established. The water quality indicated the following physicochemical conditions; dissolved oxygen ranged between 4.7 – 9.2mg/L; pH, 6.3 - 10.6, conductivity, 120 – 540uScm-1; water temperature , 25.8 – 27.1; turbidity, 0 – 1152.7 FTU; redox, 625.6 – 918.4mV and salinity, 0.06 – 0.26ppt.
- Status of the selected heavy metal pollutants (Lead, Zinc, Copper, Iron, Manganese and Nickel) in the sediment and bottom water were established and compared with natural background level. Cu and Fe was observed to be high in the water column. Cu, Zn and Ni were high in sediments.

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

NARL
Water provision and management
- Three (3) water storage tanks (Lined with HDPE) Constructed in Masaka District for vegetable production
- Finalizing fabrication of a pond aerator prototype (diffuser type)
Exploitation of renewable energy resources
- 1 model of biogas cooking stove appliances developed; on-station evaluation completed and farmer selection done in Jinja and Iganga districts
- 1 Open-sun drying technology for local rice varieties developed and established on-farm and farmer selection done in Hoima district
- 1 model stove prototype for utilisation of rice husks fabricated and being tested on-station; Farmers for on-farm evaluation selected
- 1 Fireless cooker prototype under fabrication. Farmers for on-farm testing selected in Masaka and Hoima districts
Implements for diversifying use of work animals and single axle tractors
- 1 prototype of efficient animal-drawn planter for selected small and large grain seeded crops developed
- On-farm evaluation is in progress of a prototype of stainless steel hopper and cutting surfaces for grating and chipping cassava
IPM Options
- Determination of parasitism rate of stem borer species and level of damage on maize: Cultures of Buseola fusca stem borer species (on maize) established in the screen house to rear egg parasitoids of stem borers for field releases
- Determination of prevalence of Wolbachia bacteria in white fly (Bemisia tabaci) populations: The 16S rDNA gene of Wolbachia amplified to confirm its presence showed an approximate band size of 394bp and revealing an overall infection frequency of 77.5%. The genetic identity of field collected B. tabaci populationfrom Nakasongola district determined by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) of the mitochondrial cytochrome oxidase I (mtCOI) gene using Taq1 restriction enzyme showed the restriction pattern not typical of what has previously been observed and reported using this same method, suggesting the possibility of a new and/or an unidentified biotype of B. tabaci
- Survey on abundance of cassava pests on cassava varieties: Out of 11 cassava varieties screened in the field at NaCRRI, high white fly population densities were recorded on /0057, TME204, NASE12 (over 27 adult white flies/leaf) and the lowest white fly population densities were recorded on MM97/2961, BAM.NKA and I92/0067). Cassava green mite population trend was similar to white flies on cassava varieties
- Evaluation of efficiency of arboreal termite sp in controlling subterranean termites: A total of 5 damaging subterranean termite species were identified in rangeland habitats prior to introduction of arboreal termites; macrocerotermes spp was the most abundant termite species. Species richness of damaging termites was higher in bare ground than in dense vegetation cover. Recoveries made after one month of release of Kamwenge arboreal termites introduced to control subterranean termites in rangelands in Nakasongola district
- Novel IPM strategies for control of mango fruit flies: Fruit fly species varied with seasons and diversity of fruit fly species varies with abundance of hosts; Bactrocera invadens and Ceratitis anona were recovered in low numbers in monitoring studies conducted in Southwestern Grass Farmlands (Kalungu, Rakai, Kiruhura and Mbarara districts) and South western Highlands (Kabale district) during the off season mango fruiting

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Development Projects

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- Eight mango varieties studied for host suitability in terms of fruit fly responses (sex, survival and body size) showed exotic varieties were more suitable than the local varieties. Five additional wild hosts of B. invadens identified and confirmed. Actual and potential distribution of Dacus spp and Ceratitis spp mapped through modelling. B. invadens from 3 Agro ecological zones (Northern Moist Farmlands, Lake Victoria Crescent and Western Mid High Altitude) have been digitized. Species diversity analysis showed high diversity from the Mid High Altitude

- Factors influencing mango fruit fly infestation were established: Mango fruit maturity stage, peel thickness and fruit firmness were found to have the highest contribution to fruit fly infestation among the various factors such as vitamin C and fibre content, fruit size and peel colour that were analysed (MSc. Thesis)

- Validation of management options for control of mango fruit flies: A combination of BAT, MAT and orchard sanitation recorded lower fruit fly counts and 40% improvement due to low trap catches in Masindi and 60% in Luwero district

- Information packages on fruit fly management: 1200 brochures produced on the ecology of mango fruit flies and distributed to stakeholders. Posters produced and shared with stakeholders

- Management of bean root rot and Phytophthora damping off seedling diseases: Identification of pythium root rot strains- A total of 800 diseased plant samples collected from 9 districts in Midwestern, Central Uganda and Mount Elgon region awaiting isolation characterization. 26 have been cultured and Trichoderma isolates recovered from 81% of the cultures made

Novel value-added

- Products from Agricultural produce and Fisheries: Levels of PAH assessed in farmed Clarias: Chromatographic analyses showed presence of PAH in clarius fish obtained in Kampala markets. Profiles and levels of PAH when mango was used to smoke clarius fish have been documented

- Small-sized pelagic based products: Macro-nutrients and selected micro-nutrients determined. Fatty acid profile of fresh pelagics determined

- Tamarind product development: 4 prototypes sensorial evaluated, Tannins of young fruit determined. Yeast and moulds isolated and quantified. Pulper tested

- Assessment of market viability of glucose and fructose syrup products: 5 litres of caramelized and 10 litres of non-caramelised glucose ready for trials in industry.

Soil & Water management:

- Economic viability of soil fertility & soil-water management package: Data on banana and pineapple production costs, emerging yield and expected income collected

- Sustainable Land Management (SLM): On-station trials planted at Mubuku Prison Farm - Kasese and Nakasongola Prison Farm in Nakasongola districts, respectively. On-farm trials planted in the 2 districts

- Climate change: Innovators in the energy sector mapped. Evaluated climate related vulnerability over Uganda and crop suitability. Characterized livelihood profiles and agricultural decision systems of smallholder farmers.

- Increased awareness of fertilizer use: Established 80 on-farm demonstrations in eastern and northern Uganda

- A manual on pineapple production and Processing compiled for production

- Agricultural publications and information management: 100 new titles collected from Kachwekano ZARDI, Mbarara ZARDI, Bulindi

Vote: 142 National Agricultural Research Organisation

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Development Projects

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ZARDI, NALIRRI, NASARRI. A total of 100 documents were digitized and entered into a database. Information service delivered through QAS. Ninety requests for information received and their answers processed.
Post-harvest:
- Produced a draft leaflet on post-harvest handling of maize. Manuscript on effect of splitting cowpea & pigeon pea in place. Held feedback workshops on market needs and opportunities of mango and pineapple in Kasese and kyenjojo respectively. Workshop reports were produced.
Value-chain:
- Cassava value chain analysis tools circulated within the East african region. Flagship products identified (high cassava quality chips, flour, starch & glucose). Key opportunities for these include: existing growing markets for chips, flour, glucose, and starch; Potential markets (for modified starch, biodegradable packaging materials). Key constraints include: poor quality cassava chips & flour, milk and milk products; disorganised markets and poor market information systems; limited technological options; and limited product-base & scope of utilisation identified.

NASARRI
Cotton
- One hundred seventeen cotton accessions planted on-station for phenotypic evaluation. Data collection still in progress.
- 139 BC2 crosses have been successfully made between long staple donor parents and are being advanced to BC3. F1 crosses made between the three parents (brown lint, branchless cotton and okra leaf type) and long staple cotton have been planted for advancement to F2 populations.
- Thirty-two elite cotton lines with GOT>40% and fibre length of >30 mm planted in five sites of Kuju, Pallisa, NaCRRI, Ngetta and NaSARRI for multi-location testing
- Thirty (30) genotypes under test and which were planted under Advanced Yield Trials (AYT) in four TVCs of Arapai, Kuju, Kaberamaido and Ngetta in May 2012 have been harvested. Appropriate data were taken from them and are being organized for analyses.
Sesame
- A trial to evaluate intercrops and intercrop patterns for the control of Cercospora Cylindrosporium leafspots in sesame was established and managed on station.
- Soil fertility improvement options for increased sesame are being developed. Trials for evaluating inorganic & organic fertilizers have been planted trial at 3 sites.
Millets
- 45 finger millet lines resistant to blast have been identified; 13 lines with tolerance to drought identified; 3 Msc students attached to the programme have finished their Msc dissertation and ready to defend their work.
- Selected 40 advanced lines;
- 3 Selected 5 lines for further analysis
- 4 F1 generation planted. 230 F2 progenies planted
- Six legume species planted on-station for seed increase
- 10 promising pearl millet lines identified
Sorghum
- 35 BC3 drought and striga resistant sorghum lines introduced from ARC- Sudan were characterized for the frist season at NaSARRI. 6 lines showed superior agronomic performace
- 10 promising NaSARRI selections and 6 BC3 drought and striga

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Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

resistant sorghum lines were planted in 3 location for evaluation.
- 20 BC1F1 crosses genarated, 25 BC5 lines were advanced to BC6 generation
- 3 integrated striga management training manuals developed.
- 14 demonstrations plots of Striga resistant sorghum varieties established in Kumi and Katakwi districts.
- 4 promising sorghum lines that showed tolerance to smuts were identified from the 15 NaSARRI selections.
- 40 drought and striga resistant sorghum lines were screened for resistance to shootfly and stemborers. 19 of the lines showed resistance to shoot fly and 5 showed resistance to stem bores.
- 15 lines of sweet sorghum were submitted to Makerere for analysis for bio- fuel production .
- 3 sweet sorghum accessions identified to be promising at NaSARRI.
- 16 sweet sorghum lines were screened at NaSARRI for resistance to major insect pest and diseases . 10 out of the 16 showed low pest and disease reactions.
- Two Support staff trained on crossing sorghum and screening segregating populations.
- 40 forage sorghum accessions introduced from INTSORMIL and 4 local accessions were characterized from NaSARRI for adaptation. 8 of the lines showed superior agronomic performances.
- 16 elite forage sorghum lines were planted for evaluation in 3 different locations
- 44 forage sorghum accesssions were screened for resistance to major insect pest at NaSARRI. 33 of the accessions showed resistance to shootfly, and 9 showed resistance to stem bores.
- 24 BC3 forage sorghum lines were advanced to BC4 and 13 BC2 davanced to BC3
- 2 training manuals for the use of forage sorghum for livestock feeding developed
- 10 demostrations of forage sorghum established in two subcounties (Gweri and Arapai) Soroti District and 6 more demonstrations were planted in Katakwi District.
- Draft guidelines for groundnuts completed
- Draft guidelines for cowpea and sorghum developed
- Demonstrations were put up at the CIC and on station

ABI ZARDI
- Evaluation trial for the bitter local; IITA mosaic tolerant varieties maintained
- Cassava multiplication blocks maintained on-station with improved varieties; TME14, 2961, and MM96/4271
- The six newly released varieties were obtained from NaCRRI and planted for on-station multiplication
- About 25 acres of land planted with cassava Variety NASE 14 on-station
- Cassava breeding block was weeded and fertilized
- Groundnuts, bush beans and climbing beans trials have been established
- An IPM package for management of bean fly produced
- Needs assessment conducted on farmer dairy production practices and common feedstuffs used in the districts of Adjumani, Moyo, Yumbe, Maracha, Nebbi and Zombo
- Data on milk yields collected for 3 animals at different stages of lactation
- Cover crops for soil improvement have been harvested. 10 kg of Mucuna, 5 kg of Lablab, 4 kg of Glycine and 3 kg of Centrocema

Vote: 142 National Agricultural Research Organisation

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BUGINYANYA ZARDI
- One experiment on quantification of soil and nutrients loss conducted in Kween; 407 run off samples collected and analysed at Kawanda; report writing is in progress
- Treatments of available fungicides on the market applied on experimental plots; Biofungicide, Copper Nordox and Kocide treatments yielded highest in round 1 of harvest (4 Kg of cherry in a plot of 7.2Mx7.2M)
- Evaluation of improved beans varieties: -Data collected on agronomic aspects & yield of the 20 varieties in the trial; Data collected on flowering, podding and yield from fertilizer trial at Bulegeni
- Determination of yield of maize under IWM techniques: Tentative results indicate pre-emergence Atrazine followed by 1 hand weeding as cost effective in weed management (yields of 5.3 t /Ha)
- A total of 23 indigenous goats (10 gestating) and 1 Boer breeding buck maintained at Bulegeni for breeding purposes

BULINDI ZARDI
- Performance trials on 3 priority crops (Cassava, maize and rice) established on station was conducted. Yield data collected from 1 acre of demonstration field of priority crops (Maize, established on station collected for 2012A. Established trials (variety trials, seeding rate and weeding effect) for 2012B 1 acre of rice (0.5 acres of NERICA 1 and 0.5 acres of NERICA 10) and 1 acre of beans foundation seed established on station . Field maintainace in 10 acres of cassava multiplication fields planted on station under EAAPP Project. Established one and half acres of multiplication fields for Upland rice (NERICA 1 (0.4ha), 4 (0.1ha) and NERICA 10 (0.1ha).
- Work on evaluation of high yielding, high quality NERICA and Upland rice varieties for promotion in the MWZ was conducted. Preliminary trials were established for NERICA 1-18. Farmer training and selection of host farmers for upland rice performance trials conducted in Hoima district. 0.3 acres of foundation seed of NERICA 1 and NERICA 10 established on station
- The development and promotion of agroforestry technologies with intensified the utilization of diverse tree species and technologies in farming systems of mid western zone of Uganda. Surveys to select appropriate shrubs and trees for agroforestry development conducted in Masindi. Farmers selected, Farmer training conducted and performance trials for Mangoes and Citrus Oranges in Hoima District established
- Conducted an on farm activity to Integrate Farmer Field School Approach to Promote Integrated Pest Management (IPM) in Kiryandongo district. Four farmer groups identified to incorporate FFS approach to promote IPM

KACHWEKANO ZARDI
- About 76 potato clones of NPR1A genes, 120 potato clones of NPR1B and 84 potato clones of PFLP genes were generated
- Efficiency of transformation was higher in Rutuku (19%), followed by Victoria (10%) and Kachpot 1 (7%)
- Developed a methodology of generating inputs and outputs of the different technologies of generating potato seed
- Screening appropriate potato varieties for adaptation to diverse agro ecologies and disease pressure: Data collected on number of leaves, branches, petiole length, leaf length and width, number of flowers, and height to the first leaf-indicated variations among 12clones in the trial. These findings show different potentials for

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

drought resistance among the clones. 2. Yield results also indicated variations among the testing clones.
- Management options for improved productivity of goats: Faecal and blood samples were collected and analysed. Preliminary findings indicate that haemonchus is the most pathogenic Nematode in goats closely followed by Trichostrongylus spp. and Oesophagostomum respectively
- Produced the final study report on profitability of goat breeds and associated management practices in the zone
- Detailed report written on the status of aquaculture in the zone, defined measures and protocols for introducing cold tolerant fish strains addressed and discussed with the commissioner for fisheries (MAAIF)

MBARARA ZARDI
- Held one multi-stakeholder meeting for key livestock disease control actors in Ntungamo district
- Collected data on major livestock diseases including risk factors, prevalence and incidence patterns in Ntungamo district
- Tools for banana bacterial disease monitoring and surveivllance studies in 10 districts of the SWAEZ have be jointly developed, implementation to start in Mid September 2012
- Evaluation of priority crops in the zone. Preliminary results indicate:

Beans
- Beans: NABE, PYT and NARBL varieties were evaluated for fungal disease and yield.
- Kawanda and NABE varieties: K131, NABE 2 & NABE 6 expressed high tolerance to Angular leaf spot. Best yielding vaieties: K131 2.3 t/ha, K132 (2.5t/ha), NABE 14 (2.5t/ha), NABE 2 (2.5t/ha), NABE 15 (2.2t/ha), NABE 3 (2.4 t/ha), NABE 6 & NABE 4 (2.1t/ha).
- NARBL: NARBL 244, 39, 40-3, 50-1 & 53-1 were the most promising in terms of anthracnose and rot root disease tolerance and yielding (1.9, 1.9, 2.1, 2.0 & 2.0 t/ha, respectively.)
- PYT lines: The most high yielding promising varieties were PYT 104, 132, 107, 21, 3, 52 & 64.

Soils
- Work on soils and soil fertility was conducted. Samples of fermented animal liquid manure from cattle, goats and pigs were. Analysis to be done next quarter. Documentation of nutrient flow balances in banana production under major nutrient management was conducted. Preliminary studies indicate phosphorus had positive nutrient balance (1.67 kg/ha). There was annual losses of 18.28, 83.02, and 2.55 kg/ha of nitrogen, potassium and magnesium from banana fields in Sheema, Ibanda, and Rubirizi districts; Soils in fields that were under continuous cultivation showed low nutrient levels of nitrogen (0.13 %) and potassium (0.38 cmolc/kg).

NGETTA ZARDI
Cassava
- Six adaptive trials of 5 CBSD tolerant cassava varieties (Nase 14, Nase 15, Nase, 16, Nase 18, Nase 19 and 52 TME 14) established on-farm.
Dairy
- 3 experiments set up for evaluation of 6 pasture species for alternative feed resources for livestock during the dry season feeding strategies were established on-station.
Fish

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

- Stocked nine ponds under 3 different catfish tilapia stocking ratios.
- Stocked twelve happas with Tilapia and catfish fingerlings for local feed evaluation trial.
- 4 on-farm citrus and 3 mango fields for farmer participatory evaluation of management options of pests and diseases established
- Experiment for evaluating Citrus canker management strategies maintained on-station.

NABUIN ZARDI
- 4 Pastures have been established in on station evaluation trials for dry matter yield, nutritive value and adaptability. They include Brachiaria species, Desmanthus virgatus, Sweet Lupin, Desmanthus Uncinatum, Cratylia argentea, Lablab Purpureus, Canavalia brasiliensis, Vicia villosa, Desmodium intortus, Burgundy bean in Katakwi and Serere districts.
- 2 Pastures have been established in on station trials for Brachiaria and Gliricidia combinations to evaluate for dry matter yield, nutritive value and adaptability in Kumi and Amuria districts. Data collection to start in next quarter
- Two multiplication and demonstration sites for 15 pasture and fodder species maintained on-station

RWEBITABA ZARDI
Tea
- 11 by 40 mts field layout and preparation for nursery site capable of handling 40000 plantlets done at Rwebitaba Tea Research Centre
- Maintainaence of the tea genebank and tea on station trials of 23 fileds and Fifty two (52) experiments identied and labeled, Fertilizer application done in 10 tea fields, 20 tea fields weeded. Conducted baseline survey on status of tea pests in Kyenjojo District
- 20 soil samples taken from tea field one. GPS Coordinate readings recorded from tea field one. Tea growers trained and advised on soil fertility management
- 6 acres prepared for on-station evaluation trials of fruit trees

Dairy cattle
- 1. Five (5) varieties of pasture species (Bricharia Toredo, B. Ruziteriensis, B. Mulato, B. Brizantha and Mulato 2/Hybrid) procured for on-station evaluation 2. Field preparation for evaluation trials on pasture and fodder species 3. Fencing of sites for fodder and pasture evaluation trials and fodder bank

Banana
- Three (3) acres for evaluation site identified and prepared on-station
- Participated in formulation of Multi stakeholder Innovation Platforms (MSIPs) for cassava and banana under NARO-NAADS partnership
- Evaluation of soil fertility in banana trial

Reasons for Variation in performance

NA

Total	**2,072,038**
GoU Development	*0*
Donor Development	*2,072,038*
NTR	*0*

Vote: 142 National Agricultural Research Organisation

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	GRAND TOTAL	**30,086,781**
	Wage Recurrent	*7,718,259*
	Non Wage Recurrent	*3,649,987*
	GoU Development	*3,790,777*
	Donor Development	*14,153,201*
	NTR	*774,556*

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

Outputs Funded

Output: 01 5151 Payments to International Organisations (CGIAR, ASARECA, WARDA)

Outputs Planned in Quarter:

3months Subscriptions to international organisations

Actual Outputs Achieved in Quarter:

None

Reasons for Variation in performance

None

Item	*Spent*
262101 Contributions to International Organisations (Current)	162,500
264101 Contributions to Autonomous Inst.	1,250
Total	**163,750**
Wage Recurrent	*0*
Non Wage Recurrent	*163,750*
NTR	*0*

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

1. CGS review held
2. 1 supervision mission held
3. 1 Progress report.

-Water utility bills paid;
-Electricity utility bills paid;
- Telephone bills paid.

QTR 2 planning and Review meeting held`

Conduct monitoring and evaluation of research.

ACCOUNTS:

Payments processed, Financial obligations fulfilled
Payments processed, Financial obligations fulfilled
Payments processed, Financial obligations fulfilled

Actual Outputs Achieved in Quarter:

- 1 M and E missions was conducted in the Abi ZARDI.
- Organised the NARO Scientific conference.
- Organised KAFACI international workshop.

Reasons for Variation in performance

None

Item	*Spent*
211103 Allowances	3,376
221011 Printing, Stationery, Photocopying and Binding	9,279
222001 Telecommunications	9,435
223006 Water	575
224002 General Supply of Goods and Services	68,576
227004 Fuel, Lubricants and Oils	12,758
Total	**104,000**
Wage Recurrent	*0*
Non Wage Recurrent	*104,000*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

Outputs Planned in Quarter:

Good governance and corporate social responsibility ensured and promoted.

NARO's contribution towards national Agricultural Research .
Networking, Partnership and collaboration stakeholders meetings held;

Stakeholders sensitisation workshops/meetings of conducted;

Quarter 2 outputs as under:

NARO-NAADS Joint workshops and meetings conducted;

3.Joint stakeholder Planning/Review/Feedback/ workshops and meetings held;
4.membership to local Associations made and update
5.Networking, Partnership and collaboration stakeholders meetings held;
6.stakeholders sensitisation workshops/meetings of conducted;
7.Participate in open days/Farmer field schools/exhibitions/trade fairs/Agricultural show/Field days;
8.Extension and promotional materials developed and disseminated

Actual Outputs Achieved in Quarter:

- Organised the World food day celebrations in Mbarara ZARDI.

Reasons for Variation in performance

None

Item	*Spent*
221002 Workshops and Seminars	7,197
221008 Computer Supplies and IT Services	1,250
227001 Travel Inland	20,000

Total	**28,447**
Wage Recurrent	*0*
Non Wage Recurrent	*28,447*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Outputs Planned in Quarter:

Research implementation at institutes guided
Well motivated staff retained in the organization
Improvement in performance management and recruitment skills.

Staff positions filled.

Organizational objectives achieved and individual tasks accomplished.
Staff motivated
A safe environment provided for NARO assets

Proper procurement documents prepared and efficient supervision of works.
1) Computerised Financial Information, under "Solomon" accounting Package-Micro-soft Dynamics SL
2) Periodical Financial Budgets
3) NARO- "IFMS"
4) Capacity Development
Annual financial audit

5) Fulfilment of Banking obligations.

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	5,026,286
212201 Social Security Contributions	719,854
213001 Medical Expenses(To Employees)	25,000
213004 Gratuity Payments	103,892
221003 Staff Training	4,225
221004 Recruitment Expenses	6,250
221016 IFMS Recurrent Costs	12,750
223004 Guard and Security services	2,700
224002 General Supply of Goods and Services	136
228002 Maintenance - Vehicles	12,266

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

One component of internal control reviewed.

Adherence to laid down regulations and policies.

Accountability & books of accounts reviewed
Internal audit work at institutes reviewed.

Losses/fraud investigated as and when it arose.

All Assets physically verified and updated Asset register verified.

Internal Auditors Capacity strengthened.

ICT:

15% staff trained in ICDL.

Actual Outputs Achieved in Quarter:

Staff salaries paid for the months October-December 2012.
- New NARO council induction conduted;
- More staff on longtime training
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- 2 Vehicles serviced; Office buildings maintained; Compound maintained;
- Maintain effective ICT facilities and Subscription for internet paid;
- Acquisition of books, agric. Information magazines and newspapers;
- Security maintained
- Break tea and Refreshments provided

Reasons for Variation in performance

None

Total	**5,913,358**
Wage Recurrent	*5,026,286*
Non Wage Recurrent	*886,937*
NTR	*136*

Programme 07 National Crops Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

Electricity supplied to all NaCRRI units
Electricity and water system repaired
4 Trial sites visted
925 litres of fuel purchased

4 Computers 1 incubator,2 Mowers are repaired
180 assortment of statinery items purchased

1 Staff attending Finance Workshop
1 Staff attending Procurement seminar

5 compounds & 5 roads slashed

Item	*Spent*
211103 Allowances	3,000
221002 Workshops and Seminars	2,538
221011 Printing, Stationery, Photocopying and Binding	11,505
222001 Telecommunications	1,800
223005 Electricity	15,750
227004 Fuel, Lubricants and Oils	22,600

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 07 National Crops Research

8 arrows,4 bows,and assortmentd of Torches wistles purchased
Contracted labour Paid

Actual Outputs Achieved in Quarter:

- Maintainence of fences for field trial plots, Including weeding, application of herbicides and fertilisers);
- Maintainence of multiplication sites for breeder seed and improved planting materials.(weeding, pruning and application of herbicides)

Reasons for Variation in performance

Inadquate and late release of funds.

Total	**57,193**
Wage Recurrent	*0*
Non Wage Recurrent	*57,193*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

Advirtment placed in newspaper
One Management Committee meeting held
2 meetings attended

2 field visits made to Bugusege

Constant provision of internet service
Constant provision of courier services
6 computers repaired and installed with Anti-Virus

2 functional UTL lines maintained
30 staff members provied with break-tea and refreshments

91 assorted office equipment purchased

4 security gards hired
3 Staff Vans are repaired and fitted with new tyres

One office block repaired

Item	*Spent*
221003 Staff Training	3,450
223004 Guard and Security services	2,400
224002 General Supply of Goods and Services	51,102
228002 Maintenance - Vehicles	16,000

Actual Outputs Achieved in Quarter:

- October-December 2012 utility bills paid for Namulonge and Kituza;
- Assortment of stationery and office consumables procured;
- Office equipment maintained;

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 07 National Crops Research

Subscription for internet paid and newspapers;
- Break tea and Refreshments provided ;
- compound and roads maintained;

Reasons for Variation in performance

Inadquate funds released.

Total	**72,952**
Wage Recurrent	*0*
Non Wage Recurrent	*21,850*
NTR	*51,102*

Output: 01 51 05 Generation of technologies for priority commodities

Outputs Planned in Quarter:

"Management of multiplication of Seed of weevil resistant lines in field and screen house"
Survey conducted in 1 districts
Screening trial monitoring and management
10 kg of breeder seed for maize and rice produced and distributed
At least 10,000 TC plantlets generated, At least 6 new varieties selected from field trials
Pest and disease surveillance and incidence established in seleted districts
Collect pre-experiment soil status data in seleted districts

Item	*Spent*
224001 Medical and Agricultural supplies	7,905

Actual Outputs Achieved in Quarter:

Tea
-The major diseases found in Kanungu were Armillaria mellea and Xylaria
cassava
Coffee
- Comprehensive national surveys for spread and impact covered Bunyoro sub-region. Manuscript for spread and impact studies submitted for publication in a refereed journal.
- Monthly data collection on community-based participatory approaches implemented in Mukono and Nakaseke districts comparing phyto-sanitary farms with non-phyto-sanitary ones was done and undergoing analysis.
- Running cultures of entomo-pathogens B. bassiana and M. anisopliae established in the laboratory at Kituza
Maize
- Yield potential for 3 maize (Longe 4, 5 and MM3) and elite sorghum varieties (E1-E11) were established under 3 different spacing and no nutrient supplement and rain fed conditions in West nile zone
Beans
- Bush varieties Nabe 3, Nabe 5, K131, Nabe 2 and Nabe 1 yielded 2.7t, 2.52t, 2.4t, 2.3t and 2.3t and 2.1t and 2.0t/ha compared to local varieties Kamwanyi 0.7t and Bulangiti 0.4t respectively
- 1 Variety evaluation trial established and at physiological maturity stage. Varieties Nabe 3, Nabe 5 and K131, and Nabe 2 appear suprerior expected to yield above 1.8t/ha
- 1 ha of onstation seed multiplication for promising varieties at grain filling stage. 1000kg expected (low due to poor season)

Reasons for Variation in performance

Inadquate release of funds.

Total	**7,905**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 07 National Crops Research

Wage Recurrent	*0*
Non Wage Recurrent	*7,905*
NTR	*0*

Programme 08 National Fisheries Research

Outputs Provided

Output: 01 51 01 Generation of agricultural technologies

Outputs Planned in Quarter:

Technology/knowledge/ informatio genrated for atleast one core research study.

One outreach lesson to 2 schools in the Lake Kyoga basin-

An assortement of stationery and office supplies (photo copying papers, clips, glue, markers, pens, cleaning detergents, toilet papers, soap and staff identity cards)

Institute telecommunication expenses settled

Three months Payment of electricity bills

Three months water bills cleared

An assosrtement of Aquafarm and laboratory inputs and supplies

Quarterly support to core research activities

Provisions of fuel needs for administrative travels and operation of a generator when load-sheded during working hours

Item	*Spent*
211103 Allowances	2,340
221002 Workshops and Seminars	1,500
221011 Printing, Stationery, Photocopying and Binding	1,690
222001 Telecommunications	1,800
223005 Electricity	6,056
223006 Water	2,753
227004 Fuel, Lubricants and Oils	4,178

Actual Outputs Achieved in Quarter:

One reconnaissance surveys were conducted in the inshore waters of the Ugandan part of Lake Victoria and geo-referenced data was captured for 157 grounds identified as potential fish breeding/nursery grounds.

Reasons for Variation in performance

Inadquate and late release of funds.

Total	**20,317**
Wage Recurrent	*0*
Non Wage Recurrent	*20,317*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Outputs Planned in Quarter:

800 copies news papers bought
Updated web pages for various research projects
Alt least five Quarterly stakeholders and collaborative research and field visits

Item	*Spent*
221007 Books, Periodicals and Newspapers	1,501
221008 Computer Supplies and IT Services	950
227001 Travel Inland	1,903

Actual Outputs Achieved in Quarter:

1000 NAFIRRI brochures printed

Reasons for Variation in performance

Inadquate release of funds.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 08 National Fisheries Research

Total	**4,355**
Wage Recurrent	*0*
Non Wage Recurrent	*4,355*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

10 contract staff renumerated
At least one NaFIRRI advert featured in any of the wide spread media
Conduct at least 2 specialiasized training to staff
i) Three vacant positions filled
Quarterly committee and satff meetings
One UPS and Internet connectivity fees
i) Quartely provison for staff motivation and visitors reception
Quarterly assortement of small office equipment
Quarterly postage and courrier services
Security to Institute premises and property
Technical assistance/advice
Third party Insurance cover for Institute vehicles
Alt least four Quarterly stakeholders and collaborative research and field visits
Plumbing works for at least 3 office blocks fixed
Atleast 3 vehicles and 1 reseach vessel repaired and/or serviced
At least 2 machinery and equipment repaired and serviced
Clean Laboratory, office & Compound

15 hired staff paid timely wages
Three months electricity bills cleared
Three months water bills cleared
Contracted security firm paid
repair and servicing of tracor
Fuel supplied to lorry for maintenance work
repair and servicing of lorry
Twelve institue houses houses repaired
Repair and servicing of boats and engines
Monthly bank charges paid for 3 NTR bank accounts
Subsistence allowance and transport

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	4,800
221003 Staff Training	3,550
221004 Recruitment Expenses	1,600
223004 Guard and Security services	4,500
224002 General Supply of Goods and Services	34,361
228002 Maintenance - Vehicles	5,558

Actual Outputs Achieved in Quarter:

- October-December 2012 utility bills paid for Jinja and Kajansi stations
- 3 Vehicles repaired.
- Directors supervision travels facilitated.
- October-December 2012 internet subscription paid.

Reasons for Variation in performance

Inadquate funds released.

Total	**54,369**
Wage Recurrent	*4,800*
Non Wage Recurrent	*15,208*
NTR	*34,361*

Output: 01 5105 Generation of technologies for priority commodities

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 08 National Fisheries Research

Outputs Planned in Quarter:

Digestibility and Feed conversion figures for 1 formulated feed trails maintained

Actual Outputs Achieved in Quarter:

- Three reconnaissance surveys were conducted in the inshore waters of the Ugandan part of Lake Victoria and geo-referenced data was captured for 157 grounds identified as potential fish breeding/nursery grounds.
- Draft map outputs produced for the locations of fish breeding/nursery grounds in Lake Victoria.

Reasons for Variation in performance

Inadquate and late release of funds.

Item	*Spent*
224001 Medical and Agricultural supplies	4,309
Total	**4,309**
Wage Recurrent	*0*
Non Wage Recurrent	*4,309*
NTR	*0*

Programme 09 National Forestry Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

1.5km Forest boundary planting
2.5 Staff and management committee members for verification,monitoing and supervision of research activities
3.Atleast 2 field experiments and research sites monitored and evaluated
4.Routine repair and servicing of machines an equipment.
5.Availability of electricity supply ensured
6.Servicing, mantainence of generator
7.Availability of telecommunication services procured
8.Keeping 10,000m2 of compound clean. Ensuring NaFORRI property and assets secure
9.Potting, pricking out, root prunning and planting out/transplanting.

Actual Outputs Achieved in Quarter:

•In diagnostic surveys of key diseases of pine and eucalyptus tree species Bacterial blight, Mycosphaerellaleaf spot, Powdery mildew,Botryosphaeriacankers, and dumping off were identified in eucalyptus nurseries, whereas Pine wilts, Fusariumwilt, Armillaria, Alternaria and root rot diseases were identified in eucalyptus nurseries.

Reasons for Variation in performance

None

Item	*Spent*
211103 Allowances	6,863
221011 Printing, Stationery, Photocopying and Binding	3,000
222001 Telecommunications	1,750
223005 Electricity	4,500
224001 Medical and Agricultural supplies	6,312
224002 General Supply of Goods and Services	13,050
227004 Fuel, Lubricants and Oils	3,588
Total	**39,062**
Wage Recurrent	*0*
Non Wage Recurrent	*39,062*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 09 National Forestry Research

Outputs Planned in Quarter:

1.Access to current information and issues enhanced
2.Stationary and small office equipement for use
3.Atleast 3000 copies of assorted brochures designed, published and distributed
4.250 calendars designed, printed and distributed
5.5 food warmers
6.2,000m2 of compound leveled
7.Purchase of Consumables for sawmill and carpentry workshop
8.Consumables for guest house
9.1 Management committee and 1 Contracts committtee meeting held
10.Staff motivated for better outputs
11.Mantainance of vehicles & motorcycles
12.Procurement of fuel, lubricants and oils

Actual Outputs Achieved in Quarter:

-Utility bills paid for October -December 2012.
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- 2 Vehicles serviced;
- October -December 2012 subscription for internet paid;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Inadquate release of funds.

Item	*Spent*
223004 Guard and Security services	2,970
224002 General Supply of Goods and Services	8,241
Total	**11,211**
Wage Recurrent	*0*
Non Wage Recurrent	*2,970*
NTR	*8,241*

Programme 10 National Livestock Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

500 questionnaires administered, compiled and analysed

Actual Outputs Achieved in Quarter:

- Maintenance (drugs, feeds suppliments) of on station test breeds/test animals in Serere, Toror and Namulonge

Reasons for Variation in performance

Late release of funds

Item	*Spent*
221002 Workshops and Seminars	581
221011 Printing, Stationery, Photocopying and Binding	2,864
222001 Telecommunications	1,800
223005 Electricity	3,000
223006 Water	1,125
224001 Medical and Agricultural supplies	6,925
224002 General Supply of Goods and Services	728
227004 Fuel, Lubricants and Oils	5,564
Total	**22,587**
Wage Recurrent	*0*
Non Wage Recurrent	*22,587*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 10 National Livestock Research

Outputs Planned in Quarter:

1 Newspaper advert of NaLIRRI technologies

Actual Outputs Achieved in Quarter:

Printing of 500 NALIRRI brochures.

Reasons for Variation in performance

Late release of funds.

Item	*Spent*
221001 Advertising and Public Relations	500
Total	**500**
Wage Recurrent	*0*
Non Wage Recurrent	*500*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

1 Quarterly Mgt committee and 1 Mgt Sub committee meeting, 8 planning committees' meetings and 3 staff meetings
Computer & Internet repairs
Repairs done one 1st block, slashing 4 acre compound 3 times and clearing the 400 m road twice.

2 staff trainied in Financial Mgt short course

Payment of electricity, water, telephone and internet bills for the 2nd quarter.
Guarding the institute - COREC
Travelling (allowances and fuel).
Vehicle repairs, purchase of fuel, oils, tyres, batteries and insurance
Generator serviced once,contracted staff salaries paid 3 times, 15 vehicles serviced and computers serviced once in the quarter
'Printing of monthly, quarterly reports, circulars and other hard copy documents, dairly cleaning of the office block during 2nd quarter.

Actual Outputs Achieved in Quarter:

- Office utility bills paid for Namulonge, Tororo and Serere.
- Office printers and photocopiers serviced;
- Assortment of office stationery and office consumables procured;-
Postage and courier services used;
- 2 Vehicles serviced;
- Office buildings maintained; - Compound maintained;
- October-December 2012 subscription for internet paid;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Late release of funds.

Item	*Spent*
221003 Staff Training	5,250
224002 General Supply of Goods and Services	6,810
228002 Maintenance - Vehicles	7,550
Total	**19,610**
Wage Recurrent	*0*
Non Wage Recurrent	*12,800*
NTR	*6,810*

Output: 01 5105 Generation of technologies for priority commodities

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 10 National Livestock Research

Outputs Planned in Quarter:

Spatial data sets for selected sites collected
"Feed samples data collected, Maintenance of experimental animals "

Actual Outputs Achieved in Quarter:

- A decision support tool for optimizing forage utilization in smallholder dairy production systems was improved and was tested on 10 household farms ---an average increase (20%) in milk yield during the dry season due to availability of high quality feeds.
- Maintenance of on station 150 dairy test breeds/test animals in Serere, Tororo and Namulonge.

Reasons for Variation in performance

Late release of funds.

Item	*Spent*
224001 Medical and Agricultural supplies	6,376

Total	**6,376**
Wage Recurrent	*0*
Non Wage Recurrent	*6,376*
NTR	*0*

Programme 11 National Semi arid Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

2.2 5 fungicides screened
2.3 5 bio-rationals screened

Actual Outputs Achieved in Quarter:

- 18 entries are planted at 8 multilocation sites at NaSARRI; ZARDIs (Mbarara, Bulindi, Mukono, Ngetta, Abi); TVCs (Pader, Amuria, Nakabango) representing. Major groundnut agro-ecologies in Uganda. Selections are ongoing for yield, leafspots, rosette and confectionery traits. The plant stands at emergence were good at most sites except Kuju TVC. The crops are past 75% anthesis and we anticipate harvestings in late January/early February.
- Maintenance of sorghum, finger millet, groundnut, sesame, and sunflower field trial plots;

Reasons for Variation in performance

Late release of funds.

Item	*Spent*
221002 Workshops and Seminars	1,380
221007 Books, Periodicals and Newspapers	625
221011 Printing, Stationery, Photocopying and Binding	3,380
222001 Telecommunications	750
223005 Electricity	782
224001 Medical and Agricultural supplies	7,740
224002 General Supply of Goods and Services	12,050
227004 Fuel, Lubricants and Oils	4,503

Total	**31,210**
Wage Recurrent	*0*
Non Wage Recurrent	*31,210*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

Outputs Planned in Quarter:

At least 1 workshop held on developing guide lines for packaging research outputs
At least 1 workshop held for pretesting guidelines for packaging ressearch outputs held
At least 2 orkshops held for improving stake holder involvement in packaging & repackaging of research outputs

Item	*Spent*
221002 Workshops and Seminars	1,380
221007 Books, Periodicals and Newspapers	625
221008 Computer Supplies and IT Services	2,625

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 11 National Semi arid Research

At least 1 community information centre establihed
At least 2 equipment (Filing cabin & screen) procured for the NaSARRI resource centre
At least 2 reports for tracking research activity implementation prepared
At least 1 type of knowledge sharing products developed (shows)
At least 1 demonstration centres set up at project sites
At least 1 quarterly report written

Actual Outputs Achieved in Quarter:

- 2 training manuals for the use of forage sorghum for livestock feeding developed.

Reasons for Variation in performance

Inadquate release of funds.

Total	**4,630**
Wage Recurrent	*0*
Non Wage Recurrent	*4,630*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

1.2 At least 3 consultative meetings held
1.3 At least 1 stake holder meeting held for development of NaSARRI strategic plan
1.5 At least 4 consultative meetings held
1.9 At least 1 evaluation study conducted to assess the impact of NaSARRI project activities in the communities conducted
2.1 At least 1 quarterly report prepared
2.2 At least 1 technical peer review meeting held

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	10,800
221003 Staff Training	3,750
221004 Recruitment Expenses	500
224002 General Supply of Goods and Services	188
228002 Maintenance - Vehicles	6,250

Actual Outputs Achieved in Quarter:

- Office utility bills paid.
- Office computers, 1 laptop, 2 printers and 1 photocopier serviced;
- Assortment of office stationery and office consumables procured;-
Postage and courier services used;
- 3 Vehicles serviced;
- Office buildings maintained; - Compound maintained;
- October-December 2012 subscription for internet paid;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Late release of funds.

Total	**21,488**
Wage Recurrent	*10,800*
Non Wage Recurrent	*10,500*
NTR	*188*

Programme 12 National Laboratories Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 12 National Laboratories Research

Outputs Planned in Quarter:

1. Scientific papers and one decision tool of fertilizer recommendations
2. seed multiplication fields maintained & harvested
3.Conduct releases of aboreal termites
4. Additional field amd gene banck collections characterized
5. Prototype of single axle tractor planter for maize fabricated.
6.Cryopreservation of two more crop varieties in Uganda initiated
7. Protocols for Agrobacterium transformation of the selected crops published
8. Production of 2 user mannual of drying technologies to reduce postharvest losses.

Item	*Spent*
211103 Allowances	375
221002 Workshops and Seminars	1,825
221007 Books, Periodicals and Newspapers	1,550
221011 Printing, Stationery, Photocopying and Binding	500
222001 Telecommunications	5,000
223005 Electricity	26,250
223006 Water	875
227004 Fuel, Lubricants and Oils	10,250

Actual Outputs Achieved in Quarter:

- Designed maize post harvest handling leaflet in conjunction with ARIS leaflet ready for multiplication
- 80 demos on fertilizer the use for increased production implemented

Reasons for Variation in performance

Inadquatre release of funds.

Total	**46,625**
Wage Recurrent	*0*
Non Wage Recurrent	*46,625*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

Outputs Planned in Quarter:

1. Hold 1Science conference
2. 60 users from PARIs sensitized and trained on accessing information resources, services and products, and communication skills.
3.Regular update of NARL website.
4 Costs of hiring venue
5. Payment for Computer 6. Supplies & IT Services.

Item	*Spent*
221002 Workshops and Seminars	4,000
221008 Computer Supplies and IT Services	500

Actual Outputs Achieved in Quarter:

Printing 500 NARL brochures

Reasons for Variation in performance

Inadquate release of funds

Total	**4,500**
Wage Recurrent	*0*
Non Wage Recurrent	*4,500*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

1 Payment of salaries to Casual staff supporing research activities.
2 Payment for paper presentations
3 Contribution to funeral arrangements
4 Payment for 2 news paper supplements
5 Carry out staff training
6 Recruitment expenses
7 MC meeting costs

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	21,250
221003 Staff Training	1,250
221004 Recruitment Expenses	174
221016 IFMS Recurrent Costs	125
223004 Guard and Security services	250
224002 General Supply of Goods and Services	98,942

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 12 National Laboratories Research

8. 3 month reunion teas provided, Working day break teas.
9 Payment of postage fees

10 Settlement of electricity bill.
11 Payment of consultants
12 Settled insurance bills
13. 2 Monitoring and evaluation of research experiment
14 Payment of fuel, lubricants and oils.
15 Repair of one building
16 Repair of motor vehicles

17 Maintenance office equipment
18 Repairs of water pump 19. Clean planting materials
20. Analysed plant and soil samples for improved productivity
21. Availability of plant species
22.Revenue from gate collections
23 Rent recovered

24 Agricultural implements and equipments
25 Hired Agricultural implements and equipments
26 Train stakeholders on 27 Agricultural engineering techniques

227001 Travel Inland	25,035
228002 Maintenance - Vehicles	22,000

Actual Outputs Achieved in Quarter:

- Management and maintenance of physical infrastructure, buildings and research fields in Namalere, Kawanda and Entebbe BG
- Assortment of stationery and office consumables procured;
- Office equipment (1 Photocpoier, 2 printer, 2 PC) maintained;
- 2 Vehicles serviced;
- Compound maintained;
- October-December 2012 subscription for internet paid;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Inadquate release of funds.

Total	**169,026**
Wage Recurrent	*21,250*
Non Wage Recurrent	*48,834*
NTR	*98,942*

Output: 01 51 05 Generation of technologies for priority commodities

Outputs Planned in Quarter:

Collect agronomic and disease data on banana clones,
Acquired solar pump system for small-scale irrigation maintenance
Clay lined water harvesting pond and pond compactor completed on-farm

Item	*Spent*
224001 Medical and Agricultural supplies	7,766

Actual Outputs Achieved in Quarter:

Banana
- M9 and FHIA 17 promoted in 30 districts. 8 farmers in each district hosting the demos. Iganga,mayuge,kaliro,Sironko,Butalegya,Jinja, Kasese, Bushenyi, Kabalore, Kanungu, Rukungiri, Ruwelo,Mukono, Mubende, Kiboga, Apac,Nebi and Lira, Masindi and Hoima.
- Maintainence of botanical gardens.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 12 National Laboratories Research

Reasons for Variation in performance

Inadquate release of funds

Total	**7,766**
Wage Recurrent	*0*
Non Wage Recurrent	*7,766*
NTR	*0*

Programme 13 Abi ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

	Item	*Spent*
Outputs Planned in Quarter:	211103 Allowances	6,450
Atleast 30 reams of printing paper,7 vouchers and 15 files procured per month	221011 Printing, Stationery, Photocopying and Binding	748
	222001 Telecommunications	300
Laundry items,and parking fees and third party insurance for 6 vehicles	227004 Fuel, Lubricants and Oils	2,528
Atleast 450 ls of diesel and 210 ls of petrol procured		

Actual Outputs Achieved in Quarter:

- Maintainence of beans, maize, cassava field trial plots;
- Maintainence of cassava multiplication sites for
- Maintainence of on station demonstration fish ponds.

Reasons for Variation in performance

Inadquate and late release of funds

Total	**10,026**
Wage Recurrent	*0*
Non Wage Recurrent	*10,026*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

	Item	*Spent*
Outputs Planned in Quarter:	221003 Staff Training	2,500
Institute premises secured and compound well mantained	224002 General Supply of Goods and Services	15,302
	227001 Travel Inland	3,744
One radio talkshow attended on the various institute activities	228002 Maintenance - Vehicles	1,503
Atleast 3 staff trained in short courses		
Atleast 1 meeting held		
Atleast 180 copies of newvision/monitor procured		
Purchase of 2 printer cartridges		
Provision of meals and DSTV subscription paid		
Assorted equipment procured		
Monthly box rents paid		
Atleast 12 travels facilitated		
Atleast 2 blocks maintained		

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 13 Abi ZARDI

Atleast 2 vehicles serviced

Atleast 2 generators and 2 mowers mantained

2 telephone lines loaded with airtime

25 acres of planted crop fields weeded and harvested

Lighting system mantained for full quarter

Constant flow of running water to the institute

1 Quarterly techincal report and various assignments sent

12 bags of fertilizer, 60packets of grafting tape and 5 roles of polythene tube procured
One month provision of meals to staff

3 reports submitted

Atleast 300 participants are fed

Payment of monthly bank charges

Actual Outputs Achieved in Quarter:

- Office utility bills paid for the second quarter
- Assortment of office stationery and consumables procured;
- Some office equipment (laptop and photocpier) maintained;
- 2 Vehicles serviced;
- Compound maintained;
- Acquisition of newspapers;
- security maintained at Namulone and Kituza
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Late and inadquate release of funds.

Total	**23,049**
Wage Recurrent	*0*
Non Wage Recurrent	*7,747*
NTR	*15,302*

Output: 01 51 05 Generation of technologies for priority commodities

Item	*Spent*
224001 Medical and Agricultural supplies	455

Outputs Planned in Quarter:

"Assembly of germplasm and management "
Surveillance done in 1 more districts to determine spread of CBSD and survey results reported
Maintenance of crossescrossing blocks
Maintenance of experiment
Information packaging and dissemination
Monitoring, preliminary data collection and analysis

Actual Outputs Achieved in Quarter:

- 12.5 new acres planted with NASE 14 cassava varietiy;
- On station multiplications fields for maize varieties Longe 4 and 5 were harvested;
- On station multiplications fields for rice Nerica 1, 4 and 10

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 13 Abi ZARDI

Reasons for Variation in performance

Inadquate release of funds.

Total	**455**
Wage Recurrent	*0*
Non Wage Recurrent	*455*
NTR	*0*

Programme 14 Bulindi ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

	Item	*Spent*
Outputs Planned in Quarter:	221002 Workshops and Seminars	1,560
1. Two Boer procured	221011 Printing, Stationery, Photocopying and Binding	500
2. Meetings and Wokshops attended		
3. Electricity bills paid	222001 Telecommunications	1,250
4. Telecommucation services paid	223005 Electricity	1,500
5. Management committee meetings Held	224002 General Supply of Goods and Services	2,029
6. Fuels and lubricants procured	227004 Fuel, Lubricants and Oils	5,000

Actual Outputs Achieved in Quarter:

- Maintainence of farm livestock (pigs and goats);
- Maintainence of multiplication sites for sweet potatoes and cassava

Reasons for Variation in performance

Late release of funds.

Total	**11,839**
Wage Recurrent	*0*
Non Wage Recurrent	*11,839*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

	Item	*Spent*
Outputs Planned in Quarter:	221008 Computer Supplies and IT Services	1,000
1. Scientifc papers in workshops and conferences presented		

Actual Outputs Achieved in Quarter:

Office equipment maintained.

Reasons for Variation in performance

Late release of funds

Total	**1,000**
Wage Recurrent	*0*
Non Wage Recurrent	*1,000*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 14 Bulindi ZARDI

	Item	*Spent*
Outputs Planned in Quarter:	224002 General Supply of Goods and Services	15,568
1. Staff welfare and entertainment	228002 Maintenance - Vehicles	1,775
2. Vehicles and Generator Fueled		
3. Staff welfare and entertainment		
4. 300 layers and 200 broilers stcoked		
5. At least 10,000 seedlings of multipurpose tree species raised (pine, mangoes,citrus oranges and avocado)		
6. Institute roads and compound are slashed and cleaned		
7. Payment for labour		

Actual Outputs Achieved in Quarter:

- Subscription for October-December 2012 internet paid;
- Stationery and office consumables procured;
- Office equipment maintained;
- Postage and courier services used;
- 3 Vehicles serviced;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Lat release of funds.

Total	**17,343**
Wage Recurrent	*0*
Non Wage Recurrent	*1,775*
NTR	*15,568*

Output: 01 5105 Generation of technologies for priority commodities

	Item	*Spent*
Outputs Planned in Quarter:	224001 Medical and Agricultural supplies	1,697
1 effective weed management options in upland rice identified for on farm evaluation		
Stocking of fish ponds		
2 DTM demonstration plots set up		

Actual Outputs Achieved in Quarter:

- 8 acres of cassava (NASE 14) multiplication established on station
- Baseline data on aquaculture status of kibaale district; Majority are small scale farmers, and have indicated shortage of inputs as the most important limiting factor to the enterprise
- Pond design of the aquaculture site on station developed and approved for implementation

Reasons for Variation in performance

Late release of funds.

Total	**1,697**
Wage Recurrent	*0*
Non Wage Recurrent	*1,697*
NTR	*0*

Programme 15 Kacwekano

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 15 Kacwekano

Outputs Planned in Quarter:

1.Electricity connections serviced, Water connections serviced
2. 4 office telephone lines maintained
3.Sufficient stationery availed
4.News papers and periodicals availed
5. 800m of access road maintained free of weeds

Actual Outputs Achieved in Quarter:

- Maintainence of on station potato and apple field trial plots at Kalyengyere;
- Maintainence of potato multiplication sites for breeder seed and improved planting materials.
- Maintainence of on station goats

Reasons for Variation in performance

Inadquate and late release of funds.

Item	*Spent*
221007 Books, Periodicals and Newspapers	135
221011 Printing, Stationery, Photocopying and Binding	1,158
222001 Telecommunications	400
223005 Electricity	2,250
223006 Water	720
227004 Fuel, Lubricants and Oils	3,660
Total	**8,323**
Wage Recurrent	*0*
Non Wage Recurrent	*8,323*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

1. One quarterly Management Committee mmeting meeting conducted
2. One Sub-contracts committee meetings held
3. Participate in at least 1 adminstrative meetings
4. 3 payments made
5. Generating monthly audit and financial reports and submitting to NAROSEC
6. Fuel & lubricants supplied for 5 vehicles and 2 generators for administration
7. Institute property secured
8. 5 vehicles, 1 motor cycle maintained and serviced
9. Maintaining compound including slashing, , fencing and desilting internal road channels, Minor repairs on administrative buildings,6km of institute roads maintained
10.Third party insurance paid
11. Mowers, generators, printers, photocopiers maintained
12. Purchase of protective gear
13. Water and power bills paid
14. 2 staff facilitated to report at their duty station
15. Computer supplies and IT services provided, 1 AFSAT connection and 1 UTL connection serviced
16. Procure items for break fast, office cleaning and toilet effects
17. 1 bank account operational
18. Five none core staff paid salaries
19. Prebasic seed fields managed

Actual Outputs Achieved in Quarter:

- Minor maintenance of physical infrastructure at Kachwekano;
- 2 Vehicles serviced;
- 3 office computer serviced;
- Assortment of Office stationery and consumables procured;
- Acquisition of some books and newspapers;
- security maintained
- Break tea and Refreshments provided ;

Item	*Spent*
221004 Recruitment Expenses	2,110
223004 Guard and Security services	4,754
224002 General Supply of Goods and Services	27,820
227001 Travel Inland	2,796
228002 Maintenance - Vehicles	725

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 15 Kacwekano

Reasons for Variation in performance

Inadquater and late release of funds.

Total	**38,205**
Wage Recurrent	*0*
Non Wage Recurrent	*10,385*
NTR	*27,820*

Output: 01 5105 Generation of technologies for priority commodities

	Item	*Spent*
Outputs Planned in Quarter:	224001 Medical and Agricultural supplies	706
Collect data and document introduced fish species in the zone		
Actual Outputs Achieved in Quarter:		
- Aquaculture experimental holding facilities located and selected in Kisoro, Kanungu and Kabale. Technical back stopping extended to farmers on rehabilitating the facilities and training regarding best management practices in aquaculture provided **- Fish Laboratory consumables such as retort stands, burrettes, funnels and clips were procured** **- Maintainence of cassava field trial plots;** **- 160 farm fields established each with 1 kg of NERICA 4 rice variety. Farmers were trained in rice seed production and management. Monitoring of performance of NERICA 4 under farmer multiplication was conducted and was performing better than the local variety WHITE which had high incidence of rice blast and poor vigor.**		
Reasons for Variation in performance		
Inadquate and late release of funds.		

Total	**706**
Wage Recurrent	*0*
Non Wage Recurrent	*706*
NTR	*0*

Programme 16 Mukono ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

	Item	*Spent*
Outputs Planned in Quarter:	221011 Printing, Stationery, Photocopying and Binding	4,112
Atleast 2 vehicles repaired and serviced	222001 Telecommunications	900
At least 398 litres of fuels for research and administrative work purchased	223005 Electricity	2,779
Print at least 50 Institute chrismas cards; 66 polaroid cards, and 100 copies of calenders printed	224002 General Supply of Goods and Services	2,829
Bind at least 1 sets of newspapers	227004 Fuel, Lubricants and Oils	2,269
Acquire office stationery (Assorted)		
Payment of at least 668 units of electrictiy & telephone bill		
Bank transitions done		
Compount equipments, tools and general compound well maintained		

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

Engraving Institute assets, fumigation, drainage of sewerage system, hazard and labour

Acquire lavatories & office cleaning materials (Assorted)

Actual Outputs Achieved in Quarter:

Rice
•Rice intercropping trials established in the 3 districts in 2nd season 2012. Data collection done on germination percentage, tiller number, plant heights, pest and disease incidence and growth vigour. Germination percentage ranged from 75% to 98 % in the different crops. Major diseases included maize streak virus, groundnut rosette disease, leaf spot and bean rust. Severity increased with disease progress.
- Two (2) feedback meetings on improving productivity, Marketability and profitability of fish farming; involving 80 households were successfully conducted in 2 districts (Masaka-Lwengo) and Mpigi.
- 1,250 elite coffee seedlings and 1000 clonal coffee plantlets availed to farmers of Masaka, Mukono and Kayunga. 0.25 acre of coffee wilt resistant varieties planted for demonstration.
- Establish a new banana mother garden with 150 tissue culture plantlets

Reasons for Variation in performance

Inadquate release of funds.

Total	**12,889**
Wage Recurrent	*0*
Non Wage Recurrent	*12,889*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Item	*Spent*
221007 Books, Periodicals and Newspapers	1,250

Outputs Planned in Quarter:

At least 2 sources of information (books, journals etc) purchased
Subsciption to at least 1 scientific journels

At least four sets of news papers purchased

Purchase atleast 1 magazine folder

Print at least 50 Institute chrismas cards

Print at least 66 polaroid staff identity cards

Print at least 150 copies of MUZARDI calender

Actual Outputs Achieved in Quarter:

Internet subscription for october-December 2012 paid.

Reasons for Variation in performance

Inadquate fundsreleased.

Total	**1,250**
Wage Recurrent	*0*
Non Wage Recurrent	*1,250*
NTR	*0*

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

Subscribe at least once for internet and 2 mobile internet modems

Acquit atleast 1 package for updating and upgrading the Intranet web

Website updated at least once
Servicing at least 1 Pbx machine, and servicing at least 1 photocopier

Faulty computers, printers and photocopiers(Assorted) repaired atleast once

Small office equipment (Assorted) acquired

Purchase of at least 2 boxes of mineral water, 12 of soda and 36 tins of biscuits

Staff tea, lunch refill for water dispenser

Lavatories & office cleaning materials (Assorted) aquired

Office stationery (Assorted) purchased

Telephone bills paid

Payment for at least 10,500 units of electricity consumed

Bank transitions paid for

Engraving Institute assets engraved, at least 3 building fumigated, drainage of sewerage system, hazard and labour
Institute security services and padlocks paid for

Visits to at least 2 sites in the zone by the auditor

Special duty investigation and database updates

At least 1 MC meeting held

At least 1 contracts/evaluation committee meetings held

Compount equipments, tools and general compound well maintained
At least 6 vehicles, 1 generator and 1 disc harrow serviced/repaired

At least 3 categories of Eco-tourism furniture and equipment purchased for improved Eco-tourism research and services

Apiary unit slashed at lease three times

Ttrain atleast 150 pupils, intern students and farmers

Purchase feed ingridients and formulate our own feed ration for all the livestock species
purchase acaricides, antibiotics, dewormers and mineral blocks

Item	*Spent*
223004 Guard and Security services	1,355
224002 General Supply of Goods and Services	78,194
227001 Travel Inland	1,005

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

At least 70pcs dinner plates, 50 side plates, 100 juice glasses,40 tea cups, 50 table knives and forks, 6 sauce pans and other identified kitchen ware purchased

At least 15pcs of shirts, waist coat, trousers, aprons, hats purchased for kitchen staff

Sandals, curtains, mirrors, sanitary buckets, dustbins, key holders and flat irons

At least 6 buildings fumigated

At least 250 meter are required of HDP PN10, High density polyethen pipes (HDP) PN 10 2 inches diameter 125 meter procured
At least 15 workers and 5 contractors paaid

At least 8 trips murram delivered & road carbs painted
At least 6 demonstration trials maintained

Electricity bills paid

Actual Outputs Achieved in Quarter:

- Office utility bills paid for october-December 2012.
- Maintenance of 2 institute office buildings;
- Assortment of office stationery and consumables procured;
- 2 office computers maintained;
- 2 Vehicles serviced;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided

Reasons for Variation in performance

Late release of funds.

Total	**80,554**
Wage Recurrent	*0*
Non Wage Recurrent	*2,360*
NTR	*78,194*

Output: 01 51 05 Generation of technologies for priority commodities

Item	*Spent*
224001 Medical and Agricultural supplies	2,513

Outputs Planned in Quarter:

data collected on performance (Disease and pest incidence, and growth vigour)
At least 1 rice market chain actors' meetings held according to themes
atleast 1 farm on farm trials selected and stocked
Data entry, analysis and report writing

Actual Outputs Achieved in Quarter:

- 1,250 elite coffee seedlings and 1000 clonal coffee plantlets availed to farmers of Masaka, Mukono and Kayunga. 0.25 acre of coffee wilt resistant varieties planted for demonstration.
- Establish a new banana mother garden with 150 tissue culture plantlets

Reasons for Variation in performance

Late release of unds.

Total	**2,513**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

Wage Recurrent	*0*
Non Wage Recurrent	*2,513*
NTR	*0*

Programme 17 Ngetta ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

Issues concerning the Organisation discussed and resolved

2.Management & committee meetings held

3.Compounds, roads,farm buildings & structures maintained.

4.Utilities & other charges paid.

5.Vehicles,machineries & equipment maintained

6.Staff motivated.

7.Compounds, roads,farm buildings & structures maintained.

8.Telephone, postage and courier services used.

9.Water systems maintenace paid

10.Bank charges and commssion paid

11.Farm groups capacity enhanced

12.Farm buildings and structures maintained

13.Farm demonstration trials sustained

Item	***Spent***
221011 Printing, Stationery, Photocopying and Binding	1,120
222001 Telecommunications	1,300
223005 Electricity	1,500
223006 Water	1,718
224002 General Supply of Goods and Services	1,962
227004 Fuel, Lubricants and Oils	1,710

Actual Outputs Achieved in Quarter:

- Maintainence of field cassava, rice, maize, beans trial plots;
- Maintainence of multiplication cassava sites .
- Maintenance of sesame finger millet and sorghum demonstration plots;

Reasons for Variation in performance

Inadquate funds received.

Total	**9,310**
Wage Recurrent	*0*
Non Wage Recurrent	*9,310*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 17 Ngetta ZARDI

Outputs Planned in Quarter:

1.Disemination of research findings made

2.Utilisation of improved farming practices enhanced

Actual Outputs Achieved in Quarter:

Utility bills paid

Reasons for Variation in performance

Very inadquate release of funds.

Item	*Spent*
227001 Travel Inland	4,725
Total	**4,725**
Wage Recurrent	*0*
Non Wage Recurrent	*4,725*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

Staff technical capapcity developed.

3.Compounds, roads,farm buildings & structures maintained.

5.Vehicles,machineries & equipment maintained

6.Staff motivated.

7.Compounds, roads,farm buildings & structures maintained.

10.Bank charges and commssion paid

11.Farm groups capacity enhanced

12.Farm buildings and structures maintained

13.Farm demonstration trials sustained

Item	*Spent*
221003 Staff Training	2,800
224002 General Supply of Goods and Services	15,487
227001 Travel Inland	3,500
228002 Maintenance - Vehicles	3,263

Actual Outputs Achieved in Quarter:

- Assortment of office stationery and consumables procured;
- 2 Office computers maintained;
- Acquisition of newspapers;
- security maintained
- Break tea and Refreshments provided

Reasons for Variation in performance

Inadquate release of funds.

Total	**25,049**
Wage Recurrent	*0*
Non Wage Recurrent	*9,563*
NTR	*15,487*

Output: 01 5105 Generation of technologies for priority commodities

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 17 Ngetta ZARDI

Outputs Planned in Quarter:

On farm evaluation of 1 rice varieties completed.
On farm Maintenance of experiment and data analysis
2 happas and happer stands acquired, happers stocked with fingerlings and maintained..

Actual Outputs Achieved in Quarter:

- Maintainence of field cassava, rice, maize, beans trial plots;
- Maintainence of multiplication cassava sites .

Reasons for Variation in performance

Late release of funds.

Item	*Spent*
224001 Medical and Agricultural supplies	1,670
Total	**1,670**
Wage Recurrent	*0*
Non Wage Recurrent	*1,670*
NTR	*0*

Programme 18 Nabium ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

Control of ticks and tick borne diseases, and helminths in goats assessed in Kotido and Nakapiripirit districts.
Data collected on the efficacy of botanicals in controlling crop pests and diseases.
Soil and water conservation structures established on station and on farm.
Atleast 2 tree and 2 shrub germplasm for fodder and forage collected and raised on station.

Actual Outputs Achieved in Quarter:

Pigs
- Maintained 8 cambrough pigs and 6 piglets as pure/parent stock for technology dissemination and research purposes
Poultry
- 52 Kuroiler chicken availed to nine famers in Bukedea, Moroto and Nakapiripiriti districts. Evaluation of their performance at free range to start next quarter.
- Goats
- Maintained 12 goats of Mubende breed on-station

Reasons for Variation in performance

Inadquate and late release of funds

Item	*Spent*
221002 Workshops and Seminars	500
221007 Books, Periodicals and Newspapers	200
221011 Printing, Stationery, Photocopying and Binding	515
222001 Telecommunications	100
223005 Electricity	120
223006 Water	100
227004 Fuel, Lubricants and Oils	1,040
Total	**2,575**
Wage Recurrent	*0*
Non Wage Recurrent	*2,575*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 18 Nabium ZARDI

Outputs Planned in Quarter:

Disease and pest control, beehive inspection and honey harvesting for the 2 apiary sites, weed management and planting of forage crops carried out.
Phase 2 training of 6 farmer groups in Moroto, Napak, Nakapiripirit carried out.
Phase 1, 2 and 3 training of TOTs in 5 in Nakapiripirit, district carried out.
Refractometer and solar wax extractor purchased.

Actual Outputs Achieved in Quarter:

Germplasm of Sorghum, pearl millet, maize,finger millet, sunflower, simsim, and other minor crops collecdted from Karamoja.

Reasons for Variation in performance

Funds were received late in the quarter.

Item	*Spent*
221002 Workshops and Seminars	2,111
227001 Travel Inland	1,600
Total	**3,711**
Wage Recurrent	*0*
Non Wage Recurrent	*3,711*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

1. 500 chicken and 25 piglets of improved breeds raised on-station.
2. At least 250 mango seedlings, 250 orange seedlings, 100 avocado seedlings and 100 agro forestry tree seedlings raised.
3. At least 10 students and farmers hosted for trainings and workshops on-station.
4. Atleast one management committee meeting held.
5. Director attended one planning meeting.
6. Once financial report submited.
7. One audit report submitted.
8. Once procurement report submitted.
9. One planning meeting held.
10. Wages of casual labour for three months paid.
11.Bank charges for three months cleared.
12. Routine administrative activities carried out.
13. Quarter handling Human Resource matters at the station and NAROsec.
14. Stationery procured.
15. Water acquired and bills paid.
16. Quarterly electricity acquired and bills paid .
17. Quarterly telephone services acquired and paid for
18. Vehicles maintained .
19. Two dormitries, 1 office block, 1 residential buildings, 1 conference room renovated.
20. At least 4 staff trained -semi-annually.
21. Staff recruited.
22. 100 brochures acquired.
23. Research information by communications officer put together.
24. Meeting held with stakeholders.

Actual Outputs Achieved in Quarter:

- Some assorted stationery and office consumables procured;

Reasons for Variation in performance

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	1,368
221003 Staff Training	2,396
221004 Recruitment Expenses	500
224002 General Supply of Goods and Services	4,925
227001 Travel Inland	325
228002 Maintenance - Vehicles	1,000

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 18 Nabium ZARDI

Late release of funds.

Total	**10,513**
Wage Recurrent	*1,368*
Non Wage Recurrent	*4,221*
NTR	*4,925*

Output: 01 5105 Generation of technologies for priority commodities

Item	*Spent*
224001 Medical and Agricultural supplies	4,883

Outputs Planned in Quarter:

One pasture multiplication (forage legumes, fodder trees and grasses) sites set up and 4 maintained
Parent stock of 2 Sahiwal cattle collected and raised on-station
1 trials for the tesing and evaluation of ox-drawn weeders conducted
At least one technology for water harvesting/harnessing and storage for livestock use promoted

Actual Outputs Achieved in Quarter:

- Two multiplication and demonstration sites for 15 pasture and fodder species maintained on-station
- Collected samples of Brachiaria brizantha (C. 26110), Lablab purpureus, Canavalia brasiliensi, Brachiaria hybrid (CIAT 36087 cv Mulato II), Brachiaria brizantha (CIAT 26024) and mulato II from two evaluation trials of Serere and Katakwi districts. Pasture samples undergoing laboratory analysis for dry matter content and crude protein. - Maintained evaluation trials of Gliricidia and Brachiaria mixture for the establishment period in Amuria and Kumi districts

Reasons for Variation in performance

Inadquate release of funds

Total	**4,883**
Wage Recurrent	*0*
Non Wage Recurrent	*4,883*
NTR	*0*

Programme 19 Mbarara ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Item	*Spent*
221011 Printing, Stationery, Photocopying and Binding	1,250
222001 Telecommunications	1,000
223005 Electricity	2,500
227004 Fuel, Lubricants and Oils	1,600

Outputs Planned in Quarter:

1. Computer supplies and IT services prcured.
2. Welfare items procured.
3.Printing,stationary, photocopying and binding services procured.
4.Telephone bills paid.
5.Electricity bills paid.
6.Assorted goods and services procured.
7. Allowances for scientists paid.
8. Fuel and lubricants procured.
9.Vehcles maintained.
10. Machinery, equipment & furniture maintained.

Actual Outputs Achieved in Quarter:

- Three mothergardens for improved citrus and avocado varieties established in Ntungamo district
- 2,000 rootstocks for mango and citrus fruits were raised

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 19 Mbarara ZARDI

- Documentation of pests and diseases affecting improved fruits in zone completed (500 posters printed and disseminated)

Reasons for Variation in performance

Late release of funds

Total	**6,350**
Wage Recurrent	*0*
Non Wage Recurrent	*6,350*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Item	*Spent*
221008 Computer Supplies and IT Services	800

Outputs Planned in Quarter:

Computers serviced and functional.

Actual Outputs Achieved in Quarter:

Activities of the livestock disease multi-stakeholder innovation platform monitored in Mbarara district.

Reasons for Variation in performance

Inadquate funds released

Total	**800**
Wage Recurrent	*0*
Non Wage Recurrent	*800*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Item	*Spent*
224002 General Supply of Goods and Services	32,916
227001 Travel Inland	7,600
228002 Maintenance - Vehicles	1,709

Outputs Planned in Quarter:

1.Management Committee meetings facilitated.
2.Perdiem paid to staff on official travel.
3.Public transport hired.
4. Animal feeds procured.
5. Assorted veterinary medicines procured.
6. Farm roads maintained.
7. Milking parlour repaired.
8. Hired laabour paid.
9. Water pipe procured.

Actual Outputs Achieved in Quarter:

- Maintenance of research fields and paddocks;
- Assortment of office stationery and consumables procured;
- Acquisition of newspapers;
- Office photocopier maintained;
- 2 vehicles serviced;
- Internet subscription for October-December 2012 paid;
- security maintained
- Break tea and Refreshments provided

Reasons for Variation in performance

Inadquate funds were released.

Total	**42,224**
Wage Recurrent	*0*
Non Wage Recurrent	*9,309*
NTR	*32,916*

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 19 Mbarara ZARDI

Output: 01 5105 Generation of technologies for priority commodities

Outputs Planned in Quarter:

Promote the identified integrated beans insect pest and disease management (IPM) technologies
Results disseminated to farmers in seleceted districts
Monitoring and management of trials
Food conversion ratio (FCR) for Ugachic pellets on pond catfish
Juvenile stages determined.
management of trialand data collection
Establishment of banana trial on different soil types in selected districts documented

Actual Outputs Achieved in Quarter:

Bananas
- Nutrient flow balances with major nutrient management documented .
Approximately 33.8 %, 25.3 % of the sampled household use FYM and crop residues as sources of nutrients
- Approximately 39.5 %, 32.5 % and 20.9 % of banana fields posess trenches, dug-out ditches and grass bund as measures against soil erosion and surface runoff
- Only 2.1 % of the total income from banana sales is invested back into natural resource management
- Only 19.4 % of the sampled households have soil conservation measures placed in banana fields
- 1500 copies of bean, groundnut and sweet potato management and production brochures produced and disseminated in within and outside the SWAEZ.

Reasons for Variation in performance

Late release of funds and prolonged drought in the zone.

Item	*Spent*
224001 Medical and Agricultural supplies	2,025
Total	**2,025**
Wage Recurrent	*0*
Non Wage Recurrent	*2,025*
NTR	*0*

Programme 20 Buginyaya ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

FS&LA of Busoga sub-zone reviewed, conducted and updated
3 fungicide spray regimes treatments applied to participating farmers group sites in Bulambuli, Kapchorwa and Sironko
3 farmer groups comprising of 20 farmers from two sub-counties in Kapchorwa district knowledgeable in establishment and disease management of Arabica coffee
Status and performance of soil nutrient options determined and capacity built in 3 farmer groups in Kapchorwa District
5000 Arabica coffee seedlings maintained at Buginyanya station
5mt of seed potato availed for uptake pathways from Buginyanya station
3 farmer groups capacity in quality seed potato production enhanced
Two (2) Orchards rehabilitated in Manafwa and Bududa
40 bags of high quality sweet potato varieties vines availed to uptake pathways

Item	*Spent*
221002 Workshops and Seminars	1,113
221011 Printing, Stationery, Photocopying and Binding	4,451
222001 Telecommunications	1,720
223005 Electricity	600
227001 Travel Inland	7,611
227004 Fuel, Lubricants and Oils	4,079

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 20 Buginyaya ZARDI

Available market and elite maize varieties suitable for mid altitude sub zone identified
Suitable bean varieties for mid altitude sub zone identified for participatory evaluation on farm
Performance of suitable cassava varieties identified for mid altitude zone
Performance of elite cassava varieties at establishment identified
cassava multiplication gardens maintained weed free
Trials maintained, data collected and analyzed
1 ha of intercropped maize harvested and good intercropping options identified for participatory evaluation
Performance of maize under farmers practices of intercropping and fertilizer use documented on farm
Progressive performance of introduced goat genotypes and their cross breeds identified

Actual Outputs Achieved in Quarter:

- Maintainence of field wheat, apples, sweet potatoes trial plots;
- Maintainence of arabica coffee, barley, wheat, apples, sweet potatoes multiplication sites for breeder seed and improved planting materials.

Reasons for Variation in performance

Late release of funds.

Total	**19,574**
Wage Recurrent	*0*
Non Wage Recurrent	*19,574*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Outputs Planned in Quarter:

Conducive environment and facilities with proper monitoring and evaluation for effective and efficient project delivery

Actual Outputs Achieved in Quarter:

- Management and maintenance of physical infrastructure, buildings and research fields at Buginyanya and Bulegeni;
- Stationery and office consumables procured for all 3 station;
- Office equipment maintained;
- Postage and courier services used;
- 5 Vehicles serviced;
- InternetSubscription for October-December 2012 paid;
- Acquisition of newspapers;
- security maintained at all 3 stations.
- Break tea and Refreshments provided

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	6,026
221003 Staff Training	3,154
223004 Guard and Security services	150
224002 General Supply of Goods and Services	16,504
227001 Travel Inland	1,942
228002 Maintenance - Vehicles	872

Reasons for Variation in performance

Late release of funds.

Total	**28,648**
Wage Recurrent	*6,026*
Non Wage Recurrent	*6,118*
NTR	*16,504*

Output: 01 51 05 Generation of technologies for priority commodities

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 20 Buginyaya ZARDI

Outputs Planned in Quarter:

Identified elite maize varieties suitable for mid altitude sub zone promoted
Mananagement of multiplication of new cassave varieties
1 effective weed management options in upland rice identified for on farm evaluation
Maintain trials and avail seedlings to uptake patha ways
District stakeholders forum in seleceted districts for the utilization of SLM innovations formed and launched

Actual Outputs Achieved in Quarter:

- 11 ha of cassava (NASE 14) multiplication established at Ikulwe station.
- Maintenance of 1 acre of beans, 2 acres maize and rice demonstration plots.

Reasons for Variation in performance

Late release of funds.

Item	*Spent*
224001 Medical and Agricultural supplies	2,554

Total	**2,554**
Wage Recurrent	*0*
Non Wage Recurrent	*2,554*
NTR	*0*

Programme 21 Rwebitaba ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Outputs Planned in Quarter:

1. Target mother garden in Rwebitaba maintained in the quarter .
2. Genebank at Rwebitaba ZARDI maintained.
3. Tolerance of clones to 2 major pest assessed in Kyenjojo and Kabarole by end of the quarter.
4. Construction of screen house started in the quarter.
5. Atleast 250 tea clones examined for Xylaria disease incidence by end of December 2012 .
6. Atleast 20 tea clones tolorant to Xylaria disease selected by end of December 2012 .
7. At least 1 pest and disease awareness campaigns conducted in Kabarole and Kyenjojo in the quarter.
8. Data on weekly scientific observations, meseasurements of yield (weight of made tea/ha) yield components (no. of shoots/plant) for the different tea clones taken throughout the quarter.
9. Data on yield, costs and price of green leaf and made tea in Kyenjojo and Kasese recorded .
10. Data on weekly scientic observations, meseasurements of yield (weight of made tea/ha) yield components (no. of shoots/plant) collected by end of December 2012.
11. Biochemical profiles of 20 Ugandan tea clones established.
12. Cup quality of 2 clones determined by end of the quarter .
13.At least 2 community sensitisation meetings on agroforestery project with local farmers and preliminary visits held in each of the 7 districts of the zone.
14.At least 10,000 fruit tree rootstocks (mangoes, citrus oranges and avocado) grafted.
15.Four Boer does bought.
16.Three cattle grazing paddocks rennovated.

Item	*Spent*
222001 Telecommunications	150
223005 Electricity	300
227004 Fuel, Lubricants and Oils	1,750

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 21 Rwebitaba ZARDI

17.6,000 kgs of poultry and piggery feeds.
18.Cattle nucleus breeding scheme initiated.
19.Initiation of piggery nucleus breeding units in Kyenjojo and Kabarole.
20.Training one farmer group in the zone in technologies for increasing egg hatchability.
21.3,000 chicks hatched.
22.1500 kgs of pature seeds harvested.
23.Stocks of 6 banana variaties acquired .
24.Banana plantation maintained.

Actual Outputs Achieved in Quarter:

- Maintainence of field cassava, beans and agroforestry tree trial plots;
- Maintainence of multiplication sites for rice breeder seed and cassava improved planting materials.

Reasons for Variation in performance

Inadquate release of funds.

Total	**2,200**
Wage Recurrent	*0*
Non Wage Recurrent	*2,200*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

	Item	*Spent*
Outputs Planned in Quarter:	221001 Advertising and Public Relations	875
Two radio talkshows conducted within the quarter		

Actual Outputs Achieved in Quarter:

Held a zonal priority setting meeting

Reasons for Variation in performance

Inadquate funds.

Total	**875**
Wage Recurrent	*0*
Non Wage Recurrent	*875*
NTR	*0*

Output: 01 5104 Agricultural research capacity strengthened

	Item	*Spent*
Outputs Planned in Quarter:	221004 Recruitment Expenses	700
Holding of quarterly Management Committee meetings .	223004 Guard and Security services	300
	227001 Travel Inland	1,200
Organize one stakeholder meeting.	228002 Maintenance - Vehicles	680
Maintenance of vehicles		
Fuel		
Contract Labour		
Welfare and entertainment		
Books periodicals and newspapers		
Telecommunication		
Electricity		
General supply of Goods and Services		
Maintenance Machinery		
Maintenance Others		
Monthly wages		
Hired labour for weeding tea and banana plantations and plucking green		

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 21 Rwebitaba ZARDI

leaf.

Actual Outputs Achieved in Quarter:

-October-December 2012 utility bills paid
- Assortment of office stationery and consumables procured;
- 1 office printer serviced;
- 2 Vehicles serviced; Office buildings maintained;
Rwebitaba and Kyembog station compounds maintained;
- Acquisition of new vision and monitor newspapers;
- security maintained
- Break tea and Refreshments provided ;

Reasons for Variation in performance

Inadquate release of funds.

Total	**2,880**
Wage Recurrent	*0*
Non Wage Recurrent	*2,880*
NTR	*0*

Output: 01 5105 Generation of technologies for priority commodities

Item	***Spent***
224001 Medical and Agricultural supplies	2,013

Outputs Planned in Quarter:

Biochemical profiles of 5 Ugandan tea clones established

Actual Outputs Achieved in Quarter:

- 20 tea fields (tea gene bank) maintained on-station.
- 20 acres of cassava (4271 variety) established and maintained on-station

Reasons for Variation in performance

Inadquate funds.

Total	**2,013**
Wage Recurrent	*0*
Non Wage Recurrent	*2,013*
NTR	*0*

Programme 26 NARO Internal Audit

Outputs Provided

Output: 01 5103 Internal Audit

Item	***Spent***
221002 Workshops and Seminars	5,000
221003 Staff Training	894
221016 IFMS Recurrent Costs	2,250
224002 General Supply of Goods and Services	2,500
227001 Travel Inland	3,750

Outputs Planned in Quarter:

One component of internal control reviewed
Adherence to laid down regulations and policies
Accountability & books of accounts reviewed
Internal audit work at institutes reviewed
Losses/fraud investigated as and when it arose.
All Assets physically verified and updated Asset register verified.
Internal Auditors Capacity strengthened

Actual Outputs Achieved in Quarter:

- Traveled to 3 institutes to review the issues raised in their internal raudir eports.

Reasons for Variation in performance

None

Total	**14,394**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 26 NARO Internal Audit

Wage Recurrent	*0*
Non Wage Recurrent	*14,394*
NTR	*0*

Development Projects

Project 0382 Support for NARO

Capital Purchases

Output: 01 5172 Government Buildings and Administrative Infrastructure

Outputs Planned in Quarter:

n/a

Actual Outputs Achieved in Quarter:

NA

Reasons for Variation in performance

NA

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5175 Purchase of Motor Vehicles and Other Transport Equipment

Outputs Planned in Quarter:

n/a

Actual Outputs Achieved in Quarter:

NA

Reasons for Variation in performance

NA

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5176 Purchase of Office and ICT Equipment, including Software

Outputs Planned in Quarter:

Digitize all hard copies of official documents
Develop content for the electronic document management system

NAROSEC Internet
Overhaul all LANs in NARO/NAADS

Address all power requirement gaps identified

Actual Outputs Achieved in Quarter:

NA

Reasons for Variation in performance

NA

Total	**0**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5177 Purchase of Specialised Machinery & Equipment

Outputs Planned in Quarter:

Various Specialised Agricultural and Laboratory Machinery & Equipment procured

Actual Outputs Achieved in Quarter:

NA

Reasons for Variation in performance

NA

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5178 Purchase of Office and Residential Furniture and Fittings

Outputs Planned in Quarter:

Variuos furniture and residential fittings procured.

Actual Outputs Achieved in Quarter:

NA

Reasons for Variation in performance

NA

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Outputs Funded

Output: 01 5151 Payments to International Organisations (CGIAR, ASARECA, WARDA)

Outputs Planned in Quarter:

n/a

Actual Outputs Achieved in Quarter:

Additional partial payment to CGIAR made.

Reasons for Variation in performance

Working within the available resource envelop.

Item	*Spent*
262101 Contributions to International Organisations (Current)	225,000
264101 Contributions to Autonomous Inst.	1,250

Total	**226,250**
GoU Development	*226,250*
Donor Development	*0*
NTR	*0*

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Outputs Planned in Quarter:

NAROSEC:

Demand driven, market responsive and client oriented research agenda developed

Quality management system established .

Institutes ISO certified
Quality management system established
Research activities effectively supervised, monitored and managed
General administrative activities

AbiZARDI:

Maintenance of the crossing block
Surveillance done in 4 more districts to determine spread of CBSD and survey results reported.

Further crosses made, F1s evaluated and maintained in a screen house

Setting up screening experiments for beans genotypes
second set of data, capacity building are made available and trials maintained
Baseline information on tilapia and catfish farming collected
Brochures translated into 4 local indigenous languages
Set up similar trials as in quarter1, in 2- new on-farm sites
Semen for AI service acquired
Data collection and preliminary analysis

Set up 2 on-station trials for the evaluated medicinal plants on goats.
0

BugiZARDI :

FS&LA of Busoga sub-zone reviewed, conducted and updated

District stakeholders forum in Bulambuli, Sironko and Bududa for the utilization of SLM innovations formed and launched
Fungicides from major agro-chemical distributors validated for effectivess against coffee diseases and pests
3 farmer groups comprising of 20 farmers from two sub-counties in Kapchorwa district knowledgeable in establishment and disease management of Arabica coffee
Treatment plots for soil amendment options kept weed free
20ha of productive arabica coffee fields kept weed free
Bearing of productive trees on 20ha enhanced by prunning

Two (2) Orchards rehabilitated in Manafwa and Bududa
2 signposts printed and installed
Atleast 30 farmers trained in Kapchorwa and Kween

4 farmer groups knowledgeable from each district of Kapchorwa, Bulambuli, Sironko and Mbale in performance of good sweet potato variety vines
Available market and elite maize varieties suitable for mid altitude sub zone identified
Suitable bean varieties for mid altitude sub zone identified
3 effective weed management options in upland rice identified for on farm

Item	*Spent*
221007 Books, Periodicals and Newspapers	12,501
224002 General Supply of Goods and Services	94,924

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

evaluation
Late materials for intercropped assessment established
Goat production infrastructure developed

Performance of goat crosses evaluated

Pastures maintained weed and pest free

Alternative goat feeding packages developed
Ethno-veterinary plants with anti-helminthic ability identified

BuZARDI :

Training two farmer groups in Hoima and Kiryandongo in technologies for increasing egg hatchability
Testing of of developed formulation on growth and egg production
2500 kgs of feed formulated and tested for growth rate of weaners

Maintainance of fields (weeding and harvesting) and data collection
Establish evaluation trials for vegetables onstation
Maintainance of fields (weeding, fertiliser application and harvesting)

Taxonomy of at least 2 key pests of 2 prioirty pests of crops in 2 districts of LACZ determined

Evaluate the effectiveness of maize based intercropping systems in controlling maize stem borer infestations in maize

Training FGs and partners in IPM approaches for managing key priority pests identified in Kibaale district
At least one NARO research institute visited to acquire and share new IPM technology innovations
Present at least one paper of IPM survey report at international conference
At least one apiculture development site maintained

Top soil samples collected and prepared for laboratory analysis
Two technologies demonstrated on the use of shrubs and cover crops in one district
Farmer-researcher trials on selected S&WC technologies on test crop (s) established
Land use and tree species selection survey conducted in Kibale district
At least 10,000 fruit tree rootstocks (mangoes, citrus oranges and avocado) raised for grafting
At least 100 Farmer to farmer linkages enhanced for soil and water conservation technologies uptake in Kibale by end of Dec 2013
KaZARDI:

2nd season on-farm bacterial wilt evaluation trials established in Kisoro, kanungu and
kabale;
4 resistant clones multiplied on station

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Data on growth parameters collected and trials managed; and preliminary data analysis
Data on growth parameters collected and trials mnaged; and preliminary data analysis
12,000 cuttings made transplanted and managed

Basic seed fields managed, tubers harvested and post harvest handling
Trials managed, data collected and harvested for the season of 2012B
8 bucks exchanged among 8 farmer groups
Data collected on economic injury levels of nematode infestation and a preliminary report generated
- Atleast 130 foundation/breeding stock maintained
Carry out a survey to document indigenous and introduced fish species in the zone
Data on yield, growth parameters, disease response and palatability of pears collected and analysed
Data on yield, growth parameters, disease response and palatability of pears collected and analysed
50 farmers sensetised on temperate fruit management
At least 3200 Clonal apple and 500 pear rootstocks harvested and managed, atleast 2500apple seedlings grafted and managed
Data on growth characteristics, pest and disease responses collected -4 onstation orchards maintained
One trial maintained (weeding, pest and disease management)
2nd data set on rootstock regeneration collected
Acceptability information generated from processing and quality tasting

MbaZARDI :

Conduct a study of the efficiency and effectiveness of East Coast Fever(ECF) control in selected districts.
In-vivo on station and on farm efficacy studies of three herbs used in helminthosis and NCD management conducted
On- farm disease prevalence and incidence data from selected districts collected.

Field experiments managed, monitored, and data collected Best performing varietal and non varietal technologies identified and monitored.
Data from IPDM trials collected, entered, analysed and reported.
Agronomic data collected and analysed. Farmer participatory palatability and preference evaluation carried out.
Trial management and monitoring and data collection
Establishment of banana trial on different soil types in Isingiro district documented
Food conversion ratios (FCR) for farm made feed ,Ugachic and Jorda pellets for pond tilapia juvenile stages in Bushenyi, Mbarara, Ntungamo and Ibanda districts determined

Determine high yielding mango, citrus and avocado varieties , maintain experiments and multiply varieties in the nursery
Determine reduction in fruit pest and diseases severities following application of developed technologies
Determine the nutrional value of traditional fodder trees,plant technology evaluation trials on-farm and on-station, and train farmers hosting evaluation trials on-farm

MuZARDI:

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Demonstration trials monitored at least 3 times and data collected on performance (Disease and pest incidence, and growth vigour); Harvesting done
At least 390 litres of fuel for on-station adaptive research activities purchased

Nil

NabuZARDI:

Pigs maintained on-station
Chicken maintained on-station
Nil

Cattle maintained on-station

Four pasture (forage legumes, fodder trees and grasses) multiplication sites maintained on-station, and in Moroto and Katakwi districts

1 Monitoring visit to demonstrations

Harvesting, Drying and threshing carried out

Soil samples collected from Serere district on farm trial plots for soil fertility before full establishment and analysed
At least 3 tools and platforms for behaivioral and practices changes designed
At least 2 agro pastoral consultations and workshops

NgettaZARDI:

Maintenance of trial and data collection.
185 bags (30Kg) of fish feeds procured.

On-station adaptive trials maint.ained.

Rwebitaba:

Genebank at Rwebitaba ZARDI maintained
Tolerance of clones to 2 major pest assessed in Kyenjojo and Kabarole by end of the quarter
Construction of screen house started in the quarter

Data on weekly scientic observations, meseasurements of yield (weight of made tea/ha) yield components (no. of shoots/plant) collected by end of December 2012
Cup quality of 2 clones determined by end of the quarter
At least 2 community sensitisation meetings on agroforestery project with local farmers and preliminary visits held in each of the 7 districts of the zone

Four Boer does bought
Three cattle grazing paddocks rennovated
6,000 kgs of poultry and piggery feeds

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

3,000 chicks hatched.

NaLIRRI:

Data on milk yield collected and a progress report produced

Purchase at least 0.5 ton of protein and mineral ingredient, Lab. Analysis for batch 1 feed samples,

Purchase at least 0.25 ton protein, mineral and vitamin ingredients
Data collection to each farm site x 3
600 Hired labour
6,700 Design and test conservation and processing technologies
10,650 stipend , Supervision allowance, other allowances
3,760 Attend project meeting/workshops, Project Administrative expenses, Contribution for project coordination
Data collected from at least 15 farms
Samples from at least 15 farms analysed
25,360
samples collected to expand feed database by at least 15 %
samples to expand feed database by at least 15% analysed

Summary data on trials in the 4districts
Clean on farm trials
100 stakeholders trained on climate change issues in the 4 districts .

Summarised M&E data and reports on livestock research projects.

NARL:

At least 2 on-station and 2 on-farm trials established
Supervisory & monitoring visits conducted
1 field study on the profitability of different soil fertility/soil and water management technologies conducted
1 Farmer Field Day held

1 Farmer Field Day held
Relevant models/ tools procured
Specimen collection and DNA analysis
Information on mango fruit fly management disseminated among stakeholders
1.Data entered and processed for analysis 2. Report on the effect of different spatial arrangements of varietal mixtures of susceptible and resistant beans on the development of angular leaf-spot and anthracnose diseases of common beans 3. A report on effect of cultivar mixtures on controlling weevil population and damage 4. A report on population and corm damage on selected banana cultivars
At least 2 market needs identified and being addressed
At least 1 proven technology made available in the technology pathways
Develop and test malted and fermented products from sorghum and millet
Market information on fermented and malted sorghum and millet from the regions of the country
Assess utilization options for the two species
1 ferrocement tank evaluated on-farm
1st solar dryer for rice prototype/method evaluated on-farm
1st ADP prototype planter for maize evaluated on-farm
2nd SAT prototype planter for maize evaluated on-farm
1st SATand electrical driven prototype of de-stoner for rice evaluated on-station

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Transformation experiments and reporter gene assays.

Evaluate the new control technologies incorporated in cultural control strategy on farm
At least two trials planted
Optimisation of the markers
Seed from maintenance fields harvested; Seed obtained and properly stored
Seed of weevil resistant lines multiplied in field and screen house
Maintenance and data collection at multi-locational and participatory variety selection trials
Regional trials Conducted one site
Evaluate the collected germplasm on station
Evaluate the new control technologies on farm
At least 200 crosses made to generate true seed
20 acres planted in two districts
Electricity supplied to all NaCRRI units & Electricity and water system repaired
4 Trial sites visited
925 litres of fuel purchased
4 Computers 1 incubator,2 Mowers are repaired
180 assortment of stationery items purchased
1 Staff attending Finance Workshop
1 Staff attending Procurement seminar .

Appropriate sites for cage fish culture on lake Victoria selected
Preliminary EIA report on cage fish farming
First drafts of at least one capture fisheries and two aquaculture technologies
First drafts of at least one capture fisheries and two aquaculture technologies.

NaFORRI:

Annual economic value of traded forest products, non-timber forest products and forest employment in northern region determined
Trial for assessment of carbon accumulation for selected tree species in Southern dry lands established
Information on carbon accumulation and maintenance of trials.

NaSARRI:

1.5 At least 4 consultative meetings held

2.2 At least 1 technical peer review meeting held
1.2 60 crosses generated and F1s planted at NaSARRI.
1.3 16 crosses generated and F1s raised
2.2 5 fungicides screened
-
1.2 6 elite lines evaluated at NaSARRI
1.3 At least 3 trials planted (yield, drought tolerance & shattering) on station
1.4 Data collected from 3 TVCs
1.1 Planting and characterising 30 accessions
1.2 Collect and analyse data
1.1 To characterise 50 accessions.

2.1 Screening data collected and analysed on 20 accessions

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

1.1 Grow and characterise 20 forage accessions
2.1 Collect and analyse data
1.1 At least 25 accessions characterized for various traits
1.2. At least 20 single plant selections for high oil & limited shattering content evaluated on-station.

1.3. At least 15 single plant selections evaluated for resistance to Cercospora and Cylindrosporium leafspots on station
2.1 Data collected & analyzed
2.2 Data recorded & analyzed
2.3 Data recorded & analyzed
4.4 At least 100 kg of foundation seed produced
1.1 At least 10 accessions characterized for nutrient quality
At least 50 F2 crosses evaluated
On-farm seed production plots established in at least 5 districts.
Data collected from on-farm trials
1.1 At least 200 accessions planted for prelimary characterisation on station
1.4 At least 80 F2 early generation progenies selected for further evaluation for leaf spots and rosette virus resistance
1.5 At least 2 studies conducted to try to understand mechanism of rosette resistance
2.1 At least 2 studies conducted to ascertain levels of aflatoxin contamination in groundnuts .

2.2 At least 2 experiments set up to test against techniques used to reduce aflatoxin contamination
2.3 At least 1 experiment set up to evaluate the mechanism of aflatoxin contamination
1.1 Data on plant habit and agronomic traits collected. Flowers selfed for genetic purity
1.2 Crossing between selected germplasm and at least 2 adapted genotypes/ varieties done
2.1 The defoliants applied on cotton planted at on-station and data recorded
2.2 On-station trials to test at least 6 growth regulators for improvement of cotton yields planted.

Actual Outputs Achieved in Quarter:

- Research activities effectively supervised, monitored in 2 PARIs.
- General monitoring of NARO land in 9 PARIs.

Reasons for Variation in performance

Inadquate release of funds.

Total	**107,425**
GoU Development	*107,425*
Donor Development	*0*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

Outputs Planned in Quarter:

NAROSEC:

PR:

Make use of the tear drops during seminars & workshops
5 roll up banners produced & delivered

Item	*Spent*
221005 Hire of Venue (chairs, projector etc)	42,915
221008 Computer Supplies and IT Services	10,537
227001 Travel Inland	51,727

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

1 congratulatory message written for Independence day celebrations.

400 brochures distributed to key stakeholders during meetings, workshop & seminars
500 copies of seasonal cards produced & distributed to stakeholders
4 national organizing committee meetings attended .

DG's office:

Meet quarterly Subscription
1 visit per quarter
3 meetings held
5 meetings
held

ACCOUNTS:

Qtr 2 Funds allocated & released

Qtr 2 financial performance monitored, management/sector decisions implemented.
Payments processed, Financial obligations fulfilled
Management decisions implemented.

ABIZRDI:

A total of 75 farmers trained from both Zombo and Nebbi districts .

1.5 mt of coffee availed to market as mbuni
4ha of land established for seed potato varieties multiplication
3 farmer groups capacity in quality seed potato production enhanced

Status of project implementation ascertained
15 elite lines of groundnuts response to disease and yield identified .

Stakeholder workshop conducted in Kiryandongo to select service providers.

Soil typing analysis conducted in one district
Maintenance of 22 computers and accessories
Procurement of Consumables and office stationeries.

Participating farmer groups trained in technology management
Data on socio economic aspects affecting use of research technologies collected

Availability of information on all activities in the SWAEZ for different stakeholders all the time.

1 Strategic partnerships with sister institutes & partner organizations established by December 2012
1 radio programme conducted to raise awaresness & highlight new technologies that have been developed by December 2012

MbaZARDI Calenders printed & distributed by December 2012

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

2 farmer groups trained in technology management.

Established on-farm trials monitored at least once; At least 12 new on-farm trials established

Conduct at least 1 training workshop (one in 1 district of the zone)
Hold atleast one semi annual review meeting
Atleast 420 L of fuel for staff transport and generator procured
Contribution to NARO year planner and 1 newspaper article and advertisement .

Once a quarter.

Once a quarter.

Rwebitaba scientists visit other PARIs for knowledge exchange
At least 2 NARO/NAADS collaborative meetings held by end of the quarter
Two radio talkshows conducted within the quarter
Annual website hosting fee.

NaLIRRI:

1 field trip for 1 meeting each of 50 participants
At least 1 conference attended

Material for 1 poster and leaflets prepared
One paper presented in scientific conference.

2 tonna purchased, solar driers produced and distributed to farmers and Packing materials procured.

NARL:

Maintain content of 4 modules on ARENET

Acquire/collect national publications.

NaCRRI:

Data collection and mobilising other stakeholders at community level to adopt the technologies
Printing of 12,500 brochures

At least 10 demostration set up and selections done
Rural appraisal conducted

Actual Outputs Achieved in Quarter:

- Updated the NARO website with a conference module.
NARO 2013 calenders and diaries.
- Organised World food day
- Participated in organizing the Jinja agricultural show.

Reasons for Variation in performance

Inadquate release of funds.

Total	**105,179**
GoU Development	*105,179*
Donor Development	*0*
NTR	*0*

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Output: 01 5104 Agricultural research capacity strengthened

Outputs Planned in Quarter:

1. Staff Salaries and other contract salaries paid
2. Good Governance and corporate social responsibility ensured and promoted; Leadership and oversight Management of agricultural research provided;
3. Staff recruited and staff training - (Local and International)
4. Stationery and office consumables procured;
5. Office equipment maintained;
6. Water utility bills paid;
7. Electricity utility bills paid;
8. Telephone, Postage and courier services used;
9. Vehicles serviced;
10. Office buildings maintained ;
11. Compound maintained ;
12. Maintain effective ICT facilities;
13. Subscription for internet paid.
14. 4 UJAS editorial committee meetings facilitated;

Departmental Files organized for achieving

4 institutes visited

ACCOUNTS:

15. Quarterly entity accounts, financial statements, commitment control reports, several manual books of accounts maintained. Bank charges timely paid;

Qtr 2 financial reports submitted to MFPED
Quality of financial reports improved
Travel to atleast 3 institutes to monitor accounting activities
Hold periodicalStaff & budget meetings to Review and analyse such Budgets
SL Dynamics Database updated, financial reports submitted
Qtr 2 Transactions input, processed and approved in IFMS

Tuition & Examination Fees for 2 persons paid , attend CPD seminars & confrences (3 Persons)
Tuition fees for 2nd semister & material.

16. Acquisition of books, agric. Information magazines and newspapers;
17. Provision of security services;

18. Break tea and Refreshments provided to staff and visitors;
19. 3 Preparatory meetings for NARO Scientific Conference;
20. Organising NARO Scientific Conference;

Item	*Spent*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	9,541
211103 Allowances	6,860
221002 Workshops and Seminars	90,400
221003 Staff Training	11,974
221004 Recruitment Expenses	24,136
221006 Commissions and Related Charges	5,939
221011 Printing, Stationery, Photocopying and Binding	9,352
221014 Bank Charges and other Bank related costs	14,028
221016 IFMS Recurrent Costs	3,852
222001 Telecommunications	4,011
222002 Postage and Courier	28,056
222003 Information and Communications Technology	7,912
223005 Electricity	5,611
224002 General Supply of Goods and Services	16,398
225001 Consultancy Services- Short-term	41,636
226001 Insurances	35,732
227001 Travel Inland	9,048
227002 Travel Abroad	45,767
227004 Fuel, Lubricants and Oils	116,902
228001 Maintenance - Civil	35,317
228002 Maintenance - Vehicles	8,183
228003 Maintenance Machinery, Equipment and Furniture	7,372

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

21. 1 Annual planning and Review meetings;
22. 3 Quarterly planning and Review meetings;
23 2 Dissemination and Internal review workshops.

Three components of internal controls reviewed.

Adherence to laid down regulations and policies.

Improved accountability.

Engineering dept:

Engineering data and reports

reports
500 Business cards, assorted office stationery
Drainage system overhauled and improved

Correction of defects, if any
Rehabilitation requirements report
Levelling of compound
UIPE Workshop
Training
electricals

NaLIRRI:

Maintenance of the crossing block
Surveillance done in 4 more districts to determine spread of CBSD and survey results reported

Further crosses made, F1s evaluated and maintained in a screen house
Setting up screening experiments for beans genotypes
second set of data,capacity building are made available and trials maitained
Baseline information on tilapia and catfish farming collected
Brochures translated into 4 local indigenous languages
Set up similar trials as in quarter1, in 2- new on-farm sites
Semen for AI service acquired
Set up 2 on-station trials for the evaluated medicinal plants on goats.

Actual Outputs Achieved in Quarter:

- Organised and held the NARO scientific conference.
- Published UJAS VOL. 13.
- Conducted 2 M and E missions in the PARIs.
- Updated the NARO website with a conference module.
NARO 2013 calenders and diaries.
- Organised World food day
- Participated in organizing the Jinja agricultural show.

Reasons for Variation in performance

Inadquate release of funds.

Total	**538,026**
GoU Development	*538,026*
Donor Development	*0*
NTR	*0*

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Output: 01 51 05 Generation of technologies for priority commodities

Outputs Planned in Quarter:

"Seed of weevil resistant lines multiplied in field and screen house"
Survey conducted in 2 districts
"Establish 3 crossing blocks, Core germplasm assembled in screen house, 100 virus isolates collected and analysed with PCR-based methods, Screening trial established"
20 kg of breeder seed for maize and rice produced and distributed
At least 40,000 TC plantlets generated, At least 6 new varieties selected from field trials
Pest and disease surveillance and incidence established
Collect pre-experiment soil status data in Kabalore
Collect agronomic and disease data on banana clones,
Acquired solar pump system for small-scale irrigation installed
Clay lined water harvesting pond and pond compactor completed on-station
Digestibility and Feed conversion figures for 1 formulated feed determined
Spatial data sets for selected sites collected
"Feed samples data collected, Maintenance of experimental animals "
"Assembly of germplasm, "
Surveillance done in 1 more districts to determine spread of CBSD and survey results reported
Crosses made and crossing block maintained
Maintenance of experiment
Information packaging and dissemination
Monitoring, preliminary data collection and analysis
Identified elite maize varieties suitable for mid altitude sub zone promoted
Mananagement of multiplication of new cassave varieties
1 effective weed management options in upland rice identified for on farm evaluation
Maintain trials and avail seedlings to uptake patha ways
District stakeholders forum in Sironko for the utilization of SLM innovations formed and launched
1 effective weed management options in upland rice identified for on farm evaluation
Stocking of fish ponds
5 DTM demonstration plots set up
Carry out a survey to document introduced fish species in the zone
Promote the identified integrated beans insect pest and disease management (IPM) technologies
Results disseminated to farmers
Monitoring of trials
Food conversion ratio (FCR) for Ugachic pellets on pond tilapia and catfish Juvenile stages cts determined.
Trial monitoring and data collection
Establishment of banana trial on different soil types in selected districts documented
data collected on performance (Disease and pest incidence, and growth vigour)
At least 1 rice market chain actors' meetings held according to themes
atleast 2 farm on farm trials selected and stocked
Data entry, analysis and report writing
One pasture multiplication (forage legumes, fodder trees and grasses) sites set up and 4 maintained
Parent stock of 2 Sahiwal cattle collected and raised on-station
1 trials for the tesing and evaluation of ox-drawn weeders conducted
At least one technology for water harvesting/harnessing and storage for

Item	*Spent*
224001 Medical and Agricultural supplies	450,000

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

livestock use promoted
On farm evaluation of 1 rice varieties completed.
On farm Maintenance of experiment and data analysis
2 happas and happer stands acquired, happers stocked with fingerlings and maintained..
Biochemical profiles of 20 Ugandan tea clones established

Actual Outputs Achieved in Quarter:

NACRRI
*** Maintainace of on station trial fields of Maize, Beans, coffee, cassava, rice**
*** Maintainace of on station trial fields of Maize, Beans, coffee, cassava, rice**

Tea
*** Conducted a survey on major tea pests and diseases in the western highlands**
*** The major diseases found in Kanungu were Armillaria mellea and Xylaria**
*** 20 tea fields (tea gene bank) maintained on-station at Rwebitaba**

Fish
*** Three reconnaissance surveys were conducted in the inshore waters of the Ugandan part of Lake Victoria and geo-referenced data was captured for 157 grounds identified as potential fish breeding/nursery grounds.**
*** Draft map outputs produced for the locations of fish breeding/nursery grounds in Lake Victoria.**
*** In Abi ZARDI Preliminary results for feeding ecology indicates that Alestes baremoze feeds on a great diversity of food items with Ephemeroptera nymph dominating as the most prey item and photo period has an influence on stomach content fullness**

cassava
*** 12.5 new acres planted with NASE 14 cassava variety in Abi ZARDI**
*** Acquired 14 bags of NASE 14 cassava variety from NaCRRI for Ikulwe**
*** 1ha of multiplication garden established at Ikulwe station & at 30 cm height**

Banana
*** M9 and FHIA 17 promoted in 30 districts. 8 farmers in each district hosting the demos. Iganga,mayuge,kaliro,Sironko,Butalegya,Jinja, Kasese, Bushenyi, Kabalore, Kanungu, Rukungiri, Ruwelo,Mukono, Mubende, Kiboga, Apac,Nebi and Lira, Masindi and Hoima.**

Coffee
*** Comprehensive national surveys for spread and impact covered Bunyoro sub-region. Manuscript for spread and impact studies submitted for publication in a refereed journal.**
*** Monthly data collection on community-based participatory approaches implemented in Mukono and Nakaseke districts comparing phyto-sanitary farms with non-phyto-sanitary ones was done and undergoing analysis.**
*** Running cultures of entomo-pathogens B. bassiana and M. anisopliae established in the laboratory at Kituza**
*** 2.2 MT of arabica coffee seed available for uptake pathways in Mbale, Kapchorwa, Kween, Sironko**
*** 4500 seedlings avaliable for uptake pathways in in Mbale, Kapchorwa, Kween, Sironko, Manafwa,**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Dairy cattle
*** 16 forage choppers were demonstrated and availed to farmers in Masaka and Ngora districts. This meant a reduction (30%) in of time spent on the processing forage.Wastage of forage was reduced by 30%; Chopping related accidents were considerably reduced; Size of the machine eased its movement**
*** A Decision support tool for optimizing forage utilization in smallholder dairy production systems was improved and was tested on 10 household farms ---an average increase (20%) in milk yield during the dry season due to availability of high quality feeds.**

Maize
*** Yield potential for 3 maize (Longe 4, 5 and MM3) and elite sorghum varieties (E1-E11) were established under 3 different spacing and no nutrient supplement and rain fed conditions in West nile zone**
Beans
*** Total of 258kg of foundation seed produced at Bulegeni.**

Reasons for Variation in performance

None

Total	**450,000**
GoU Development	*450,000*
Donor Development	*0*
NTR	*0*

Project 1138 EAAPP

Capital Purchases

Output: 01 5175 Purchase of Motor Vehicles and Other Transport Equipment

Outputs Planned in Quarter:

TRANSPORT EQUIPMENT PURCHASED

Actual Outputs Achieved in Quarter:

Procure Motor Vehicles & Motor Cycles and Procure Tractors and Implements
*** Document submitted to Solicitor General for approval.**

Reasons for Variation in performance

NA

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5176 Purchase of Office and ICT Equipment, including Software

Outputs Planned in Quarter:

Computers, Software, Photocopiers and Computer. Peripherals -

Actual Outputs Achieved in Quarter:

NA

Reasons for Variation in performance

NA

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5177 Purchase of Specialised Machinery & Equipment

Outputs Planned in Quarter:	***Item***	***Spent***
Agric Trctors and their accessories procured. .Procure ET equipment and consumables. (EQUIPMENT) 1.2Procure hardware and accessories, software (SAS,interherd GIS) (EQUIPMENT	231005 Machinery and Equipment	1,365,674

Actual Outputs Achieved in Quarter:

Procure Liquid Nitrogen Plant
Q2
- Contract signed for delivery and installation of liquid nitrogen plant.

Reasons for Variation in performance

Procurement process is under the commitment levels

Total	**1,365,674**
GoU Development	*0*
Donor Development	*1,365,674*
NTR	*0*

Outputs Funded

Output: 01 5151 Payments to International Organisations (CGIAR, ASARECA, WARDA)

Outputs Planned in Quarter:	***Item***	***Spent***
Payment made / transferred to ASARECA for Regional coordination for the project	264101 Contributions to Autonomous Inst.	115,000

Actual Outputs Achieved in Quarter:

Funds transferred to ASARECA and MAAIF for project activities

Reasons for Variation in performance

NA

Total	**115,000**
GoU Development	*0*
Donor Development	*115,000*
NTR	*0*

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

	Item	*Spent*
Outputs Planned in Quarter:	224002 General Supply of Goods and Services	34,333

Digital early warning system established.

Diversity of cassava pathogens determined .

Interaction studies conducted
CBSD epidemiological studies conducted.

Further CBSD epidemiological studies conducted

Physiological studies conducted
Genetic diversity studies conducted.

Germplasm evaluation for resistance sources conducted.

Inbred population generated

Varieties with enhanced nutrient levels developed

Varieties with novel starches developed.

Wild relatives evaluated
Germplasm evalutated for earliness.

Data from Multilocational trials generated.

Data from Onfarm trials generated .

Genotypic data generated.

In vitro cultures establsihed in Q1 and maiteined throught to Q4
Transgenes produced.

Communication strategy developed.

MCS developed .

Market research studies conducted.

At least 200 samples collected
All 200 samples established and recovered plants maintained
Report.

A document on germplasm reactions to one diseases and one insect pests .

A report on rice germplasm reaction to rice blast and drought.

A report on crossability of different varieties.

A Report on best performing generations in terms of drought tolerance
and rice blast
Report.

One (report/paper) on farmers awareness of RYMV.

Documentation (report/paper) on farmers mgt practices of AfRGM.

6 workshops held in the 6 milk sheds (1 region per month).

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

12 field tours (2 per milk shade, 2 per month)
Certification guidelines Registration forms Registration data base Breeders Directory .

Establish trial to raise (1) of the most abundant species
AfRGM pest samples collected from 5 different key locations

Documentation on at least 2 AfRGM control methods

Actual Outputs Achieved in Quarter:

Cassava Regional Centre of Excellence
Technology Generation
-Initiation of crossings and up to 20 cross combinations have been made for each parent of the original previously assembled 30 parental lines with CMD and CBSD resistance.
- Initiated crossings and up to 15 cross combinations have been made for original previous 12 beta carotene parental lines with CMD resistance and 5 white-fleshed parental lines. Collected data on the Planted G X E studies of 12 beta carotene lines in 3 locations. Selfing of 8 beta carotene lines was undertaken..
- Data collection continued on AYT trials of 26 clones established at four sites: Namulonge, Masaka, Tororo and Kaberamaido
- In the effort to evaluate of candidate cassava variety from Tanzania (TZ 130), data on 760 genotypes were collected at NaCRRI. Planted OFTs at 9 sites in Uganda: Arua, Lira, Hoima, Nakasongola, Kayunga, Mukono, Busia, Kamuli, & Kumi.
- Data on 840 cassava isolates continued to be collected in order to understanding the biology, ecology, epidemiology and diversity of major pests and diseases of cassava. CBSD pressure & cassava genotype effects continued to be established. 3additional data sets were collected on 4 genotypes at 2 locations creating 12 data sets for eventual analysis.
-
- Data on live cultures of U/CBSV established in screen house were collected. 3 agroecological zones have been surveyed, 3,050 specimens collected, lab testing of 3,050 cassava specimens on CBSD continued

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

during the quarter.
Dairy component
- New Napier sites established at NaLIRRI, Tororo. Sixth season data on napier clones performance were collected . Preliminary analysis indicates that clones 16805, Kakamega 2, 112, and Kakamega 1 are most promising.
- Maintained 6 ha of forage seed established at NaLIRRI, NaCCRI and Masaka
- Maintained 6.75 ha of assorted grasses established at NaCRRI.
- Maintained 3 ha of Brachiaria hybrid cv. Mulato established in Wakiso and Masaka
Rice component
- Continued to participate in the evaluation of the 12 rice variety candidates to be released y MAAIF.
- Information on population dynamics and management of AfRGM was generated. It was established that 35% of the farmers were aware of the pest problem. The attack on the Rice was confirmed to be severe at the tillering stage. Two species of parasitoids were identified; Platygaster diplosisae and Aprostocetus procerae . Aprostocetus procerae caused 60% of the total mortality whereas Platygaster diplosisae caused 40% .The Larvae that were not parasitized were able to develop into adult insects. The sex ratio of emerged AfRGM was confirmed to be 3:2(male: female) .
- In major rice growing areas, it has been confirmed established that farmers' currently use manure (15%) and inorganic fertilizers (6%); the RYMV incidence is at 74% incidence through testing 103 lines in three locations in the country. Five RYMV promising genotypes have been selected for advance trials
- A tractor drawn planter modified at NARL was tested and preliminary findings shows that its saves time and money.
- A walking harvester modified at NARL that harvest 1 acre per hour with a fuel consumption of 1L per acre was tested in 8 fields. The overall cost of hire of the harvesting is about 30,000/=.per acre. Harvesting manually varies with field terrain, yield, soil moisture and weed status. Generally an average of 80,000/= is charged for harvesting hectare.
- A diesel engine thresher modified at NARL was tested in 4 rice fields. The threshing capacity was found to be 500kg per hour with fuel consumption of 1.2L per acre. The overall cost of hire of the thresher is about 20,000/=. Threshing is charged 68,000/= per acre. This rate is adjusted upwards if the yield is considered to be high.
Value Addition component
-A cassava value chain analysis was conducted in Luwero, Rakai, Masindi, Soroti, Budakha, Busia, Rubirizi, Kasese, Nebbi, Apac. 5-most traded products and potential markets were identified . 7 post harvest technologies identified during the value chain analysis continued to be evaluated.
- 1 technology is evaluated for commercially viable cassava-based products.
- 8 strategic partnerships have been identified. Glucose and high fructose syrup prototypes developed meet 50% satisfaction of Riham industries, one of the potential consumers.
Wheat component
-Local varieties with potential resistance or tolerance to Ug99 are being developed. 19 uniform local collections showed no disease at Buginyanya. The harvested for seed is being multiplied by 4 farmers for 2012B experiments.
- Promising wheat introductions with resistance to Ug99 are being developed. 90% of the nurseries at Kalengyere continued to show Septoria low severity in all plots. This depicted the low stem rust

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

incidence (6 lines). Nurseries harvested and yield data being compiled for further evaluation. 46 wheat lines at PYT1 showed good plant stature and no rust recorded on the replicated sites.
NAGRC component – Improving the availability of dairy germplasm Subcomponent 3.1
- Out of 225 Ankole cattle inseminated with AI, 180 cattle have been confirmed pregnant at Ruhengere Crossbreeding Ranch.
- Priming the imported120 dairy heifers and trained 5 dairy cattle bulls for semen collection. Use of 3000 doses of sexed semen confined to selected heifers country wide.
- Preparations of launch the dairy farmer groups originally registered underway.
- AI Brochure distributed by NAADS. Over 1000 bronchures have also been shared during the World day celebrations in Ocotber in Mbarara ZARDI.
- 5433 liters of Liquid Nitrogen distributed to 200 AI sub-centers.
- Finalized the Regional Embryo Transfer (ET) manual and harmonization of ET protocols developed in conjunction with regional project participants.
- Farmer to farmer tour held in Kayunga involving 60 dairy farmers.

Reasons for Variation in performance

NA

Total	**34,333**
GoU Development	*0*
Donor Development	*34,333*
NTR	*0*

Output: 01 51 02 Research extension interface promoted and strengthened

Outputs Planned in Quarter:

At least Two products per component promoted
At least 1 Innovation platform per component (Cassava, Wheat, Rice) developed & Strengthened

Actual Outputs Achieved in Quarter:

Cassava Regional Centre of Excellence
*** Published 15,000 copies of enhanced information on CMD and CBSD distributed during the World Food day in Mbarara.**
Value Addition component
*** Two staff jointly with NAADS trained 40 equipment fabricators (continued from last quarter).**
NAGRC component - Improving the availability of dairy germplasm Subcomponent
*** Farmer to farmer tour involving 60 dairy farmers in Kayunga.**
*** Exhibited Ayrshire and Ankole dairy crosses during World Food Day in Mbarara. Participants were exposed to high growth rate, high milk production and survivability within the region of these crosses.**
*** 1000 AI Brochures distributed distributed during the World Food day in Mbarara.**
*** Finalization of the Regional Embryo Transfer (ET) manual and harmonization of ET protocols in conjunction with regional project participants.**
*** Backstopping of 65 MOU and RELINE farmers undertaking recording continued.**
*** Shared the synergies built between NaLIRRI, NAADS and**

Item	*Spent*
221001 Advertising and Public Relations	68,005
221002 Workshops and Seminars	320,565
221007 Books, Periodicals and Newspapers	1,200
221011 Printing, Stationery, Photocopying and Binding	24,549
224002 General Supply of Goods and Services	258,555

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

NAGRC&DB.
NAADS component Training and Dissemination – (by NAADS)
*** NAADS Team conducted a nationwide exercise to identify farmers to participate in the multiplication of new cassava varieties particularly MM96/4271. Data generated on GPS locations of all the sites with improved varieties. -Acreage of each plot with improved varieties established. Disease incidence (ACMD and CBSV) determined on plots. 3 NGOs/Farmer groups received technical support in cassava seed multiplication. The groups signed an MOU with NAADS and district local governments to abide by all the rules of multiplication of certified seed materials. 1043 acres of cassava established and maintained.**
*** 3 cassava platforms formed in Mukono, Ngetta and Rwebitaba (210 stakeholders- 37F)**
*** Strengthened 6 farmer platforms formed in Bulindi , Mbarara, Ngetta and Mukono.**
*** Disseminated over 12,000 bronchures on CBSD and CMD during the World Food Day celebrations and EAAPP regional wrap-up meeting in November 2012.**
Dairy component
*** Increased awareness and demand of NSD tolerant Napier grass varieties through training of 125 farmers in Masaka, 45 in Wakiso and 30 Jinja (39F)**
MAAIF - Improving the availability of planting materials, and seeds Subcomponent 3.1.
100 cassava acres established (BulZARDI 30; NgeZARDI 35 & AbiZARDI 35). Mature materials was distributed through NAADS. Over 1000 acres of cassava for multiplication has been established.

Reasons for Variation in performance

NA

Total	**672,873**
GoU Development	*0*
Donor Development	*672,873*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Outputs Planned in Quarter:

Scientist salaries paid
Technecian salaries paid
Driver, Accounts & Admin salaries paid.

Students costs paid Scientist salaries paid
Technecian salaries paid
Driver, Accounts & Admin salaries paid.

Students costs paid .

1.9Conferences & Seminars attended.

Tailor-made courses conducted

Meta-data website established

Strategy for sustainability commences

Item	*Spent*
221003 Staff Training	282,751
224002 General Supply of Goods and Services	148,975
225001 Consultancy Services- Short-term	48,333
227001 Travel Inland	603,297
227002 Travel Abroad	133,533
227004 Fuel, Lubricants and Oils	266,675
228002 Maintenance - Vehicles	34,058

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

Two meeting report
Two Field Reports and one draft research proposal

Six month pay vouchers.

Six month pay voucher.

Vehicle registration and trip brief reports.

Two service vouchers.
Six month pay voucher.

Stationery, office equipment, communication and mail.

Small Equipments Procured, Rehabilitation of buildings accomplished.

Actual Outputs Achieved in Quarter:

Project Coordination Unit
Human Resource Capacity Building
*** 3 PhD students received University admissions**
*** Applicants shortlisted for vacant training posts**
*** 18 Consultants for Cassava RCoE selected.**
*** Identification of students for MSc. (6) & PhD (5) scholarships continued;**
Dairy component
PhD student recruited
Value Addition component
*** One staff attended a pre-EAAPP MTR preparatory meeting in Addis Ababa. One PhD (product development) and one MSc (food safety) degree candidates admitted.**
Wheat component
*** 3 staff attended a Wheat for Food Security in Africa Symposium in Addis Ababa, Ethiopia. 2 papers were presented on the status of wheat in Uganda.**
NAGRC component
*** 60 Liquid nitrogen containers and AI flasks delivered and cleared for use.**
MAAIF - Improving the availability of planting materials, and seeds Subcomponent 3.1.
*** Recruited Food safety consultant and has submitted an acceptable concept paper.**
*** Prepared a schedule for interaction with Parliament to finalize PVP Bill.**
*** Evaluation of 7 upland, 5 paddy rice and 3 wheat candidate lines for release continues.**

Reasons for Variation in performance

NA

Total	**1,517,621**
GoU Development	*0*
Donor Development	*1,517,621*
NTR	*0*

Output: 01 51 05 Generation of technologies for priority commodities

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

	Item	*Spent*
Outputs Planned in Quarter:	224001 Medical and Agricultural supplies	115,000

"Establish 3 crossing blocks, Core germplasm assembled in screen house,

"

150 kg of breeder seed for maize and rice produced and distributed
Spatial data sets for selected sites collected
Surveillance done in 4 more districts to determine spread of CBSD and survey results reported
Crosses made and crossing block maintained
Maintenance of experiment and analysis of 1st set of collected data
High quality farmer preferred disease tolerant varieties identified
3 effective weed management options in upland rice identified for on farm evaluation
3 effective weed management options in upland rice identified
Monitoring and management of of trials
At least 1 rice market chain actors' meetings held according to themes
Two pasture multiplication (forage legumes, fodder trees and grasses) sites set up
On farm evaluation of 4 rice varieties completed.

Actual Outputs Achieved in Quarter:

Cassava Regional Centre of Excellence
Technology Generation
- Maintained 2 acres of 30 parental lines with CMD and CBSD resistance for crossing and 1 acre of 10 beta carotene parental lines with CMD resistance and 5 white-fleshed parental lines established in crossing block. - - Maintained AYT trials of 26 clones established in at four sites: Namulonge, Masaka, Tororo and Kaberamaido
- Maintained 2 acres of candidate varieties (TZ 130) for release. Maintained OFTs at 9 sites in Uganda: Arua, Lira, Hoima, Nakasongola, Kayunga, Mukono, Busia, Kamuli, & Kumi.
- Maintained 6 ha of forage seed established at NaLIRRI, NaCCRI and Masaka
- Maintained 6.75 ha of assorted grasses established at NaCRRI.
- Maintained 3 ha of Brachiaria hybrid cv. Mulato established in Wakiso and Masaka

Reasons for Variation in performance

NA

Total	**115,000**
GoU Development	*0*
Donor Development	*115,000*
NTR	*0*

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Capital Purchases

Output: 01 5172 Government Buildings and Administrative Infrastructure

Outputs Planned in Quarter:

Drainage system overhauled and improved

Correction of defects, if any
Rehabilitation requirements report
Levelling of compound

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QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Plumbing and concrete ceiling

3office blocks at kyembogo
Hatchery finishes and fittings done

2 administrative buildings maintained clean and habitable

Reroofing of library

Renovated ecovic boys' quarter to create a net shed

Actual Outputs Achieved in Quarter:

None

Reasons for Variation in performance

Commitments made

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5175 Purchase of Motor Vehicles and Other Transport Equipment

Outputs Planned in Quarter:

Motor vehicles and Motorcycles
Purchased

Actual Outputs Achieved in Quarter:

None

Reasons for Variation in performance

Commitments made

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5176 Purchase of Office and ICT Equipment, including Software

Outputs Planned in Quarter:

- ICT infrastructure and equipment procured;
-
ICT Implementation Team trained.

Power requirements gaps addressed.

Staff trained in the appropriate ICT applications

Actual Outputs Achieved in Quarter:

None

Reasons for Variation in performance

Procurement procee under way

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5177 Purchase of Specialised Machinery & Equipment

Outputs Planned in Quarter:

NAROSEC:

PR:

Various specialised machinery and equipments , Agric.tractors proured, Agric Laboratory equipment procured.

Actual Outputs Achieved in Quarter:

None

Reasons for Variation in performance

Procurement process under way

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Output: 01 5178 Purchase of Office and Residential Furniture and Fittings

Outputs Planned in Quarter:

Laboratory furniture, Office furniture, Conference furniture, Bookshelves,Library furniture and fittings, dinning room furniture procured for various Agric. Institutes.

Actual Outputs Achieved in Quarter:

None

Reasons for Variation in performance

Commitments made

Total	**0**
GoU Development	*0*
Donor Development	*0*
NTR	*0*

Outputs Funded

Output: 01 5151 Payments to International Organisations (CGIAR, ASARECA, WARDA)

Outputs Planned in Quarter:

n/a

Item	*Spent*
262101 Contributions to International Organisations (Current)	1,620

Actual Outputs Achieved in Quarter:

Contributions by NARL towards International Agric Org

Reasons for Variation in performance

na

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Total	**1,620**
GoU Development	*0*
Donor Development	*1,620*
NTR	*0*

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

	Item	*Spent*
Outputs Planned in Quarter:	224001 Medical and Agricultural supplies	760,816
NAROSEC:	224002 General Supply of Goods and Services	693,255

National priorities developed
Quarterly plans re-aligned
Emerging issues documented
CGS projects funded
guidelines developed / training of stakeholder

National scientific conference, NARO website re-developed

NaLIRRI:

Spatial data sets for selected sites collected

carry out experiments on-station

At least 40 feed samples analyzed for nutritional value
Second quarterly multi-locational feed resource availability survey
Second batch of experimental animals purchased and delivered to on-station site.

Collect data sets 3 and 4 and monitor experimental sites in Iganga (2 visits)
Procure second batch of I ton of local feed resources in second batch of 1/4 ton of protein, mineral and vitamin ingredients
Hold second participatory feed mixing session in Igombe and Nambaale s/counties.

50 honeybee test colonies collected and 2 apiary attendants paid

40 honeybee samples for diseases screening collected in Luwero

1 fieldwork on surveillance of identified diseases in Luwero conducted

40 honey bee samples collected for characterisation in Lira
80 honey bee samples characterised
80 honey bee samples analysed

8 acres of Bracharia mullato, siratro, centro and calliandra plots maintained
At least 50 experimental goats, vaccinated and dewormed once and sprayed 6 times in a quarter
Data collected on growth rates, survival rates and body condition scores of kids obtained from at least 50 kids

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Brucellosis status of at least 40 % goat herds in Kitenga sub county obtained
0ne Quarterly report written and submitted
At least 14 on-farm pedigree data bases for goats and chicken updated in round.

Survey report written and 1 paper published

1 model
11 sites
All recorded observations, events and opinions
1 map with sites and

1 field trip for 1 meeting each of 50 participants
At least 1 conference attended
500 blocks produced and evaluated on 10 farms

Data on milk yield collected and a progress report produced

Three hectares established at NaCRRI

150 farmers trained

20 participants attend review meeting

At least one paper presented
At least one visit per quarter
Survey-data cleaning and entry

Planting, gap-filling and weeding
Purchase at least 0.5 ton of protein and mineral ingredient, Lab. Analysis for batch 1 feed samples, Purchase at least 0.25 ton protein, mineral and vitamin ingredients, Data collection to each farm site x 3
Hired labour
Design and test conservation and processing technologies
Stipend, Supervision allowance
Attend project meeting/workshops
Project Administrative expenses
Contribution for project coordination
Additional 50 goats (indigenous Mubende and SEA and Boer goats) goats at the 2 centres (NaLIRRI and NaSARRI) procured
Continued data generation from measurements and updated evaluation of growth and reproduction parameters at 2 centres (NaLIRRI and NaSARRI)

One poster produced

Identification and training of 2 enumerators per district in at least 5 districts conducted
One workshop conducted to develop survey questionnaires for characterisation studies with field enumerators

Characterisation survey conducted in at least 5 districts and 400 blood

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

samples collected

identification of experimental cattle and administration of anti-tick antigen

Survey-data cleaning and entry

Planting, gap-filling and weeding
Purchase at least 0.5 ton of protein and mineral ingredient, Lab. Analysis for batch 1 feed samples,

Purchase at least 0.25 ton protein, mineral and vitamin ingredients
Data collection to each farm site x 3
Hired labour.

Design and test conservation and processing technologies
stipend , Supervision allowance, other allowances
Attend project meeting/workshops, Project Administrative expenses, Contribution for project coordination

Data collected from at least 15 farms
Samples from at least 15 farms analysed .

Summarised M&E data and reports on livestock research projects.

NaRL:

At least 50% of the sample size isolated
At least two on-station and on-farm trials established

At least 50% of the community action plans developed

Targeted and specific fertilizer recommendations validated by key stake holders in 2 AEZs,
Equip Soils laboratory with necessary consumables and facilities.
1 package of ISFM options availed to technology uptake pathways.
1 supervisory visit to banana, pineapple & mango research sites conducted

Data compilation & analysis on the production, marketing and value addition finalised

Farmers trained and exchange visits conducted
Soils samples from at least 1 farming systems analysed

Digitising and updating 2 maps
Implementation of sustainable Environment and natural resource (ENR) interventions for improvement water basin
2 Surveys conducted to assess impact of oil palm on the environment
At least 100% of relevant data assembled

Survey report written
1 feedback & review workshop for the participating EAZ conducted

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Specimen collection and DNA analysis
Disease prevalence mapping and molecular characterization of pathogens
Evaluation of releases of arboreal termites
Monitor seasonal fluctuation in termite population and damage
Evaluation of releases of diamondback moth parasitism in Mount Elgon region
Evaluation of releases of egg and larval parasitism of cereal stem borers
Evaluate efficacy of MAT, BAT and orchard sanitation
Experimental set-up both researcher managed and on-farm.
Economic impact studies of invasive plant species in 2 AEZs
Carry out pathogenicity tests and characterization studies

Carry out pathogenicity tests and characterization studies
Evaluation of local Trichoderma against Phythium root rot strains
Identification of potential compost manure types for Trichoderma spp
Baseline impact studies of diamondback moth in Mount Elgon region
Impact studies on new and emerging disease pathogens, pests and weed species
1.Establishment of crossing blocks 2. Response of different Artemisia lines to major pests and diseases assessed
1. At least 100 acessions of 5 medicinal species added to the ex-situ collections 2. About 300 accessions of Sorghum in the gene bank characterised and evaluated 3. About 400 species in the EBG maintained and conserved 4. A draft on germplasm acquisition and distribution protocols 5. A draft on propagation protocols of W.ugandensis 6. Report on farmers' characterisation data of common bean diversity. 7.Meeting with protected areas monitoring and research managers 8. Evaluation of the best from at least 10 schools and 5 communities engaged in the field days concerning PGRFA. 9. Develop guidelines for internship students 10. Supervised at least internship 4 students .

On-station validation of handling, drying, processing, storage and pest management PHTs of maize, beans, cowpea and groundnuts
1-proven technology made available to uptake innovation pathways;
Economic analysis of at least 1-developed /validated technology determined
At least 1-awareness /training /sensitisation workshop conducted
At least 1-proven technology demonstrated /exhibited
Value chain mapped and analysis initiated
Status of pineaple and tomato handling, drying, processing, storage & management of contaminants
Effect of best bet pre-treatment and evapocooling on quality and shelf life enhancement for mango determined
Economic analysis of at least 1-developed /validated technology determined
Package agrochemical information and develop user manuals for appropriate agrochemical use
Intervention measures developed.

Application for acreditation and promotion of laboratory services
Characterise glucose from starch in terms viscosity, Ph, sugar, crystallisation, ordour, conductance, colour, microbial
Evaluate acceptability and nutritional characterisitcs of developed bean-based products

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Levels of PAH in smoked samples determined using mango tree
Levels of dithane residues in cabbage and pepper determined
Microbial analysis and documentation of 4 dairy products safety conducted. Levels of Total plate counts and E coli in milk, cereals and meat determined.

Farbrication of 1st prototype of low-head motorized pump initiated
drip irrigation technology demonstrated on-farm
irrigation schedules established for 1 site in central region of the country
Clay lined water harvesting pond and pond compactor completed on-station
1 wind-powered water recirculation system evaluated on-farm

Solar pump system for small-scale irrigation acquired
Developing callus from the 4 G-nut lines transferred to embryo formation media
Data analysis, report preperation and publication
at least three transformation experiments undertaken
at least three transformation experiments undertaken
at least three transformation experiments undertaken

DNA isolation from selected varieties and optimization of the AFLP and SSR techniques on cotton

stakiing plants

At least 6 transformation experiments with 2 varieties

Establish pot experiment in the greenhouse
regeration continued

NaCRRI:

Hardening of seedlings in the nursery
Collect agronomic and disease data on banana clones
Field Planting
Multiplication of 20 selected banana cultivars in the tissue culture laboratory
carry out analysis for fibres, bioactive agents and starch
Conduct one stakeholder meeting targeting at least 60 stakeholders
Monitoring of control options
Season 2 surveys completed and potential biocontrol microorganisms isolated
Season1 surveys completed and the incidence and severity of bean pests and diseases known
Pathogen isolation and cultural studies; and pest identification completed

Trials established in the screenhouse
Submission of samples for quality analysis. Yield data collection and analysis
Submission of samples for quality analysis. Yield data collection and analysis
Genotypes fingerprinted; samples from 8 sites to UCDA, for quality analysis
Develop IPM Packages for stem borers and root mealy bugs
Field maintenance, data collection and selection of potential varieties
At least 5 mgt options and potential varieties selected for field evaluation

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Data collection and analysis
On-farm data collection, analysis and report writing
Evaluation of available markers for selection of various traits
At least 40,000 TC plantlets generated
At least 6 new varieties selected from field trials
Data collected in Kyenjojo and Kabarole
2nd pathogenicity tests on more tea materials and Epidemiology studies
Molecular diversity studies and characterisation of at least 10 clones

Disease surveillance and incidence established in Kyenjojo and Kabarole
Surveilence of pests in Kabalore and Kyenjojo
Collect pre-experiment soil status data in Bushenyi and Kabalore
Establish demonstration trials in 10 locations
Data collected from Kanungu
Data collected from Bushenyi, Kanungu and Kabale
Collect data and assess available drought mitigation practices in Bushenyi
collect data on yield, costs and price of green leaf and made tea in Bushenyi
Data analysed and presented to the stakeholders in a workshop
Evaluate the new control technologies on farm
Charaterise germplasm
Maintain & make crosses
Charaterise germplasm
Charaterise germplasm
Seed of promising hybrids increased
Seed of promising hybrids increased
inbred lines planted in the nursary
300 inbred lines screened in field for TLB and other stress
Trials Monitored, data taked, site dressed
Nurseries of parent materials maintained
Genetic finger printing commenced
survey conducted in 20 districts
survey conducted in 20 districts
150 kg of breeder seed for maize and rice produced and distributed

6 cross combinations made and 3000 seeds harvested
1 data set collected on performance of genotypes

2 data sets collected
2 data sets collected on 4 genotypes at 2 locations
2 resistant clones re-confirmed based on chemical analysis
7 compounds re-tested for bio-activity
4 Farmer groups actively/involved in participatory trials.

At least 2 new potyviruses idnetified & characterised
2 farmer groups actively involved
At least 68 sweetpotato clones characterised
subculturing, maintain and cyopreserve
Characterisation of transformants (PCR)
Multiplication of plantlets
analysis of biosynthetic pathways
At least 500kg of breeder/basic seed and five tons of foundation seeds produced and distributed for multiplication
50 tons of certified seeds of each variety with established quality standards produced and supplied to end users.

Monitoring and evatuation exercise to track progress of result two activities.
Two semi annual reports produced for result two.

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

1 action research recommendation report.
2 working platforms.

Six data sets collected and analysed.

Establish 3 crossing blocks, 1 technician trained
1 crossing block established
Core germplasm assembled in screen house
four data sets collected
100 virus isolates collected and analysed with PCR-based methods
50 virus isolates characterized in detail
50 CBB samples collected and isolated
2 data sets collected for 2 experiments
2 data sets collected, on-going trial harvested
2 data sets collected
2 data sets collected, on-going trial harvested
Collect and preserve 200 whitefly specimens
Collect 2 data sets
Collect 3 data sets
Collect 2 data sets
2 data sets collected for 2 experiments
Screening trial established
Three data sets collected on effects of leaf and stem extracts on the foragingbehavior of cassava mealybug and whitefly parastoids
Three data sets collected on activity in quarter 1
National soil samples collected and analysed; Plant compounds extracted and analysed - Round II
Data collected and coded.

NaFIRR:

Data on seasonal and habitat distribution and abundance of fish species on Lakes Edward/George during WET season
At least two candidate ornamental fish species identified for further investigations from Lake Kyoga .
Data on seasonality of breeding intensity and grounds of key commercial fish species on Lakes Edward/George during WETseason
Data on reproductive indices and natural food and feeding of Semutundu in Lakes Edward/George during WETseason
400 samples collected and 400 specimens of Nile tilapia phynotypically characterised from Lake Albert
4 fish farms in the South-western AEZ surveyed

2. Quarterly sstimates of quantity, value, trends and optimisation of fish catches on Lake Albert, Edward and George
3. Quarterly trends on composition, distribution, abundance, biomass, trends and optimisation of fish stocks on Lake Albert, Kyoga, Edward and George
Quarterly or seaonal trends on selectivity of small meshed gill nets on haplochromines on lakes Edward and George.

Appropriate sites for cage fish culture on lake Victoria selected
Preliminary EIA report on cage fish farming
Data and information on suitability and design parameters obtained

6 earthen ponds @ 500m3 by volume constructed for broodstock development & conditioning.

Data on aquaculture enterprises collected in Central and Western Regions
Data on fisheries enterprises collected Lake Victoria

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Data on market survey collected in Central and Western Regions
Database and technical report on energy returns in 2 commercial fish species
Database and technical report on natural food and feeding biology of 2 commercial fish species
Enriched Database and technical report on algal species composition and dynamics in lake Edward
Enriched Database and technical report on invertebrate species composition and dynamics in lake Edward

Digestibility and Feed conversion figures for 1 formulated feed determined

200 kg of each of 2 industrial, and 4 main farm-made fish feeds collected for analyses
Atleast 3 adopted technologies on Lake Edward identified
At least 3 adopted aquaculture technologies identified in central Uganda
Hot spots for major aquatic weeds infestation and proliferation identified in the central zone of Lake Kyoga
Water quality basis for aquatic resources planning and management updated
Heavy metal pollutant determined and hot hotspots monitored
Policy recommendation to improve socio economic status of the fishing communities ,recommendation to reduce fishing pressure on the lakes produced, recommendation to reduce disease prevalence and mortality.

NaFORRI:

Surveys to determine farmer priority species in the West Nile AEZ
Ideal forms for agroforestry technologies/practices (participatory selection and breeding)
Value chain analysis of key products from indigenous tree species documented in
Sustainable harvesting methods for at least 4 key products from indigenous tree species assessed, technical report produced
Atleast 60 household and key informant interviews, 5 focus group discussions conductedt in Teso farming system
Atleast 50 candidate trees in Teso farming system identified and selected for morphologicval, molecular and biochemical charactersiation
Identify respondents
Set up collection traps for runoff water in site 4. Collect water sample in site 4. Collect soil samples in site 4. Dry soil samples for site 4.
Analyze soil and water samples from site 4
Collect data from two trials (W.high lands and and Lake Vicoria Crescent AEZ agroecological zones to establish seasonal abundance of Cinara spp , damage levels and natural enemies
Collect data from trials established in Lake Victoria crescent and Eastern AEZs to determine host resistance in Eucalypt to
L.invasa
Potential obilogical control agents imported reared and released

Establishment and maintenance of 1 Trial plot/PSP in West Nile AEZ
Data on plantation forests under NFA, SPGS, UTGA, DFS (acreage, age, species, location, m3)collected from eastern and nothern regions
5 indigenous and 5 exotic tree species for plantation forestry evaluated in the Eastern Highlands AEZ
Identification, selecction and mapping of mother trees
At least 10 Priority plants each for improved health, nutrition and incomes identified in at least 3 districts in northern Uganda

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Assess wood and non wood products of high value from endangered and threatened tree spp
Map and document current locations and populations of endangered and threatened tree spp in Uganda
Assess methods to preserve and manage germplasm of priority endangered and threatened tree spp
Annual economic value of traded forest products, non-timber forest products and forest employment in nothern region determined.

Trial for assessment of carbon accumulation for selected tree species in Southern drylands established
Information on carbon accumulation and mainteinance of trials

Atleast 1200 sample trees injured in the 3 sites for gum tapping evaluation
Atleast 800 gum sample trees assessed on biophysical responses and physological performance.

Priority WFPs in Northern and West Nile
Network on NWFPs in Northern and West Nile
Marketable underutilized wood species for Northern Uganda.

Determine energy savings technologies' demand and supply and evaluate their performance in the 4 regions
Develop mechanisms for production and multiplication of high quality and quantity of clean, efficient, convenient, economically and environmentally energy saving technologies

Establishment and maintenance of 2 plots at Kifu and lowlands of eastern-Katakwi. Collect seeds from trials to establish the oil content from the 2 trials.
Collect young and mature seed of Jatropha and Ricinus and analyse physical/chemical properties.

NaSARRI:

1.3 At least 1 stake holder meeting held for development of NaSARRI strategic plan .

1.9 At least 1 evaluation study conducted to assess the impact of NaSARRI project activities in the communities conducted
2.1 At least 1 quarterly report prepared
1.1 Data collection on the screening trial finalised and analysis done
2.1 Laboratory assessment of seed borne nature of pathogens done.
2.2 5 fungicides screened
2.3 5 bio-rationals screened
2.1 10 accessions assembled
2.2 1 trial planted and data collected
2.3 Data collected from 3 TVCs
3.1 1 trial on intercropping systems for new cowpea varieties planted and data collected
3.2 Data collection on intercropping system of new pigeon pea variety
1.3 Collect and anlayse data of F2 populations
2.2 Data on segregating populations collected and analysed. Grow F1 population
2.2 Collect and anlayse data from F2 generations
3.1 Collect and analyse data
1.4.15 single plant selections evaluated for resistance to gallmidge and webworm

2.4 Data recorded & analyzed

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

3.1 At least one chemical for effectiveness to Cercospora or Cylindrosprium leafspot in Sesame selected
3.2 At least one biorational selected for effectiveness to Cercospora or Cylindrosprium leafspot in Sesame
3.3 At least 3 cultural management options for effectiveness to Cercospora or Cylindrosprium leafspot in Sesame selected .

4.1 Data recorded & analyzed
4.2 At least 4 inorganic & 3 organic fertilizers evaluated on sesame
4.3 Data recorded & analyzed
At least 50 F2 crosses evaluated
At least 10 soil amendment practices tested on-station
At least 10 intercropping systems tested on-station
At least 10 weed management systems tested on-station
At least 1 survey conducted in the second zone
At least 1 survey carried out in the major markets of the second zone
1.2 At least 5 selections & 10 crosses for yield and confectionary traits made
1.3 Atleast 2 DVT (16 test lines with 4 checks) planted & evaluated onstation
3.1 At least 2 chemicals and biorationals tested against major groundnut pests and diseases .

3.2 At least 2 alternative hosts evaluated for leafspots and rust and aphid vector
3.3 At least 3 cultural practices tested against main groundnut pests and diseases
4.1 At least 3 intercrops evaluated against newly released groundnut varieties
4.2 At least 3 fertilizers evaluted against groundnuts
4.3 At least 3 agronomic management options tested against groundnuts
1.3 Data on plant habit, incidence of wilt on plants and agronomic traits colleced
3.1 On-station trials to test at least 8 crop residues and 10 cover cropson cotton for improved yields planted, soil samples taken and analysed, and all crop residue treatments applied
3.2 Recording of cotton performance data, analyses of soil samples and general management of the trial to test at least 5 foliar and seed dressed fertilizers on cotton done on-station
4.1 Data collected & anylised
6.1 Five acres of breeder's seed maintained (weeding, thinning, spraying) on station. Rogueing off type plants
6.2 Trial management (imposing of insecticide) and data collection
1.1 At least 21 selections made for various attributes
1.2 At least 10 selections each for oil content and quality made on-station
1.3 Data recorded & analyzed
Four seed-dressed fertlizers tested on sunflower on-station.

Various planned interim and final Outputs and Location under Other grants

Actual Outputs Achieved in Quarter:

NAFORRI
- 25 Grevillea robusta, 20 Markhamia lutea, 40 Measopsis eminii, 15 Albizia coriaria/zygia, 20 Canariumschweinfurthii, identified, selected and marked for seed collection in Mukono, Masaka, Kalungu, Bukomansimbi, Mbarara, Isingiro and Ntungamo
- Surveys conducted in Gulu and Adjuman districts revealed that trees have intrinsic biophysical attributes which make them more

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

appropriate or less appropriate to different users. The main products were medicine, charcoal, poles and timber. Draft report of a survey on harvesting and processing methods of indigenous tree species.

- Three (3) trials assessed in 2 AEZs namely S.W,(Mafuga and Kiriima conifer plantations) and L.Vicoria crescent(Katugo) for Cinara cronortii population dynamics.

- One trial in L.Victoria crescent assessed for Leptocybe invasa populations. A parasitoid Selitrichodes neseri (Kelly & LaSalle Hymenoptera: Tetratichinae) identified for the management of L. Invasa.

- In diagnostic surveys of key diseases of pine and eucalyptus tree species Bacterial blight, Mycosphaerellaleaf spot, Powdery mildew,Botryosphaeriacankers, and dumping off were identified in eucalyptus nurseries, whereas Pine wilts, Fusariumwilt, Armillaria, Alternaria and root rot diseases were identified in eucalyptus nurseries.

- A survey was conducted on endangered, threatened and over utilised tree spp. 2 FGDs conducted in Ngora district (eastern AEZ); 1 near threatened (Milicia excelsa), 1 confirmed vulnerable (Vitellaria paradoxa) and 3 priority (Mangifera indica, Tamarindus indica, Albizia coriaria) over utilized tree species identified in 1 district of eastern lowland AEZ

- surveys were conducted on forestry technology disseminated to uptake pathways. So far Data on forestry technology dissemination collected in 1 AEZ (L. Vic Crescent); Data for 1,458 farms on forestry technology use in 3 AEZs entered (592 Eastern, 300 Eastern highlands & 566 L. Vic Crescent).

- Studies on the shea nut tree (Vitellaria paradoxa) for improved livelihoods continued. 64 household interviews, 1 key informant interview (DFO – Pader) and 4 focus group discussions conducted on socioeconomic attributes of shea trees in each of northern farming system – Omot s/c (Agago district) and Latanya s/c (Pader district). 77 trees from Omot and Latanya subcounties (Acholi farming system) identified and selected for morphological, molecular and biochemical charactersiation.

- 2 combretrum species in Nakasongola collected and propagated, and planted in a study to restore of the savanna woodland

- 10,000 seedlings of Grevillea, 5,000 grafted mangoes, 15,000 calliandra and 2,000 orange rootstocks raised in the Mbale nursery for demonstration on farms

- Collected 130 herbarium specimens from Mid North AEZ

- Twelve thousand (12,000) specimens in the insect reference collection were curated and preserved.

- Sorted out 36 specimens from unidentified existing specimens and preserved them as vulture specimens.

NALIRRI

- 2 acres of tephrosia were planted for a study to establish the efficacy of tephrosia against ectoparasites (ticks and mites) known

- A study on the effects of veterinary service privatisation and input market liberalisation on drug and acaricide use was initiated. Introductory and inception meetings with 25 stakeholders for veterinary service and input distributors and users each in district of Kiboga, Ibanda and Soroti.

- Selective breeding of honeybees, queen rearing was validated in Buliisa, Hoima and Masindi. 5 honeybee test colonies sourced from Hoima, Buliisa, Masindi. The test colonies were set at Bulindi ZARDI Apiary. Bee Samples taken from each test colony for species identification. Diseased colonies identified and honeybee and bee brood samples collected from Arua, Yumbe and districts. 40

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

honeybee and bee brood samples a nalyzed. 1 research apiary maintained
NARL
Biotechnology
Finger millet
- Callus from 4 finger millet varieties (SI, SII, SIII, and PI), which are competent to regenerate were obtained
Groundnut
- Experiments from freshly harvested groundnut seeds as explants were initiated for 3 varieties representing the three botanical types
Cotton
- 50 elite germplasm materials collected at Kawanda. Trials already on-going at NaSARRI
- DNA extraction done for 27 out of 50 lines
Passion fruit
- Regeneration experiments initiated
- Pure isolates of Fusarium obtained from 4 central Uganda districts of Wakiso, Mukono and Mpigi. Isolates have been confirmed pathogenic by re-inoculation into tomato plants
- RNA extracted and cDNA synthesised from 20 virus samples
Plant genetics
- 4 medicinal species added to the ex-situ collections
- A draft of the EBG guide
- Maintained the green house species and Infrastructure.
- Monitored and regenerated 5 old and dying species in the living collection
- Controlled pests and prevented disease pressures among collections using fungicides, pesticides, removal of algal blooms from green house and dipping of cuttings into fungicides.
- A draft paper on the species association of A.senegal.
Bio control
**- Highest parasitism level of C. flavipes was 32% on C. partellus,9% on B. fusca and 12% on S. calamistsis in Kasese, Kamwenge, Hoima, Fort Portal, Mubende and Kiboga districts. Highest egg batches of B. fusca parasitized by T. isis was 53% and eggs /batch (45%) **
- Bactrocera invadens was detected in all the 6 districts in the West Nile region, 6 districts in the Northern region which were surveyed
- Field recoveries of arboreal termites made in 7 out of 14 release sites in Nakasongola district after 3 months of release of Kamwenge arboreal termites introduced to control subterranean termites
- During the quarter, a combination of BAT, MAT and orchard sanitation recorded lower fruit fly counts and 30% improvement due to low trap catches in Masindi and 50% in Luwero district.
Food biosciences
- Data on Profiles and levels of PAH obtained for Albizia-smoked clarius.
- Effect of seasonality on chemical composition of Mukene, Neobola bredoi (Nb) and Brycinus nurse (Bn) was studies. Effect of seasonality established; Effect of processing on presence of Omega 3 determined; Omega 3 concentrated from small pelagic; Processed and assessment of Free Fatty Acids conducted; Market-testing of product from small pelagics conducted a long 5 landing sites of Lake Albert.
- Designed maize post harvest handling leaflet in conjunction with ARIS leaflet ready for multiplication
- Process of constraints identification of pineapple and tomato handling in Luwero and Kayunga initiated with a focused group discussion with pineapple stakeholders done; post harvest losses of pineapple still high
- 80 demos on fertilizer the use for increased production implemented

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

NASARRI

Cow pea

- Preliminary result from available data showed that at least 25% of the 27 lines showed low (<30% incidence) disease prevalence in the plots.

- 75 cow peas genotypes comprising are being tried on-station. Data collection is still on-going. However, preliminary result from available data at vegetative growth stage indicate that scab incidence and severity varied between 10 and 85%, and 2 and 4 (at the scale of 1-5), respectively.

- Scab infected leaf samples were collected from farmers' fields in selected districts of Apac, Lira and Pader, Tororo, Pallisa, Kumi, Soroti, Nebbi, Arua and Yumbe districts. Seed samples were also collected from various markets in selected districts. Farmers' cowpea fields in 4 districts in the northern region comprising the district of Dokolo, Apac, Lira and Pader, and 6 districts in the eastern region (Tororo, Pallisa, Kumi, Bukedea, Serere, and Soroti) were surveyed. GPS data was collected in addition to disease incidence and severity data. Data analysis is still in progress, but preliminary result of analysis showed that the eastern region districts are more affected compared to those in the northern.

- 120 farmers were trained on the skills of identification, control and prevention of cowpea diseases in their fields.

- Two acres of foundation seed planted at NaSARRI

Finger millet

- 398 accessions of pearl millet being characterized

- 5 varieties were identified as being resistant to ergot

- survey on pearl millet diseases in Uganda completed in Katakwi, Lamwo, Arua, Kotido and Kitgum

Groundnut

- 120 germplasm of high yielding rosette and leaf spot resistant groundnut varieties from ICRISAT Malawi are being screened

- 18 entries are planted at 8 multilocation sites at NaSARRI; ZARDIs (Mbarara, Bulindi, Mukono, Ngetta, Abi); TVCs (Pader, Amuria, Nakabango) representing. major groundnut agro-ecologies in Uganda. Selections are ongoing for yield, leafspots, rosette and confectionery traits. The plant stands at emergence were good at most sites except Kuju TVC. The crops are past 75% anthesis and we anticipate harvestings in late January/early February.

Sorghum

- 2 training manuals for the use of forage sorghum for livestock feeding developed

- 15 lines of sweet sorghum were submitted to Makerere for analysis for bio- fuel production .

- 3 sweet sorghum accessions identified to be promising at NaSARRI. Additional data on grain performance was collected during the quarter.

- 16 sweet sorghum lines were screened at NaSARRI for resistance to major insect pest and diseases. 10 out of the 16 showed low pest and disease reactions. Agronomic performance data was additionally collected during the quarter.

- Two Support staff were trained on screening techniques for the segregating populations.

ABI ZARDI

Groundnuts

- 8 newly released groundnut varieties were harvested from on-farm seed multiplication plots

- 12 varieties of project gerplasm were established at NARL-Kawanda for seed increase

Goats

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

- A trial on appropriate dosage rates of dewormers set up on-station
Trees
- Planting of tamarind and shea seeds
Finger millet
- On station multiplications fields millet variety seremi II
. BUGINYANYA ZARDI
Temperat fruits
- Biofungicide and Copper oxychloride yielded highest cherry.
- 0.25ha of 2nd season fungicide trial with 3 treatments established at Buginyanya and is at flowering stage
- 100 uprights prepared and site alignment for shade construction completed
- 0.6ha of apples (old and new orchards) nurtured well and plants in new orchard at whip stage due for branch initiation stage
- 786 fruits (510GD and 276WB) harvested
- 60% &78% disease incidence (DI) on leaves and fruits compared to 18% and 20% DI recorded last quater on the same treatment schedule.
- 1st phase of trial conducted with NPK applied at a rate of 300g/tree
- One orchard existing orchard rehabilitated, training of tree canopy (branches) achieved at Kwoti in Kapchorwa branching initiated in one orchard at Kwoti in Kapchorwa
- Rootstock mother garden (MG) well nurtured and 30 plants at harvest stage for expansion of MG and further layering
- FFS curricculm developed and 10 farmers trained on canopy management
Goats
- 23 indigenous goats and thirteen F1 crosses (Boer X Indigenous) maintained for breeding purposes at Bulegeni station
- -200 metres trench dug, PVC-Tubes layed and two water troughs constructed.
-
Wheat
- 21 wheat lines selected for PYT1 and established in 2 sites
- 32 wheat lines out of 49 established at PYT2 in 4 sites and are at flag leaf stage
- 12 lines in AYT2 established at 4 sites and are at flag leaf stage
- Presented the Results of Wheat baseline survey shared at the MTR

- Report of FS&LA secondary data from districts of Budaka, Pallisa, Kibuku, Tororo, Busia and Butaleja updated
- 48,000 tree seedlings planted ,20,763m of trenches and 18,000m of contour bunds maintained in Kapchorwa, Kween &Bukwo
SLM
- Draft paper on Devolution as a Strategy for Scaling up SLM reviewed at the NARO conference
- IP in Kween facilitated in communication process for collective action
potato
- 1.5 ha of basic seed potato planted with 836Kg Victoria and 1,632Kg of Kachpot at Buginyanya on-station
- 3 farmer groups introduced to negative/positive selection in Kween and Kapchorwa

Sweet potato
- 0.3 ha of S/P vine multiplication garden Ridged, planted & managed at Bulegeni station
- 81 bags of quality s/potato vines availed to uptake path ways
- Six (6) S /Potato vine multiplication sites established in the 4 district of Bulambuli & Sironko (2 per district) while Kween &

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Mbale(1 per district)
Established 0.7ha for multiplication of wheat lines at AYT and Elite variety UW400
BULINDI ZARDI
Chicken
- Trial to compare the performance of kuroiler and local chicken set up on-station was established. Kuroiler cocks distributed and monitored for their performance on-farm in Masindi, Kiryandongo and Hoima.

Apiculture
A bee forage survey conducted in 4 subcounties (Kyangwali, Kiziranfumbi, Kigorobya and Bugambe) of Hoima district. In Kigorobya subcounty, the most common bee forage species was Calliandra calothyrsus . In Bugambe sub county the most common bee forage plant was Albizia coriaria . In Kiziranfumbi sub county Coffea species and Calliandra calothyrsus were the most common. In Kyangwali sub county Grewia millis was the most common bee forage species.
KACHWEKANO ZARDI
Potatoes
- The performance and yield of selected potato genotypes under farmers' conditions was conducted. Information on growth parameters was generated and indicated that three genotypes out of 6 had good vigor and showed high resistance to late blight.
- Data was collected on growth and incidence of bacterial wilt among the selected 10 potato genotypes and 2 genotypes so far are showing good level of bacterial wilt tolerance with an incidence level of less than 1%
- Trials harvested and data collected on minituber productivity in the screen house. Progress report written and soil sterilized. Results indicate that IBA (1.0mg/l) enhance in vitro performance of Kachpot 1 greatly compared to other auxins studied and consequently led to more minitubers being produced. IBA is therefore recommended for routine micro propagation of potato as an auxin.
- Trial established with five potato varieties and one promising clone
- Procurement and installation of one sub-meter and AV30 to regulate the amount of electricity & planting of 720 plantlets and management of the plantlets in the screen house Information on costs of different techniques (aeroponics and conventional) collected and generated for evaluation
- Data being collected on the units of electricity and materials consumed under aeroponics and conventional techniques of seed production
- Planted 0.5 tonns ha of prebasic seed for 2012 B and management, 12 tonns of pre basic seed planted to generate basic seed
- Confirmed the presence of B-gluconidase gene (gus) in 5 lines of Victoria and Rutuku, NPT II marker gene in 3 lines of Kachpot 2, lines of victoria and 1 line of Rutuku
- Efficiency of transformation established in Rutuku (7%), Victoria (5%) and Kachpot 1 (8%) respectively, multiplied the positive plantlets
- Data for the first set were analyzed, and indicate that there no significant differences between plants raised on hormonal treatments and those without hormonal treatments.
- Preliminary results indicate that Tuber sprouts did not differ from tissue culture raised plantlets for kachpot 1 and Victoria and thus can be used as alternative planting materials.
- Surveyed for the incidence of potato viruses in Kabale, Kisoro,

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Kanungu, Mbale and Kapchorwa . Viruses PVX and PVS were most common with 18% and 15 % as avarange incidence

- Tested potato mericlones for virus status and in some mericlones, the viruses were eliminated while in others, the viruses were not eliminated

- 10,000 minitubers of Victoria, Rutuku, Kachpot1, Rwangume and Kinigi harvested, 3500 plantlets produced, 2800 transplanted both in mother shades, soil and aeroponic screen houses; and plants maintained in the screen houses.

Goats

- 100 mature goats (5 Boer, 7 of 75% Boer, 6 of 50% Boer and 7 of Kigezi/ Local goats) they were maintained byregular spraying, deworming, repair of broken fences and herding of goats

- 75 mature goats (20 Boer, 11 of 75% Boer, 15 of 50% Boer and 28of Kigezi/ Local goats) and 64 kids of which 22 were born during the quarter (9 Boer, 28 of 75% Boer, 9 of 50% Boer and 18 Kigezi) were maintained

Sorghum

- Threshing, drying, and data collection on grain weight done on introductions from ICRISAT. Twelve varieties were selected for evaluation in advanced yield trial during 2013 season. Yields of most promising ranged from 3500-5000kg/ha and all were tolerant to leaf blight and had maturity period of less than 180 days.. Of the 6 ealier lines, 3 are candidates for release (HLSO/03/016, HLSO/03/017 and HLSO/03/023) based on early maturity (180 days) and high yields compared to the local varieties

Apple

- 4 experimental orchards (1 in Bugongi,1 at Kachwekano, 1 at Kalengyere and 1 at MBAZARDI) were maintained by spraying, weeding and manure application. Growth data collected showing disease pressure due to aple scab and powdery mildew

- 5,420 apple grafted seedlings generated (out of this 3120 sold to groups and individual farmers). 20,000 apple rootstock seedlings raised at the central nursery at Bugongi.

- Accessed species of fruits germplasm maintained by weeding and organic manure application.

- Data collected on responses of apples to white powderly mildew and scab. A survey conducted in the zone found that powdery mildew was the most severe a prevalence of 75-100% rating and severity of 40% compared to apple scab with a prevalence of 60 % and severity of 40%.

- Maintenance of the trials at Kalengyere and Bugongi. Yield data not collected as there was a lot of fruit abortion

- Report written on the study findings on cost-benefit analysis of apple production in the zone

MUKONO ZARDI

Fruits and vegetables

- Established 7 on-farm trials for Solanum aethopicum in Mpigi, and Wakiso districts to determine appropriate fertilizer rates for poultry and NPK. Data collection no crop growth, leaf width, biomass and marketable yield collected for poultry litter trial. Preliminary results indicated that poultry litter manure is likely to perform better than NPK

- A total of 3 on-farm seed multiplication sites for Nakati were set up in Masaka and Wakiso districts. Seed germination for Nakati was above 90%. One paper entitled "Identification of strategies to enhance the contribution of Indigenous Leafy Vegetables (IV's) to household income and nutrition in Central Uganda presented at the NARO Scientific conference

- Survival percentage of citrus and mangoes was generally found to

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

be above 80% and below 50% for avocado in both districts. Eighty farmers in each district (Kayunga and Mubende) trained in management aspects of fruit trees. It was also observed that citrus was most affected by orange dog caterpillar, leaf miners, brown leaf spot, scab and greening disease.
Chicken
- 1,000 kuroiler chicken procured and raised. 1,000 kuroiler chicken raised up to state of leaving the brooder. NCD Package was successfully initiated by testing different vaccination schedules and chosing the most cost effective one with the highest survival percentage
- Two hatcheries were identified and selected to host improved fish fry production trials. 400 brood stock males and females were isolated and "set" for conditioning in preparation for breeding
NABUIN ZARDI
Poultry
- Maintained 8 cambrough pigs and 6 piglets as pure/parent stock for technology dissemination and research purposes
- 52 Kuroiler chicken availed to nine famers in Bukedea, Moroto and Nakapiripiriti districts. Evaluation of their performance at free range to start next quarter.
Goats
- Maintained 12 goats of Mubende breed on-station
Multipurpose Trees
- Two surveys to assess the available trees and shrubs for food, forage and fodder, and shrubs for timber, fuel wood and soil fertility were conducted in Soroti, Serere, Abim and Nakapiripiriti District
RWEBITABA ZARDI
Potato
- Acquired potential potato varieties for variety adaptation of potato in the zone from KaZARDI for on-station evaluation

Reasons for Variation in performance

None

Total	**1,454,071**
GoU Development	*0*
Donor Development	*1,454,071*
NTR	*0*

Output: 01 5102 Research extension interface promoted and strengthened

Outputs Planned in Quarter:

NAROSEC:

train and conduct meetings
seed multiplication supported .

PRO:

1000 key holders designed & produced

1 stakeholder consultation workshop held
1 excellence award attended
1000 copies of NARO in Press published & distributed to stakeholders

1facility visit arranged with 10 journalists
2 TV talk in shows held

Item	*Spent*
221001 Advertising and Public Relations	64,594
221002 Workshops and Seminars	142,792
221005 Hire of Venue (chairs, projector etc)	31,970
221007 Books, Periodicals and Newspapers	127,416
221008 Computer Supplies and IT Services	81,029
221011 Printing, Stationery, Photocopying and Binding	148,494
224002 General Supply of Goods and Services	224,968

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

1 newspaper advert run & secondary schools compete
2 magazine & 2 newspaper articles prepared & published
1000 copies of NARO at redesigned & printed
1000 copies of NARO Bulletin redesigned & printed
2000 branded paper folders designed & produced
500 of annual reports Printed
1000 special briefs on research institute developed & printed

50 copies of video documentary produced
1000 copies of calendar produced
500 executive diaries & 100 wallet size diaries designed & procured

DG's office:

1 supervision mission held
Hold at least 3 meetings with development partners
1 Council, 1 Science & 1 User's Committee meeting held

1 supervision mission held

User information and computing needs;

ICT infrastructure, and ICT security for both NAADS and NARO

Benchmark on successful mobile ICT technologies for agribusiness
1.Solicit and identify trainer of ICT technical courses for ICT staff for both NARO and NAADS
2.15% staff trained in ICDL for NARO and NAADS as per ICT Policy requirements

****

NaLIRRI:

1 field trip for 1 meeting each of 50 participants
At least 1 conference attended

Material for 1 poster and leaflets prepared
One paper presented in scientific conference
2 tonna purchased, solar driers produced and distributed to farmers and
Packing materials procured
Technology dissemination packagees validated by beneficiaries .
Studies on anthelmintics, trypanocides and antibiotics administration & management .

NaLIRRI sub total Research extension interface

NARL:

Identify at least 3 new partner to link to ARENET and strenghten 3 old

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

partners aes at a zone
Link at least 1 new partner per agro-zone and develop/agree on roles and responsibilites

Acquire 30 mobile phones + 1 year of air time
Acquire mobile internet solution for partners = 1yaer of connectivity
Acquire/collect/ 30 new publications from 2 NARS instituion
Document on shelf /newNARO technologies form 2 insts.
Repackage at least 2 technical manual on an enterprise for farmers and extension agents
Translate selected materials in 2 local langauges

Sensitize/train at least 1 scientsists campions of 10 institute on how to manage information on ARENET per zone
M&E of ARENET partner's activities
Databse design in KOHA
Digitize documents

Link national publications databse to KOHA

M&E
Information Needs Assement conducted at 4 PARIs

LANTEEAL installed on atleast 25 computers
Atleast 100 books are acquired
Atleast 100 books are distributed to PARIs
Library automation software trained to information professionals at 3 PARIs
Atleast 3000 bibliographic entries made into the library database
30 PARI researhers and technicians tained and sensitised on accessing information resources, services and products
M&E of library and information services at 3 PARIs
Produce a 30 min documentary on 3 PARIs
Produce a 30 min monthly TV program on PARIs
produce weelky radio programs on NARO products and services in selected agrozones.
Update the NARO experts databse.
Collect news from NARO.

Produce 1000 copies of the NARO Bulletin biennauly
Collection, review and edting of papers
Poduce (Uganda Journal of Agricultural Sciences) UJAS
Updating & publishing the Entebbe Botanic Garden catalogue.

NaCRRI :

10,000 and 10,000 Brochure development and printing & calendar dev't & Printing.

Develop TC protocol
Develop TC protocol
Brochures/posters produced in quarter 1 distributed
25 stakeholders trained cassava production technologies and practices
Participation at 1 stakeholder forum
At least 1500 assorted material sprinted & distributed to farmer groups & NGO s

Monitoring and evatuation exercise to track progress of result two activities using the developed M&E approach.

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Have all activities of result 3 monitored and reports formulated and presented.

Rural appraisal conducted

NaFIRRI :
Q2 Report prepared
Quarterly information packaging and dissemination working sessions

NaFORRI :

Farm/household level data on forestry technology uptake collected in 3 AEZs (i.e. Western highlands, Southern drylands and South Western highlands); Data collected in previous quarter entered and analyzed. Pilot sites selected and evaluated; Participants' identified and trained.

ABIZARDI:

Conduct 6 NARO-NAADS collaborative demonstrations of improved cassava varieties and technologies
Set up first season demonstrations to show optimal agronomic practices for increased yield of cereals on the station
5 sites identified, land prepared and planting of 2 adapted varieties of major cereal crops both on station and on farm done
Seed Multiplication
Two experiments on goat and chicken manure conducted
2 acre each of mucuna, Lablab and Glycine (Neonotonia wightii) planted on-station, maintained and processed
At least all commercial fish farmers in each District identified in the region
Multiplication of 4 pasture spp in 5 new on-farm sites

Training 5 research farmer groups in Cassava agronomy
Farmer group identification and training in proper agronomy
100 farmers trained in proper agronomy of beans and groundnuts in Zombo and Nebbi
5 demonstrations set on 2 technologies (improved fallow & alley cropping) in five research groups
Baseline survey and data on fry production collected .

BugiZARDI:

1 mt of arabica coffee seed availed to uptake pathways
Pulper installed and operational
Arabica coffee drying yard, trays, store and nursery facilities repaired and maintained
4ha of land established for seed potato varieties multiplication
3 farmer groups capacity in quality seed potato production enhanced
20 farmers knowledgeable in use of -ve/+ve selection for seed potato production

Availability of quality seed potato and its technologies promoted
Breeders elite cassava lines planting material acquired
15ha of land established with farmer preffered high quality cassava varieties for multiplication
Current groundnut varieties and their production techniques identified at farmer level in Mayuge, Iganga and Bugiri

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

5 groundnut varieties established for multiplication and availed to uptake pathways
Farmers availed with good production methods of cassava and groundnuts.

BuZARDI:

Internet network (wireless) installation extension to one office block
Maintenance of 22 computers and accessories
Procurement of Consumables and office stationeries
Printing of brochures, manuals, calendars and presentation in conferences
One radio talk show conducted
Stakeholders' feed back workshops conducted
Participatory monitoring by director, finance officer, internal auditor and scientists to project sites
Repairs and maintenance of Vehicles
Fuels and lubricants procured
Staff training in data analysis using SPSS/STATA
Travel inland
welfare and entertainment.

KAZRDI:

Data collected on growth characteristics of the demostration plots.

Participate in World Food Day

Participate in World Food Day

Translation of manual into 2 local languages (Kifumbira & Runyankole-Rukiga)
2 mini field days conducted in Kabale & Kisoro to popularize meat goat breeds.

MbaZARDI:

Field trials for bean, maize, cassava, banana and groundnut technologies both on-station and on-farm in the SWAEZ
Evaluation trials on-station
on-station and on-farm field trials
on-station and on-farm field trials
Data on agronomic parameters collected
Reduction in fruit pest and diseases severities following application of developed technologies determined
Train farmers in the zone on marketing and market research
Nutritional value of traditional fodder trees determined ,fodder technology evaluation trials on-farm and on-station planted, and farmers hosting evaluation trials on-farm trained .

NabuZARDI:

150 trainers of trainers in animal traction (farmers and NAADS service providers) trained Kaberamaido and Katakwi districts

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Drying, threshing
RMIS managed.

NGETTAZARDI:

20 fish farmers in Gulu, Pader and Kitgum districts trained.

Survey of aquaculture activities in Otuke , Alebtong, Dokolo and Amulatar districts documented.
On-farm trials established with 3 farmer groups in Alebtong, Dokolo and Kole districts.
On-farm training initiated and conducted with 2 farmer groups in Otuke and Alebtong districts in labour saving technologies

Incidence and severity of pests and diseases of simsim in Kitgum, Pader, Gulu and Amuru districts conducted.
I citrus field mantained in Gulu, Kitgum, Dokolo, Kole districts, and I mango field in Amuru, Pader, Apac and Oyam districts

10 farmer groups in each of the following districts ; Gulu, Amuru Kitgum and Pader districts trained in CBSD management practices .

RwebiZARDI:

Rwebitaba ZARDI participated World Food Day
At least 1 brochure, 1 leaflet and 1 poster produced for each agricultural commodity crop and animal by end of the quarter

MoUs between Rwebitaba ZARDI and service providers developed and signed
Selection of appropriate agricultural enterprises and participatory monitoring and evaluation.

Various planned interim and final Outputs and Location under Other grants

.

Actual Outputs Achieved in Quarter:

NARL
***15 Farmers' hands-on capacity in Kitenga village Masaka District built on establishment irrigation plot, operation of irrigation kits, operation and servicing of simple pumps for delivering water from water harvesting reservoirs to the plots.**
NAFIRRI
***Consultative interactions with District Fisheries Officers, BMUs and other and Fishers in the operational areas/study lakes on research observations and their perceptions with respect to water environment quality vis-a- vis fish production and other related fishery issues.**
***Research information packaging retreats to analyze collected data produce information packages for stakeholder use**
***Stakeholder workshops for reporting back to stakeholders, stakeholder-researcher interactions and sharing planning for subsequent research activities**
NAFORRI
***500 multi purpose tree seedlings were distributed to farmers during**

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

world environment day in Masaka. While improved forestry technologies were demonstrated at jinja show ground,Ngetta ZaRDI and world food day at MBaZARDI.
***Forest tree germplasm has been acquired, propagated and maintenance. Germinated and maintained 10,000 seedlongs of E.grandis, 1,000 seedlings of E.tereticornis &, 6,000 seedlings of Measopsis eminiii. Established 2 more trial plots of Measopsis, and Terminalia in Kifu. Maintained 5 trials in Kifu & 3 trial in Kyembogo**
ABI ZARDI
***Meeting held with some members of DARSTs to harmonise on-farm trial activities**
***Community sensitization on cage farming has been done in 4 districts of Adjumani, Moyo , Arua and Nebbi and three suitable sites for cage have also been identified in Adjumani and Moyo meeting the following criteria: water temperature: 25°-26°C, depth of 3-3.8 m, free from floating sudds and close to the shore**
***60 farmers received training (30 from Nebbi and 30 Arua) on INM practices, fertiliser use and management**
***One catfish breeder trained Feed and Feeding management,**
***6 new farmer groups established in Nebbi,Maracha and Koboko where on farm adaptive trials of five varieties of mango(bire, boribo palmer, irwin, tommy atikins and pinero) have been established**
***A total of 35 farmers from 3 research groups (Yumbe, Arua and Nebbi) were trained on goat diseases mgt**
BUGINYANYA ZARDI
***Availed IPs (Chepkwasta, Cheboi, Kapsoyen, Kubobei, Chemwaisus and Amanang) in Bukwo district with 450 kgs of potting material and assorted nursery equipments**
***Management of 8560 arabica coffee seedlings in nursery at Buginyanya station**
***Held 1 field day held at Bulegeni**
***About 6.7 tons of basic seed potato (Victoria [4.7 t] & Kachpot 1 [2.0 t]) harvested on-station for uptake**
***80 farmers from three farmer groups knowledgeable in seed potato production**
***Ten orchards visited and backstopped**
***Establishment of 1 on-farm variety trial using a farmer field school approach in Mbale District**
***Dairy Farmer Field School initiated in Bugaya sub county –Buyende district**
***A total of 1000 bags of Brachiaria mulato (drought tolerant pasture species for goats) available for uptake pathways**
BULINDI ZARDI
***Training of more than 30 farmer groups and agro processors in agroprocessing and particparry market research regarding cassava, maize rice and paoutry in Kiryandongo, Buliisa,Hoima, Masindi and Kibaale**
***Training of more than 30 farmer groups and agro processors in value addition of cassava, maize rice and paoutry in Kiryandongo, Buliisa,Hoima, Masindi and Kibaale**
KACHWEKANO ZARDI
Apples
***Backstopped and provided information to apple farmers in Kanungu, Rukungiri, Kabale and Kisoro. Some farmer's orchards have been identified as training sites (e.g Matayo's in Rukungiri, Keith's and Mbarara's farms in Kabale). Farmer in Rukungiri was backstopped while establishing a 15 acre apple orchard in Buyanja subcounty.**
Goats
***Conducted dissemination and feedback workshops with 52 goat**

Vote: 142 National Agricultural Research Organisation

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Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

farmers and 12 livestock exstension staff at Sub County level in Kisoro, Kabale, Kanungu and Rukungiri districts
Strenthened the capacity of 52 goat farmers' group representatives and 12 extension staff on goat health management, record keeping, group dynamics and formation, marketing of goats and goat products for adoption A paper on the the profitability of local & improved goat breeds was presented in the NARO scientific conference.
RWEBITABA ZARDI
***Training plan and curriculum developed for the farmer research groups/Adaptive Research Teams.**
***14 potential potato seed growers from Kabarole, Kyegegwa and Kyenjojo districts trained in collaboration with Zonal NAADS**

Reasons for Variation in performance

NA

Total	**821,263**
GoU Development	*0*
Donor Development	*821,263*
NTR	*0*

Output: 01 51 04 Agricultural research capacity strengthened

Outputs Planned in Quarter:

NAROSEC:

Stakeholders trained - 30 scientists, 9 MCs & 5 staff at NAROSEC
40 Public ARSPs & staff
1 stakeholder meeting held
Institutes business plans developed .

HR:

Hire of a consultant to develop a draft policy

NARO JD analyzed

1. Consultancy fees paid
2. Good Governance and corporate social responsibility ensured and promoted; Leadership and oversight Management of agricultural research provided;
3. Staff recruited and staff training - (Local and International)
4. Stationery and office consumables procured;
5. Office equipment maintained;
6. Water utility bills paid;
7. Electricity utility bills paid;
8. Telephone, Postage and courier services used;
9. Vehicles serviced;
10. Office buildings maintained ;
11. Compound maintained ;
12. Maintain effective ICT facilities;
13. Subscription for internet paid;
14. 4 UJAS editorial committee meetings facilitated;
15. Quarterly entity accounts, financial statements, commitment control reports, several manual books of accounts maintained. Bank charges timely paid;
16. Acquisition of books, agric. Information magazines and newspapers;
17. Provision of security services;

Item	*Spent*
221003 Staff Training	607,721
221004 Recruitment Expenses	58,341
221006 Commissions and Related Charges	48,618
221009 Welfare and Entertainment	26,012
221012 Small Office Equipment	129,647
221016 IFMS Recurrent Costs	48,618
222001 Telecommunications	32,412
222002 Postage and Courier	48,618
223004 Guard and Security services	81,029
223005 Electricity	129,647
224002 General Supply of Goods and Services	73,739
225001 Consultancy Services- Short-term	220,650
226001 Insurances	113,441
227001 Travel Inland	113,441
227002 Travel Abroad	116,682
227004 Fuel, Lubricants and Oils	145,853
228001 Maintenance - Civil	97,235
228002 Maintenance - Vehicles	202,288
228003 Maintenance Machinery, Equipment and Furniture	66,252
228004 Maintenance Other	97,235

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

18. Break tea and Refreshments provided to staff and visitors;
19. 3 Preparatory meetings for NARO Scientific Conference;
20. Organising NARO Scientific Conference;
21. 1 Annual planning and Review meetings;
22. 3 Quarterly planning and Review meetings;
23 2 Dissemination and Internal review workshops;
6 scientist sponsord for PhD Degree
six scientists supported for MSc degrees
100 employees supported for short-term courses
2 Staff faciliated to attend study courses and meetings
100 people hosted for the conference
HRA Staff training in human resource software
Six institutes visited to collect HR data
70 members of staff facilitated

PROCUREMENT:

Consolidated Procurement Plan
Convene and hold at least 12 meetings of the contracts and evaluation commitees.

Visit (1) to all PARI's review records of meetings held by the sub-contracts committees in compliance with the mandate of the delegated authority
Issuing (10) LPO's for invitation of bids to appear news papers
NA
Hold one (1) in-house training sessions in Procurement of goods, works and selection of consultants for WB financed projects for Procurement
Staff and contracts committees for all PARI's
Customs clearance of cargo.
Effect payment.

Two components of Internal control reviewed.

Adherence to laid down regulations and policies.

Payroll embracing all NARO staff audited
Proper accountability of resources and correct recording of transactions.

Visit all the Institutes.

Improved accountability.

Payments processed, Financial obligations fulfilled
Payments processed, Financial obligations fulfilled
Qtr 2 Payments processed, Financial obligations fulfilled

Qtr 2 Funds allocated & released
Qtr 2 Unit performance monitored, management decisions implemented.
Management .

Qtr 2 financial reports submitted to MFPED.

PRO:

Agricultural show report written & circulate to managemt

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Information material of on 20 technologies displayed & disseminated
Capacity built in corporate communication
1 capacity building workshop organized for communication officers

NaLIRRI:
supervised and co-rdinated system achieved
Office, laboratories, access.

1 Quarterly Mgt committee and 1 Mgt Sub committee meeting, 8 planning committees' meetings and 3 staff meetings
Repairs done one 1st block, slashing 4 acre compound 3 times and clearing the 400 m road twice.
2 staff Staff trainied in Financial Mgt short course
Payment of electricity, water, telephone and internet bills for the 2nd quarter.
Travelling (allowances and fuel).

NaRL:

3 staff
25 staff
Open day

1 TV Ad
2,000 Brochures

1 meeting
2 meetings
Refurbishment of the nursery and workshop and purchase of inputs.

NaCRRI:

At least 10 members of staff trained in appropriate fields
50 persons trained on IPM

1 radio talk show
4 computers repaired,installed with anti virus , fitted with UPS
5 tractor fitted with tyres and disc plough.
4 water pump repaired
3 Mower and 3 brush cutter repaired
2 generator serviced
Electricity system rectified

3 Office blocks repaired
1 road graded & maintained accessiable
2 Vans,2 Station wagons & 5 pick ups repaired

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Quarter Two report and others reports produced
Staff provide with break tea
one Staff attended training course, electricity services and 100 reams and 600 calendars.

Security,Sanitation & a clean working enviroment provided
Office building & its surrounding kept clean
50 brochures & 5 reams printed
Assets kept secured from thieves
7 calculators,2 punches & 15 stappling machines
2 vehicles licence paid
4 field visits and 3 meetings attended.
4 Field visits and 2 meeting made.
Staff provided with transport to and from work&Internet services provided.

80 trainers trained.

NaFIRRI:

Desktop computer (3)
Laptops (4)

Hard drives -external (3)
UPS (3).

Assorted field, office and laboratory supplies for studies 1-4 procured (see input cost table)
Assorted Field and office supplies procured for quarter 1 (See input cost table).

NaFORRI:

Establishing and maintence of aboretum
Fencing off of experiments, trials and Maintenance of on station experiments trials
Monitoring, verification and supervision of ATAAS activities.

Inland training for 7 staff conduted
10 Short ter contracts supported for 3 months
Recruitment and induction of staff
Newsletters and periodicals
Stationary and small office equipement for use
omputer procured
Generator fueled serviced and maintained
Servicing of sawmill and carpentry equipment.
Mantainance of vehicles
1 stakeholder Meeting/ workshop.
1Agric/forest shows .

NaSARRI:

2.1 Atleast more five members of staff undertaking training in different fields.
3.1 Atleast one staff meeting held, one Management Committee meeting held.
Atleast three laptops procured.
9.1 Facilitation of various officers while on official duties outside the work station.
9.4 At least 20% of institutes assets verified .

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

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6. ICT equipment and supplies
Quarterly information packaging and dissemination working sessions.

BUGIZARDI:

Perfomance of feed options and ITK used for goat husbundry identified
Perfomance of feed options and ITK used for goat husbundry identified
Farmer groups capacity to manage goats profitably enhanced
Farmer group linkages and service providers partnership enhanced
Technologies on goat production promoted.

KAZARDI:

Atleast 1 quarterly planning meeting conducted
Participate in at least 3 adminstrative meetings

Host 1 Field Day at KAZARDI

Maintaining 15,000 m2 of compound including slashing, , fencing and desilting internal road channels
Developing and printing soil map
Clearing bush around and repairing the weather staion fence
3 months subscription to AFSAT for internet connection
Water and electricity connections serviced and fuel & lubricants provided for running of 5 generators
Fuel & lubricants supplied for 5 vehicles and 2 generators for administration
5 vehicles maintained and serviced
6 vehicles serviced and repaired
10 motorcycles serviced and repaired and fuel & lubricants supplied for them
Atleast 1 M&E visit to On-farm and on-station trials/activities
Collaborate with NaCRRI and NAADS on management of BBW in the zone
Generating 1 technical quarterly report
Atleast 1 training committee meeting held
8 staff trained in relevant courses
2 staff on PhD and 1 staff on MSc maintained at various universities
None
Procure items for break fast, office cleaning and toilet effects
Food, drinks, entertainment and venue procured for staff get together party
1 bank account operational

MBAZARDI:

Sufficient assorted welfare items available in the institute at all times
1 internet subscription paid by December 2012
Vehicles in running condition in the institute at all times
2 utility bills paid by December 2012
Sufficient fuel and lubricants available for administrative activities at all times
1 quarterly Human Resource reports prepared and submitted by December 2012
3 Management and Administrative meeting attended by December 2012
Availability of information on all activities in the SWAEZ for different stakeholders.

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Strategic partnerships with sister institutes & partner organizations established

1 radio programme conducted to raise awaresness & highlight new technologies that have been developed by December 2012
1 quarterly value for money audit carried out by January 2013
Procurement of antibiotics, vaccines, dewormers, acaricides, disinfectants, detergents and veterinary use
Hay bailing, silage making, procurement of dairy meal, weaner meal, sow and weaner meal, creep feed
100 meters of HDP PN16 90mm water pipe installed along the water delivery pipeline by December 2012
Maintenance of farm machinery,equipment and structures
3 contracts paid for weeding banana plantion by December 2012
3 contracts paid for weeding cassava plantion by December 2012
3 contracts paid for potting,grafting and watering of seedlings by December 2012

MBAZARDI:

Purchase of at least 680 litres of fuel for administrative activities
At least 1 laboratory renovated

At least 4 laptops & 2 desktop computers & 2 UPS purchased
At least 4 book shelves purchased
At least one printer procured

NABUZARDI:

Quarterly procurement planning meeting attended
Management Committee members participate in other NARO activities
Quarterly human resource records updated and staff desputes settled
15 staff members attend training locally to improve on skills
At least three staff members attend training abroad to improve skills and knowledge

Quarterly field visit to ensure value for money carried out

NGETTA:

Fish farm house constructed.
Construction two 10 x16 m ponds initiated.

ATAAS bank account and cheque book charges paid.
At least 2 physical properties rehabilitated.
Goods and services procured.
Professional services procured.

Staff inland travel costs paid.

RWEBIZARDI:

At least 1 MC meeting in the quarter
One directors' forum meeting attended

Contract Labour
Welfare and entertainment
Electricity

Vote: 142 National Agricultural Research Organisation

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

General supply of Goods and Services
Maintenance Others
Training of staff
Printing, stationery ,photocopying and binding

Actual Outputs Achieved in Quarter:

NARO SECRETARIAT
*** A draft document of the National and Zonal demand articulation and priority setting guidelines has been developed**
*** In developing research areas for CGS, a tool has been designed to track research gaps and research recommendations from PhD, MSc and End of Project Technical reports.**
*** Zonal research priorities for the western highlands zone.**
*** 1 PARI wide supervision mission conducted**
*** Held 2 meetings to review emerging research issues for CGS.**
*** Conducted a results dissemination workshop for 7 concluded CGS projects.**
*** Profiled research results of 7 completed CGS projects.**
*** Disbursed research funds worth UGX 520 million to ongoing CGS projects.**
*** Monitored activities of CGS Projects implemented**
*** Verified technical reports and tracked all accountabilities for 13 CGS projects**
*** Held one review meeting for the on-going 13 CGS projects.**
*** Published and launched the NARO Book on the contribution of agricultural research to development during the recent NARO Scientific Conference held on 1-3 October 2012**
*** Fixing of bases for the car port a doms Fabrication of trusses completed**
*** Modification of the Guard house**
*** Walk in NARO compound completed**
*** the super structure banana screen house at NARL has been completed**
*** Participated in the conference on Global partnership on cassava**
*** ATAAS Officially Launched - After negotiations between the Government of Uganda and development partners, His Excellency, the President of Uganda, Yoweri Museveni, represented by the Vice President, Hon. Edward Ssekandi.**
*** Governance - New NARO Council - The Minister of Agriculture, Animal Industry and Fisheries, Hon. Tress Bucyanayandi inaugurated the new NARO Council, comprising 16 members.**
*** NARO Scientific conference - Section 7, subsection 2 of the NAR Act 2005 requires the NARO to convene a meeting at least once a year of representatives of agricultural research service providers, farmers, private sector and civil society and other stakeholders for the purpose of discussing issues relevant to agricultural research and setting agricultural research priorities.**
*** KAFACI - International conference on Technology dissemination**
*** Participated in organising the World Food Day at Mbarara ZARDI. NARO is the GOU technical arm in organising the WFD celebrations.**
*** Conducted the EAAPP Midterm Review**
NAFIRRI
*** Trained one Research Assistant in sample processing, data analysis and field report writing;**
NAFORRI
*** Assorted laboratory chemicals and apparatus were procured. They include: PDA (2kg), Cool box (1), coverslips (100 pcs), glass petridishes (120), beakers (24), measuring cylinders (7), volumetric flasks (3), reagent bottles (3) boiling tubes (15), droppers (10), separating funnels (2), pipettes (9), timer (1), pipette filters (2) and a**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

lab cabin (1)
NARL
*** 4 NARL Management meetings held, 1 MC meeting held**
*** Repaired 6 vehicles, 2 printers, one photocopier, paid fuel account for operations**
BUGINYANYA ZARDI
*** 3 houses (2,7 & 11) renovated) at Ikulwe station**
*** Vehicles UG 0383A, UAJ 529X, UAJ 646X, UAJ 249X, UAA 516F, UAA 125Y repaired & maintained**
*** Fuel and lubricants procured**
*** 3 brush cutters & 2 generators, 14 computers, 6 printers serviced and repaired.**
*** Estates maintained (trimming and mowing of compound) at Buginyanya, Bulegeni and Ikulwe and procurement of tree seedlings for fencing of institute land**
*** Institute property protected**
*** Provided telephone, Internet and electricity services at Buginyanya, Ikulwe and Bulegeni stations**
*** Financial monthly reports for the 2nd quarter submitted to NAROSEC**
*** Goods procured for research & administration verified at Buginyanya station**
*** Assorted stationary procured for quarter two 2012**
*** 1 scientist trained on data management**
*** 1PhD & 1MSc. Students facilitated and monitored for career development.**
*** Director of Research attended PDF meeting held on 29th October 2012 at Rwebitaba**
*** One staff meeting on provident fund held on 17th October 2012**
*** Breakfast provided to staff for quarter 2**
*** News Papers and stationary supplied to the 3 stations**
*** Wages for general labour provided**
*** Payment of Bank charges**
BULINDI ZARDI
*** 12 computers serviced**
*** 1 Directors' forum meeting held**
*** Security Services procured**
*** Travel inland facilitated**
*** Telephone services procured**
*** Electricity supply services procured**
*** Internet Services & Entertainment procured**
*** Salaries & Wages paid**
*** 3 Participatory monitoring exercise conducted**
*** Repairs and maintenance of Vehicles conducted**
*** Office Consumables and office stationery procured**
*** Travel inland facilitated**
*** 1 Participatory monitoring and evaluation exercise conducted**
*** Fuels and lubricants procured and repairs done on 2 vehicles**
*** Institute compound slashed and cleaned**
*** Induction training conducted for new staff**
*** welfare and entertainment facilitated**
KACHWEKANO ZARDI
*** 15,000m2 of compound slashed and all adminstrative building kept conducive for staff**
*** All institute property secured**
*** 1 adminstrative vehicle and 1 adminstrative generator serviced and fuel and lubricants availed for adminstration of research activities**
*** 3 field vehicles and 1 Laboratory generator serviced and fuel and lubricants availed for adminstration of research activities**
*** 1 UTL internet connection serviced and 4 voice telephone lines**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

maintained
*** 1 AFSAT & 1 UTL internet connection serviced**
*** assorted welfare items procured to ensure conducive working conditions for staff**
*** 3 water and 3 electricity accounts serviced**
*** Atleast 1 quarterly planning meeting conducted**
*** Atleast 2 staff Participated in administrative and finance meetings and back to office reports prepared**
*** Accessing stationery items, periodicals and newspapers**
*** Audit anf financial reports generated and submitted to NAROSEC**
*** Atleast 1 sub-contracts committee meetings held**
*** 4 office telephone lines maintained**
*** Atleast 1 technical quarterly report generated and submitted to NAROSEC**
*** 2 staff on PhD and 1 staff on MSc enroled at various universities**
*** Anumber of staff welfare items for break fast, office cleaning and toilet effects procured**
*** Computer supplies and IT services provided**
*** 1 bank account operational and maintained**
MUKONO ZARDI
*** Printed 250 calendars**
*** Printed 50pcs Christmas cards**
*** 4 copies of the latest version of 2012 Uganda Journel of Agricultural sciences were sources and stored in Information Resource Centre(IRC) for future reference**
*** Copies of the Science times journal that links sceince to society were sourced and stored in the IRC for reference ny the usere**
*** National news newspapers were procured and stored for reference**
*** The wiki and blog are up and being used by the staff**
*** Full time internet service**
*** maintained the electronic board**
*** Maintained the old intercom system.**
*** A well developed website for the Institute**
*** Repairs done on fault equipment**
*** All specification for the software and the supplier are available**
NABUIN ZARDI
*** Held one management committee meetings to approve plans and budgets and giving guidance to the institute**
*** Director participated in three joint planning, reporting and consultative meetings**
*** Three monthly financial plans and reports submitted to NARO secretariat to facilitate accountability and future flow of funds**
*** Three monthly audit reports submitted to NARO secretariat to facilitate timely decision making**
*** Four audit visits to value for money and deliverance of planned outputs carried out**
Electricity supply to the institute maintained
***Telephone and internet services maintained for ease communication with stakeholders**
*** Four motor vehicles maintained for research and development.**
Held one management committee meetings to approve plans and budgets and giving guidance to the institute
NGETTA ZARDI
*** Construction of the fish hatchery house is on-going.**
RWEBITABA ZARDI
*** Hosted the Minister, MAAIF, Tress Bucyanayandi on follow-up of Rwebitaba ZARDI-Kabarole DLG MoU and hand over progress**
*** Hosted NAADS, Executive Director on NARO-NAADS ATAAS project interface progress**

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

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Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

*** Hosted Two (2) NARO-Secretariat Auditors on ATAAS project performance**
*** Developed and submitted concept note on short and long term training strategy, laboratory and other research needs for tea research and development in Uganda to MAAIF**
*** Organized the PARI Directors' Forum meeting held at Rwebitaba ZARDI**
*** Initiated consultations with water companies on the water quality improvement for human consumption on-station**
*** Short listing of applicants for the 11 positions of Technicians and support staff conducted**

Reasons for Variation in performance

NA

Total	**2,457,479**
GoU Development	*0*
Donor Development	*2,457,479*
NTR	*0*

Output: 01 51 05 Generation of technologies for priority commodities

Outputs Planned in Quarter:

"At least two trials planted, Optimisation of the markers, "
survey conducted in 20 districts
" 20 virus isolates collected and Screening trial managed"
75 kg of breeder seed for maize and rice produced and distributed
Evaluation of available markers for selection of various traits,
2nd pathogenicity tests and studies, Molecular diversity studies
Collect pre-experiment soil status data in Bushenyi
Hardening of seedlings in the nursery,
Solar pump system for small-scale irrigation acquired
Fabrication of 1st prototype of low-head motorized pump initiated
Quarterly trends on composition, distribution, abundance, biomass, trends and optimisation of fish stocks
Spatial data sets for selected sites collected
"Feed samples analysed for nutritional value, Second quarterly multi-locational feed resource availability survey "
"Designing and testing IPM technologies for bean fly, bean aphid"
Survey results reported
Crossing block maintained
Semen for AI service acquired
"Data on fish growth and survival rate Baseline information collected

"
Monitoring, preliminary data collection
Available market and elite maize varieties suitable for mid altitude sub zone identified
High quality farmer preferred disease tolerant and high yielding cassava varieties maintained
1 effective weed management options in upland rice identified for on farm evaluation
Set up and maintain trials, train farmers and avail technologies
District stakeholders forum in Bulambuli, Sironko for the utilization of SLM innovations formed and launched
1 effective weed management options in upland rice identified for on farm evaluation
Sensitization and training of fishing community on appropriate fish handling

Item	*Spent*
224001 Medical and Agricultural supplies	2,072,038

Vote: 142 National Agricultural Research Organisation

QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

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Report on impacts of climate change on agricultural productivity produced
Carry out a survey to document indigenous fish species in the zone
identify integrated beans insect pest and disease management (IPM) technologies
Nutrient and organic matter flow balances determined.
Management of of trials
Food conversion ratio (FCR) for farm made feedand Jorda pellets on pond tilapia Juvenile stages cts determined.
Trial management and monitoring and data collection
Establishment of banana trial on different soil types in selected districts documented
data collected on performance (Disease and pest incidence, and growth vigour)
At least 1 rice market chain actors' meetings held according to themes
atleast 8 farm on farm trials selected and stocked
Data entry, analysis and report writing
One pasture multiplication (forage legumes, fodder trees and grasses) sites set up and 4 maintained
Parent stock of 3 Sahiwal cattle collected and raised on-station
1 trials for the tesing and evaluation of ox-drawn weeders conducted
At least one technology for water harvesting/harnessing and storage for livestock use promoted
On farm evaluation of 1 rice varieties completed.
Maintenance of experiment and data collection.
7 happas and happer stands acquired, happers stocked with fingerlings (catfish and tilapia) and maintained..
Tolerance of clones to 2 major pest assessed, pest and disease awareness campaigns conducted,

Actual Outputs Achieved in Quarter:

NACRRI
Maize
*** 1400 F4 lines planted for advancement and selection. 2000 testcrosses planted for evaluation. Seed for 2600 F4 lines prepared for next planting**
*** 20 regional trials planted and under evaluation in 6 locations**
*** 4 on-farm trails planted**
*** 150 inbred lines planted for seed increase.**
*** 4 nurseries planted for formation of new crosses; Diallel nursery planted**
*** Seed for 2 synthetics prepared for planting**
*** 4 OPVS planted in isolation**
*** Planted 26 F2 and selfed to F3**
*** 11 new maize varieties released: Namely: ECAVL1/ECAVL18 - (UH5051); ECAVL2/ECAVL17- (UH5052); ECAVL2/ECAVL18- (UH5053); Longe5-New version – (Longe 5D); FH6150; FH5160; VP5120 – (VP Max); KH500-43A; ZM5652; KH600-15A, and KH600-24A -(WANAK)**

Tea
*** Clones collected from Kanungu for pathogenicity tests**
*** The major diseases found in Kanungu were Armillaria mellea and Xylaria**
*****
cassava
*** Completed analysis of samples collected from F1 CBSD crosses and inbreds,**
*** Collected 90 root samples from the 3 harvested CFTs, 320 samples from CBSD versus Age trials at Namulonge and Kayunga, 135 samples β-carotene trialplanted at 3 locations with 15 genotypes,**

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QUARTER 2: Outputs and Expenditure in Quarter

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Development Projects

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analysis of the collected samples for storage quality attributes has commenced
*** New moisture -heat stress trial re-established in screen house with 6 varieties; a total of 9 data sets generated at two weeks interval**
*** Collected three data sets from the drought validation trial in Kasese Coffee**
*** The 1500 CWD resistant accessions at COREC were maintenance and suckers harvested for cloning. 806 cuttings were weaned and ready for planting**
*** Vegetative propagation of 17 Promising hybrids on-going. 146 clones under hardening shade**
*** Data collection on incidence and severity of CLR, and CBD at kituza and Eastern Uganda respectively**
*** Partial survey for selection of suitable coffee farms for evaluation of effect of shade trees in Eastern Uganda, (Kapchorwa, Manafwa and Sironko districts).**
*** Work CLR races characterization began with Standardization of reaction quantities of all reagents at NaCRRI bioscience lab. samples collected from Mityana, Mubende**
*** Comprehensive national surveys for spread and impact covered Bunyoro sub-region. Manuscript for spread and impact studies submitted for publication in a refereed journal.**
*** Trial for in-vitro pesticides tests for protection of nursery materials against BCTB reset with new entries that include Actara, Golan and Sumithion compared against IMAXI and Dursban.**
*** Confirmatory in-vitro tests of suspected alternate hosts continued in the screen-house with 48 entries consisting of fruit and forest tree species. So far 8 entries have been confirmed as BCTB alternate hosts.**
*** Monthly data collection on community-based participatory approaches implemented in Mukono and Nakaseke districts comparing phyto-sanitary farms with non-phyto-sanitary ones was done and undergoing analysis.**
*** Running cultures of entomo-pathogens B. bassiana and M. anisopliae established in the laboratory at Kituza**
*** Manuscript titled "In-vitro evaluation of systemic fungicides for inhibition of ambrosia fungal growth" reviewed and submitted for publication**
*** Maintainance of 104 entries of the germplasm l.**
*** Identified 6 farmers using non chemical fertilizer management options and 8 farmers using non chemical fertilizer optios for arabica coffee in Mbale district. No farmer was oberved to use non chemical fertilizer management options for robusta coffee in the districts of Nakaseke, Mityana and Mubende and 16 farmers were using intgrated methods of soil fertility management**
*** Initial study of 18 farmer in arabica coffee in the districts of Manafa, Sironko and Kapchorwa indicated that of 14 farmers observed, there were at least 16 non fruit species of shade trees used of which the highest incidence of 64 % was for Cordia africana and those with incidences of 40 to 50 % were Ficus ovata, Albizia coriaria, Ficus mucoso. Other notables were Markhamia lutea. In the study of robusta coffee in the districts of Lwenogo, Masaka, Nakaseke covering 18 farmers there were 6 non fruit shade tree species with Ficus natalensis incidence being 88 % and other notables being Albizia coriria, Albizia chinensis , Measopsisi emnii, and Gravellea robusta**
*** Continued to maintain 279 mother bushes of the 7 CWD varieties in buckets by watering, training, spraying insecticides to control pests and adding manure. Hardened 2742 plantlets of the 7 CWD resistant varieties ready for nursery operators. Hardening of 306 plantlets for planting next season. Nurtured 373 plants in weaning bins.**

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QUARTER 2: Outputs and Expenditure in Quarter

Planned and Actual Outputs in Quarter (Quantity and Location)	Expenditures incurred in the Quarter to deliver outputs *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Introduced and nurtured 1090 plantlets in weaning boxes
*** Callus is being developed in 56 flasks on a shaker (liquid medium)**
2268 CWD resistant plantlets were maintained in the nursery ready for nursery operators.
*** 3479 rooted cuttings were generated from 6937 planted coffee cuttings. 3523 additional cuttings are in cages to be sorted next month (Jan 2013).3111 cuttings of the 7 CWD resistant Robusta varieties were planted at Kawanda (still in humidity cages)**
NAFIRRI
*** A combined trawl and hydro acoustic survey undertaken for the first time on Lake Victoria. The last trawl survey on the Uganda waters of Lake Victoria was conducted in November, 2008. Data processing and analysis has been initiated.**
*** A joint Frame Survey was undertaken on Lake Victoria in August, 2012 by NaFIRRI and DFR. The report of this survey indicated a continued increase in fishing effort on the Lake. Landing sites increased from 503 in 2010 to 555 in 2012. There was a noticeable increase in some indicators of fishing effort including the number of fishers, fishing crafts (55% targeting Nile perch) and fishing gears.**
*** 2000m3 earthen pond prepared for happa fry nursing & broodstock holding**
*** Six ornamental fish species (haplochromines) were selected from lakes Nawampasa and Bisina. 2000 samples were collected for morphometrics, feeding and reproductive biology studies. Data processing and analysis has been initiated.**
*** Draft map outputs produced for the locations of fish breeding/nursery grounds in Lake Victoria.**
*** Information on breeding and nursery grounds and seasons for key commercial fish species on Lakes Edward and George has been generated. Fishes in the river-mouth habitat showed the highest level of breeding.**
*** Three reconnaissance surveys were conducted in the inshore waters of the Ugandan part of Lake Victoria and geo-referenced data was captured for 157 grounds identified as potential fish breeding/nursery grounds.**
*** A complete Catch Assessment Survey of Lake Albert and Albert Nile carried out during the month of July, 2012. Results of the assessment indicated a significant reduction in the large sized fishes (< 20%) and increase in the small sized muziri/ragoogi fisheries (>80%) to the contribution of the commercial catches on Lake Albert.**
*** Information for development and mapping has been generated from 811 fish farms in central region. This is estimated to be about 80% coverage of the region. Following completion of the region, a GIS map and technical report will be produced.**
*** A number of bays on L. Victoria were surveyed for their suitability for cage fish culture. Four bays (Kalyambuze, Nabinoonya, Bwanja and Semondo) were found suitable. Water quality parameters were within the recommended levels for cage fish culture i.e: DO, 5.46-8.07mg/l, Temp. 24.4-28.3oC, pH 6.0-7.5, ammonia less than 0.2mg/liter, water transparency of 105-295cms.**
NARL
Banana
*** 250 planted in early evaluation trial (EET) on station**
*** Planted 17 matooke hybrids in PYT**
*** Collected data on 2 advanced matooke hybrids (M19 and M20) needed for their release**
*** 100 lines of 3 trait transgenes were generated**
*** Inoculated transgenic plants with Xanthomonas and nematodes**
*** 60 lines with nematode and weevil resistance were planted in a Confined field trial.**

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QUARTER 2: Outputs and Expenditure in Quarter

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Development Projects

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*** M9 and FHIA 17 promoted in 30 districts. 8 farmers in each district hosting the demos. Iganga,mayuge,kaliro,Sironko,Butalegya,Jinja, Kasese, Bushenyi, Kabalore, Kanungu, Rukungiri, Ruwelo,Mukono, Mubende, Kiboga, Apac,Nebi and Lira, Masindi and Hoima.**
*** Established BBW 10 village demonstration trials in Ankole's 10 districts with at least 150 severely infected fields in each of in July 2012. We continued to train and mobilising communities to control BBW through the the last quarter. An evaluation of Dec 2012 shows that in 7/10 of the villages, 17-97 fields had been cleared of BBW. The rest of fields were still being cleaned up but removing 1-20 infected plants from each farm from more than 100 infected plants in Aug 2012. These are on-farm activities.**
Dairy cattle
*** Studies are being conducted on new napier clones. Data on 6th and 7th harvests were collected from on-farm trials at NaCRRI. Tiller numbers per stool and plant height of the clones varied significantly atp<0.05. The most tillering variety was Kakamega 1 with average tiller number of (6.9±0.5) followed by Kakamega 2 (5.3±0.6). Kakamega 1 and Kakamega 2 were not affected by the disease.**
*** A Decision support tool for optimizing forage utilization in smallholder dairy production systems was improved and was tested on 10 household farms ---an average increase (20%) in milk yield during the dry season due to availability of high quality feeds.**
*** 16 forage choppers were demonstrated and availed to farmers in Masaka and Ngora districts. This meant a reduction (30%) in of time spent on the processing forage.Wastage of forage was reduced by 30%; Chopping related accidents were considerably reduced; Size of the machine eased its movement**
*** 100 (77 women) farmers trained in utilize technologies for managing stunt disease**
*** Highest (5 ton/ha) vegetable yield was achieved at a rate of 6 ton/ha of cattle manure in a study to assess effect of manure rates on Solanumaethiopicum (Ethiopian eggplant)**
*** Sorghum and Tithonia as alternative feed trials were established in Gulu and Soroti districts. Sixty farmers (50 women) attended preparatory farmer meetings. 20 farmers were selected to participate in on-farm trials**
*** 150 kg of Chlorisgayanaseed procured for seed multiplication to Improved availability of forage seed . 300 sacs of Brachiaria splits given to farmers. 120 farmers trained trained on forage seed production**
*** A survey in Butegaya and Bugembe sub-counties to identify and quantify crop residues and agro-industrial by-products to be used in formulation of Multi-nutrient feed blocks. It was established that maize stover and banana peels were the most utilized crop residues and that Molasses and maize bran were the major agro-industrial by-products. A feedback workshop was held and 20 farmers were selected to test feed rations. Additional farmer meetings were held (71 farmers, 44 women) attended.**
*** Trials were established at NaLIRRI to evaluate productivity of 6 drought tolerant forage species**
ABI ZARDI
Fish
*** Preliminary results for feeding ecology indicates that Alestes baremoze feeds on a great diversity of food items with Ephemeroptera nymph dominating as the most prey item and photo period has an influence on stomach content fullness**
Cassava
*** Eighteen cassava landraces collected and screening trial established in two CBSD & CMD hotspots**

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QUARTER 2: Outputs and Expenditure in Quarter

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

*** 12.5 new acres planted with NASE 14 cassava varietiy**
Maize
*** Yield potential for 3 maize (Longe 4, 5 and MM3) and elite sorghum varieties (E1-E11) were established under 3 different spacing and no nutrient supplement and rain fed conditions**
Beans
*** 25 isolates maintained on Potato Dextrose Agar (PDA) at NARL-Kawanda**
*** Crosses were made between the 3 sources of resistance and K132 and F1 seed harvested**
*** On farm beans trials established in 5 locations**
*** 60 West Nile local Bean germplasm was evaluated on-station for characterization and trial was harvested and data collected**
Cattle
*** Data on forage yield collected in trial sites and 26 samples submitted for chemical analysis**
*** Ingredients of Urea Molasses Multinutrinet Blocks (UMMB) procured**
Maize
*** On station multiplications fields for maize varieties Longe 4 and 5 were harvested;**
Rice
*** On station multiplications fields for rice Nerica 1, 4 and 10 BUGINYANYA ZARDI**
Beans
*** Bush varieties Nabe 3, Nabe 5, K131, Nabe 2 and Nabe 1 yielded 2.7t, 2.52t, 2.4t, 2.3t and 2.3t and 2.1t and 2.0t/ha compared to local varieties Kamwanyi 0.7t and Bulangiti 0.4t respectively**
*** Variety evaluation trial established and at physiological maturity stage. Varieties Nabe 3, Nabe 5 and K131, and Nabe 2 appear suprerior expected to yield above 1.8t/ha**
*** Yield (kg/ha) for varieties K132, K131 and Narbl 39 increased by 371, 295 and 182 respectively for 140kg/ha of DAP added to control yields (kg/ha) of 1622, 1927 and 1697 respectively. 140kg/ha of DAP is the most promising rate 2012 second season trial at grain filling stage. Trend similar to that of last season appears to be followed again**
*** 1 bean variety evaluation and promotion site in the district of Mbale. Crop at grain filling stage. Variety K131 and Nabe 3 look promising**
*** Total of 258kg of foundation seed produced at Bulegeni.**
*** 1 ha of onstation seed multiplication for promising varieties at grain filling stage. 1000kg expected (low due to poor season)**
Maize
*** The on-station maize variety trial is at grain filling stage**
*** Hybrids PAN53, CZH0616, CZH0811, CZH0935, 10SADVEI-F2 are promising when grown under farmers' conditions and practices in Eastern Uganda**
Coffee
*** 2.2 MT of arabica coffee seed available for uptake pathways**
*** 4500 seedlings avaliable for uptake pathways**
*** Low CBD disease and no CLR recorded on station**
*** 1 MSIP on coffee established in Bushiribo sub county Bududa District**
*** Maintenance of the coffee trees**
Cassava
*** Acquired 14 bags of NASE 14 cassava variety from NaCRRI.**
*** 1ha of multiplication garden established at Ikulwe station & at 30 cm height**
*** 62 farmers trained in Kamuli, Iganga & Bugiri**
*** The on-farm IWM trials at Bugiri, Iganga and Kamuli are at grain**

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QUARTER 2: Outputs and Expenditure in Quarter

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

filling stage
Feed crops
*** 1000 bags of Brachiaria mulato already for uptake pathways available for**
BULINDI ZARDI
Cassava
*** 8 acres of cassava (NASE 14) multiplication established on station**

Fish
*** Baseline data on aquaculture status of kibaale district; Majority are small scale farmers, and have indicated shortage of inputs as the most important limiting factor to the enterprise**
*** Pond design of the aquaculture site on station developed and approved for implementation**
KACHWEKANO ZARDI
Fish
*** Aquaculture experimental holding facilities located and selected in Kisoro, Kanungu and Kabale. Technical back stopping extended to farmers on rehabilitating the facilities and training regarding best management practices in aquaculture provided**
*** Arrangements and discussions held with farmer-hatchery operators for supplying fry for Mirror carp and African catfish**
*** Travelled to River Sipi in Kapchorwa and arrangements made with the care-takers of Rainbow trout fish for introducing the fish in the zone**
*** Laboratory consumables such as retort stands, burrettes, funnels and clips were procured**
Cattle
*** Maintained improved fodder gardens**
*** 1 staff attached to National Animal Disease Diagnostics Centre and skills acquired in basic laboratory practice and molecular biology**
Rice
*** 160 farm fields established each with 1 kg of NERICA 4 rice variety. Farmers were trained in rice seed production and management. Monitoring of performance of NERICA 4 under farmer multiplication was conducted and was performing better than the local variety WHITE which had high incidence of rice blast and poor vigor.**
MUKONO ZARDI
Rice
*** Rice intercropping trials established in the 3 districts in 2nd season 2012. Data collection done on germination percentage, tiller number, plant heights, pest and disease incidence and growth vigour. Germination percentage ranged from 75% to 98 % in the different crops. Major diseases included maize streak virus, groundnut rosette disease, leaf spot and bean rust. Severity increased with disease progress.**
Fish
*** Two (2) feedback meetings on improving productivity, Marketability and profitability of fish farming; involving 80 households were successfully conducted in 2 districts (Masaka-Lwengo) and Mpigi.**
Coffee
*** 1,250 elite coffee seedlings and 1000 clonal coffee plantlets availed to farmers of Masaka, Mukono and Kayunga. 0.25 acre of coffee wilt resistant varieties planted for demonstration.**
Banana
*** Establish a new banana mother garden with 150 tissue culture plantlets**
RWEBITABA ZARDI

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Tea
*** 20 tea fields (tea gene bank) maintained on-station.**
Cassava
*** 20 acres of cassava (4271 variety) established and maintained on-station**
Maize
*** Four (4) acres of maize boarder crop maintained (Weeding, fertilizer application and pest management).**
Banana
*** Stocks of 10 banana varieties sourced at NARL, Kawanda. Land preparation (slashing, 1st, 2nd ploughing, harrowing, and digging holes) for establishment of 5 acres of on-station banana multiplication site conducted**
Dairy cattle
*** 15 pasture fodder species including Lab lab, Mucuna-white, Mucuna-spotted, Mucuna black etc procured for album establishment. One (1) pasture album of 15 procured fodder species established on-station. Maintenance (weeding) of established Bricharia species evaluation trial**

Reasons for Variation in performance

NA

Total	**2,072,038**
GoU Development	*0*
Donor Development	*2,072,038*
NTR	*0*
GRAND TOTAL	**19,266,219**
Wage Recurrent	*5,070,529*
Non Wage Recurrent	*1,735,342*
GoU Development	*1,426,880*
Donor Development	*10,626,972*
NTR	*406,496*

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

Outputs Funded

Output: 01 5151 Payments to International Organisations (CGIAR, ASARECA, WARDA)

3months Subscriptions to international organisations

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

1. CGS review held
2. Popularize & supervision of CGS
3. 2 Progress reports (GoU & WB).

-Water utility bills paid;
-Electricity utility bills paid;
- Telephone bills paid.

QTR 3 planning and Review meeting held`

Conduct monitoring and evaluation of research.

ACCOUNTS:

Payments processed, Financial obligations fulfilled
Payments processed, Financial obligations fulfilled
Payments processed, Financial obligations fulfilled

Total	**0**	**4,592**	**4,592**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*4,592*	***4,592***

Output: 01 5102 Research extension interface promoted and strengthened

Good governance and corporate social responsibility ensured and promoted.

NARO's contribution towards national Agricultural Research .
Networking, Partnership and collaboration stakeholders meetings held;

Stakeholders sensitisation workshops/meetings of conducted;

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Quarter 3 outputs as under:

NARO-NAADS Joint workshops and meetings conducted;

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

2.Stakeholders trained in IAR4D
3.Joint stakeholder Planning/Review/Feedback/ workshops and meetings held;
4.membership to local Associations made and update
5.Networking, Partnership and collaboration stakeholders meetings held;
6.stakeholders sensitisation workshops/meetings of conducted;
7.Participate in open days/Farmer field schools/exhibitions/trade fairs/Agricultural show/Field days;
8.Extension and promotional materials developed and disseminated

NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

Research implementation at institutes guided
Well motivated staff retained in the organization
Improvement in performance management and recruitment skills.

4 feedback meetings held
Hold 2 meetings with staff on training for update & reporting.

Item	*Balance b/f*	*New Funds*	*Total*
211102 Contract Staff Salaries (Incl. Casuals, Temporary)	**1,248,657**	**0**	**1,248,657**
212201 Social Security Contributions	**144,809**	**0**	**144,809**
213001 Medical Expenses(To Employees)	**25,000**	**0**	**25,000**
213002 Incapacity, death benefits and funeral expenses	**86,789**	**0**	**86,789**
213004 Gratuity Payments	**63,854**	**0**	**63,854**
Total	**1,574,660**	**4,262**	**1,578,922**
Wage Recurrent	*1,248,657*	*0*	***1,248,657***
Non Wage Recurrent	*320,452*	*0*	***320,452***

Staff positions filled.

Organizational objectives achieved and individual tasks accomplished.
Staff motivated
A safe environment provided for NARO assets

Proper procurement documents prepared and efficient supervision of works.
1) Computerised Financial Information, under "Solomon" accounting Package-Micro-soft Dynamics SL
2) Periodical Financial Budgets
3) NARO- "IFMS"
4) Capacity Development
Annual financial audit

5) Fulfilment of Banking obligations.

One component of internal control reviewed.

Adherence to laid down regulations and policies.

Accountability & books of accounts reviewed.
Internal audit work at institutes reviewed.

Losses/fraud investigated as and when it arose.

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 01 Headquarters

All Assets physically verified and updated
Asset register verified.

ICT:

	NTR	*5,550*	*4,262*	***9,813***

Programme 07 National Crops Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Electricity supplied to all NaCRRI units
Electricity and water system repaired
4 Trial sites visted

925 litres of fuel purchased

1 Gang Mower, 2 Computers 1 incubator repaired
180 assortment of statinery items purchased

1 Staff attending Procurement Workshop

1 Staff attending Scientific seminar
5 compounds & 5 roads slashed
8 arrows,4 bows,and assortmentd of Torches wistles purchased
Contracted labour Paid

	Total	**0**	**0**	**0**
	Wage Recurrent	*0*	*0*	***0***
	Non Wage Recurrent	*0*	*0*	***0***
	NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

Advirtment placed in newspaper
One Management Committee meeting held
2 meetings attended

2 field visits made to COREC & Kiige

Constant provision of internet service
Constant provision of courier services
6 computers repaired and installed with Anti-Virus

2 functional UTL lines maintained
30 staff members provied with break-tea and refreshments

	Total	**5,793**	**30,000**	**35,793**
	Wage Recurrent	*0*	*0*	***0***
	Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 07 National Crops Research

91 assorted office equipment purchased

4 security gards hired
2 Pick ups are repaired and fitted with new tyres
1 roads graded,electricity lines cleared

One office block repaired

	NTR	*5,793*	*30,000*	***35,793***

Output: 01 5105 Generation of technologies for priority commodities

Data collection cleanning
Reporting of survey results
Continued maintainance and data collection at multilocational participatory selection trials
Continued maintainance and data collection at multilocational participatory selection trials
10 mother gardens established, Multiplication of newly selcted CWD resistant varieties
Pest and Disease surveillance in seleted districts
Identify sites and collaborative stake holders in seleted districts

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

NTR	*0*	*0*	***0***

Programme 08 National Fisheries Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Technology/knowledge/ informatio genrated for atleast one core research study.
One outreach lesson to 2 schools in the Lake Kyoga basin-

An assortement of stationery and office supplies (photo copying papers, clips, glue, markers, pens, cleaning detergents, toilet papers, soap and staff identity cards)

Institute telecommunication expenses settled

Three months Payment of electricity bills

Three months water bills cleared
An assosrtement of Aquafarm and laboratory inputs and supplies

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 08 National Fisheries Research

Quarterly support to core research activities

Provisions of fuel needs for administrative travels and operation of a generator when load-sheded during working hours

NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

800 copies news papers bought
Updated web pages for various research projects
Alt least five Quarterly stakeholders and collaborative research and field visits

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

10 contract staff renumerated
At least one NaFIRRI advert featured in any of the wide spread media
Conduct at least 2 specialiasized training to staff
i) Orientation and induction of recruited staff
Quarterly committee and satff meetings
4 Extension cables, Internet connectivity fees and computer service
i) Quartely provison for staff motivation and visitors reception
Quarterly assortement of small office equipment
Quarterly postage and courrier services
Security to Institute premises and property
Technical assistance/advice
Third party Insurance cover for Institute vehicles
Alt least four Quarterly stakeholders and collaborative research and field visits
At least three existing office block repainted
Atleast 3 vehicles and 1 reseach vessel repaired and/or serviced
At least 2 machinery and equipment repaired and serviced
Clean Laboratory, office & Compound

15 hired staff paid timely wages
Three months electricity bills cleared
Three months water bills cleared
Contracted security firm paid
repair and servicing of tracor
Fuel supplied to lorry for maintenance work
repair and servicing of lorry
Twelve institue houses houses repaired
Repair and servicing of boats and engines
Monthly bank charges paid for 3 NTR bank accounts
Subsistence allowance and transport

Total	**8,958**	**7,632**	**16,589**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)		*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 08 National Fisheries Research

	NTR	*8,958*	*7,632*	***16,589***

Output: 01 5105 Generation of technologies for priority commodities

Additionl Wild Nile tilapia brood stock will be collected for captive acclimatization in the ponds	**Total**	**0**	**0**	**0**
	Wage Recurrent	*0*	*0*	***0***
	Non Wage Recurrent	*0*	*0*	***0***
	NTR	*0*	*0*	***0***

Programme 09 National Forestry Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

1.5km Forest boundary planting 2.5 Staff and management committee members for verification,monitoing and supervision of research activities 3.2 local council sensitisation meeting for Kiyunga and Nalwana 4.Atleast 2 field experiments and research sites monitored and evaluated 5.Routine repair and servicing of machines. 6.Availability of electricity supply ensured 7.Servicing, mantainence of generator 8.Availability of telecommunication services procured 9.Water lines and pumps serviced and maintained 10.Keeping 10,000m2 of compound clean. Ensuring NaFORRI property and assets secure 11.Nursery soils/sand, fungicides, sand, Chemical and fertilisers procured. Seed acquisition, bed preparation, sowing and routine nursery management and maintenance.	**Total**	**0**	**0**	**0**
	Wage Recurrent	*0*	*0*	***0***
	Non Wage Recurrent	*0*	*0*	***0***
	NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

1.Access to current information and issues enhanced 2.Stationary and small office equipement for use 3.Atleast 3000 copies of assorted brochures designed, published and distributed 4.2km of access roads cleaned and maintained 5.Purchase of Consumables for sawmill and carpentry workshop 6.Consumables for guest house 7.1 Management committee and 1 Contracts committtee meeting held 8.Staff motivated for better outputs 9.Mantainance of vehicles & motorcycles	**Total**	**-2,721**	**250**	**-2,471**
	Wage Recurrent	*0*	*0*	***0***
	Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*
Vote Function: 0151 Agricultural Research				
Recurrent Programmes				
Programme 09 National Forestry Research				
10.Procurement of fuel, lubricants and oils				
	NTR	*-2,721*	*250*	***-2,471***
Programme 10 National Livestock Research				
Outputs Provided				
Output: 01 5101 Generation of agricultural technologies				
250 blood and 250 faecal cattle samples collected and analysed, 250 chicken blood samples collected	**Total**	**0**	**0**	**0**
	Wage Recurrent	*0*	*0*	***0***
	Non Wage Recurrent	*0*	*0*	***0***
	NTR	*0*	*0*	***0***
Output: 01 5102 Research extension interface promoted and strengthened				
1 Newspaper advert of NaLIRRI technologies				
	Total	**0**	**0**	**0**
	Wage Recurrent	*0*	*0*	***0***
	Non Wage Recurrent	*0*	*0*	***0***
	NTR	*0*	*0*	***0***
Output: 01 5104 Agricultural research capacity strengthened				
1 Quarterly Mgt committee and 1 Mgt Sub committee meeting, 8 planning committees' meetings and 3 staff meetings Computer & Internet repairs Repairs done one 1st block, slashing 4 acre compound 3 times and clearing the 400 m road twice. 5 staff trainied in procurement and chain supply Payment of electricity, water, telephone and internet bills for the 3rd quarter. Guarding the institute - COREC Travelling (allowances and fuel). Vehicle repairs, purchase of fuel, oils, tyres, batteries and insurance Generator serviced once,contracted staff salaries paid 3 times, 15 vehicles serviced and computers serviced once in the quarter 'Printing of monthly, quarterly reports, circulars and other hard copy documents, dairly cleaning of the office block during 3rd quarter.	**Total**	**5,365**	**3,310**	**8,675**
	Wage Recurrent	*0*	*0*	***0***
	Non Wage Recurrent	*0*	*0*	***0***
	NTR	*5,365*	*3,310*	***8,675***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)		*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 10 National Livestock Research

Output: 01 5105 Generation of technologies for priority commodities

Presence of tsetse placed on maps using GIS
Maintenance of experimental animals

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 11 National Semi arid Research

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

2.2 5 fungicides screened
2.3 5 bio-rationals screened

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

At least 1 workshop held on developing guide lines for packaging research outputs

At least 1 workshop held for improving stake holder involvement in packaging & repackaging of research outputs

At least 1 reports for tracking research activity implementation prepared
At least 1 type of knowledge sharing products developed (open days)
At least 1 demonstration centres set up at project sites
At least 1 quarterly report written

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

2.1 At least 1 quarterly report prepared
2.2 At least 1 technical peer review meeting held

Total	**3,078**	**490**	**3,568**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*3,078*	*490*	***3,568***

Programme 12 National Laboratories Research

Outputs Provided

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 12 National Laboratories Research

Output: 01 5101 Generation of agricultural technologies

1. Final recommendations, policy briefs and extension materials
2 Seed multiplication fields harvested
3. Evaluation of field under released termites
4. Additional field amd gene banck collections, evaluated.
5. 1 prototype of single axle tractor planter for maize improved and fully tested on-farm
6. At least 1 enterprise mapped and profitability determined

7. Production of 1 user mannual of drying technologies to reduce postharvest losses.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

1. Budget retreat
2. 30 users from PARIs sensitized and trained on accessing information resources, services and products, and communication skills, Research results printed in Brochures.
3. Regular update of NARL website.

4. Payment for Computer Supplies & IT Services.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

1 Payment of salaries to Casual staff supporing research activities.
2 Payment for paper presentations
3 Contribution to funeral arrangements
4 Payment for 1 TV show and 2 radio shows
5 Carry out staff training
6 Recruitment expenses
7 MC meeting costs
8. 3 month reunion teas provided, Working day break teas.

9 Payment of postage fees

10 Settlement of electricity bill.
11 Payment of consultants
12Settled insurance bills
13. 2 Monitoring and evaluation of research experiments

14 Payment of fuel, lubricants a16Repair of one building
17 Repair of motor vehicles

18 Maintenance office equipment
19 Repairs of water pump 20. Clean planting

Total	**-16,250**	**566,567**	**550,317**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 12 National Laboratories Research

materials
21. Analysed plant and soil samples for improved productivity
22. Availability of plant species
23. Revenue from gate collections
24.Rent recovered

25. Agricultural implements and equipments
26. Hired Agricultural implements and equipments
27. Train stakeholders on Agricultural engineering techniques

	NTR	*-16,250*	*566,567*	***550,317***

Output: 01 5105 Generation of technologies for priority commodities

Carry out analysis for fibres, bioactive agents and starch
Solar pump system for small-scale irrigation maintained
1 mechanical fish pond air entrainment system evaluated on-farm

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 13 Abi ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Atleast 30 reams of printing paper,7 vouchers and 15 files procured per month

Laundry items,and parking fees and third party insurance for 6 vehicles

Atleast 450 ls of diesel and 210 ls of petrol procured

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

Institute premises secured and compound well mantained

One radio talkshow attended on the various institute activities

Atleast 3 staff trained in short courses

Atleast 1 meeting held

Atleast 180 copies of newvision/monitor procured

Purchase of 2 printer cartridges

Provision of meals and DSTV subscription paid

Total	**-1,182**	**2,763**	**1,580**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 13 Abi ZARDI

Assorted equipment procured

Monthly box rents paid

Atleast 12 travels facilitated

Atleast 2 blocks maintained

Atleast 2 vehicles serviced

Atleast 2 generators and 2 mowers mantained

2 telephone lines loaded with airtime

25 acres of land ploughed, planted and weede

Lighting system mantained for full quarter

Constant flow of running water to the institute

1 Quarterly techincal report and various assignments sent

12 bags of fertilizer, 60packets of grafting tape and 5 roles of polythene tube procured

One month provision of meals to staff

3 reports submitted every quarter
Atleast 300 participants are fed

Payment of monthly bank charges

NTR	*-1,182*	*2,763*	***1,580***

Output: 01 5105 Generation of technologies for priority commodities

"Management of second set of experiments

"
Management of crossing block and Monitoring
Management of crossing block
Management of 1 crossbred dairy cows and their progeny & 2 on farm dairy heifers inseminated
1,000 copies informational materials are produced, Monitoring and data collection
Selection of 1 on farm sites in 1 district to conduct adaptation trials

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 14 Bulindi ZARDI

Outputs Provided

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 14 Bulindi ZARDI

Output: 01 5101 Generation of agricultural technologies

1. Two boer bucks bought
2. Meetings and Wokshops attended
3. Electricity bills paid
4. Telecommucation services paid
5. Management committee meeting held
6. 22 computers and accessories Maintained
7. Maintened Vehicles and Motor Cycles
8. Fuels and lubricants procured

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

n/a

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

1. Staff welfare and entertainment
2. 300 Kuloirers and 200 local stocked
3. At least 20,000 seedlings of multipurpose tree species raised (pine, mangoes,citrus oranges and avocado)
4. 10 acres of maize planted and maintained
5. 5 acres of rice planted and maintained
6. Institute roads and compound are slashed and cleaned
7. Payment for casual labour

Total	**3,585**	**573**	**4,158**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*3,585*	*573*	***4,158***

Output: 01 5105 Generation of technologies for priority commodities

Validation trials sepup and managed
One feed formulations tested
Management of trials

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 15 Kacwekano

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

1.Electricity connections serviced, Water connections serviced
2. 4 office telephone lines maintained
3.Sufficient stationery availed
4.News papers and periodicals availed
5. 800m of access road maintained free of

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 15 Kacwekano

weeds

NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

1. One quarterly Management Committee mmeting meeting conducted
3. Participate in at least 1 adminstrative meetings
4. 3 payments made
5. Generating monthly audit and financial reports and submitting to NAROSEC
6. Fuel & lubricants supplied for 5 vehicles and 2 generators for administration
7. Institute property secured
8. 5 vehicles, 1 motor cycle maintained and serviced
9. Maintaining compound including slashing, , fencing and desilting internal road channels, Minor repairs on administrative buildings, 6km of institute roads maintained
10.Third party insurance paid
11. Mowers, generators, printers, photocopiers maintained
12. Purchase of protective gear
13. Water and power bills paid
15. Computer supplies and IT services provided, 1 AFSAT connection and 1 UTL connection serviced
16. Procure items for break fast, office cleaning and toilet effects
17. 1 bank account operational
18.Five none core staff paid salaries
19. 1.5 ha of pre-basic seed harvested and stored appropriately.

Total	**-4,458**	**6,372**	**1,914**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*-4,458*	*6,372*	***1,914***

Output: 01 5105 Generation of technologies for priority commodities

Data collected on effect of human activity on water quality

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 16 Mukono ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Atleast 2 vehicles repaired and serviced

At least 398 litres of fuels for research and administrative work purchased

Bind at least 1 sets of newspapers

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

Acquire office stationery (Assorted)

Payment of at least 668 units of electrictiy & telephone bill

Bank transitions done

Compount equipments, tools and general compound well maintained

Engraving Institute assets, fumigation, drainage of sewerage system, hazard and labour

Acquire lavatories & office cleaning materials (Assorted)

NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

At least 1 sources of information (books, journals etc) purchased

At least four sets of news papers purchased

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

Subscribe at least once for internet and 2 mobile internet modems

Acquire atleast 1 package for updating and upgrading the Intranet web

Website updated at least once
Servicing at least 1 Pbx machine, acquisition of at least 1 software

5 faulty computers, printers and photocopiers(Assorted) repaired atleast once

Purchase of at least 4 boxes of mineral water, soda and biscuits

Staff tea, refill for water dispenser

Acquire lavatories & office cleaning materials (Assorted)

Payment for telephone bills

Payment of at least 275 units of electricity consumed

Bank charges paid for

Total	**-7,673**	**67,056**	**59,383**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

Security services paid for and at least 3 padlocks bought

Special duty investigation and database updates

At least 250 seedlings of both exotic and indigenous high value trees for planting and replanting purchased

At least 2 Casual labourers paid for maintaining the eco-site

Assorted apiary equipemnt procured

Apiary unit slashed at least three times

At least 4 tins of exotic vegetables purchased

At least 375 stakes purchased

At least 4 trucks of compost manure purchased

At least 2 track loads of mulching materials purchased

At least 14 bags of rootstock materials for 4 improved fruit trees purchased

At least 12 trips of media material (forest soil, sand manure purchase)

At least 100kgs of potting materials purchased

At least 75kgs of organic fertilizers purchased (UREA & DAP)

At least 10 types of nursery tool and equipment purchased

At least 8 types of pesticides and fungicides purchase

At least 12 workers paid

Train atleast 150 pupils, intern students and farmers
buy feed ingridients and formulate our own feed ration for all the livestock species
buy drugs, anthelmintics, mineral licks for all livestock species
Assorted kitchen ware purchased

Plastic chairs, tables, table cloths, blackboard dusters, and wall clock procured

At least 4 trips of forest soil purchased

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 16 Mukono ZARDI

4 trips of organic manure purchased
At least 250 meter are required of HDP PN10 high density polyethen pipes (HDP) PN 10 2 inches diameter procured

At least 15 workers and 5 contractors paid

Assorted tools and equipment
2 trimmers and 1 mower maintained

At least 8 trips of murram delivered, road carbs painted ,at least 4 rolls of birbed wire purchase & labour paid for

Atleast 20 litres of assorted insecticides purchased a

At least 6 demonstration trials maintained

At least 8 trips of organic manure purchased
purchase of tools, equipments and NPK
payment of casual laborers

At least 6 vehicles, 1 generator and 1 tractor maintained and services

At least 60 workshops booked & hosted

Electricity bills paid

NTR	*-7,673*	*67,056*	***59,383***

Output: 01 5105 Generation of technologies for priority commodities

Acres of existing crop maintained
At least 1 rice market chain actors' meetings held according to themes
at least 5 farmers and fish traders trained
Management of set up small scale irrigation schemes

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 17 Ngetta ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Issues concerning the Organisation discussed and resolved

2.Management & committee meetings held

3.Compounds, roads,farm buildings & structures maintained.

4.Utilities & other charges paid.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 17 Ngetta ZARDI

5.Vehicles,machineries & equipment maintained

6.Staff motivated.

7.Compounds, roads,farm buildings & structures maintained.

8.Telephone, postage and courier services used.

9.Water systems maintenace paid

10.Bank charges and commssion paid

11.Farm groups capacity enhanced

12.Farm buildings and structures maintained

13.Farm demonstration trials sustained

NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

1.Disemination of research findings made

2.Utilisation of improved farming practices enhanced

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

Staff technical capapcity developed.

3.Compounds, roads,farm buildings & structures maintained.

Total	**16,371**	**35,280**	**51,651**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

5.Vehicles,machineries & equipment maintained

6.Staff motivated.

7.Compounds, roads,farm buildings & structures maintained.

10.Bank charges and commssion paid

11.Farm groups capacity enhanced

12.Farm buildings and structures maintained

13.Farm demonstration trials sustained

NTR	*16,371*	*35,280*	***51,651***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 17 Ngetta ZARDI

Output: 01 5105 Generation of technologies for priority commodities

On farm second cycle evaluation 1 rice varieties initiated.
On farm Maintenance of experiment and data analysis
1 mixer acquired and 1 acres one each of rice maize, soya beans, cassava established on-station.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 18 Nabium ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Control of ticks and tick borne diseases, and helminths in goats assessed in Kotido and Nakapiripirit districts.
Data on the efficacy of botanicals in controlling crop pests and diseases analyzed.
Data on water conservation collected and analysed.
On station trials managed.
At least 2 approach for use of research outputs for innovation and impact identified.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

Disease and pest control for the 2 apiary sites, weed management planting and weeding of forage crops, evaluation of colonies for adpatability carried out both on station and onfarm.
Phase 1 and phase 2 training of 6 farmer groups in Serere, Soroti and Kumi districts carried out.
Phase 1, 2 and 3 training of TOTs in Kaberamaido district carried out.
Training on the processing of propolise, honey wine and other bee products carried out.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

1. 500 chicken and 25 piglets of improved breeds raised on-station.
2. At least 250 mango seedlings, 250 orange seedlings, 100 avocado seedlings and 100 agro forestry tree seedlings raised.
3. At least 10 students and farmers hosted for trainings and workshops on-station.
4. Atleast one management committee meeting held.

Total	**1,104**	**1,195**	**2,298**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 18 Nabium ZARDI

5. One directors' meeting held.
6. Once financial report submited.
7. One audit report submitted.
8. Once procurement report submitted.
9. One planning meeting held.
10. Wages of casual labour for three months paid.
11.Bank charges for three months cleared.
12. Routine administrative activities carried out.
13. Quarter handling Human Resource matters at the station and NAROsec.
14. Stationery procured.
15. Water acquired and bills paid.
16. Quarterly electricity acquired and bills paid.
17. Quarterly telephone services acquired and paid for
18. Vehicles maintained.
19. Two dormitries, 1 office block, 1 residential buildings, 1 conference room renovated.
20. At least one satff trained.
21. 100 brochures acquired.
22. Research information by communications officer put together.
23. Meeting held with stakeholders.

	NTR	*1,104*	*1,195*	***2,298***

Output: 01 5105 Generation of technologies for priority commodities

At least one rangeland management practices evaluated
Parent stock of 1 short-horned Zebu cattle collected and raised on-station
1 trials established on cost benefit analysis of ox-drawn weeders set up
Information on water harvesting/harnessing and storage for livestock use disseminated

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 19 Mbarara ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

1. Computer supplies and IT services prcured.
2. Welfare items procured.
3.Printing,stationary, photocopying and binding services procured.
4.Telephone bills paid.
5.Electricity bills paid.
6.Assorted goods and services procured.
7. Allowances for scientists paid.
8. Fuel and lubricants procured.
9.Vehcles maintained.
10. Machinery, equipment & furniture maintained.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 19 Mbarara ZARDI

	NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

Computers serviced and functional.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

1.Management Committee meetings facilitated.
2.Perdiem paid to staff on official travel.
3.Public transport hired.
4.Institute land fenced
4. Animal feeds procured.
5. Assorted veterinary medicines procured.
6. Farm roads maintained.
7. Milking parlour repaired.
8. Hired laabour paid.
9. Water pipe procured.

Total	**19,726**	**6,566**	**26,292**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*19,726*	*6,566*	***26,292***

Output: 01 5105 Generation of technologies for priority commodities

Monitor established trials to evaluate (IPM) technologies for their effectiveness and economic viability
Nutrient and organic matter flow balances results disseminated to farmers in seleceted districts
Conduct a survey of farmers practicing feed conservation in selected districts of the SWAEZ.
Food conversion ratio (FCR) for Jorda pellets on pond tilapia growout stages determined.
management of trialand data collection
Initial agronomic data on banana plant growth under different nutrient trials anaylsed

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 20 Buginyaya ZARDI

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Status of FS & LA in Busoga sub zone documented
5000 Arabica coffee seedlings maintained at Buginyanya station
4ha of land established for seed potato varieties multiplication

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 20 Buginyaya ZARDI

3 farmer groups capacity in quality seed potato production enhanced
one (1) orchard rehabilitated in Kween, 1 sign post printed and installed in the rehabilitated orchard
1ha of land established for high quality sweet potato vine multiplication
Available market and elite maize varieties suitable for mid altitude sub zone identified
Suitable bean varieties for mid altitude sub zone identified for participatory evaluation on farm
Performance of suitable cassava varieties identified for mid altitude zone
Performance of elite cassava varieties after establishment identified
cassava multiplication gardens maintained weed free
Promising groundnut lines identified
Sites for validating maize intercropping options identified and land prepared
Progressive performance of introduced goat genotypes and their cross breeds identified

NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

Conducive environment and facilities with proper monitoring and evaluation for effective and efficient project delivery

Total	**5,073**	**4,517**	**9,590**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*5,073*	*4,517*	***9,590***

Output: 01 5105 Generation of technologies for priority commodities

Identified elite maize varieties suitable for mid altitude sub zone promoted
Mananagement of multiplication of new cassave varieties
Validation trials sepup and management
Maintain trials and avail seedlings to uptake patha ways
Utilization of SLM innovations promoted in seleceted districts

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 21 Rwebitaba ZARDI

Outputs Provided

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 21 Rwebitaba ZARDI

Output: 01 5101 Generation of agricultural technologies

1. Target mother garden in Rwebitaba maintained in the quarter.
2. Genebank at Rwebitaba ZARDI maintained
3. Treatments for on-station trials conducted by end of March 2013 .
4. Tolerance of clones to 2 major pest assessed in Kyengegwa and Kamwenge by end of the quarter .
5. Construction of screen house completed in the quarter
6. Tolerance of clones to 2 major diseases assessed in Kyenjojo and Kabarole by end of the quarter .
7. Molecular isolation of Xylaria pathogen carried out on 250 possitive cultures by September 2012 .
8. Atleast 15 tea clones tolorant to Xylaria disease selected by March 2013 .
9. Data on weekly scientific observations, meseasurements of yield (weight of made tea/ha) yield components (no. of shoots/plant) for the different tea clones taken throughout the quarter .
10. Study sites and collaborative stakeholders identified in Kyegegwa, and Kyenjojo by end of the quarter .
11. Data on soil status in selected farms in Kaseese and Kyegegwa collected L16 .
12. Data collected on soil and water loss and assessment of soil and water management practices in Ntoroko and Bundibujjo conducted .
13. Data on yield, costs and price of green leaf and made tea in Hoima and Kibaale recorded .
15. Data on weekly scientic observations, meseasurements of yield (weight of made tea/ha) yield components (no. of shoots/plant) collected by end of March 2012 .
16. Biochemical profiles of 20 Ugandan tea clones established .
17. Cup quality of 1 clone determined by end of the quarter .
18.Land use and tree species selection surveys in Kasese, Ntoroko and Bundibugyo conducted.
19.Stakeholder feed back meeting held in Kasese, Bundibugyo and Kabarole districts .
20.At least 20,000 seedlings of multipurpose tree species raised (Pinus caribaea, maesopsis, callindra, leucaena, Eucalyptus, guava) .
21.Establish 2 demonstration plots of 2 important selected agro-forestry trees on-station and on-farm for soil and water conservation in Kasese+L30.
22. 2 boer bucks bought.
23.6,000 kgs of poultry and piggery feeds.
24.At least 15 cows inseminated.
25.Training one farmer group in the zone in

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 21 Rwebitaba ZARDI

technologies for increased egg hatchability.
26.10 acres of improved pasture species planted.
27.Establishment of plantation.
28.Banana plantation maintained.

NTR	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

Two radio talkshows conducted within the quarter

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

Holding of quarterly Management Committee meetings.

Organize one stakeholder meeting.

Maintenance of vehicles
Fuel
Contract Labour
Welfare and entertainment
Books periodicals and newspapers
Telecommunication
Electricity
General supply of Goods and Services
Maintenance Machinery
Maintenance Other
Monthly wages
Hired labour for weeding tea and banana plantations and plucking green leaf.

Total	**2,967**	**18,650**	**21,617**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*2,967*	*18,650*	***21,617***

Output: 01 5105 Generation of technologies for priority commodities

carry out molecular isolation of Xylaria pathogen

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Programme 26 NARO Internal Audit

Outputs Provided

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Recurrent Programmes

Programme 26 NARO Internal Audit

Output: 01 5103 Internal Audit

One component of internal control reviewed
Adherence to laid down regulations and policies.

Accountability & books of accounts reviewed
Internal audit work at institutes reviewed
Losses/fraud investigated as and when it arose.
All Assets physically verified and updated
Asset register verified.

Total	**0**	**0**	**0**
Wage Recurrent	*0*	*0*	***0***
Non Wage Recurrent	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Development Projects

Project 0382 Support for NARO

Capital Purchases

Output: 01 5172 Government Buildings and Administrative Infrastructure

N/A

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5175 Purchase of Motor Vehicles and Other Transport Equipment

N/A

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5176 Purchase of Office and ICT Equipment, including Software

Procure and install share point collaboration suite
Procure and install the electronic document management system

Microsoft Dynamics Solomon renewed

Annual service maintenance of the VSAT link

NAROSEC Internet Subscriptions.

Procure all necessary ICT hardware including Desktops,Laptops,LCD.

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Output: 01 5177 Purchase of Specialised Machinery & Equipment

Various Specialised Agricultural and Laboratory Machinery & Equipment procured

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5178 Purchase of Office and Residential Furniture and Fittings

Variuos furniture and residential fittings procured.

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Outputs Funded

Output: 01 5151 Payments to International Organisations (CGIAR, ASARECA, WARDA)

QTR 3 -GOU Comtribution to International Organisations

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

NAROSEC:

Quality management system established

Institutes ISO certified
Quality management system established
Research activities effectively supervised, monitored and managed.
General administrative activities

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***

AbiZARDI:

Maintenance of the crossing block

Maintenance of the crossing block
Surveillance done in 4 districts to determine extent of damage due to CBSD.

Further crosses made in a screen house

Further screening and data collection
1 on station experiment set for screening two non fruit trees
Data on budget for tilapia and catfish farming

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

established
4,000 copies are produced

15 on farm dairy heifers inseminated
Preliminary analysis of 2nd set of collected data

Maintenance of the on-station trials and analysis of 1st data set

BugiZARDI :

Utilization of SLM innovations promoted with District stakeholders forum (600HHs) in Bulambuli, Sironko and Bududa
Fungicides from major agro-chemical distributors validated for effectivess against coffee diseases and pests
3 farmer groups comprising of 20 farmers from two sub-counties in Bukwo district knowledgeable in establishment and disease management of Arabica coffee
Treatment plots for soil amendment options kept weed free
20ha of productive arabica coffee fields kept weed free
Bearing of productive trees on 20ha enhanced by prunning

one (1) orchard rehabilitated in Kween, 1 sign post printed and installed in the rehabilitated orchard
Atleast 40 farmers traine in Mbale (Wanale and Buduwale) and Bududa

4 farmer groups knowledgeable from each district of Kapchorwa, Bulambuli, Sironko and Mbale in performance of good sweet potato variety vines
Available market and elite maize varieties suitable for mid altitude sub zone identified
1ha of land established with bean varieties both on station

Goat production infrastructure developed.

Pastures maintained weed and pest free

Alternative goat feeding packages developed
Ethno-veterinary plants with anti-helminthic ability identified

BuZARDI :

Training one farmer group in Masindi in technologies for increased egg hatchability
Testing of of developed formulation on growth and egg production
3000 kgs of feed formulated and tested for

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

growth rate of weaners.

4 priority crop trials established on station (maize, beans, cassava, rice)
maintenance of fields (weeding,fertiliser application)
5 acres of beans, cassava, maize, rice, ground nuts, millet, cover crops, pineapples

Facilitate community assessments with 2 FGs from Bulisa district
At least one distribution map of key pests in 2 priority crops of LACZ developed

Evaluate the efficacy of selected botanicals in controlling groundnut pests
At least one onfarm trial to determine effectiveness of alternate host /trap crop for control of maize stem borer established in Isimba Prison Farm, Masindi district.

At least one apiculture development site maintained .

Soil and plant samples delivered for analysis in the laboratories

Trials in the sites monitored and data collected

At least 100 producers and NGO's engaged in fruit production identified with in Hoima district
At least 100 Farmer to farmer linkages enhanced for soil and water conservation technologies uptake in Buliisa district
About 4 demonstration plots of improved fallow using Tephrosia on-station and on-farm for soil and water conservation established in Buliisa district

KaZARDI :

2nd season on-farm yield data and consumer acceptability data 4 bacterial wilt resitant clones collected
Trials established in the laboratory and screen house
Trials managed and yield data collected in the screen house
1.5 tonnes of nuclear seed generated, 250 mother tubers planted
Harvesting and post harvest handling
1.5 ha of basic seed planted
Two on station trials established
None

- Atleast 130 foundation/breeding stock maintained

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Data on yield (late maturing cultivars), flowering, fruit setting, disease response and crop vigour collected and analysed
Data on yield (late maturing cultivars), flowering, fruit setting, disease response and crop vigour collected and analysed

At least 3200 Clonal apple and 500 pear rootstocks harvested and managed, atleast 2500apple seedlings grafted and managed
Data on growth characteristics, pest and disease responses collected -4 onstation orchards maintained
Growth characterictics data collected and trial maintained
2nd data set on rootstock regeneration collected
Second season trials established and managed

MbaZARDI :

Conduct a study on efficiency and effectiveness of conventional Helminthosis control in selected districts.
In-vivo on station and on farm efficacy studies of three herbs used in helminthosis and NCD management conducted

Conduct a survey of farmers practicing feed conservation in selected districts of the SWAEZ.
Conduct a survey of feed conservation methods in selected districts of the SWAEZ.
Field trials on 3 groundnut, 1 maize, 3 rice, 3 bean, 3 cassava and 1 IPDM experiment established on station (Mbarara) and on farm (Isingiro)
Continue IPDM experiment on station trials
Sweet potato variety experiments established on station and monitored.
Trial management and monitoring and data collection
Initial agronomic data on banana plant growth under different nutrient trials documented
Food conversion ratios (FCR) for farm made feed ,Ugachic and Jorda pellets for pond tilapia grow out stages in Bushenyi, Mbarara, Ntungamo and Ibanda districts determined.

Determine high yielding mango, citrus and avocado varieties , maintain experiments and multiply varieties in the nursery
Repeated experiment to determine reduction in fruit pest and disease severities following application of developed technologies
Maintain and collect data from fodder technology trials onstation and onfarm

MuZARDI:

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

At least 16 acres of land ploughed on-station, at least 6 acres of existing crop maintained
At least 390 litres of fuel for on-station adaptive research activities purchased

NabuZARDI:

Nil
Parent stock of 4 cambrough, 3 large white and 3 of land race pigs collected and raised on-station
Chicken maintained on-station
Nil.

Cattle maintained on-station

Four pasture (forage legumes, fodder trees and grasses) multiplication sites maintained on-station, and in Moroto and Katakwi districts

Site, farmer group selection and land preparation

Bush clearing,and land preparation done

Data on soil samples from Kumi, Bukedea for soil fertility before full establishment collected and analysed presented on charts and reports
At least 1 innovation survey conducted in Karamoja
At least 2 approaches for use of research outputs for innovation and impact.

NgettaZARDI:

Maintenance of trial and data collection.

3 experiments for evaluating mango fruit fly IPM strategies maintained and data collected.

Set up second adaptive trial of groundnuts, simsim, rice and beans on station.

RwebiZARDI:

Genebank at Rwebitaba ZARDI maintained
Tolerance of clones to 2 major pest assessed in Kyengegwa and Kamwenge by end of the quarter
Construction of screen house completed in the quarter
Tolerance of clones to 2 major diseases assessed in Kyenjojo and Kabarole by end of the quarter
Data collected on soil and water loss and assessment of soil and water management practices in Ntoroko and Bundibujjo conducted
Data on weekly scientic observations, meseasurements of yield (weight of made

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

tea/ha) yield components (no. of shoots/plant) collected by end of March 2012
Cup quality of 1 clone determined by end of the quarter

Stakeholder feed back meeting held in Kasese, Bundibugyo and Kabarole districts
Establish 2 demonstration plots of 2 important selected agro-forestry trees on-station and on-farm for soil and water conservation in Kasese+L30
2 boer bucks bought

6,000 kgs of poultry and piggery feeds
3,000 chicks hatched.

NaLIRRI:

3,300 Data on milk yield collected and a progress report produced

1,500 Purchase at least 0.5 ton of protein and mineral ingredient,
Lab. Analysis for batch 2 feed samples
750 Purchase at least 0.25 ton protein, mineral and vitamin ingredients
8,140 Data collection to each farm site x 3
600 Hired labour
6,700 Design and test conservation and processing technologies
3,600 stipend , Supervision allowance, other allowances
3,760 Attend project meeting/workshops, Project Administrative expenses, Contribution for project coordination
9,510 Data collected from at least 30 farms
2,100 Samples from at least 30 farms analysed

4,215 samples collected to expand feed database by at least 30 %
1,750 samples to expand feed database by at least 30% analysed .

Summary data on trials in the 4districts
Clean on farm trials.

Summarised M&E data and reports on livestock research projects
20 stakeholders trained on M&E.

NARL:

At least 2 on-station and 3 on-farm trials harvested and yield data recorded
Supervisory & monitoring visits conducted
1 field study on farmers' opinions and acceptability of different technologies conducted .

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

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Development Projects

Project 0382 Support for NARO

1 Farmer training session conducted on post-harvest handling, value addition, group marketing, savings & credit management.
Communication products developed
Relevant models/ tools testing and validation exercise initialized
Specimen collection and DNA analysis
Information on mango fruit fly management disseminated among stakeholders
1.4 Draft theseses developed. 2. Develop posters 3. Training workshop on protocol and guidelines of using crop genetic diversity to manage pest and diseases on-farm among stakeholders 4. Evaluation report on disease incidence and damage on farmers fields

At least 1 proven technology made available in the technology pathways
Nutrient composition and sensory evaluation data for malted and fermented millet products
Market information on malted and fermented soybean and bean products
Market test the developed products and assess safety
1 HDPE-lined tank evaluated on-station
2nd solar dryer for rice prototype/method evaluated on-station
2nd ADP prototype planter for maize evaluated on-station
2nd SAT prototype planter for maize possibly packaged for dissemination
2nd SATand electrical driven prototype of de-stoner for rice designed and fabricated
10 selection plates of transformed lines, subcultured for each line.

NaCRRI:

Evaluate the new control technologies incorporated in cultural control strategy on farm
Data collection and analysis
Data analysis and report
1st season: Land to be used in the maintenance of seed secured and prepared; Fields planted with the varieties to be maintained
partial data obtained on the effect on weevils on the different lines
Continued maintenance and data collection at multi-locational participatory selection trials
Regional trials Conducted at two sites
Data collected from on-farm trials on fruit and vegetable pest resistance
Evaluate the new control technologies on farm
At least 200 crosses made. At least 10000 seeds of Open pollinated and 500 seeds from specific crosses collected
Another 2 farmer groups indentified
Electricity supplied to all NaCRRI units &

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Electricity and water system repaired
4 Trial sites visited
925 litres of fuel purchased
1 Gang Mower, 2 Computers 1 incubator repaired
180 assortment of stationery items purchased
1 Staff attending Procurement Workshop
1 Staff attending Scientific seminar .

NaFIRRI:

Appropriate sites for cage fish culture in reservoirs in central Uganda identified/selected
Preliminary EIA report on cage fish farming
Second drafts of at least one capture fisheries and two aquaculture technologies
Second drafts of at least one capture fisheries and two aquaculture technologies.

NaFORRI:

Secondary data on ecotourism numbers and contribution to revenue collected from key institutions and key informants

Information on carbon accumulation and maintenance of trials
Empowerment of tree farmers in CDM processes/activities in South-eastern AEZ.

NaSARRI:

1.5 At least 3 consultative meetings held

2.2 At least 1 technical peer review meeting held
1.2 F2 progeny planted and data collection initiated.
1.3 F2 progeny planted and selections made on the segregating populations
2.2 5 fungicides screened
1.1 20 accessions
1.2 6 elite lines evaluated at NaSARRI
1.3 At least 3 trials planted (yield, drought tolerance & shattering) on station
1.4 3 trials on cowpea yield, drought tolerance & low shattering conducted in 3 TVCs
1.1 Collect more 20 sweet sorghum accessions
1.2 Plant 15 promising sweet sorghum accessions for screening
1.1 To collect 30 additional accessions.

2.1 New 15 most promising lines planted for re-screening against local pests and diseases.
1.1 Collect more 10 accessions
2.1 Plant and screen 10 sorghum accessions for pest and disease resistance
1.1 At least 50 accessions collected
1.2. At least 15 single plant selections for high

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

oil & limited shattering content evaluated on-station.

1.3. At least 15 single plant selections evaluated for resistance to Cercospora and Cylindrosporium leafspots on station
2.1 At least 3 chemicals evaluated for effectiveness to gall midge and webworm
2.2 At least 3 biorationals tested for effectiveness to gall midge and webworm in Sesame
2.3 At least 3 cultural management options for effectiveness to gall midge and webworm in Sesame tested for the second season in each of the 4 agri-ecological zones
4.4 At least 500 kg of basic seed produced
1.1 At least 10 accessions characterized for salinity
At least 30 liens selected from the segregating F2 populations
Hands on training of farmers in management of seed production plots conducted.
On-farm trials planted in 5 districts for the second season
1.1 At least 200 accessions characterized
1.4 At least 80 F2 early generation progenies planted for further evaluation for leaf spots and rosette virus resistance
1.5 At least 2 studies conducted to try to understand mechanism of rosette resistance
2.1 At least 3 studies conducted to ascertain levels of aflatoxin contamination in groundnuts.

2.2 At least 2 experiments set up to test against techniques used to reduce aflatoxin contamination
2.3 At least 2 experiments set up to evaluate the mechanism of aflatoxin contamination
1.1 Number of successful crosses recorded and harvested
1.2 Selfed bolls harvested, 10 boll samples harvested, determination of yield parameters as well as for fibber quality tests
2.1 Data from trials to test on-station, at least 10 defoliants for reduction of dry leaf contamination in cotton collected and analysed
2.2 Data from on-station trials to test at least 6 growth regulators for improvement of cotton yields collected, analysed and treatments for advancement to TVCs determined.

4.2 Data analysis continued and report writing.
4.3 Data compilation and analysis
4.4 Continued data collection and compilation
5.1 Survey in the key cotton growing areas in western continued
5.2 DNA extraction and testing of isolates using molecular markers and host differentials done
5.3 Data collection continued and the trial

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

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Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

maintained
6.3 Harvesting of trials, data compilation
2.1 At least Two trials to test 10 cultural practices conducted
3.2 At least Two trials to test 10 cultural practices conducted
2.3 At least Ten elite lines innoculated with different isolates in the field
3.1 At least Six promising intercropping patterns tested at four TVCs
4.1 At least over 80 farmers trained on improved management options for sunflower
4.2 At least Three information sharing methods suitable for different farmer groups popularized.

NTR	*0*	*0*	***0***

Output: 01 51 02 Research extension interface promoted and strengthened

NAROSEC:

PR:
Make use of the tear drops during seminars & workshops

1 newspaper article written for NRM day celebrations

300 brochures distributed to stakeholders during workshops & seminars

10 demonstration plots & exhibitions established by the research institutes at WFD venue.

DG's office:

Meet quarterly Subscription
1 visit per quarter
3 meetings held
5 meetings
held

ACCOUNTS:

Qtr 3 Funds allocated & released

Qtr 3 financial performance monitored, management/sector decisions implemented.
Payments processed, Financial obligations fulfilled
Management decisions implemented.

ABIZARDI:

Mucuna, Lablab and Glycine cover crops

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

harvested and processed
A total of 80 farmers trained from Koboko, Yumbe .

4ha of land established for seed potato varieties multiplication
3 farmer groups capacity in quality seed potato production enhanced
20 farmers knowledgeable in use of -ve/+ve selection for seed potato production

5 elite groundnut lines established for preliminary yield assessment
Farmer techniques of groundnut production validated and updated
Available preffered groundnut varieties processed for uptake pathways .

At least 3 farmers groups mobilised and sensitized for market oriented production.

Enterprise selection exercise held in one district using comparative finanacial analysis
Maintenance of 22 computers and accessories
Procurement of Consumables and office stationeries.

Data on socio economic aspects affecting use of research technologies collected .

Availability of information on all activities in the SWAEZ for different stakeholders all the time.
Strategic partnerships with sister institutes & partner organizations established by March 2013.

2 farmer groups trained in marketing skills.

Visit at least 2 NARIs to obtain available appropriate technologies
Established trials monitored atleast once; at least 12 technologies for on-farm trials procured
Identify atleast 5 new research technologies for 3 districts
Conduct at least 2 workshops
Conduct at least 1 training workshop (one in 1 district of the zone)

Atleast 420 L of fuel for staff transport and generator procured
Contribution to review magazines 1 newspaper article and advertisement

Once a quarter.

On-farm trials established with 2 farmer groups in Gulu district.

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Rwebitaba scientists visit other PARIs for knowledge exchange
At least 2 NARO/NAADS collaborative meetings held by end of the quarter
Two radio talkshows conducted within the quarter
Website updated in the quarter.

NaLIRRI:

1 field trip for 1 meeting each of 50 participants
At least 1 conference attended

Material for 1 poster and leaflets prepared

2 tonna purchased

NARL:

Maintain content of 4 modules on ARENET

Acquire/collect national publications.

NaCRRI:

Continue data collection and mobilising other stakeholders at community level to adopt the technologies
Printing of 12,500 brochures
At least 5000 brochures produced and 500 farmers sensitisation and trainning done.

NaFIRRI:

At least 10 demostration sites selected and at least 20 participating farmer groups selected

Opinion leaders sensitised about the use of improved bean seed

NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

1. Staff Salaries and other contract salaries paid
2. Good Governance and corporate social responsibility ensured and promoted;
Leadership and oversight Management of agricultural research provided;
3. Staff recruited and staff training - (Local and International)
4. Stationery and office consumables procured;
5. Office equipment maintained;
6. Water utility bills paid;
7. Electricity utility bills paid;
8. Telephone, Postage and courier services used;
9. Vehicles serviced;

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

10. Office buildings maintained ;
11. Compound maintained ;
12. Maintain effective ICT facilities;
13. Subscription for internet paid;
14. 4 UJAS editorial committee meetings facilitated;
15. Quarterly entity accounts, financial statements, commitment control reports, several manual books of accounts maintained. Bank charges timely paid;
16. Acquisition of books, agric. Information magazines and newspapers;
17. Provision of security services;
18. Break tea and Refreshments provided to staff and visitors;
19. 3 Preparatory meetings for NARO Scientific Conference;
20. Organising NARO Scientific Conference;
21. 1 Annual planning and Review meetings;
22. 3 Quarterly planning and Review meetings;
23 2 Dissemination and Internal review workshops.

Review current records management at PARI

Documents in achieves organized
NARO Asset Register updated
4 institutes visited

INTERNAL AUDIT:
Adherence to laid down regulations and policies.

Visit one institutes.

One meeting for internal auditor & Directors held.

Improved accountability.

Internal Auditors Capacity strengthened
Internal Auditors capacity improved.

Engineering dept:

reports

reports
Assorted office stationery
Completion of civil works

Actual supervision and monitoring
Planting and maintenance of shrubs and flowers
UIPE Seminar on CPD
training
masonry.

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

ACCOUNTS:

Qtr 3 financial reports submitted to MFPED
Quality of financial reports improved
Travel to atleast 3 institutes to monitor accounting activities
Hold periodicalStaff & budget meetings to Review and analyse such Budgets
SL Dynamics Database updated, financial reports submitted
Qtr 3 Transactions input, processed and approved in IFMS

NaLIRRI:

1 Quarterly Mgt committee and 1 Mgt Sub committee meeting, 8 planning committees' meetings and 3 staff meetings
Repairs done one 1st block, slashing 4 acre compound 3 times and clearing the 400 m road twice.
4 staff Staff trainied in procurement and chain supply
Payment of electricity, water, telephone and internet bills for the 3rd quarter.

Travelling (allowances and fuel).

NARL:
Settlement of utility bills, contract labour, operations and general maintenance.
Settlement of utility bills, contract labour, operations and general maintenance.

NACRRI:

Two members of staff trained, one laboratory and one screen house completed
5 compounds & 5 roads slashed
Advirtment placed in newspaper
One Management Committee meeting held
2 meetings attended
2 field visits made to COREC & Kiige
Constant provision of internet service
Constant provision of courier services
6 computers repaired and installed with Anti-Virus
2 functional UTL lines maintained
30 staff members provied with break-tea and refreshments
91 assorted office equipment purchased
4 security gards hired

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

2 Pick ups are repaired and fitted with new tyres
1 roads graded,electricity lines cleared
8 arrows,4 bows,and assortmentd of Torches wistles purchased
One office block repaired.

NAFIRRI:

10 Research Scientists, 10 Research Technicians and 6 support staff trained in leadership and management module
None
Timely communication and follow-up on institute activities
Second drafts of at least one capture fisheries and two .

6 administrative trips to attend meetings, Board of Survey, Consultative meetings, workshops and seminars
Second drafts of at least one capture fisheries and two aquaculture technologies
6 administrative trips to attend meetings, Board of Survey, Consultative meetings, workshops and seminars
Administration block, offices, library, conference hall and laboratories painted
At least 4 vehicles maintained
At least 5 functional outboard engines
None
None

NAFORRI:

Recruitment and induction of staff
Tonner procured
Servicing of sawmill and carpentry equipment

NASARRI:

1.1 At least Payment of eletricity,telephone and internet service bills
6.3 Procurement of fuel for Director,Compound,Audit section,Finance section,Workshop section, Farm Office, Administrator's office,Stores/Procurement office
7.2 Purchase of farm chemicals for farm office
7.5 Procurement of stataionary,and other assorted office equipments.

NTR	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Output: 01 5105 Generation of technologies for priority commodities

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***

Data collection
Data analysis and report writing
Continued maintainance and data collection at multilocational participatory selection trials
Continued maintainance and data collection at multilocational participatory selection trials
50 mother gardens established, Multiplication of newly selcted CWD resistant varieties
Pest and Disease surveillance,
Identify sites and collaborative stake holders and collect pre-experiment soil status data
Carry out analysis for fibres, bioactive agents and starch
Solar pump system for small-scale irrigation installed on-farm
1 mechanical fish pond air entrainment system evaluated on-station
Wild Nile tilapia brood stock will be collected for captive acclimatization in the ponds
Presence of tsetse placed on maps using GIS
Maintenance of experimental animals
"Management of second set of experiments

"
Maintenance of the crossing block and
Monitoring and collection of selected data
Crossing block maintained
Management of 2 crossbred dairy cows and their progeny & 5 on farm dairy heifers inseminated
4,000 copies informational materials are produced, Monitoring and data collection
Selection of 1 on farm sites in 1 district to conduct adaptation trials
Identified elite maize varieties suitable for mid altitude sub zone promoted
Mananagement of multiplication of new cassave varieties
Validation trials sepup and management
Maintain trials and avail seedlings to uptake patha ways
Utilization of SLM innovations promoted with District stakeholders forum (600HHs) in Bududa
Validation trials sepup and managed
Two feed formulations tested
Establishment of trials
Data collected on effect of human activity on water quality
Monitor established trials to evaluate (IPM) technologies for their effectiveness and economic viability
Nutrient and organic matter flow balances results disseminated to farmers
Conduct a survey of farmers practicing feed conservation in selected districts of the SWAEZ.

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 0382 Support for NARO

Food conversion ratio (FCR) for Ugachic and Jorda pellets on pond tilapia growout stages determined.
Trial monitoring and data collection
Initial agronomic data on banana plant growth under different nutrient trials anaylsed
Acres of existing crop maintained
At least 1 rice market chain actors' meetings held according to themes
at least 10 farmers and fish traders trained
Setting up small scale irrigation schemes
At least one rangeland management practices evaluated
Parent stock of 1 short-horned Zebu cattle collected and raised on-station
1 trials established on cost benefit analysis of ox-drawn weeders set up
Information on water harvesting/harnessing and storage for livestock use disseminated
On farm second cycle evaluation 1 rice varieties initiated.
On farm Maintenance of experiment and data analysis
1 mixer acquired and 1 acres one each of rice maize, soya beans, cassava established on-station.
Molecular isolation of Xylaria pathogen carried out

NTR	*0*	*0*	***0***

Project 1138 EAAPP

Capital Purchases

Output: 01 5175 Purchase of Motor Vehicles and Other Transport Equipment

TRANSPORT EQUIPMENT PURCHASED

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Output: 01 5176 Purchase of Office and ICT Equipment, including Software

Computers, Software, Photocopiers and Computer. Peripherals -

Total	**507,155**	**0**	**507,155**
GoU Development	*0*	*0*	***0***
Donor Development	*507,155*	*0*	***507,155***
NTR	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

Output: 01 5177 Purchase of Specialised Machinery & Equipment

Agric Trctors and their accessories procured.

Assorted.

2 Milk analyser, 3CPUs, 3 laptops, 3 Stabilisers, 2 photocopiers, 4 printers, 4 scanners, 4 digital cameras, 4 external hard drives, 1 Herd recording software, 1 statistical analysis software

Total	**134,326**	**0**	**134,326**
GoU Development	*0*	*0*	***0***
Donor Development	*134,326*	*0*	***134,326***
NTR	*0*	*0*	***0***

Outputs Funded

Output: 01 5151 Payments to International Organisations (CGIAR, ASARECA, WARDA)

Payment made / transferred to ASARECA for Regional coordination for the project

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***
NTR	*0*	*0*	***0***

Outputs Provided

Output: 01 5101 Generation of agricultural technologies

Diversity of cassava pathogens determined

Interaction studies conducted

CBSD epidemiological studies conducted

Further CBSD epidemiological studies conducted

Biological studies on pests undertaken

Genetic diversity studies conducted

Germplasm evaluation for resistance sources conducted

Inbred population generated
Varieties with enhanced nutrient levels developed

Varieties with novel starches developed

Wild relatives evaluated
Germplasm evalutated for earliness

Data from Multilocational trials generated

Data from Onfarm trials generated .

Total	**116,855**	**0**	**116,855**
GoU Development	*0*	*0*	***0***
Donor Development	*116,855*	*0*	***116,855***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

In vitro cultures establsihed in Q1 and maiteined throught to Q4
Transgenes produced

Communication strategy developed

Market research studies conducted

At least 200 samples collected

All 200 samples established and recovered plants maintained

A document on germplasm reactions to one diseases and one insect pests .

6 workshops held in the 6 milk sheds (1 region per month).

12 field tours (2 per milk shade, 2 per month)
Certification guidelines Registration forms Registration data base
Breeders Directory

A report on rice germplasm reaction to rice blast and drought

A report on crossability of different varieties

A Report on best performing generations in terms of drought tolerance and rice blast
Report
Report
One (report/paper) on farmers awareness of RYMV

Documentation (report/paper) on farmers mgt practices of AfRGM

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*
Vote Function: 0151 Agricultural Research				
Development Projects				
Project 1138 EAAPP				
Establish trial to raise (1) of the most abundant species AfRGM pest samples collected from 5 different key locations . Documentation on at least 2 AfRGM control methods.	***NTR***	*0*	*0*	***0***
Output: 01 5102 Research extension interface promoted and strengthened				
Improved production techniques, improved post harvest techniques, primary and secondary processing technologies, at least two products per component promoted 3 Innovation platforms; North, East and Southern Regions (Gulu, Goma & Mbale). 2 Value chain workshops in Mukono & Lira Radio, Video & Television Events	**Total** ***GoU Development*** ***Donor Development***	**140,024** *0* *140,024*	**0** *0* *0*	**140,024** ***0*** ***140,024***
	NTR	*0*	*0*	***0***
Output: 01 5104 Agricultural research capacity strengthened				
Scientist salaries paid Technecian salaries paid Driver, Accounts & Admin salaries paid . Students costs paid. Conferences & Seminars attended. Meta-data website established Two meeting report Two Field Reports and one draft research proposal Vehicle registration and trip brief reports. Stationery, office equipment, communication and mail. Small Equipments Procured, Rehabilitation of buildings accomplished .	**Total** ***GoU Development*** ***Donor Development***	**567,654** *0* *567,654*	**0** *0* *0*	**567,654** ***0*** ***567,654***
	NTR	*0*	*0*	***0***
Output: 01 5105 Generation of technologies for priority commodities				
Continued maintainance and data collection at multilocational participatory selection trials Continued maintainance and data collection at multilocational participatory selection trials Draft maps listing of georeferenced sites with nagana/sleeping sickness and presence of tsetse	**Total** ***GoU Development*** ***Donor Development***	**0** *0* *0*	**0** *0* *0*	**0** ***0*** ***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1138 EAAPP

placed on maps using GIS
Maintenance of the crossing block and
Monitoring and collection of selected data
On-farm farmer participatory evaluations
Management of 5 crossbred dairy cows and their progeny
High quality farmer preferred disease tolerant and high yielding cassava varieties identified
Validation trials sepup and managed
Validation trials sepup and managed
Conduct a survey of farmers practicing feed conservation in selected districts of the SWAEZ.
At least 1 rice market chain actors' meetings held according to themes
At least two rangeland management practices evaluated
On farm second cycle evaluation 4 rice varieties initiated.
Maintenance of experiment and data collection.

NTR	*0*	*0*	***0***

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Capital Purchases

Output: 01 5172 Government Buildings and Administrative Infrastructure

Bills of Quantities

One house renovated
Store built up to ring beam
Removal of old pipes and excavations
Retaining walls
Cold room foundation
Partial renovation of office block
Painting of lab
One screen house
2houses
Partial rehabilitation
Excavations and removal of old pipes
Electricity connected
Foundation for cold room
Renovated screen house
Renovated lab
One house renovated
Poles laid
Workshop rehabilitated
Partial rehabilitation of lab building

Partial renovation of house
Pipe laying

Excavations/removal of broken pipes
Animal infrastructure constructed
Electricity connected
Identified facilities rehabilitated
Super structure
foundation

Total	**648,236**	**0**	**648,236**
GoU Development	*0*	*0*	***0***
Donor Development	*648,236*	*0*	***648,236***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Replacement of roof
Rehabilitation of lab
One screen house

Two houses renovated

Replacement of old pipes
Foundation works
Identified structures started on
Poles laid
foundation
Modification of lab
Sub structure
Partial rehabilitation
Dip tank
Identified structures rehabilitated
Pipe laying
Sub structure
Electricity connected
Identified facilities started on
Sub structure
substructure
substructure
Pipe laying
substructure
Cattle crushes
Poles laid
Sub structure
Sub structure
substructure
Preliminary works
Sub structure
Sub structure
One house rehabilitated
Sub structure
As identified
Identified facilities rehabilitated
Rehabilitation s done.

Completion of civil works

Actual supervision and monitoring
Planting and maintenance of shrubs and flowers

1 lab block completed at kyembogo
1 VIP toilet constructed
Non residential building constructed
2 administrative buildings maintained clean and habitable, and 1 pahological laboratory undergoing minor renovation at Kachwekano

Renovation of 1screen house

Renovated boys' quarters of the staff club.

Electrical and committees

NTR *0* *0* ***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Output: 01 5175 Purchase of Motor Vehicles and Other Transport Equipment

Motor vehicles and Motorcycles Purchased	**Total**	**486,177**	**0**	**486,177**
	GoU Development	*0*	*0*	***0***
	Donor Development	*486,177*	*0*	***486,177***
	NTR	*0*	*0*	***0***

Output: 01 5176 Purchase of Office and ICT Equipment, including Software

IT security requirements identified				
More ICT soft ware purchesd. All the Agric institutes supplied with the required infrasture and soft ware	**Total**	**810,295**	**0**	**810,295**
	GoU Development	*0*	*0*	***0***
	Donor Development	*810,295*	*0*	***810,295***
	NTR	*0*	*0*	***0***

Output: 01 5177 Purchase of Specialised Machinery & Equipment

Various specialised machinery and equipments , Agric.tractors proured, Agric Laboratory equipment procured.	**Total**	**648,236**	**0**	**648,236**
	GoU Development	*0*	*0*	***0***
	Donor Development	*648,236*	*0*	***648,236***
	NTR	*0*	*0*	***0***

Output: 01 5178 Purchase of Office and Residential Furniture and Fittings

Laboratory furniture, Office furniture, Conference furniture, Bookshelves,Library furniture and fittings, dinning room furniture procured for various Agric. Institutes.	**Total**	**324,118**	**0**	**324,118**
	GoU Development	*0*	*0*	***0***
	Donor Development	*324,118*	*0*	***324,118***
	NTR	*0*	*0*	***0***

Outputs Funded

Output: 01 5151 Payments to International Organisations (CGIAR, ASARECA, WARDA)

At NARL:Payment of instituional and individual staff annual mebership fees to (International Association of Agricultural Information Specilaists) IAALD	**Total**	**0**	**0**	**0**
	GoU Development	*0*	*0*	***0***
	Donor Development	*0*	*0*	***0***
	NTR	*0*	*0*	***0***

Outputs Provided

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Output: 01 5101 Generation of agricultural technologies

NAROSEC:

Quarterly/bi- annual plans re-aligned
Emerging issues documented
CGS project implemented
guidelines developed

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***

NaLIRRI:

Draft maps listing of geo-referenced sites with nagana/sleeping sickness and presence of tsetse placed on maps using GIS.

Carry out experiments on-station.

Third quarterly multi-locational feed resource availability survey
Third batch of experimental animals purchased and delivered to on-station site.

Collect data sets 5 and 6 and monitor experimental sites in Iganga (2 visits)
Procure third batch of I ton of local feed resources in third batch of 1/4 ton of protein, mineral and vitamin ingredients
Hold third participatory feed mixing session in Igombe and Nambaale s/counties
Hold one exchange visit between participating farmers in Igombe and Nambale s/ counties of Iganga district

Field work to Bulindi ZARDI

apiary attendants paid

40 honeybee samples for diseases screening collected in Arua

1 fieldwork on surveillance of identified diseases in Arua conducted

40 honey bee samples collected for characterisation in Kabarole

8 acres of Bracharia mullato, siratro, centro and calliandra plots maintained
At least 20 more experimental goats,

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

vaccinated 70 dewormed once and sprayed 6 times in a quarter
Data collected on growth rates, survival rates and body condition scores obtained from at least 70 kids

0ne Quarterly report written and submitted
At least 14 on-farm pedigree data bases for goats updated in round 3.

At least 1000 Blood sample collection from both on-farm and on-station experimental sites
160 kg of chicken feed bought.

At least 2 feedback workshop carried out.

1000 samples collected
1000 samples analyzed
1 field trip for 1 meeting each of 50 participants.

At least 1 conference attended

Data on milk yield collected and a progress report produced

Three hectares established at Ngetta ZARDI

150 farmers trained
Print 1000 copies
20 participants attend review meeting

At least one visit per quarter
Survey data analysis

Weeding, Harvesting and processing
Purchase at least 0.5 ton of protein and mineral ingredient, Lab. Analysis for batch 1 feed samples, Purchase at least 0.25 ton protein, mineral and vitamin ingredients, Data collection to each farm site x 3
Hired labour
Design and test conservation and processing technologies
Stipend, Supervision allowance
Attend project meeting/workshops
Project Administrative expenses
Contribution for project coordination

Continued data generation from measurements and updated evaluation of growth and reproduction parameters at 2 centres (NaLIRRI and NaSARRI)
One evaluation workshop conducted at NaLIRRI
One show/exhibition attended

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Characterisation survey completed in at least 5 districts and 200 blood samples collected

identification of experimental cattle and administration of anti-tick antigen
Collection of blood samples
Collect data on Tick-borne disease incidence

Survey data analysis

Weeding, Harvesting and processing
Purchase at least 0.5 ton of protein and mineral ingredient,
Lab. Analysis for batch 2 feed samples
Purchase at least 0.25 ton protein, mineral and vitamin ingredients
Data collection to each farm site x 3
Hired labour.

Design and test conservation and processing technologies
stipend , Supervision allowance, other allowances
Attend project meeting/workshops, Project Administrative expenses, Contribution for project coordina.

Data collected from at least 30 farms.
Samples from at least 30 farms analysed .

Summarised M&E data and reports on livestock research projects
20 stakeholders trained on M&E

NaRL:

At least two on-station and on-farm trials harvested and yield data recorded
4 seed multiplication fields prepared and inputs procured
At least 75% of the community action plans developed

At least 20 trial fields [farm] established
ISFM knowledge enhanced among small holder farmers and other stake holders through training of 200 trainers,
Equip Soils laboratory with necessary consumables and facilities.
1 package of ISFM options availed to technology uptake pathways.
1 training session on crop management and data collection for field experiment monitoring

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

conducted
1 field study on the socio-economic evaluation of different technologies conducted

Soil samples collected in at least 1 farming systems
At least 2 selected degraded areas rehabilitated
Production and printing of maps
Implementation of sustainable Environment and natural resource (ENR) interventions for improvement water basin
2 Surveys conducted to assess impact of flowers on the environment
All assembled data analyzed
Data analysed and trends analysis conducted

Establishment of pilots
Vulnerability of at least additional 50 households, additional 3 production niches characterized
promotion of at least 3 adaptation technologies
at least four technical options tested in at least additional two agro ecological zones
at least additional three hot spot areas mapped for Uganda

Specimen collection and DNA analysis
Disease prevalence mapping and molecular characterization of pathogens
Evaluation of releases of arboreal termites
Monitor seasonal fluctuation in termite population and damage
Evaluation of releases of diamondback moth parasitism in Mount Elgon region
Evaluation of releases of egg and larval parasitism of cereal stem borers
Evaluate efficacy of MAT, BAT and orchard sanitation
Monitoring and evaluation of treatment efficacy
Economic impact studies of invasive plant species in 2 AEZs
Carry out characterization studies.
Carryout pathogenicity tests and characterization studies
Evaluation of commercial Trichoderma against Phythium root rot strains
Identification of potential compost manure types for Trichoderma spp
Impact studies on biological control intervention of diamondback moth in South eastern Uganda
Impact studies on new and emerging disease pathogens, pests and weed species
1.Production of recombinant genotypes initiated 2 . Assessment of biomass yield and artemisnin content of 10

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

lines of Artemisia across agro ecologies finalised 3. A draft report on response of different Artemisia lines to major pests and diseases 4. A report on policy strategies

1. At least 50 accessions of indigenous vegetables and fruits spp added to the ex-situ collections 2. About 100 acessionsof PGR in the gene bank characterised and evaluated. 4. A draft manuscript on the species association of A.senegal. 5. About 400 species in the EBG maintained and conserved 6. Planted and replaced dying species in the garden 7. An updated EBG catalogue and guide 8. An updated digitised map of germplasm collection sites 9. Stakeholders' knowledge on access to UNGB germplasm and documentation assessed. 10. A Community on-farm diversity registry 11. Draft report of the strategy to ensure the in-situ conservation and management of selected crop wild relatives in protected areas 12. A report on schools and community engagement in conserving PGRFA.

On-station validation of handling, drying, processing, storage and pest management PHTs of maize, beans, cowpea and groundnuts
1-proven technology made available to uptake innovation pathways;
Economic analysis of at least 1-developed /validated technology determined
At least 1-awareness /training /sensitisation workshop conducted
At least 1-proven technology demonstrated /exhibited
Value chain analysis completed
Status of tomato handling, drying, processing, storage & management of contaminants
Solar dryers and evapocooler performance evaluated for quality and shelf life enhancement for tomato & leaf amaranthas
Economic analysis of at least 1-developed /validated technology determined
Sensitisation campains and build farmers capacity on agrochemical use
Package heavy metal profile in fish, sediments and waters of Kyoga and Victoria.

Accreditation process and promotion of laboratory services
Test packaging options to establish the shelf life of glucose
Promote bean value-added products among

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

entrepreneurs and consumers
Acquisition of chemicals for analysis
purpose. Levels of PAH in smoked samples
determined using Maesopsis tree
Levels of cypermethrin and profenofos
residues in pepper, cabbage and tomato
determined
Levels of brucella in milk determined

farbrication of low-head motorized pump
completed & tested on-station
Sprinkler irrigation technology evaluated on-
station& packaged for on-farm demo
irrigation schedules established for 1 site in
eastern region of the country
Evaluation of the clay lined water harvesting
pond and the pond compactor on-station
1 mechanical fish pond air entrainment system
evaluated on-station

Solar pump system for small-scale irrigation
installed on-station
Progressive callus with embryos subcultured to
fresh media

at least 10 individual transfromation event
regenrated
at least 10 individual transfromation event
regenrated
at least 10 individual transfromation event
regenrated

2 trips to undertake phenotypic characterisation
and collect samples for DNA extraction
Application of AFLP and SSR on all samples
Outsourcing analysis of bands to special
automated sequencing services, including data
analysis.
Final report and publication .

Innoculate plants with 10 isolates.

NaCRRI:

Field preparation and planting
Carry out consumer acceptability data
Collect agronomic and disease data
Screen-house evaluation for tolerance to water
stress
carry out analysis for fibres, bioactive agents
and starch
Monitoring of control options
Monitoring for latent infection of BBW

Pathogenecity tests initiated
Season 3 trials established on-farm

Submission of more samples for quality
analysis. Yield data collection and analysis

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Submission of more samples for quality analysis. Yield data collection and analysis
More samples collected and submitted to UCDA and data analysis
Data collection and analysis. Develop IPM packages for twig borers
Potential varieties selected and their samples submitted for quality analysis
Sittes selected for field evaluation of options and potential drought resistant varieties
Soil fertility and mgt options developed for non-traditional areas and other ecological zones
Develop recommendations and packages for shade mgt and use in coffee
Application of markers for selecting desired traits
50 mother gardens established
Multiplication of newly selcted CWD resistant varieties

Data collection and analysis
Molecular diversity studies and characterisation of 20 clones
Assessment of pests on tea in Mityana and Mubende
Disease surveillance and incidence established in Mityana and Mubende
Surveillnce of pests in Mityana and Mubende
Identify sites and collaborative stake holders in Mityana and Mubende collect pre-experiment soil status data

Data collected from Mityana, Kibale and Mubende

Collect data and assess available drought mitigation practices in Hoima and Kibaale
collect data on yield, costs and price of green leaf and made tea in Mityana, Mubende

Evaluate the new control technologies on farm
Evaluate germplasm
Evaluate hybrids and maintain srossing blocks
Evaluate germplasm
Evaluate germplasm
Multilocational testing trials Conducted
Multilocation testing of of promising test crosses
Monitoring Harvesting and data taking
at least 200 best performing inbredlines selected and advanced
Trials harvested and selection made, data analyzed
Purelines for released materials selected and harvested

Data compilation, analysis and report writing
survey conducted in 20 districts
Field maintance

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

6 cross combinations made and 1500 seeds harvested
1 data set collected on performance of genotypes

2 data sets collected
2 data sets collected on 4 genotypes at 2 locations

7 compounds confirmed for bio-activity
Prepare to release at least 1 variety.

2 farmer groups actively involved
At least 68 sweetpotato clones characterised
subculturing, maintain and cyopreserve
Characterisation of transformants (PCR)
Multiplication of plantlets
identification of markers
Fields for production breeder and foundation seed established for harvest the next quarter.
500kg and 5 tons of breeder and foundation seed distributed to end users for multiplication.
47 on farm trial established with farmer groups to test Improved varieties and ICM options.

Monitoring and evatuation exercise to track progress of result two activities.
Two semi annual reports produced for result two.

1 survey conducted
Nine data sets collected and analysed.

800 isolates characterized

3 data sets collected
3 data sets collected
Core germplasm established in vitro
three data sets collected
25 virus isolate sequences obtained
25 virus isolates characterized in detail
50 CBB isolates analysed with PCR-based methods
2 data sets collected for 2 experiments
2 data sets collected
2 data sets collected
2 data sets collected
Characterize 100 whitefly specimens with PCR-based methods
Collect 2 data sets
Establish 1 trial in screenhouse
Collect 2 data sets
2 data sets collected for 2 experiments
Six data sets collected
Three data sets collected on effects of cassava genotypes on fecundity and development of green mite phytoseiids
Six data sets collected on activity in quarter 1
National soil samples collected and analysed;

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Plant compounds extracted and analysed - Round III
Data entered and cleaned.

NaFIRRI:

Consolidation of data on seasonal and habitat distribution and abundance of fish species on Lakes Edward/George during DRY season13,130Consolidation of data on seasonal and habitat distribution and abundance of fish species on Lakes Edward/George during WET season
At least two candidate ornamental fish species identified for further investigations from Lake Nabugabo .8,255At least two candidate ornamental fish species identified for further investigations from Nawampasa .
Consolidation of data on seasonality of breeding intensity and grounds of key commercial fish species on Lakes Edward/George during DRYseason12,520Consolidation of data on seasonality of breeding intensity and grounds of key commercial fish species on Lakes Edward/George during WETseason
Consolidation of data on reproductive indices and natural food and feeding of Semutundu in Lakes Edward/George during DRY season8,796Consolidation of data on reproductive indices and natural food and feeding of Semutundu in Lakes Edward/George during WET season
400 samples collected and 400 specimens of Nile tilapia phynotypically characterised from Lake Edward 6,870 400 samples collected and 400 specimens of Nile tilapia phynotypically characterised from Lake Victoria
4 fish farms in the South-western AEZ surveyed 4,035 3 fish farms in the South-western AEZ surveyed
1. Estimates of quantities, composition, distribution and trends of fishing inputs on Kyoga basin lakes40,000
2. Quarterly estimates of quantity, value, trends and optimisation of fish catches on Kyoga basin lakes
3. Quarterly trends on composition, distribution, abundance, biomass, trends and optimisation of fish stocks on Lake Albert, Kyoga, Edward and George 10,0003. Quarterly trends on Composition, distribution, abundance, biomass, trends and optimisation of fish stocks on Lake Albert, Kyoga, Edward and George
Quarterly or seaonal trends on selectivity of small meshed gill nets on haplochromines on lakes Edward and George8,000Quarterly or seaonal trends on selectivity of small meshed gill nets on haplochromines on lakes Edward

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

and George.

Appropriate sites for cage fish culture in reserviors in central Uganda identified/selected
Preliminary EIA report on cage fish farming
Data and information on suitability and design parameters obtained
(b) Atleast 10 analysis will be perfomed on on-farm and commercial feeds ingredients analysis
At least 100 Mirror carp brood stock will be developed for fingerlings production using mass tchnique (d) Atleast 100 Wild catfish brood stock will be collected for captive acclimatization (e) Atleast 1000 wild Nile tilapia broodstock will be collected for captive acclimatization in the ponds. (f)At least 5 feed categories selected for Broodstock feed development trials.

Data on aquaculture enterprises collected in Eastern and Northern Regions
Data on fisheries enterprises collected on Lake Kyoga

Data on market survey collected in Eastern and Northern Regions
Databaseand technical report on energy returns in3 commercial fish species
Database and technical report on natural food and feeding biology of 3 commercial fish species
Database and technical report on algal species composition and dynamics in lake George
Database and technical report on invertebrate species composition and dynamics in lake George

Digestibility and Feed conversion figures for 1 formulated feed determined & on-farm FCR & enterprise budgets evaluated on-farm.

Proximate nutritional composition of two industrial and four determined
At least 3 Alternative livelihood options for fishers of Lake Kyoga identified

Hot spots for major aquatic weeds infestation and proliferation identified in the eastern zone of Lake Kyoga
Water quality basis for aquatic resources planning and management updated
Heavy metal pollutant determined and hot hotspots monitored
Policy recommendation to improve waste management and sanitation also produced.

NaFORRI:

Surveys to determine farmer priority species in

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

the Lake Albert crescent (Mid western)AEZ
Selection of plus trees for three priority species in theKaramoja drylands AEZ
1 survey tool developed and pretested in 2 other districts. One Survey on socioeconomic attributes of indigenous tree species conducted in Southern Uganda
A baseline review of current processing methods for indigenous tree species conducted

Atleast 3 leaf and 50 fruit samples for characterisation collected from each of 50 selected trees of the West Nile farming system
Design data collection tools and collect data
Set up collection traps for runoff water in site 5. Collect water samples in site 3. Collect soil samples in site 5. Dry soil samples for site 5. Analyze soil and water samples from site 5
Collect data from two trials (W.high lands and and Lake Vicoria Crescent AEZ agroecological zones to establish seasonal abundance of Cinara spp , damage levels and natural enemies
Collect data from trials established in Lake Victoria crescent and Eastern AEZs to determine host resistance in Eucalypt to L.invasa
Potential biological control gents monitered for establishment
Acquisition, propagation and Maintenance of germplasm of atleast 2 plantation species in nurseries
Maintenance and assessments (Measurements) of survival, heights and diameters in 4 PSPs/plots (2 in Lake Victoria Cresent and 2 in Southern highlands AEZ)
Survey of current demand and supply of wood products on the market conducted in central and western Uganda
100 mother trees identified, selected and mapped in the Southern Highlands
Identification, selecction and mapping of mother trees
At least 10 Priority plants each for improved health, nutrition and incomes identified in at least 3 districts in Eastern Uganda

Assess alternative tree spp to endangered and threatened spp
Assess the potential to increase populations and cover of endangered and threatened tree spp
Establish on-station germplasm multiplication trials for endangered and threatened tree spp
Secondary data on ecotourist numbers and contribution to revenue collected from key institutions and key informant.

Information on carbon accumulation and mainteinance of trials
Empowerment of tree farmers in CDM processes/activities in South-eastern AEZ

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

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Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Atleast one major determinant of optimum gum yield established
Atleast 1 trial type esatblished and 2 more sites one in-situ and ex-situ marked for trials.
Follow-up meetings for implementation of at 2 strategies for partnershps conducted
Wild Quantities of selected priority NWFPs determined

Wood properties of underutilized wood species determined.

Determine energy savings technologies' demand and supply and evaluate their performance in the 4 regions
Develop mechanisms for production and multiplication of high quality and quantity of clean, efficient, convenient, economically and environmentally energy saving technologies
Training of scientists and carry out lab tests of biofuel crops
Establishment and maintenance of 2 plots at Kifu and lowlands of eastern-Katakwi. Collect seeds from trials to establish the oil content from the 2 trials.

NaSARRI:

2.1 At least 1 quarterly report prepared
1.1 10 genotypes showing resistance identified
2.1 Screenhouse assessment of seed born pathogens done.
2.2 5 fungicides screened
2.3 5 bio-rationals screened
2.1 10 accessions assembled
2.2 1 trial planted and data collected
2.3 1 trial on yield planted on 3 TVCs' and data collected

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3.2 1 trial on intercropping systems of new pigeon peas planted and data collected
1.3 Advance to F3 generations Plant F1 new crosses generated
2.2 Advance the selected F2 to F3
2.2 Advance F2 to F3 and evaluate F3 segregants
3.1 Wide scale varification of sorghum legume intercropping system in 7 locations in Eastern Uganda.
1.4.15 single plant selections evaluated for resistance to gallmidge and webworm .

2.4 At least 2 cultural management options and 2 chemicals tested for effectiveness to gall midge and webworm in Sesame in the second season
3.1 At least 6 chemicals for effectiveness to Cercospora and Cylindrosprium leafspot in Sesame procured and tested
3.2 At least 5 biorationals procured and tested

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

for effectiveness to Cercospora and Cylindrosprium leafspot in Sesame
3.3 At least 3 cultural management options for effectiveness to Cercospora and Cylindrosprium leafspot in Sesame tested.

4.1 At least 3 intercrops evaluated on sesame for the second season
4.2 At least 2 inorganic & 2 organic fertilizers evaluated on sesame
4.3 At least efficacy of 4 weed management options evaluated on sesame for the second time
At least 30 liens selected from the segregating F2 populations
At least 6 soil amendment practices identified for TVC testing
At least 5 intercropping systems identified for TVC testing
At least 5 weed management systems identified for TVC testing
At least 1 survey conducted in the third and fourth zones
At least 1 survey carried out in the major markets of the third zone
1.2 At least 5 selections & 5 crosses for yield and confectionary traits made
1.3 Atleast 2 DVT (16 test lines with 4 checks) planted onstation for advanced yield trial onstation
3.1 At least 3 chemicals and biorationals tested against major groundnut pests and diseases .

3.2 At least 2 alternative hosts evaluated for leafspots and rust and aphid vector
3.3 At least 3 cultural practices tested against main groundnut pests and diseases
4.1 At least 3 intercrops evaluated against newly released groundnut varieties
4.2 At least 4 fertilizers evaluted against groundnuts
4.3 At least 4 agronomic management options tested against groundnuts
1.3 Data on boll characteristics, ginning out turn, and total plot yields collected
3.1 Recording of cotton performance data, analyses of soil samples and general management of the trial to test 8 types of crop residue and 10 cover crops on-station done
3.2. Continued data recording, compiling of soil and plant data, analysis and reporting of results
4.1 5 more sites to carry out furthur survey identified
6.1 Maintainance and harvesting breeder's seed
6.2 Harvesting of trials, data compilation
1.1 At least Eight lines evaluated for different attributes at TVCs
1.2 At least 5 elite lines tested at 10 TVCs

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

1.3 5 At least on farm trials involving 10 elite lines planted Two trials testing foliar and seed seed dressed fertilizers planted at six TVCs. Various planned interim and final Outputs and Location under Other grants	***NTR***	*0*	*0*	***0***

Output: 01 5102 Research extension interface promoted and strengthened

NAROSEC:

Track utilization/ facilitate meetings seed multiplication supported .

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***

20 branded wall clock designed & produced

2 corporate events / meetings attended

1 facility visit arranged with 10 journalists
2 documentaries run on TV
Reports prepared & disseminated
2 magazine & 2 newspaper articles prepared & published
1000 copies of NARO at a Glance redesigned & printed
1000 copies of NARO Bulletin redesigned & printed

500 copies of MTP printed

DG's office:

1 supervision mission held
Hold at least 3 meetings with development partners
1 Council, 1 Science & 1 User's Committee meeting held

1 supervision mission held

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NaLIRRI:

1 field trip for 1 meeting each of 50 participants
At least 1 conference attended

Material for 1 poster and leaflets prepared

2 tonna purchased
Client particiaptory assessment of Technology dissenination channels
Studies on acaricide administration &

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

management

NaRL:

Acquire/collect/ 30 new publications from 2 NARS instituion
Document on shelf /newNARO technologies form 2 insts.
Repackage at least 1 technical manual on an enterprise for farmers and extension agents
Translate selected materials in 2 local langauges
Train 50 farmer group reps and partners from 2 agrozones
Sensitize/train at least 1 scientsists campions of 10 institute on how to manage information on ARENET per zone
M&E of ARENET partner's activities
Training in data entry
Digitize documents
Train partners in grey literature management

Develop and produce promotional materials for databse
M&E
Information Needs Assement conducted at 4 PARIs

LANTEEAL installed on atleast 25 computers
Atleast 100 books are acquired
Atleast 100 books are distributed to PARIs
Library automation software trained to information professionals at 3 PARIs
Atleast 3000 bibliographic entries made into the library database
30 PARI researhers and technicians tained and sensitised on accessing information resources, services and products
M&E of library and information services at 3 PARIs
Produce a 30 min documentary on 3 PARIs
Produce a 30 min monthly TV program on PARIs
produce weelky radio programs on NARO products and services in selected agrozones
Produce and distribute the NARO experts Directory.
Collect news from NARO.

Produce 1000 copies of the NARO Bulletin biennauly
Collection, review and edting of papers.

Stakeholders' knowledge on International standards of documentation assessed.

NaCRRI:

20,000 and 10,000 Brochure development and printing&calendar dev't&printing.

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Apply developed protocol
Apply developed protocol
5000 brochures/posters produced
25 stakeholders trained cassava production technologies and practices
Participation at 1 stakeholder forum
Atleast 1500 materials distributed at agricultural shows in Jinja.

One semi annual report and continued monitoring and evaluation of result two activities.
6 farmer groups linked to market information platforms .

Have all activities of result 3 monitored and reports formulated and presented.

Opinion leaders sensitised about the use of improved bean seed.

NaFIRRI :

Q3 Report prepared
Quarterly information packaging and dissemination working sessions

Atleast 8 barazas held on Lakes George and Edward (4 on Lake George and 4 on Lake Edward)
1 stakeholders workshop to disemminate and discuss technology aquaculture technology findings in Central Uganda

1 stakeholders workshop to disemminate and discuss Lakes George and Edward technology adoption and alternative livelihood survey findings .

NaFORRI :

Forestry technology impact monitoring toolkits multiplied.
Baseline data on impacts of forestry technologies on people's livelihood collected from 12 AEZs of Uganda.

ABIZARDI:

Continue monitoring of demonstrtaions and setting up 6 Adaptive trials
Demonstrate use of different ITKs for post harvest handling of cereals on station
4 sites identified and 4 demonstrations for each of the crops set up
More seed multiplication

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Farmed fish species are ranked according demand and product preference
Dissemination of pasture production and conservation technologies
Set up demos on the use of medicinal plants in the control of GIT nematodes in goats.

Identification and testing of value-adding technologies on station
100 farmers trained in proper agronomy of beans and groundnuts in Koboko and Yumbe
50 farmers trained on 3 agroforestry technologies from two farmer groups.
3 farmer groups capacity in quality seed potato production enhanced
20 farmers knowledgeable in use of -ve/+ve selection for seed potato production

Availability of quality seed potato and its technologies promoted

Performance of farmer preffered high quality cassava varieties for multiplication identified
Farmer techniques of groundnut production validated and updated
5 groundnut varieties established for multiplication and availed to uptake pathways

BuZARDI:

Internet network (wireless) installation extension to one office block
Maintenance of 22 computers and accessories
Procurement of Consumables and office stationeries
Presentations of scientifc papers in workshops and conferences
One radio talk show conducted

Participatory monitoring by director, finance officer, internal auditor and scientists to project sites
Repairs and maintenance of Vehicles
Fuels and lubricants procured
Staff training in scientific writing and publication
Travel inland
welfare and entertainment

BUZARDI:

5 demostration plots harvested and data on yields and farmers perception collected

One field day targeting 40 farmers and 10 extension workers at harvest time
Participate in women's day
3 radio talkshows, one in each of Kanungu,

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Kabale and Kisoro districts.

2 Trainings and sensitisation meeting conducted in Kisoro and Kabale
Participate in women's day
4 radio talkshows, one in each of Kanungu, Kabale and Kisoro districts.

One video documentary produced
200 manuals distributed amongst farmer groups and other partners,700 leaflets produced on management regime for endoparasites in goats
2 mini field days conducted in Kanungu & Rukungiri to popularize meat goat breeds.

MbaZARDI:

Field trials for bean, maize, cassava, banana and groundnut technologies both on-station and on-farm in the SWAEZ
Evaluation trials on-station
on-station and on-farm field trials
on-station and on-farm field trials
Data on agronomic parameters collected
Reduction in fruit pest and diseases severities following application of developed technologies determined

Data from fodder technology trials onstation and onfarm collected.

NabuZARDI:

50 trainers of trainers in animal traction (farmers and NAADS service providers) trained in Kotido district

Bush clearing,and land preparation
RMIS managed.

NGETTA:

20 fish farmers in Alebtong,Lira and Oyam districts trained.
10 fish seed producers identified and trained in fish seed production and hatchery management practices in Lango Sub region

On-farm training initiated and conducted with 2 farmer groups in Dokolo and Kole districts in labour saving technologies

I citrus field mantained in Gulu, Kitgum, Dokolo, Kole districts, and I mango field in Amuru, Pader, Apac and Oyam districts
5 farmer groups in each of the following

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)			*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

districts ; Lira, Oyam and Kole districts trained on mango fruit fly control practices.

RwebiZARDI:

One zonal stakeholder workshop held by end of March 2013
Rwebitaba ZARDI participated in district agricultural shows
At least 1 brochure, 1 leaflet and 1 poster produced for each agricultural commodity crop and animal by end of the quarter
Partnership relationship monitored and reviewed

Survey of market outlets, linkages and facilitation of meetings between producers and traders.

Various planned interim and final Outputs and Location under Other grants

NTR	*0*	*0*	***0***

Output: 01 5104 Agricultural research capacity strengthened

NAROSEC:

Stakeholders trained - 30 scientists, 9 MCs & 5 staff at NAROSEC
40 Public ARSPs & staff
1 stakeholder meeting held
Institutes business plans developed .

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***

HR:

Consultancy fees paid.
Consultantive Meetings
Stakeholders meeting to review the draft

1. Consultancy fees paid.
2. Good Governance and corporate social responsibility ensured and promoted;
Leadership and oversight Management of agricultural research provided;
3. Staff recruited and staff training - (Local and International)
4. Stationery and office consumables procured;
5. Office equipment maintained;
6. Water utility bills paid;
7. Electricity utility bills paid;
8. Telephone, Postage and courier services used;
9. Vehicles serviced;
10. Office buildings maintained ;
11. Compound maintained ;
12. Maintain effective ICT facilities;
13. Subscription for internet paid;

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

14. 4 UJAS editorial committee meetings facilitated;
15. Quarterly entity accounts, financial statements, commitment control reports, several manual books of accounts maintained. Bank charges timely paid;
16. Acquisition of books, agric. Information magazines and newspapers;
17. Provision of security services;
18. Break tea and Refreshments provided to staff and visitors;
19. 3 Preparatory meetings for NARO Scientific Conference;
20. Organising NARO Scientific Conference;
21. 1 Annual planning and Review meetings;
22. 3 Quarterly planning and Review meetings;
23 2 Dissemination and Internal review workshops;

6 scientist sponsord for PhD Degree
six scientists supported for MSc degrees
100 employees supported for short-term courses
2 Staff faciliated to attend study courses and meetings
100 people hosted for the conference
HRA Staff training in human resource software
Six institutes visited to collect HR data
70 members of staff facilitated

Acounts dept:

Qtr 1 Research funds transferred to NARO Agric institutes.

PRO:

Building face lifted, floor cemented, steps improved.

3 selected schools in Entebbe & 3 in Kampala availed with tree planting materials

NaLIRRI:
roads and compound mentained
Capacity building through short term training of staff achieved
1 Quarterly Mgt committee and 1 Mgt Sub committee meeting, 8 planning committees' meetings and 3 staff meetings
Repairs done one 1st block, slashing 4 acre compound 3 times and clearing the 400 m road twice.
4 staff Staff trainied in procurement and chain supply
Payment of electricity, water, telephone and internet bills for the 3rd quarter.

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Travelling (allowances and fuel).

10 staff
Science Conference
1 tent

1 News Paper Ad

5 posts

1 meeting
2, meetings
Refurbishment of the nursery and workshop and purchase of inputs.

One component of Internal control reviewed.

Adherence to laid down regulations and policies.

Payroll embracing all NARO staff audited
Proper accountability of resources and correct recording of transactions.

Visit all the Institutes.

Improved accountability
Internal Auditors Capacity strengthened
Internal Auditors capacity improved.

NaCRRI:

At least 8 members of staff trained in appropriate fields
50 persons trained on Post harvesting

1 radio talk show , 8,000 flyers printed & distributed and posters printed and distributed
4 computers repaired,installed with anti virus , fitted with UPS
5 tractor fitted with tyres and disc plough.

4 water pump repaired
3 Mower and 3 brush cutter repaired
2 generator serviced
Electricity system rectified

3 Office blocks repaired
1 road graded & maintained accessiable
2 Vans,2 Station wagons & 5 pick ups repaired
Quarter Three report and others reports produced
Staff provide with break tea
one Staff attended training course, electricity services and 100 reams and 600 calendars.

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Security,Sanitation & a clean working enviroment provided
Office building & its surrounding kept clean
50 brochures & 5 reams printed
Assets kept secured from thieves
8 calculators,3 punches & 15 stappling machines
3 vehicles licence paid
4 field visits and 3 meetings attended.
4 Field visits and 2 meeting made.
Staff provided with transport to and from work&Internet services provided.

NaFIRRI:

6. ICT equipment and supplies
Quarterly information packaging and dissemination working sessions .

Assorted field, office and laboratory supplies for studies 1-4 procured (see input cost table).

NaFORRI:

Establishing and maintence of aboretum
Fencing off of experiments, trials and
Maintenance of on station experiments trials
Monitoring, verification and supervision of ATAAS activities.

Inland training for 6staff conduted
10 Short ter contracts supported for 3 months
Recruitment and induction of staff.
-
Stationary and small office equipement for use.
Tonner procured.
Generator fueled serviced and maintained.
Servicing of sawmill and carpentry equipment.
Mantainance of vehicles.
1 stakeholder Meeting/ workshop.

NaSARRI:

2.1 All Management Committee Members trained
3.1 At least One staff meeting held,one management committee meeting held, field day held.
Atleast three laptops procured.
9.1 Facilitation of various officers while on official duties outside the work station.
9.4 At least 30% of institutes assets verified.

BUGIZARDI:

Perfomance of feed options and ITK used for goat husbundry identified
Perfomance of feed options and ITK used for goat husbundry identified

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Farmer groups capacity to manage goats profitably enhanced
Farmer group linkages and service providers partnership enhanced
Technologies on goat production promoted

BUZARDI:

wireless internet connection upgraded.

KAZARDI:

Participate in at least 3 adminstrative meetings

1 quarterly Human Resource & administrative, and Audit reports prepared and submitted
Atleast 1 administration & audit sections visit to On-farm and on-station activities conducted in the districts of Kanungu, Kisoro, Rukungiri & Kabale
Institute assets engraved
Maintaining 15,000 m2 of compound including slashing, , fencing and desilting internal road channels

Clearing bush around and repairing the weather staion fence
3 months subscription to AFSAT for internet connection
Water and electricity connections serviced and fuel & lubricants provided for running of 5 generators
Fuel & lubricants supplied for 5 vehicles and 2 generators for administration
5 vehicles maintained and serviced
6 vehicles serviced and repaired
10 motorcycles serviced and repaired and fuel & lubricants supplied for them
Atleast 1 M&E visit to On-farm and on-station trials/activities
Collaborate with NaCRRI and NAADS on management of BBW in the zone
Generating 1 technical quarterly report
Atleast 1 training committee meeting held
8 staff trained in relevant courses
2 staff on PhD and 1 staff on MSc maintained at various universities
None
Procure items for break fast, office cleaning and toilet effects

1 bank account operational

MBAZARDI:

Sufficient assorted welfare items available in the institute at all times

Vehicles in running condition in the institute

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes) *UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

at all times

Sufficient fuel and lubricants available for administrative activities at all times
1 quarterly Human Resource reports prepared and submitted by March 2013
3 Management and Administrative meeting attended by March 2013
Availability of information on all activities in the SWAEZ for different stakeholders.
Strategic partnerships with sister institutes & partner organizations established
100 Corporate shirts procured by March 2013

1 quarterly value for money audit carried out by April 2013
Procurement of antibiotics, vaccines, dewormers, acaricides, disinfectants, detergents and veterinary use
Hay bailing, silage making, procurement of dairy meal, weaner meal, sow and weaner meal, creep feed
100 meters of HDP PN16 90mm water pipe installed along the water delivery pipeline by March 2013
Maintenance of farm machinery,equipment and structures
3 contracts paid for weeding banana plantion by March 2013
3 contracts paid for weeding cassava plantion by March 2013
3 contracts paid for potting,grafting and watering of seedlings by March 2013

MUZARDI:

Purchase of at least 680 litres of fuel for administrative activities

At least 6 window curtains procured & installed

At least 2 lockable shelves purchased
At least 1 wooden storage cabinate procured

NABUZARDI:

Quarterly procurement planning meeting attended

Quarterly human resource records updated and staff desputes settled

At least three staff members attend training abroad to improve skills and knowledge
Staff recruited to fill gaps

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Quarterly field visit to ensure value for money carried out

NGETTAZARDI:

Construction of two 10 x16 m ponds completed

Acquiring prototypes for evaluation (cold press, solar drier and shea nut de-husker) and data collection on their performance
ATAAS bank account and cheque book charges paid.
At least 2 physical properties rehabilitated.
Goods and services procured.
Professional services procured.

Staff inland travel costs paid.

RWEBITABA:

One directors' forum meeting attended

Contract Labour
Welfare and entertainment
Electricity
General supply of Goods and Services
Maintenance Others
Training of staff
Printing, stationery ,photocopying and binding

-

NTR	*0*	*0*	***0***

Output: 01 5105 Generation of technologies for priority commodities

Data collection and analysis, partial data obtained on the effect on weevils on the different lines
Data compilation, analysis and report writing
Continued maintainance and data collection at multilocational participatory selection trials
Data collection at multilocational participatory selection trials
Application of markers for selecting desired traits
Molecular diversity studies and characterisation of 20 clones,
Identify sites and collaborative stake holders
Screen-house evaluation for tolerance to water stress
Solar pump system for small-scale irrigation

Total	**0**	**0**	**0**
GoU Development	*0*	*0*	***0***
Donor Development	*0*	*0*	***0***

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	UShs Thousand

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

installed on-station
Sprinkler irrigation technology evaluated
Mirror carp brood stock will be developed for fingerlings production, Wild catfish brood stock will be collected for captive acclimatization
Draft maps listing of georeferenced sites with nagana/sleeping sickness placed on maps using GIS
Third quarterly multi-locational feed resource availability survey
"Second set of experiments conducted bot on-farm and on-station, "
Monitoring and collection of selected data
Further crossing and crossing block maintained
15 on farm dairy heifers inseminated
Data on budget for tilapia and catfish farming established
Selection of 2 on farm sites in 1 districts to conduct adaptation trials
Available market and elite maize varieties suitable for mid altitude sub zone identified
High quality farmer preferred disease tolerant and high yielding cassava varieties maintained
Validation trials managed
Set up and maintain trials, more train farmers
Utilization of SLM innovations promoted with District stakeholders forum (600HHs) in Bulambuli, Sironko
Trials managed
Testing and determining profitable cage designs
Feedback workshop conducted, evaluation of trials conducted
Data collected on effect of human activity on water quality
Establish trials to evaluate (IPM) technologies for their effectiveness and economic viability
Nutrient and organic matter flow balances determined.
Conduct a survey of farmers practicing feed conservation in selected districts of the SWAEZ.
Food conversion ratio (FCR) for Ugachic and Jorda pellets on pond cat fish growout stages determined.
Trial management and monitoring and data collection
Initial agronomic data on banana plant growth under different nutrient trials documented
acres of land ploughed on-station
At least 1 rice market chain actors' meetings held according to themes
at least 20 farmers and fish traders trained
Feed back meetings, farmer selection
At least one rangeland management practices evaluated
Parent stock of 3 short-horned Zebu cattle collected and raised on-station
2 trials established on cost benefit analysis of ox-drawn weeders set up

Vote: 142 National Agricultural Research Organisation

QUARTER 3: Revised Workplan

Planned Outputs for the Quarter (Quantity and Location)	Estimated Funds Available in Quarter (from balance brought forward and actual/expected releaes)	*UShs Thousand*

Vote Function: 0151 Agricultural Research

Development Projects

Project 1139 ATAAS (Grant) EU, WB and DANIDA Funded

Information on water harvesting/harnessing and storage for livestock use generated
On farm second cycle evaluation 1 rice varieties initiated.
Maintenance of experiment and data collection.
1 grinder, and 1 pelleter acquired and 3 acres one each of rice maize, soya beans, cassava established on-station.
Cup quality of 1 clone determined, Study sites and collaborative stakeholders identified

NTR	*0*	*0*	***0***
GRAND TOTAL	**5,997,472**	**760,073**	**6,757,545**
Wage Recurrent	*1,248,657*	*0*	*1,248,657*
Non Wage Recurrent	*320,452*	*0*	*320,452*
GoU Development	*0*	*0*	*0*
Donor Development	*4,383,076*	*0*	*4,383,076*
NTR	*45,286*	*760,073*	*805,360*

Vote: 142 National Agricultural Research Organisation

QUARTER 4: Revised Cashflow Plan

Non-Wage Recurrent

	Annual budget	Release to end of Q3	*% Budget Released*	Q4 Cash Requirement	
				Total	*% Budget*
PAF	**2.15872835**	0.512682021	*23.7%*	0.8	*37.1%*
Statutory	**0**	0	*0.0%*	0	*0.0%*
Other	**6.97372565**	5.618802362	*80.6%*	1.7	*24.4%*
Total	**9.132454**	**6.131484383**	***67.1%***	**2.5**	***27.4%***
Reasons for cash requirement greater than 1/4 of the budget:				n/a	

GoU Development

	Annual budget	Release to end of Q3	*% Budget Released*	Q4 Cash Requirement	
				Total	*% Budget*
PAF	**2.289326**	0.572331501	*25.0%*	0.6	*26.2%*
Other	**7.257384**	1.7915661	*24.7%*	1.8	*24.8%*
Total	**9.54671**	**2.363897601**	***24.8%***	**2.4**	***25.1%***
Reasons for cash requirement greater than 1/4 of the budget:				n/a	

Grand Total

	Annual budget	Release to end of Q3	*% Budget Released*	Q4 Cash Requirement	
				Total	*% Budget*
Grand Total	**18.679164**	**8.495381984**	***45.5%***	**4.9**	***26.2%***

Vote: 142 National Agricultural Research Organisation

Checklist for OBT Submissions made during QUARTER 3

This is an automated checklist which shows whether data has been entered into the areas which are required for a complete quarterly submission. It does not verify the quality of the data that has been entered. A complete checklist is therefore a necessary, but not sufficient condition for a satisfactory submission to MoFPED.

Project and Programme Quarterly Performance Reports and Workplans (Step 2)

The table below shows whether output information, and where relevant donor and ntr data has been entered into the required areas for the quarterly performance reports and quarterly workplans under step 2.

Output Information

Vote Function, Project and Program		Q2 Report	Q3 Workplan
0151 Agricultural Research			
○ *Recurrent Programmes*			
- 26	NARO Internal Audit	Data In	Data In
- 20	Buginyaya ZARDI	Data In	Data In
- 14	Bulindi ZARDI	Data In	Data In
- 01	Headquarters	Data In	Data In
- 15	Kacwekano	Data In	Data In
- 19	Mbarara ZARDI	Data In	Data In
- 13	Abi ZARDI	Data In	Data In
- 18	Nabium ZARDI	Data In	Data In
- 12	National Laboratories Research	Data In	Data In
- 07	National Crops Research	Data In	Data In
- 08	National Fisheries Research	Data In	Data In
- 09	National Forestry Research	Data In	Data In
- 10	National Livestock Research	Data In	Data In
- 11	National Semi arid Research	Data In	Data In
- 17	Ngetta ZARDI	Data In	Data In
- 21	Rwebitaba ZARDI	Data In	Data In
- 16	Mukono ZARDI	Data In	Data In
○ *Development Projects*			
- 0382	Support for NARO	Data In	Data In
- 1138	EAAPP	Data In	Data In
- 1139	ATAAS (Grant) EU, WB and DANIDA Funded	Data In	Data In

Donor Releases and Expenditure

Vote Function, Project and Program		Q2 Report	Q3 Workplan
0151 Agricultural Research			
○ *Development Projects*			
- 1139	ATAAS (Grant) EU, WB and DANIDA Funded	Data In	Data In
- 1138	EAAPP	Data In	Data In

NTR Releases and Expenditure

Vote Function, Project and Program	Q2 Report	Q3 Workplan

Vote: 142 National Agricultural Research Organisation

Checklist for OBT Submissions made during QUARTER 3

0151 Agricultural Research			
○ *Recurrent Programmes*			
- 14	Bulindi ZARDI	Data In	Data In
- 07	National Crops Research	Data In	Data In
- 08	National Fisheries Research	Data In	Data In
- 09	National Forestry Research	Data In	Data In
- 10	National Livestock Research	Data In	Data In
- 11	National Semi arid Research	Data In	Data In
- 01	Headquarters	Data In	Data In
- 13	Abi ZARDI	Data In	Data In
- 21	Rwebitaba ZARDI	Data In	Data In
- 15	Kacwekano	Data In	Data In
- 16	Mukono ZARDI	Data In	Data In
- 17	Ngetta ZARDI	Data In	Data In
- 18	Nabium ZARDI	Data In	Data In
- 19	Mbarara ZARDI	Data In	Data In
- 20	Buginyaya ZARDI	Data In	Data In
- 12	National Laboratories Research	Data In	Data In

Vote Performance Summary (Step 3)

The table below shows whether information has been entered into the required fields in the vote performance summary tables for each vote functions under step 3.1:

Vote Function	Perf. Indicators	Output Summary	Actions
0151 Agricultural Research	Data In	Data In	Data In

The table below shows whether data has been entered in the fields for key variances in budget execution under step 3.2:

Type of variance	Prog's Projects	Items / Inputs	Outputs
Unspent Balances	Data In	Data In	Data In
Over expenditure vs budget	Data In	Data In	Data In

The table below shows whether data has been entered into the vote narrative fields under step 3.3:

	Narrative
Narrative	Data In

Quarterly Cash Requests (Step 4)

The table below shows whether data has been entered into the cash request under step 4:

	Cash Request
Cash Request	Data In