

Republic of Rwanda



Ministry of Agriculture and Animal Resources

ANNUAL REPORT **FY 2016-2017**



TABLE OF CONTENTS

TABLE OF CONTENTS	3
LIST OF TABLES	5
FOREWORD	7
EXECUTIVE SUMMARY	9
SECTION 1: INTRODUCTION AND SUMMARY OF SECTOR PERFORMANCE	12
1.1. Overview of the Agriculture Sector	12
1.2. Progress toward Vision 2020 targets	14
1.3. Progress towards EDPRS 2 targets	14
1.3.1. Sector Indicator Matrix	14
1.4 Crop Production	15
1.5 Animal resources	19
1.5.1. Animal Population	19
1.6. Agriculture and Livestock Inspection and Certification Services	23
1.7. Agricultural Export Performance	28
1.8. Gender Responsive Budgeting and Implementation in different agricultural Programmes	30
1.8.1 Soil Conservation and Land Husbandry	30
1.8.2 Irrigation and Water Management	30
1.8.3 Agricultural and Animal Resources Intensification	31
1.9 Youth engagement into agriculture sector	31
1.10 Agricultural Cooperatives (Livestock and crops cooperatives)	34
1.11 Agriculture financing	34
1.12 Progress towards the policy actions	35
SECTION 3: PROJECTS & PROGRAMMES IMPLMENTATION UNDER PSTA 3	38
PROGRAMME 1: AGRICULTURE AND ANIMAL RESOURCE INTENSIFICATION	38
SP 1.1. Land conservation and Land Husbandry	38
SP 1.2. Irrigation and Water Management	40
SP 1.3 Mechanization	50
SP 1.6. Livestock Development	51

PROGRAMME 2: RESEARCH AND TECHNOLOGY TRANSFER, ADVISORY SERVICES AND PROFESSIONALIZATION OF FARMERS	54
SP 2.1. Research and technology transfer	54
(i) Enhanced breeding research capacity.....	54
(ii) Achievements of research programs.....	54
PROGRAMME 3: VALUE CHAIN DEVELOPMENT AND PRIVATE SECTOR INVESTMENT	62
SP 3.3. Development of Priority Value Chains: Export Crops	59
SP 3.8. Market Infrastructure.....	72
PROGRAMME 4: INSTITUTIONAL DEVELOPMENT AND CROSS-CUTTING ISSUES.....	83
4.1 Institutional Capacity Building (needs to be improved)	83
4.2 Agricultural Information and Communication	83
4.4 Extension and promotional materials	84
SECTION 4: BUDGET EXECUTION PERFORMANCE ANALYSIS	87
REFERENCES.....	89
LIST OF ANNEXES	90

LIST OF TABLES

Table 1:	Macroeconomic Importance of the Agriculture Sector	13
Table 2:	Select Vision 2020 Targets.....	14
Table 3:	Area cultivated, yields and crop production of season 2017 B versus season 2016 B	16
Table 4:	Trend of Animal population	19
Table 5:	Movement of the animals.....	21
Table 6:	Prevalence of Helminthes in six districts	22
Table 7:	Quantities of inspected imports of plant products 2016-2017	24
Table 8:	Quantities of plant products certified for export 2016-2017.....	24
Table 9:	Quantities of animal products for which the import permit were granted in 2016-2017	25
Table 10:	Quantity of animal products imported and inspected.....	26
Table 11:	Export performance summary 2016-2017	29
Table 12:	Policy actions progress report	35

FOREWORD

FOREWORD BY THE MINISTER OF AGRICULTURE AND ANIMAL RESOURCES



Dr Gerardine Mukeshimana,
Minister of Agriculture and Animal Resources

I am greatly honored to present the MINAGRI Annual Report for the fiscal year 2016/2017 to our esteemed partners, stakeholders and the general public. This report provides updates on Rwanda's agriculture sector performance towards its modernization in accountable and transparent way.

The agriculture sector remains the driver of Rwanda's economy and the source of livelihood for the majority of households. Facts documented in this report prove substantial progress towards achieving sustainable food and nutrition security and agricultural transformation from a predominantly subsistence to market-led sector.

In 2016/17 Fiscal year, the sector contributed 31 per cent of the national GDP, generated 60 per cent of the foreign exchange, employed 68.3 per cent of working population, provided 75 per cent of raw materials supplied to industries and provided about 45 per cent of total Government revenues. The sector also met over 90 per cent of all food consumed in the country. Congratulations to each and every one who contributed to this fabulous success. Despite the achievements, unpredictable weather variability was one of major hindrances to the sector development journey.

Consultations carried out during the review of National Agricultural Policy have shown the importance of the private sector and youth in the sector transformation. In that regard, the focus will be put on engaging youth in increasing the agricultural productivity and the transformation of the sector as they can easily cope with the current challenges and benefit from the emerging opportunities. Improving youth engagement and entrepreneurship on the farm and beyond it is one of the strategies that Rwanda is putting emphasis on.

We also remain focused on improving both basic infrastructure facilities and working environment that will attract the private sector to drive the sector to the next level as envisioned by the Vision 2020.

Last, but not least, we attach great importance to empowerment of women in the agriculture sector as one of the mechanisms to tackle nutrition problems among others.

Thank you so much for your continued support in transforming Rwanda's agriculture sector.

I wish you a very fruitful fiscal year ahead.

EXECUTIVE SUMMARY

The agricultural sector is of critical importance for the economic development, poverty reduction, and nutritional security of Rwanda. The sector contributed a third of the national Gross Domestic Product in Fiscal Year (FY) 2016-2017. This annual report highlights key achievements of the agriculture sector of Rwanda in FY 2016/17 which coincides with the completion of the 7 Year Government Program (YGP). The Ministry of agriculture and animal resources (MINAGRI) is transitioning from the third implementation of the Strategic Plan for Agriculture Transformation (PSTA 3) to its fourth edition (PSTA 4). Within this new framework of PSTA 4, the role of the Government will be changing from that of a national provider to that of a national enabler of agricultural development. This is evidenced by the fact that MINAGRI has been increasingly working with diverse stakeholders of the Agriculture sector, namely Civil Society Organizations (CSOs), NGOs, Development Partners and the private sector.

The fiscal year 2016/2017 has seen increased development of Agriculture related infrastructures to support productivity and commercialization of agriculture outputs. As of present, Rwanda has 43,934 ha under irrigation - including 38,521ha of marshlands and 7,413 ha of hillsides, of which 1,360.2 ha of marshland and 1,465 ha of hillside were developed in this year. Total soil conservation and land husbandry is currently at 923,606ha and 110,041.4ha of land under progressive and radical terraces respectively, of which 10,392ha of progressive and 6,123.4 ha of radical terraces were developed in this year. With regard to postharvest and market access facilities, 9 warehouses were constructed and 1,940.9 km and 1,178.48 km of feeder roads were upgraded and maintained respectively. The Ministry continued efforts to contribute to social protection and nutrition through Girinka, one cup of milk per child and kitchen garden promotion programs. So far 271,004 cows have been distributed under Girinka, of which 34,072 in 2016/2017.

The agriculture export commodities generated \$ 356.5 million through export of traditional and non-traditional export commodities representing 37.7% and 62.2% respectively. This is equivalent to a 25% increase in agricultural export revenues of \$ 284 million earned from FY 2015-16. Moreover, floriculture products was among emerging agricultural export commodities to regional and international markets with an increase of cultivated acreage from 2ha to 17ha in 2016/17 FY.

The 2017/18 fiscal year will be the last year of implementation of PSTA 3. MINAGRI will continue to fulfill the mandate of PSTA 3 in investing in the agriculture sector to enable the sector to become a green and private sector led. The Agriculture sector will continue to be instrumental to realize the country's objectives and targets as specified in Vision 2020 and EDPRS 2.



Section 1: Introduction and summary of sector performance

SECTION 1: INTRODUCTION AND SUMMARY OF SECTOR PERFORMANCE

1.1 Overview of the Agriculture Sector

Agriculture remains the backbone of Rwanda's economy. In 2016/2017 fiscal year (FY), the sector contributed 31 per cent of the national GDP, generated 60 percent of the foreign exchange, provided 75 per cent of raw materials supplied to industries and provided about 45 percent of total Government revenues (NISR, 2015). Agriculture is also important for national food self-sufficiency, accounting for over 90 percent of all food consumed in the country (NISR, EICV 2013/14). Currently, the agriculture sector accounts for a total of 3,342,779 farmers, among which 1,248,017 (37.3%) are involved in market led agriculture while 2,094,762 (62.7%) do farming for household consumption. Therefore, with the new ILO definition of employment, agriculture employs 41.8% of the total employment in Rwanda (NISR, Labor force survey 2017). Therefore, the agriculture sector is not only the driver of Rwanda's economy, but also the means of livelihood for the majority of Rwandan people.

Source: **NISR, National Accounts 2016-2017** depicts the evolution of key sectors in the economy, including their relative share in the GDP and respective growth rates. The agricultural sector contributed 28.9 percent of the national GDP on average from 2007/08 to 2016/2017. In FY 2016-17, the sector contributed 31 percent of the national GDP and its growth rate was 3 percent (at constant prices 2014). The sector's contribution to national GDP was higher than that of the industry sector (16 percent) and lower than the one of the services sector (47 percent) (NISR, GDP-2016/17).

Table 1: Macroeconomic Importance of the Agriculture Sector

Category	Indicator	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
GDP growth	Growth Rate (percentage change from previous year)	7.8%	7.9%	4.6%	6.2%	8.3%	6.7%	5.0%	8.6%	8.6%	3.4%
	Growth rate	3%	4%	5%	5%	5%	7%	2%	7%	5%	3%
Agriculture, Forestry & Fishing	Share in GDP	30%	29%	29%	28%	28%	29%	29%	28%	28%	31%
	Growth Rate	8%	5%	0%	13%	14%	12%	6%	11%	10%	2%
Industry	Share in GDP	15%	14%	14%	15%	16%	17%	17%	17%	17%	16%
	Growth Rate (percentage points)	12%	11%	5%	6%	9%	7%	6%	9%	10%	5%
Services	Share in GDP	48%	49%	49%	48%	48%	47%	48%	48%	47%	47%

Source: NISR, National Accounts 2016-2017

1.2 Progress toward Vision 2020 targets

Table 2: Select Vision 2020 Targets

Revised Selected Vision 2020 Indicators	2000 (calendar)	FY 2016-2017	2020 revised (calendar)	Source
Agricultural GDP growth (%)	9	5	8.5	NISR
Agriculture as % of GDP	45	33	25	NISR
Agricultural Population (%)	90	65	50	NISR
Fertilizer application (kg/ha/annum)	0.5	32	50	MINAGRI
% of Agriculture Operations Mechanized	n.a.	25	40	MINAGRI
Food Security Indicator: Food Consumption Score	n.a	Poor FCS: 7% Borderline: 19%	Poor FCS: 0% Borderline:5%	CFSVA & Nutrition Survey, 2015

1.3 Progress towards EDPRS 2 targets

MINAGRI and its implementing agencies are responsible for the operationalization of the agriculture sector that contributes to the EDPRS 2 goals. MINAGRI spearheads the rural development thematic area by increasing the agricultural productivity and fostering the use of sustainable agricultural practices. The progress against EDPRS 2 core indicators namely: irrigation and strategic food reserve that relates to the agriculture sector in FY 2016/17 are presented in the Annex 1.1.

Unreliable rainfall in Rwanda due to climate and weather variability is a critical constraint to food production and a major cause of hunger. Well managed irrigation schemes can increase and sustain agriculture production. In FY 2016/2017, 1,360.2ha of land were developed under marshland irrigation and 1,465ha developed under hillside irrigation and 2,130ha developed under SSIT. The total amount of cumulated irrigated land was 48,508ha. Marshland, hillside and Small Scale Irrigation cumulated development in FY 2016/17 was 36,544ha, 7,413ha and 4,551ha respectively.

The National strategic reserves of maize and beans that were stored in the country measures the progress to achieve National food security and nutrition. The grains stored in the Strategic Grain Reserve facilities and at the local level during FY2016/17 was 43,130.4MT and 74,271.7MT for maize and beans respectively. The total of both crops food reserve was 117,402.1MT. If compared to Annual target (2016/17) of 45,000 MT of food reserve was over achieved by 260.8 percent; thanks to the mobilization carried out to promote the culture of grains storing at household, cooperatives and local level.

1.3.1 Sector Indicator Matrix

Considering the targets that have been set in the Strategic Plan for Transformation of Agriculture Phase-III, in FY 2016/2017 cash crops recorded a good rate towards achieving the production targets. Tea took the lead with 98 percent of achievement, followed by horticulture (86 percent) and Coffee (80 percent). Pyrethrum recorded the lowest rate in achieving the target 57 percent (see Annex 1.2).

With regards to yield of priority crops (MT/ha) on consolidated sites, targets were achieved over 80 per cent for crops such as Wheat, Beans (bush and Climbing), Maize, Rice and Irish Potatoes, and below for soybeans and Cassava. There was insufficiency of cassava seeds due to Cassava Brown Streak Disease (CBSD) and low yielding varieties for soybeans. A new management in charge of seeds availability and distribution was put in place. Regarding the ratio of extension workers per farmer household, 1/500 was achieved compared to the PSTA III mid-term target of 1/300. (Annex 1.2).

1.4 Crop Production

Tables 2 and 3 illustrate comparison between Season A & Season B 2017 and season A&B of 2016, as per national averages: (i) cultivated area per crop, (ii) yield and (iii) production.



Table 3: Area cultivated, yields and crop production of season 2017 A versus season 2016 A

Crop/Crop Category	Area (Ha)			Yields (Kg/Ha)			Production (MT)		
	Season 2016 A	Season 2017 A	% change	Season 2016 A	Season 2017 A	% change	Season 2016 A	Season 2017 A	% change
Maize	170,815	212,085	24%	1,758	1,536	-13%	300,330	272,303	-9.3
Sorghum	35,928	30,106	-16%	2,901	1,221	-58%	47,522	40,959	-13.8
Paddy rice	17,042	21,763	28%	1,323	3,273	147%	49,430	66,448	34.4
Wheat	5,137	3,242	-37%	850	694	-18%	4,365	3,575	-18.1
Cassava	288,049	218,853	-24%	1,409	1,691	20%	405,961	450,305	10.9
Sweet potato	65,044	87,854	35%	7,745	5,699	-26%	503,760	572,350	13.6
Irish potato	54,051	39,396	-27%	6,840	7,576	11%	369,691	378,008	2.2
Yarms & Taro	17,674	35,631	102%	4,653	2,469	-47%	82,244	130,590	58.8
Cooking banana	114,452	96,699	-16%	3,313	2,973	-10%	379,196	409,063	7.9
Dessert banana	35,647	35,470	0%	2,730	2,532	-7%	97,304	112,514	15.6
Banana for beer	171,910	105,995	-38%	3,080	3,032	-2%	529,434	453,321	-14.4
Bush bean	181,656	187,931	3%	835	824	-1%	151,715	146,207	-3.6
Climbing bean	92,912	80,945	-13%	1,046	1,359	30%	97,230	78,893	-18.9
Pea	16,012	9,398	-41%	729	445	-39%	11,673	6,758	-42.1
Groundnut	11,922	25,039	110%	508	423	-17%	6,054	11,889	96.4
Soybean	20,815	22,411	8%	593	519	-12%	12,346	10,749	-12.9
vegetables	15,811	20,282	28%	8,703	6,324	-27%	137,608	133,910	-2.7
Fruits	8,298	6,573	-21%	4,150	21,316	414%	34,438	55,604	61.5

Source: NISR, Seasonal Agricultural Surveys 2016A and 2017A

Table 3: Area cultivated, yields and crop production of season 2017 B versus season 2016 B

Crops	Area (Ha)			Yields (Kg/Ha)			Production (Tons)		
	Season 2016 B	Season 2017 B	% Change	Season 2016 B	Season 2017 B	% Change	Season 2016 B	Season 2017 B	% Change
	Maize	66,843	85,362	27.7	1,106	993	-10.2	73,937	86,113
Sorghum	129,884	113,384	-12.7	895	966	7.9	116,310	110,487	-5
Paddy rice	16,389	16,890	3.1	3,729	3,760	0.8	61,113	63,607	4
Wheat	6,494	7,516	15.7	856	1,118	30.6	5,558	7,350	32
Cassava	277,804	164,843	-40.7	1,887	3,099	64.2	524,258	591,680	13
Sweet Potatoes	70,530	89,146	26.4	5,559	5,218	-6.1	392,113	482,657	23
Irish Potatoes	52,185	46,069	-11.7	5,922	9,997	68.8	309,051	398,713	29
Yams & Taro	22,429	22,176	-1.1	3,103	3,424	10.4	69,589	93,770	35
Cooking Banana	115,038	93,613	-18.6	3,407	3,454	1.4	391,886	315,688	-19
Dessert banana	36,015	32,614	-9.4	2,519	3,367	33.6	90,719	111,436	23
Banana for beer	159,703	100,470	-37.1	2,568	3,193	24.3	410,186	327,126	-20
Bush beans	159,143	192,567	21	684	754	10.2	108,901	139,791	28
Climbing beans	74,913	84,741	13	1,015	1,042	2.6	76,048	87,119	15
Peas	8,900	10,309	15.8	471	555	17.8	4,192	5,606	34
Groundnuts	14,142	20,473	44.8	368	422	14.7	5,205	8,814	69
Soya beans	24,730	30,643	23.9	371	474	27.6	9,182	12,993	42
Vegetables	12,451	18,991	52.5	10,023	9,025	-10.0	124,801	155,167	24
Fruits	8,440	6,849	-18.8	1,299	2,593	99.6	10,963	17,090	56
Total	1,256,037	1,137,855	-9.4	-	-	-	-	-	-

Performance of Cereals; Season 2017B versus Season 2016B

In season 2017 B, the area under maize, wheat and paddy rice increased by 27%, 15.7% and 3% respectively, compared to season B 2016. Sorghum area decreased by 12.7%.

The yield of wheat, sorghum and rice increased by 30.6%, 7.9% and 0.8% respectively in season 2017 B compared to season B 2016. Maize is the only cereal that had a decrease in the yield (- 10.2%).

Production of maize, paddy rice and wheat increased by 16%, 4% and 32%, respectively. Increase in maize production is largely attributed to its increase in area allocated to maize, as its yield decreased. The huge increase in wheat production are attributed to increase in both yield and area. Sorghum production decreased by 5%, largely due to decrease in the area under sorghum cultivation (Confer table 3).

Performance of tubers and roots; Season 2017B versus Season 2016B

A decrease of 23.8 % in area under roots and tubers was witnessed in season 2017 B compared to season 2016 B, and this was largely due to the decrease in the area under cassava and Irish potatoes (- 40.7% and -11.7%, respectively). The very high decrease in cassava area is explained by the incidence of cassava brown streak virus disease and the limited availability of cassava cuttings. On the other hand, the area under sweet potato cultivation increased by 26.4% in season 2017B compared to season 2016B.

In season 2017 B, tubers and roots yields increased significantly, except for sweet potatoes. Irish potato yields increased by 68.8% and cassava yields increased by 64.2%, in season B 2017, compared to season B 2016. In the same period, sweet potato yields decreased by 6.1%.

Cassava, Irish potato and sweet potato production all increased with 13%, 29% and 23%, respectively. For cassava and Irish potato, the increase is attributed to significant increase in yields, as the area under these 2 crops reduced. For sweet potato, the increase is attributed to the increase in the area under sweet potato cultivation.

Performance of Banana; Season 2017B versus Season 2016B

The area under banana plantation reduced by 27 % in general, with area reductions for all the 3 types of banana (banana for cooking, dessert and beer).

There was an increase in the productivity/yield of all the 3 types of banana. Cooking banana, dessert banana and banana for beer yields increased respectively by 1.4%, 33% and 24.3% in season 2017B compared to season 2016B.

The above resulted in decreased yields for both cooking banana and banana for beer, by -19% and -20%, respectively. The decrease is a result of reduced area under banana plantations. Dessert banana production increased by 23%.

Performance of legumes and pulses; Season B 2017 versus Season B 2016

Four crops are classified under this group, beans (bush and climbing), peas, groundnuts and soybeans. Area under those crops increased by 20% in general.

All crops under this category had an increase in yields. The highest increase was observed in soybeans (27.6%), followed by peas (17.8%), groundnuts (14.7%), bush beans (10.2%) and climbing beans (2.6%).

Performance of fruits and vegetables; Season B 2017 versus Season B 2016

The area under vegetables cultivation increased by 52.5%, while the area under fruits decreased by (-18.8%). On the other hand, there was an increase of 99.6% of fruits yield while vegetables yield decreased by 10%.

1.5 Animal resources

1.5.1 Animal Population

Table 4: Trend of Animal population

Category	2007	2008	2009	2010	2011	2012	2,013	2014	2015	2016
Cattle	1,147,152	1,194,895	1,218,518	1,334,820	1,143,231	1,135,141	1,138,799	1,165,835	1,349,792	1,214,244
Goats	2,137,731	2,519,803	2,620,595	2,682,730	2,970,780	2,672,751	2,570,275	2,532,277	2,706,382	2,605,780
Sheep	703,989	718,178	754,086	769,937	828,836	807,392	829,638	630,860	716,309	637,068
Pigs	570,507	586,621	639,416	684,708	706,472	989,316	1,311,250	1,014,629	1,492,506	1,684,709
Rabbits	423,492	451,396	744,972	792,895	864,696	993,685	1,105,750	1,203,485	1,354,703	1,387,669
Poultry	1,867,724	2,217,724	3,272,965	3,537,608	4,420,764	4,687,984	4,802,764	4,916,837	4,837,794	5,238,497

Source: RAB 2017

As shown in table 4 above, in 2016/2017 FY there were 1.2 million cattle; about 799 thousand are crossbred dairy cattle. The country counts about 700 thousand sheep, 2.6 million goats, 1.7 million pigs and about 5 million layers, broilers and indigenous chicken.

1.5.2 Animal Products

Product	2007	2008	2009	2010	2011	2012	2,013	2014	2015	2016
Milk	189,827	257,480	334,727	372,619	442,337	503,130	648,395	703,606	731,014	776,284
Meat	54,780	56,900	65,863	70,928	73,633	74,519	91,087	118,348	131,366	138,231
Fish	9,655	12,594	14,104	15,007	15,526	17,566	24,550	25,450	26,732	28,705
Eggs	1,620	2,327	3,268	5,203	5,736	6,324	6,757	6,973	7,347	7,475
Honey	1,084	1,654	2,684	2,921	3,221	3,785	4,286	4,585	4,738	5,105
Hides & skin	4,137	4,496	4,098	4,072	4,017	3,814	5,207	5,305	5,506	6,781

Source: RAB 2017

The contribution of the local cattle breeds to total milk production is only 9 percent, though they represent 43 percent of the national cattle herd. 46 percent of meat in Rwanda comes from cattle, followed by swine (21 percent). Chicken and goats make up 17 percent and 13 percent respectively, and sheep only 3 percent. Sixty five percent (65 percent) of domestically consumed beef comes from crossbred cattle. Although the local, indigenous chicken now constitutes 75 percent of the chicken population, they produce only 32 percent of the chicken meat and 34 percent of the eggs in the village chicken systems. Sixty eight percent (68 percent) of the chicken meat comes from specialized broilers and layers and 66 percent of the eggs from specialized layers.

Management and replacement of bull stud

Masaka Bull station hosted a team of 13 best bulls selected to produce semen in order to ensure fast dissemination of superior genetics and faster genetic improvement and conservation of local breeds. In the fiscal year 2016/2017, three young bulls (Friesian, Jersey and Simmental) selected basing on their genomic information were acquired from Ireland through partnership between RAB and Bothar. The work focused on the management of bulls and training of young bulls on semen production and two of the bulls have started giving quality semen while the third bull is still under intensive training.

Production of Semen, Liquid Nitrogen and other inputs

Semen and other inputs necessary to ensure a good artificial insemination service delivery were availed by RAB and were accessible to all stakeholders. In FY 2016/2017 a total of 87,732 semen doses from 7 bulls were produced, processed and stored. This achievement was less than our initial target mainly due to shortage of liquid nitrogen in the first four months of the fiscal year. To ensure accelerated genetic improvement, a proportion of bovine semen used in Rwanda is imported mainly for farmers to benefit from higher genetics of bulls of higher genetic merit "Super bulls" and to increase the genetic diversity of our breeding stock.

Bovine artificial insemination and capacity building

In the 2016-2017 fiscal years, the achievements were 77,221 cows inseminated and 27,386 AI calves identified. This was below our initial targets mainly due to breakdown of the liquid nitrogen plan and some other shortcomings in the AI service delivery chain. In this fiscal year, 287 animal sciences technicians have been trained on bovine artificial insemination technique and qualified as Inseminators. Also, existing AI technicians and District Veterinary Officers (DVOs) have been given refresher courses on use PRID Delta protocol for oestrous synchronization, liquid nitrogen handling and cattle reproductive management.

Control of transboundary animal diseases

During 2016/17 fiscal year, 76 at risk cattle around FMD high risk areas were vaccinated. These areas include districts bordering Tanzania and Uganda; and among these are; Kirehe, Kayonza, Gatsibo, Nyagatare and Ngoma districts. Outbreaks of LSD were reported in various districts and 493,350 cattle were vaccinated. There were no clinical cases of ASF, PPR and CBPP. 390,500 heads of cattle were vaccinated against black quarter.

Control of zoonotic diseases

Rwanda had different zoonotic diseases incidences of which some have become endemic and pose a big threat to the public. These include Brucellosis, Rift Valley Fever, Rabies and cysticercosis. Some abortion outbreaks in cattle were reported in the eastern province in Rwanda and Rift Valley fever (RVF) was confirmed in the laboratory on serum samples from affected animals as the cause. Since the disease is known to be transmitted by mosquitoes, livestock reared near large expanse swampy areas were considered to be at high risk. Along the Nyabarongo, Akanyaru, Akagera and Muvumba rivers, 76,800 cattle were vaccinated. In the control of brucellosis 3,670 cattle were vaccinated. A total of 9,800 dogs and cats vaccinated; in addition, 2,863 stray dogs were destroyed.

Control of movement of animal and animal products

Control of animal movement is one of the control measures put in place by veterinary services to control transboundary animal diseases and is mandated to issue out permission to allow movement of following animal and animal products:

Table 5: Movement of the animals

Species/Item	Import	Export
Cats	73	60
Dogs	271	208
Cattle	2652	1708
Goats and Sheep	1763	3186
Pigs		15457
Hides and Skin		7, 600 T
Eggs and Day old chick	987,560	1.752 T eggs
Fish	8675 tones	10,000 T

In addition, 170,000 cattle and 248,000 small ruminants for sale were recorded in the livestock markets; 1700 inspection books, 3180 movement permits books for large and small animals were produced and distributed to different districts in the country. Furthermore, out of six border and quarantine posts in the country, only four are operational.

Permit of importation of veterinary drugs, animal feeds and equipment

The veterinary services issued out 237 importation permits for importation of different veterinary drugs including among others; antibiotics, anti-parasites, anti-inflammatory drugs, minerals, vitamins; hormones, vaccines; 35 importation permits for 2.750 Tons of animal feeds and feed additives, 174 permits for fish farming materials and 5 permits for bee keeping equipment. Inventory of veterinary vaccines circulating in Rwanda was carried out and 24 different types of vaccines identified and recommended for registration.

Serology diagnostic

This section supports animal health care by testing samples using serological techniques. The commonest techniques used are enzyme linked immunosorbent assay (ELISA). In the test for brucellosis, Rose Bengal plate test is used. Most of the blood samples of cattle and goats were

collected as a pre-requisite of screening all animals for re-stocking before being handed over to beneficiaries. The total samples tested from July 2016 to June 2017 were 8880, it was discovered that 7 cattle were positive, which is 0.08 percent. The other animal species tested were goats (6297); Pigs (3547) and Sheep (584).

Helminthology diagnostic section

During 2016/2017 fiscal year, an epidemio-surveillance was conducted to examine the status and distribution of helminthes in cattle and goats in different districts of Kicukiro, Nyagatare, Bugesera, Huye and Gatsibo. A total of 395 samples from cattle were collected with prevalence of 20.5 of various species of helminthes (Table 6). In all sampled districts, Huye had the highest prevalence of helminthes followed by Gatsibo.

Table 6: Prevalence of Helminthes in six districts

	Districts	Species	No. Samples	No. of positive samples	Prevalence (percent)
1	Kicukiro	Bovine	7	0	
2	Nyarugenge	Bovine	59	20	33.9
3	Bugesera	Bovine	13	0	0
4	Huye	Bovine	40	29	72.5
5	Nyagatare	Bovine	158	12	7.6
6	Gatsibo	Bovine	118	20	16.9
	Total		395	81	20.5

Veterinary registration

The registration of veterinary pharmacies kicked off in Kigali, and in total 47 veterinary pharmacies out of 84 found in Kigali, met the registration requirements and was registered. Other 41 pharmacies were urged to meet the registration conditions in order to improve their services and play their role in products quality improvement and availability across Kigali. The registration continued with campaign of awareness on the need to comply with veterinary pharmacy requirement and register their businesses, in the four Provinces (Rwamagana, Karongi, Musanze, Huye). In total 350 peoples were sensitized in veterinary pharmacy registration.

Inspection of animal and veterinary products

The quality of veterinary products sold in Rwanda was monitored through a strict control of importation conditions and the enforcement of the Ministerial Order N°008/11.30 of 18/11/2010, which determines the organization of veterinary pharmacy practice. In total 285 inspection interventions on selling points of veterinary products were performed in the 2016/2017 Fiscal year. Official meat inspection stamps were distributed to 9 registered abattoirs, in order to ease to separate inspected meat from non-inspected meat. In total 34 District and Sectors veterinarians have been trained in meat veterinary inspection and good slaughterhouse practices. Companies in meat processing, beef production and slaughtering have been trained on HACCP system and are ready to implement it.

Development and of Milk Collection Centers (MCCs)

Out of 100 government funded MCCs, 55 MCCs are now in category 1 (operating well); 43 MCCs are in category 2 and remaining 2 MCCs namely: Nyange in Ngororero and Nkomero MCC in Nyaruguru districts are in category 3 meaning closed. Furthermore, 68 are connected to 3 phase electricity. 13 MCCs among them were connected to 3 Phase Electricity, 2 MCCs electrification was on-going.

In addition, support was provided to MCC cooperatives in constructing Milk Collection Points (MCP). Identification of 100 sites has been completed and farmers have already paid their contribution¹ and 87 MCPs are at level of site clearing.

1.6 Agriculture and Livestock Inspection and Certification Services

The Directorate of Agriculture and Livestock Inspection and Certification Services is mandated to ensure that the plants, animals and people in the country are protected from pests, diseases and other health hazards that can be introduced into the country or be unintentionally spread in the country or in other countries as a result of local, regional or international trade in agriculture. For this purpose, the directorate facilitates trade by ensuring that all agricultural commodities being locally produced or imported/exported comply with national, regional, or international standards.

The directorate is also charged with the regulation of Agrochemicals and equipment associated with the use of Agrochemicals. In addition, this directorate hosts the National Plant Protection Organization (NPPO) which is a requirement for countries that are signatories to the International Plant Protection Convention (IPPC) under the World Trade Organization (WTO) agreement on Sanitary and Phytosanitary Standards (SPS).

1.1.1 Plant Health and Quarantine inspection activities

A. Regulation of importation of plants, plants products and other regulated materials

- Analysis of Pest Risks prior to importation of plants and plant products:

A total of 186 Pest Risk Analysis (PRAs) were conducted as prerequisite step for importation for agricultural commodities. The Crop Protection Compendium is the Software package used in Pest Risk Analysis

- Issuance of Plant Import Permits (PIP)

A total of 3016 Plant Import Permits were issued for plant and plants products. The Plant Import permits are issued based on results of Pest Risk Analysis and it contains import conditions which should be fulfilled by the Importer and the competent authorities from exporting country.

- Plant import inspection

Imported agricultural commodities were inspected on their arrival to the entry/exit points or in post-entry quarantine. The following table indicates the quantities and types of imported commodities that were inspected.

¹ Farmers are required to avail the plots and contribute Frw 400,000. The estimated cost of one MCP is Frw 2.6 million

Table 7: Quantities of inspected imports of plant products 2016-2017

Imported commodities	Total quantities (kg)
Vegetables	2,626,586.15
Fruits	19,325,795.25
Tubers & roots	39,975,760
Grains(Wheat, maize, sorghum, beans)	64,466,957
Vegetable seeds	219,329.06
Seeds(Maize, soya, wheat)	1,401,662
Seedlings	1,002,080
Fertilizers	7,692,847.00
Pesticides	994,894.50
Others	3,535,758
Grande total	140,239,588.96

B. Certification of plants and plant products for export

- Phytosanitary export inspection

In order to ensure that phytosanitary requirements of the importing countries are respected, consignments were inspected and 3,248 phytosanitary certificates (PCs) were issued. The application for PC is made through the online application system named e-MINAGRI.

The figure below shows the quantities of phytosanitary certified products exported at the regional market and international market. Tea and coffee are among the exported commodities with 26,957.6 MT and 20,386.8 MT respectively.

Table 8: Quantities of plant products certified for export 2016-2017

Commodities exported	Total quantity (kg)
Vegetables(French beans, capsicums)	11,023,320.67
Fruits (Passion, Pineapple, avocado...)	2,641,021.30
Banana(Cooking)	874,175
Coffee	20,386,836.50
Macadamia nuts	2,660,404.00
Tea	26,957,603.17
Grains(Maize, beans, soya)	215,615
Wheat bran	517,691,104
Flowers(Roses, sun flower, summer)	6,529,182
Others(Banana wine, flour)	5,334,524
Stevia dried leaves	76,056

- Surveillance of Plant pest and diseases

The surveillance of plant pests and diseases focused mainly on farms of exportable crops marketed at European market such as extra fine beans, flowers and other vegetables. Farms

owned by companies like Bella flowers, Garden fresh, Proxifresh, Bloom Hill Ltd and Floral Matt Ltd among others were covered. The pests were detected such as *Agrobacterium tumefaciens* and *Spodoptera litoris* in Rosea spp, down mildew in passion fruits, *Liriomyza spp*, *Ootheca bennigseni* and *Cerotoma trifurcata* in French beans, *Thaumatotibia leucotreta* in chili/ hot peppers, *Aphis fabae* in soya beans, Fruit fly spp in mangoes and *Busseola fusca* in maize crop. The implementation of recommendations issued thereof has enabled Rwandan products to continue accessing the EU market.

- Regulation of agrochemical import and market

Within the framework to enforce the compliance with requirements as provided for by the agrochemical law and its ministerial orders, the imports of fertilizers and pesticides were inspected on arrival at their stores. In collaboration with Rwanda National Police, a joint inspection of agro-dealer shops was carried out and a total of 2202 kg of non-compliant counterfeit products were seized for destruction.

1.6.2 ANIMAL PRODUCTS INSPECTION ACTIVITIES

A. Regulation of import/export of animal products

- Issuance of import permit for animal products and animal feeds

Import permit is issued based on results of Disease Risk Analysis and it contains import conditions which should be fulfilled by the importer. In the fiscal year 2016/2017a total of 1490 import permits for animal products including meat and meat products, fish, honey, milk and milk products were issued and import conditions were given.

Table 9: Quantities of animal products for which the import permit were granted in 2016-2017

Product	Quantity (kg/ltrs/pcs)
Meat /meat product	26,600
Milk	169.35
Cheese	4,860.33
Yoghurt	9,644.19
Cream	4,307.20
Butter	10,419.90
Fish (Frozen)	1,518,219.76
Sun dried Fish (Indagara)	10,967,860
Smoked fish	252,195
Sea food	1416.74
Honey	393,850
Total	13,189,542

- Quarantine inspection of imported animal products

The incoming consignments of animal products were inspected on arrival at the airport or at border posts like Rusumo, Kagitumba, Gatuna and Cyanika or at MAGERWA Gikondo where the veterinary quarantine inspectors have been deployed since September 2016. The consignments which are released under seal (to be inspected at their unloading site) were referred to the post entry quarantine inspection.

Table: Quantity of animal products imported and inspected at different border posts, airport, MAGERWA and at Kigali Post-entry quarantine station (Sept. 2016 - June 2017).

Table 10: Quantity of animal products imported and inspected

Commodity	Name of border/airport and quantity inspected (kg)							Total (kg)
	MAGERWA Gikondo	Kigali Post entry Quarantine	Cyanika	Gatuna	Kagitumba	Kigali International Airport	Rusumo	
Frozen fish	2316138	100	272808	558116	88500	2046	238595	3475 983
Dried fish	3100	0	170803	2899069	480	0	4202806	7276258
Sea food	0	117	0	700	0	1430	1873	4120
Meat and meat products	0	11323	0	24337	0	19965	0	55625
Milk	0	0	0	600	0	839	0	1439
Milk products	0	0	0	909	0	7795	0	8704
Honey	0	0	39777	2885	13470	12	346725	402869
Eggs	0	0	35045	4000	4800	23404	0	67249
Animal feeds	621188	56510	2538	58095	50600	566	2049279	2838776
Sheep wool	0	0	0	50	0	0	0	50

Source:

The inspection of imported animal products involved laboratory tests for some types of products. In total 26 samples were tested for different parameters of which 8 of them were positive causing the rejection of concerned consignments.

- Certification of animal products for export

The process of certification of animal products for export is based on sanitary import conditions from the importing country. The inspection of commodities to be exported is done before in order to verify the absence of quarantine diseases referring to the import permit conditions given by the importing country. During the fiscal year, 301 veterinary health certificates were issued for export of 1,308,456 kg of milk, cheese and eggs while 186 re-export certificates were issued for 2,2013 kg of sun-dried fish.

B. Sanitary inspection of abattoirs and butcheries

The inspection of abattoirs and slaughterhouses was conducted in the whole country and a total of 10 modern abattoirs, 17 semi-modern abattoirs and 225 slaughter slabs were inspected. The recommendations were formulated to improve hygienic conditions and in this framework, 14 Ngororero district staff in charge of animal resources were trained on good hygiene practices (GHP) in slaughterhouses and official meat inspection.

As regard to butcheries, a total of 171 butcheries located in the City of Kigali were inspected. The activity is performed with the objective to protect meat consumers by ensuring the general hygiene of commercialized meat. The workshop with stakeholders was held to discuss the results of inspection and the improvements needed.

C. Enforcement of the implementation of the ministerial order on milk

- **Dairy quality compliance promotion activities**

The last part of compliance promotion activities planned under the Seal of Quality project funded by USAID through Land O Lakes was finalized. In this part, the dairy chain actors (64 MCCs and 17 SMEs) that were enrolled in the project, were audited (full audit) and the milk samples were taken and tested in laboratory to evaluate the performance of beneficiaries in preserving the quality of the milk. The marks obtained by each dairy chain actors served the basis for awarding certificates of dairy best practices to the best performers.

- **Inspection of dairy businesses against mandatory requirements as provided for in the Ministerial order on milk**

In 2016-2017, the inspection was conducted in districts to monitor the progress of implementation of the published Ministerial order on milk. A total number of 88 MCCs, 5 aggregation points in 28 districts and 98 milk kiosks in 21 districts were inspected. At this stage, the inspection found that in 8/28 districts, the milk kiosks had started making application for working licenses while only 5 MCCs were already licensed for milk collection.

- **Detection of antibiotic residues in milk collected in MCCs**

The milk sampling targeting Milk Collection Centers were done in 4 provinces and in total 30 MCCs located in 13 districts were reached. The samples were tested using the Delvotest® kits. The results showed that around 7 percent of milk collected within MCCs was likely to contain antibiotic residues at the detectable level and probably this proportion may be greater if the sampling frequency was increased.

D. Implementation of honey residue monitoring plan 2016-2017

A number of activities related to the implementation of the Honey Residue Monitoring Plan were carried out in the fiscal year as summarized here below:

- ✓ The workshop on the EU import requirements and good hygiene practices was conducted.
- ✓ Joint inspection/audit of selected honey producers were carried out;
- ✓ Eleven (11) honey samples taken from six S- mark certified companies were sent to

Intertek Food Services GmbH laboratory, in Germany;

- ✓ The results for all samples and all parameters tested showed that Rwandan honey complies with the EU commission regulations.
- ✓ The results were communicated to the concerned companies.
- ✓ Honey working group meeting was held to discuss on the test results, reporting for the year 2016 and plan for the year 2017.
- ✓ The annual report for the year 2016-2017 and the updated plan for 2017 were sent to EU Commission.

Therefore, Rwanda is still listed among countries eligible to export honey in the EU Market.

1.7 Agricultural Export Performance

One of significant activities MINAGRI took into consideration is the development of Agri-export value chains for key commodities to increase the production of processed goods and add value to the crops. Other activities include the expansion of acreage planted with these cash crops, providing access to value addition by availing mineral fertilizers and other agricultural inputs and enhancing the potentiality of infrastructures in place and construct new ones for betterment of the production. The 2016-2017 fiscal year left the coffee sector with new 1500 hectares planted and 1,470,000 new seedlings prepared for that expansion. Alongside the expansion program, 4,914,373 kg of fertilizers were applied to 76,287,097 coffee trees with 21,666 liters of pesticides to maintain the increase of production's quality and quantity.

The sector produced 18,439MT a decrease of 7.9 percent compared to 20,029 MT produced in the 2015/2016 fiscal year. In terms of revenues, the coffee export from July 2016 to June 2017 reduced by 3.4 percent from 60,718,061USD in 2015/2016 to 58,526,023USD. This decrease is attributed to the reduction of coffee volumes exported (by 5.4 percent) compared to the previous year 2015-2016.

The growth of tea sector is also a result of efficient and integrated agricultural practices such as fertilizer application, gap filling as well as area expanded. The Rwandan tea production has recently performed well in an upward growth. In this year, 605 ha of new tea plantations were added to the existing area which is an achievement of 74 percent compared to the targets that had been set. In this fiscal year, 7,985.04 MT of fertilizers was distributed and applied in the 16 tea estates. New tea sites are being developed whereby more than 300 families have been expropriated and 1,158 ha of land will be of industrial tea blocs.

During the 2016 - 2017 fiscal year, the experienced low rainfalls had an impact on the decrease of green leaf production by 4 percent and made tea production reduce by 3 percent. However, the tea sales revenues increased by 3.8 million USD when compared the revenue of 74.5 million USD against 70.7 million USD revenues in 2015-2016 fiscal year. Tea sector played a vital role in this growth due to good price registered in 2016 -2017.

Revenues from export of pyrethrum reduced by 60 percent and this was mainly due to the

reduction in the export volume. This is justified by the market standard requirements² to access market in Europe and USA. The floriculture increased revenues for the horticulture which generated 15,586,734 USD through the export of 25,586 MT. The total foreign earnings totaled 356,510,660 USD compared to 284,284,535 USD earned in 2015-2016 representing an increase of 25 percent. Over performance of flowers exports was mainly due to the efforts put in the expansion of new areas under flower production (from 2ha to 17ha).

Table 11: Export performance summary 2016-2017

Commodities	July 2016-June 2017	July 2015-June 2016	Percent change
Coffee			
Production(Kg)	18,439,111	20,029,326	-8
Exports(Kg)	18,502,442	19,560,636	-5
Value of Exports(USD)	58,526,023	60,718,061	-4
Tea			
Production(Kg)	25,565,512	26,261,000	-3
Exports(Kg)	25,128,967	24,860,386	1
Value of Exports(USD)	74,548,304	70,773,796	5
Pyrethrum			
Exports(Kg)	9,329	22,404	-58
Value of Exports(USD)	1,655,350	4,117,754	-60
Total in USD traditional exports	134,729,678	135,609,611	-1
Vegetables			
Exports(Kg)	19,227,263	16,620,941	16
Value of Exports(USD)	11,001,766	4,481,695	145
Fruits			
Exports(Kg)	5,918,322	3,645,844	62
Value of Exports(USD)	4,584,972	1,315,871	248
Flowers			
Exports(Kg)	177,661	2,974	5,874
Value of Exports(USD)	1,243,427	13,428	9,160
Hides and Skins			
Exports(Kg)	6,345,145	6,781,532	-6
Value of Exports(USD)	7,957,948	7,411,684	7
Meat			
Exports(Kg)	6,237,017	5,310,472	17
Value of Exports(USD)	22,906,406	17,663,941	30
Dairy products			
Exports(Lts)	12,081,956	12,732,335	-5
Value of Exports(USD)	13,061,738	12,758,452	2
Live Animals			
Exports(number)	1,139,227	1,510,058	-25
Value of Exports(USD)	27,001,980	34,513,109	-22
Cereals(Grains & Flours)			
Exports(Kg)	141,959,696	54,724,337	159
Value of Exports(USD)	68,040,167	27,680,463	146
Pulses			
Exports(Kg)	16,995,500	18,893,861	-10

2 Requirements to access the EU Market: 1) European Chemicals Agency (ECHA) Certificate, 2) USA market license

Value of Exports(USD)	10,095,956	11,406,147	-11
Roots and Tubers and Flours			
Exports(Kg)	16,131,105	24,620,893	-34
Value of Exports(USD)	4,758,216	7,299,212	-35
Other agricultural exports			
Exports(Kg)	51,656,253	38,278,561	35
Value of Exports(USD)	51,128,406	24,130,922	112
Grand Total export	356,510,660	284,284,535	25
** Other agricultural exports include: Fish, banana & its products, forestry products, tobacco products, sugarcane & sugar, eggs, vegetable oils, essential oils and oleaginous.			

Source: NAEB 2017

1.8 Gender Responsive Budgeting and Implementation in different agricultural Programmes

The Gender Budget Statement for 2016-2017 financial year focused mainly on five sub programmes that are service delivery and have higher budget implication as in the guidelines on GBS from the Ministry of Finance and Economic Planning. These are Soil Conservation and Land Husbandry, Irrigation and water management, agricultural and Animal Resources Intensification, development of Priority Value Chains: Export Crops, Horticulture Development.

1.8.1 Soil Conservation and Land Husbandry

Soil conservation activities involve both men and women. Hard manual labour leads to a range of coping strategies, all of which have potentially different impacts on men and women, especially women who are either pregnant or who has got child care responsibilities. Pregnant and breastfeeding mothers have to work, which means that they are not caring for the children as required.

Additionally, often women are considered as subordinates. Due to these reasons, women tend not to join soil conservation related works 48 percent as compared to men- and are not equally represented at the decision making level, they therefore miss the opportunity to gain income from this works, which stresses their persistence in financial dependency.

Achieved activities include joint planning for soil erosion control at district level, design and implement gender responsive Land Husbandry works in different watersheds, provision of technical support to districts and supervision for the establishment of radical and progressive terraces with agro-forestry practices and mobilization campaigns for soil erosion control activities and ensure equal participation of men and women. 59 percent men and 41 percent women participated in soil conservation works.

1.8.2. Irrigation and Water Management

Among households that benefit from irrigation schemes, female and male headed households are represented at 44.7 percent and 55.3 percent respectively. Although female headed households still benefit less compared to male headed ones, this improvement in women headed household' access to benefits associated with marshland development has to be sustained and reinforced as a decrease would have a negative impact on women owned produce, which sometimes lower due to climate change effects. This is also relevant for access

to capacity building, where women are most likely to miss irrigation related training due to heavy workload at the household level, and negative culture barriers that hinder women from participating in public activities and therefore impact their participation in capacity building activities.

In 2016/17, marshlands development and rehabilitation works were implemented. Hillside irrigation infrastructure with land husbandry technologies and water harvesting dams have been constructed. Technical assistance and monitoring for marshland and hillside development/rehabilitation and dams construction works were provided. 53 percent Men and 47 percent women in cooperatives are benefitted from developed irrigation schemes, 62 percent men as compared to 38 percent women were involved in water users' organizations and 55.7 percent male and 44.2 percent female farmers accessed subsidized irrigation equipments

1.8.3. Agricultural and Animal Resources Intensification

Majority of men are involved in extension due to different factors. One of them being the fact that men feel less concerned with domestic tasks. Among farmer promoters, women represent only 17 percent, while men represent 83 percent. Increasing the number of women in farmer promoters will have a positive impact in regard with practice and transfer of acquired knowledge through FFS as the number of women has increased considerably (women represent 52 percent of FFS facilitators).

Gender Parity was achieved for Farmer Field Facilitators where women represent more than 50 percent, but more efforts are still needed for Farmer promoters. Though, an increase has been noticed, women farmer promoters are still 20 percent.

Girinka (one cow per family program) aims at reinforcing food security and improving nutrition at the household level through increased consumption of proteins from milk. EICV4 highlights that women headed households are the most classified in the poorest quintile than male counterparts (24 percent compared to 19 percent of male headed households) and therefore vulnerable to malnutrition and food insecurity, who are also classified in category 1 and 2 of Ubudehe.

Female headed households. Therefore deserve to benefit from Girinka, even more than male headed households. However, based on recent statistics available (GBS report 2016/17), only 31.8 percent of women headed households have benefited from Girinka program. Increasing the number of cows given to female headed households will reduce stunting rate and malnutrition.

1.9. Youth engagement into agriculture sector

Population Census (2012) statistics indicate that the Youth (16-29 years old) represent 28 percent of the total population. Since the average age of the Rwandan farmer is 55 years (NISR Laborforce 2014), it is critical to consider this important part of the population in all aspects of economic planning. Agriculture sector presents enormous opportunities for the Rwandan youth. Transformation of the agricultural sector through harnessing agribusiness opportunities whilst underpinning the potential of the youth is a priority. In light of the priority recognized by the Government of Rwanda of transforming agriculture, special attention has been dedicated to the involvement of youth within the discussion on the challenges and opportunities that exist in the agriculture sector.

Hence, rejuvenating the agricultural sector by ass involvement and engagement of young people is critically thought to be a reliable weapon to fight against less innovations, improve market performances, technological improvement and application, increased food production and productivity to meet human food demand, explore new markets and opportunities in the sector which will be very key in ensuring sustainability of the sector.

To the end of challenges related to: unemployment, less productivity in farming systems and other paralleled factors, Government of Rwanda is ensuring that growth and rural development are underpinned by appropriate skills and productive employment, especially for the growing cohort of youth. The main objective is to create at least 200,000 new off-farm jobs annually. Youth population i the least attracted to the agriculture sector investment opportunities, mainly due to ideological differences and negative perception about the sector.

Agriculture sector strategy underpins value addition through agribusiness so as to boost export of both traditional and non-traditional exports to reduce the balance of payment deficit. Challenges of limited value addition and agribusiness and access to markets and finance are particularly attributed to low levels of skills among individuals investing in agriculture sector. To counter this challenge, there is need to encourage the youth in the country to partake in seizing the enormous investment opportunities in agriculture sector.

Challenges encountered by youth

Limited access to land: Land acquisition is still an issue for youth because agriculture intensification systems related to crops and livestock are necessarily in need of land. This shows a great need to work closely with key institutions not only to promote policies and strategies that address this issue but also increase technology based farming systems that increase productivity. This is expected to increase and multiply the produce, therefore creating more jobs on off-farm sides while making better off primary producers.

Inadequate access to financial services: More efforts have been done in approaching Banks and Financial Institutions regarding access to finance issues especially for young entrepreneurs in agribusiness. It has been revealed that most financial service providers are reluctant to provide their services to Rwandan youth– including credit, savings and insurance – particularly to rural youth due to their lack of collateral and financial literacy, among other reasons. Promoting financial products catering youth aspects, mentoring programs and start-up funding opportunities can all help remedy this issue. Steps forward towards working closely with private sector, particularly the financial institutions and Government to remove barriers of accessing to finance by addressing key underlying challenges such as lack of collateral, high interest rates is critical in unlocking their potentials.

Limited access to markets: Markets are a center for any type of business products as far as agriculture is concerned. Without such access youth will not be able to engage in viable and sustainable agricultural ventures. In implementing the priority of engaging the youth Agripreneurs in agricultural value chains, there is a need to cover the existing gap by empowering youth in accessing markets related information.

Limited hands-on job skills: Poor and inadequate skills limit productivity, while insufficient access to knowledge and information can hinder the development of entrepreneurial ventures. There is a distinct need to improve access to education and entrepreneurial skills development,

and to better extend agricultural and entrepreneurial skills into rural areas. By engaging the Agripreneurs in through ICT innovation, utilization and knowledge management, their capacity to access information and knowledge will be enhanced.

Interventions made

After assessing the compiled evidences that the average age of the Rwandan farmer is 55 years, which deepens the gap between needs in food market demands and the current supply, complimented by the inability to apply new innovation technologies in primary farm crops and livestock production as well as processing; looking at the life expectancy of a Rwandan which is between 60 and 65. This pushes the policy reform and consequently, with less young people joining the agriculture sector, the production of food within the country, the region and all over the world will be seriously compromised in the next 10-15 years. Furthermore, harnessing agribusiness opportunities related to food and other value chain services will be quite insufficient if the Youth; who are the majority of Rwanda's population (28 percent or more) are not optimally engaged.

The Ministry of Agriculture and Animal Resources (MINAGRI) has been working towards agriculture transformation from a subsistence sector to a market oriented/value creating sector, ensuring agricultural growth both in terms of production and commercialization. This was made possible from creating an enabling environment to boost investment in agriculture sector through opportunities and facilitation to the private sector. This was an important asset to document a number of investment opportunities and facilitation in agribusiness ready for seize by the private sector. That is, all along the process of transformation of the sector, young generation presents hope and reliable partnership to improve on: mechanization, ICT use, markets, technological innovation and other support services.

In May 2016, the Ministry of Agriculture facilitated the establishment of youth's platform "Rwanda Youths in Agribusiness Forum (RYAF) with the core mission of changing and challenging the mind-set among the youth vis-à-vis the agriculture sector transformation in Rwanda, which will offer a room for innovation, invention and market job opportunities, thus sustaining the labor systems while uplifting the entire economy. The objectives of the forum include promoting, informing, advocating and mobilizing Rwandan youths to engage in agriculture as drivers of change. These are grouped in five clusters; Crop production, Livestock production, Agro-processing (animal and crops), other agro-services (packaging, inputs, extension services, mechanization) and ICT for Agriculture (ICT4Ag).

The Ministry of Agriculture in collaboration with the National Employment Program (NEP) targeted 30 Agribusiness projects across 30 districts in the country to be funded with an investment of Frw 300million (FY2016/17) per year. Potential Agribusiness projects were identified for the funding out of which 6 projects received funds. Each project got a maximum of Frw 10 million depending on the size and its feasibility. In the FY 2017/18, 60 Agribusiness projects in 30 districts are targeted with a sum of Frw 600 million.

In 2012, the Government of Rwanda in collaboration with the Israel Government launched 11 months apprenticeship programme with the core aim of providing a unique and an invaluable professional training in the agriculture fields through "learning by doing" (gaining real hands on experience in the field). Currently, 505 students have graduated out of this program. And these graduates have been seen to be impactful to the Agriculture sector. A few of these have

organized themselves into a cooperative called "HORECO" (i.e. Horticulture in reality cooperative), This cooperative plays a vital role in valorization of Government developed marshlands as well as extension of best agriculture practices to other farmers through service provider context.

MINAGRI in close collaboration with CESB has offered a professional internship to young graduates (Those that studied agriculture and related fields) in Rice, Irish potatoes, dairy, cassava, banana, maize and beans value chains. Currently, 650 graduates have benefited the programme as well as facilitating the sector in uplifting management of the respective value chains.

1.10 Agricultural Cooperatives (Livestock and crops cooperatives)

Co-operatives are key to increasing food security in Rwanda, helping small-farmers to cope with challenges and enabling them to gain access to markets. Co-operatives empower small-scale producers by enabling them to face these challenges together. Co-operatives also enable farmers to join their pieces of land and achieve large-scale farming. In this way, they are also better prepared to fight soil erosion in the land.

For agriculture cooperatives to be able to act as potential vehicles for agriculture development, their capacity need to be improved in terms of leadership, management, accountability, financial management and being able to create innovations for the members' benefits, increasing the rural income, improving their efficiency and effectiveness in their performances. The government has invested in a number of agriculture programmes of which use farmers' cooperatives to spear head the implementation process.

The ministry has invested in mobilizing farmers to join cooperatives and facilitated those that were still pending in their registration process. In the financial year 2016/17, efforts invested contributed to a move from 26 percent to 39 percent with a major focus to achieve 45 percent in the 7YGP. Stimulating and catalyzing cooperatives performance greatly contributes in improving their creativity, innovations with a spillover effect in increasing households' income.

1.11 Agriculture financing

Agriculture finance has been and remains a national priority to achieve transformation of the agriculture sector and greater financial inclusion. The Financial Sector Development Plan (2013-18), the National Financial Inclusion Strategy (NFIS) (2016-20), and the National Agriculture Policy (2017-30) include actions to support access to financial services for farmers and agribusinesses. The National Bank of Rwanda tracks lending to the sector disaggregated by key value chains and value chain stages and currently the sector stands at 5.2 percent of the agriculture lending.

Various interventions have been made to scale up access to finance and these include various projects that hold both grants and guarantees schemes. A few of these projects include; Rural Investment Facility I&II, PRICE, PASP and KWAMP. These were mainly put in place in order to stimulate access to finance among small holder farmers as well as incentivizing financial institutions to increase their lending portfolio to the agriculture sector.

In the financial year 2016/17, a qualitative Impact assessment was conducted to explore out

RIF 2's³ contribution to improving access to finance in agriculture sector. From the assessment, findings showed that some beneficiaries who received loans used them efficiently while others diverted the money received to other non-agricultural projects.

Among the key challenges embarked on by beneficiaries during the assessment were; a high number of them highlighted that both Business Development Fund (BDF) and Participating Financial Institutions (PFIs) do not sufficiently visit the beneficiaries or extend training to equip them with the capacity to manage projects, and this could be a general issue even on other funds or access to finance schemes which was claimed to raise agriculture loan defaults.

Another frustrating issue was about information flow to the targeted beneficiaries; this was urged that some of the PFIs managers are the ones that benefited from the facility as they are the ones who had the information, unfortunately, after granting this grant to themselves, they did not even use it for agriculture projects. This was seen as a way of misusing the funds and depriving farmers from their opportunities. These challenges reflect those stipulated in the recent agri-finance diagnostic report produced by the World Bank.

1.12 Progress towards the policy actions

Table 12: Policy actions progress report

Policy Action	Current Status
Assessment of the Impact and Perception of the Crop Intensification Programme in Rwanda	DIME was requested to undertake for now extremely urgent evaluations namely irrigation and feeder roads
Soil Conservation and Land Husbandry	It was taken into account in the new strategy (PSTA 4). Agroforestry, radical and progressive terraces were taken into account.
Validate the Updated National Agricultural Policy (2004)	The Policy was completed and validated by ASWG (September 11, 2017)
Establishment of farmer database	The Ministry is updating farmers' database with FAO support.
National Agriculture Financial Services Strategy (AFSS)	Agriculture Finance Diagnostic Report approved in ASWG (August 31, 2017).
Unfinished Policy actions and studies in FY 2016/2017 such as: Update Irrigation Master plan Develop National Agriculture Insurance Scheme Develop National Agriculture Financial Services Strategy (AFSS)	Develop National Agriculture Insurance Scheme: Finalized Develop National Agriculture Financial Services Strategy (AFSS).
Analytical work on post-harvest more largely (data available, PPP, aggregation, HH level)	A new PPD was developed for funding in 2016/17.

3 *Rural Investment Facility I&II was an agricultural matching grant and guarantee initiated by World Bank (from 2011 to 2016)*

Policy Action	Current Status
Economic comparative advantages of priority crops in Rwanda carried out	It was captured in the new strategy (PSTA 4)
Export crops study	The baseline of employment in agricultural export value chains was conducted, and the following step to be conducted in 2017/2018 fiscal year is to analyze the effect of agricultural export value chains on job creation.
PSTA 3 Mid-term review	The mid-term review of PSTA 3 has been conducted and finalized. This exercise was very key in informing the development of the new PSTA 4.



Section 3: projects & Programmes Implementation Under Psta 3


SECTION 3: PROJECTS & PROGRAMMES

IMPLEMENTATION UNDER PSTA 3

PROGRAMME 1: AGRICULTURE AND ANIMAL RESOURCE INTENSIFICATION

SP 1.1. Land conservation and Land Husbandry

(i) Land husbandry, Water harvesting and Hillside irrigation Project


Project Photograph	
Mission and purpose of the Project	<p>To increase productivity and commercialization of hillside agriculture in target areas through Land husbandry technologies with a view to increasing productivity in an environmentally sustainable manner</p>
Major Project Components	<p>Component A: Capacity Development and Institutional Strengthening for Hillside Intensification.</p> <p>Component B: Infrastructure for Hillside Intensification.</p> <p>Component C: Implementation through the Ministerial SWAp Structure.</p>
Areas of Intervention	<p>LWH Project counts 15 intervention areas/sites across the Country in the following Provinces (Districts): West (Karongi, Rutsiro, Ngororero and Nyabihu); South (Nyanza and Nyamagabe); East (Gatsibo, Kayanza, Ngoma and Rwamagana); North (Rulindo, Gicumbi and Gakenke).</p>
Basic Information	<ol style="list-style-type: none"> 1. Implementation Start date: 20 June 2010 2. Scheduled Completion date: 30 June 2017 3. Eventual Extension: (yes): 1 4. Donors: IDA, GAFSP, USAID, CIDA. 5. Implementation Agency: Ministry of Agriculture and Animal Resources (MINAGRI) 6. Government Contribution: 4,174,435,000
Budgetary Information (Figures in Frw) <i>Externally Financed Projects</i>	<ol style="list-style-type: none"> 1. Total Project Budget: 91,381,331,062 2. Cumulative Amount Disbursed by the end of FY 2016/2017: 80,917,782,781 3. Amount Budgeted in FY 2016/2017: 13,831,675,338 4. Actual Amount Executed in FY 2016/2017: 12,809,449,345 5. FY 2016/2017 Budget Execution Rate: 93 percent 6. Cumulative Project Budget Execution Rate: 89 percent
Remarks on Budget Execution for FY 2016/2017 <i>(If not at 100 percent)</i>	<p>Delay in execution works for Muyanza irrigation scheme by contractors.</p>

<p>Project Achievements in FY 2016/2017</p>	<ul style="list-style-type: none"> ▪ 2,798 Ha treated with comprehensive land husbandry technologies. ▪ Rwamagana-34 (267 Ha) with Dam of 14 m high: Works progress at the end of FY 2016/2017 was at 80 percent from 39 percent of end FY 2015/2016. ▪ Muyanza (1,100 Ha) with Dam of 26 m high: Works progress at the end of FY 2016/2017 was at 60 percent from 14.5 percent of end FY 2015/2016. ▪ 2 storages, 2 drying grounds and 1 horticulture Pack-house completed. ▪ Seasons A and B 2017, different crops (Maize; Wheat; Beans; Peas; Irish Potatoes and Cassava) in Project treated hillsides were cultivated on over 8,135 Ha and 8,800 Ha respectively. ▪ Market share of beneficiary farmers' production for SB 2016 & SA 2017: 78 percent
<p>Project Implementation Progress (Compared to overall project targets)</p>	<ul style="list-style-type: none"> ▪ Land husbandry infrastructure Project target: 19,940 Ha Progress: 20,497 Ha (102.8 percent) ▪ Water Harvesting and Hillside Irrigation Infrastructure Project target: 2,368 Ha Current achievement: 1,188 Ha; Nyanza-23 (471 ha), Karongi-12 & 13 (252 ha), Kayonza-4 (420 ha) and Gatsibo-8 (45 Ha). <i>Ongoing works on 1,367 Ha</i> i) Rwamagana-34 (267 Ha) with Dam of 14 m high overall progress is at 80 percent. ii) Muyanza (1,100 Ha) with Dam of 26 m high overall progress is at 60 percent. ▪ Marketing/ Post-harvest infrastructures constructed 36 storage facilities, 36 dryers, 11 horticultural collection centers including NAEB Kigali Pack-house; and 4 banana collection centers have been constructed and are being used by beneficiary farmers in different Project sites. <p><u>Market share of beneficiary farmers' production</u></p> <p>Project target: 70 percent Current progress SB 2016 & SA 2017: 78 percent</p> <p>Strengthening Farmers Organizations Project beneficiaries' target: 55,000 Households in farmer organizations Progress: 62,841 (106.4 percent) Project beneficiaries organized into 2,801 Self-Help Groups (SHGs) including youth, women and vulnerable groups, amongst them 24 Cooperatives were formed and are operational. 7 Water Users Associations were formed with the main purpose/mission of ensuring efficient operation and maintenance of the constructed irrigation systems.</p>

<p>Challenges faced</p>	<ul style="list-style-type: none"> ▪ Project has faced considerable financial gap which currently amounts to over US \$7.9 million resulting from the appreciation of the US Dollar versus the XDR currency (the currency of the financing agreement) for the IDA portions. The financing gap means that the Project will not be able to complete and support operationalization of on-going irrigation schemes (over 1,700 ha representing over 70 percent of the Project target) and construction of the indispensable post-harvest infrastructure (collection points, drying and storage facilities). ▪ There is also delay in completion of Muyanza irrigation scheme which will affect its operationalization before project closure scheduled for 30th June 2018.
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SP 1.2. Irrigation and Water Management

i) Rural Community Support Project (RCSP)

<p>Project Photograph</p>	
<p>Mission and purpose of the Project</p>	<p>The Rural Community Support Project (RCSP) is linked to the strategic plan for Agriculture transformation (SPAT III) whose main objectives is to:</p> <ul style="list-style-type: none"> ▪ Increase the agricultural productivity of organized farmers in the marshlands and adjacent hillsides targeted for development in an environmentally sustainable manner; ▪ Increase farmers’ income in market-based value chains activities; and ▪ Strengthen the participation of beneficiary farmers (men and women) with ownership based on the Korean Saemaul Undong mindset approach, self-help, diligence, and cooperation.

Major Project Components	<p>1. Infrastructure for Marshland, Hillside and Commodity Chain Development</p> <p>1.1 <i>Marshland Rehabilitation and Development</i></p> <p>1.2 <i>Sustainable Land Management on Hillsides</i></p> <p>1.3 <i>Rural Investments for Economic Infrastructure</i></p> <p>2. Capacity Building for Marshland, Hillside and Commodity Chain Development</p> <p>2.1. <i>Capacity building for farmers organizations and cooperatives</i></p> <p>2.2. <i>Capacity building for improved production technologies</i></p> <p>3. Capacity Development</p> <p>3.1. <i>Invitational Training to KOREA</i></p> <p>3.2. <i>SMU Training in Rwanda</i></p> <p>4. Project Support and Coordination</p> <p>4.1. <i>Technical Support</i></p> <p>4.2. <i>Provision of Equipment and Materials</i></p>	
Areas of Intervention	<p>1. Kigali City</p> <ul style="list-style-type: none"> - Kajevuba (Gasabo) - Ruzigambogo (Gasabo) <p>2. Southern Province</p> <ul style="list-style-type: none"> - Ruterana (Muhanga) 	<p>3. Northern Province</p> <ul style="list-style-type: none"> - Bwanya / Rufuha - Rujambari (Gicumbi) <p>4. Eastern Province</p> <ul style="list-style-type: none"> - Bwanya/Rufuha-Rujambari (Gatsibo) - Kanyonyomba-2 (Gatsibo) - Rwinkwavu (Kayonza)
Basic Information	<p>1. Implementation Start date: 01 January 2015</p> <p>2. Scheduled Completion date: 30 December 2018</p> <p>3. Eventual Extension: (No): 0</p> <p>4. Donors: KOICA</p> <p>5. Implementation Agency: Ministry of Agriculture and Animal Resources (MINAGRI)</p> <p>6. Government Contribution: 1,050,000,000 Frw</p>	
Budgetary Information (Figures in Frw) <i>Externally Financed Projects</i>	<p>1. Total Project Budget: 8,750,000,000 Frw</p> <p>2. Cumulative Amount Disbursed by the end of FY 2016/2017: 1,474,647,996 Frw</p> <p>3. Amount Budgeted in FY 2016/2017: 1,197,561,552</p> <p>4. Actual Amount Executed in FY 2016/2017: 1,009,003,109 Frw</p> <p>FY 2016/2017 Budget Execution Rate: 92 percent</p> <p>5. Cumulative Project Budget Execution Rate: 17 percent</p>	
Remarks on Budget Execution for FY 2016/2017 <i>(If not at 100 percent)</i>	<ul style="list-style-type: none"> - Some contractors delaying in completing works; e.g. Ruterana marshland rehabilitation works. 	

<p>Project Achievements in FY 2016/2017</p>	<p>(i) Marshlands development/rehabilitation The Project completed to rehabilitate three small marshlands on 123 Ha (Ruzigambogo: 23 Ha & Kajevuba: 65 Ha and Ruterana on 25 Ha).</p> <p>(ii) Sustainable Lands Management On the hillsides surrounding the marshlands mentioned above, comprehensive land husbandry technologies were implemented on 1,090 Ha in order to prevent siltation and floods to rehabilitated marshlands and increase economic value of treated lands.</p> <p>(iii) Rural Investment for Economic Infrastructure With the aim of coping with beneficiary farmers for their expected agricultural production both on quantity and quality, the Project has completed the construction of 2 collection centers (Kajevuba); 4 drying grounds in Ruterana and Ruzigambogo (Two for each site).</p>
<p>Project Implementation Progress (Compared to overall project targets)</p>	<p>a. Marshlands development/rehabilitation The Project has so far completed the rehabilitation of three marshlands on 123 Ha ((Ruzigambogo: 23 Ha & Kajevuba: 65 Ha and Ruterana on 25 Ha); hence 19.5 percent of Project target (630 Ha).</p> <p>b. Sustainable Lands Management On the hillsides surrounding the marshlands mentioned above, comprehensive land husbandry technologies were implemented on 1,237.6 Ha in order to prevent siltation and floods to rehabilitated marshlands and increase economic value of treated lands. Currently the cumulative area protected is 1,237.6 Ha; which means 98.2 percent of the total Project target (1,260Ha).</p> <p>c. Rural Investment for Economic Infrastructure With aim of supporting beneficiary farmers to minimize post-harvest losses for their produces, six (6) post-harvest infrastructures (4 drying grounds in Ruterana and Ruzigambogo; two for each site, and 2 collection centers in Kajevuba) have been completed and are being used by beneficiary farmers.</p> <p>d. Farmer organizations In both hillside and marshland treated sites, Project activities are currently benefitting 3,258 people considered as direct beneficiaries organized into 159 Self-Help Groups (SHGs); which are at the second level regrouped into 21 zones; and into 03 Cooperatives at the third level. The total number of beneficiaries both direct and indirect is 11,469.</p>

ii) Third Rural Sector Support Project- RSSP 3

Project Photograph		
Mission and purpose of the Project	<p>(i) Increase the agricultural productivity of organized farmers in the marshlands and hillsides of sub-watersheds targeted for development in an environmentally sustainable manner;</p> <p>(ii) Strengthen the participation of women and men beneficiaries in market-based value chains.</p>	
Major Project Components	<p>1. Infrastructure for Marshland, Hillside and Commodity Chain Development</p> <ul style="list-style-type: none"> - <i>Marshland Rehabilitation and Development</i> - <i>Sustainable Land Management on Hillsides</i> - <i>Rural Investments for Economic Infrastructure</i> <p>2. Capacity for Marshland, Hillside and Commodity Chain Development</p> <ul style="list-style-type: none"> - <i>Capacity building for farmers organizations and cooperatives</i> - <i>Capacity building for improved production technologies</i> - <i>Capacity building for value chain development</i> <p>3. Project Coordination and Support</p>	
Areas of Intervention	<p>Kigali City</p> <ul style="list-style-type: none"> - Kigali marshlands (Gasabo-Nyarugenge) - Rugende (Gasabo-Kicukiro) - Kabuye (Gasabo) <p>Southern Province</p> <ul style="list-style-type: none"> - Rugeramigozi (Muhanga) - Mukunguri (Kamonyi-Ruhango) - Base (Ruhango) - Nyarubogo (Nyanza) - Agasasa (Nyanza) - Cyili (Gisagara-Huye-Nyanza) - Mushaduka (Gisagara) - Mirayi (Gisagara) - Rwasave (Huye-Gusagara) - Rusuli (Huye) - Runukangoma (Huye) - Migina (Gisagara-Huye-Nyaruguru) <p>Western Province</p> <ul style="list-style-type: none"> - Bugarama (Rusizi) 	<ul style="list-style-type: none"> - Kamiranzovu (Nyamasheke) - Kirimbi (Nyamasheke) <p>Northern Province</p> <ul style="list-style-type: none"> - Nyirabirande-Ndongozi (Burera) <p>Eastern Province</p> <ul style="list-style-type: none"> - Muvumba-P8 (Nyagatare) - Muvumba-P5 (Nyagatare) - Muvumba-P4 (Nyagatare) - Rwangingo-Karangazi (Gatsibo-Nyagatare) - Rwagitima-Ntende (Gatsibo) - Kanyonyomba (Gatsibo) - Gacaca (Kayonza) - Rwinkwavu (Kayonza-Ngoma) - Rugende (Rwamagana) - Nyaburiba (Bugesera) - Ruvubu (Bugesera) - Rwamagana marshlands (Rwamagana-Kayonza-Ngoma)

Basic Information	<ul style="list-style-type: none"> - Implementation Start date: 20 June 2012 - Scheduled Completion date: 30 October 2018 - Eventual Extension: (yes): 1 - Donors: IDA/World Bank - Implementation Agency: Ministry of Agriculture and Animal Resources (MINAGRI) - Government Contribution: 3,000,000,000 Frw
Budgetary Information (Figures in Frw) <i>Externally Financed Projects</i>	<ul style="list-style-type: none"> - Total Project Budget: 61,732,500,000 Frw (=100,900,000 USD)** - Cumulative Amount Disbursed by the end of FY 2016/2017: 69,921,722,977 Frw (=92,162,597.20 USD)** - Amount Budgeted in FY 2016/2017: 12,199,862,402 - Actual Amount Executed in FY 2016/2017: 11,721,033,959 Frw - FY 2016/2017 Budget Execution Rate: 96 percent - Cumulative Project Budget Execution Rate: 91 percent
Project Achievements in FY 2016/2017	<p>a. Marshlands development/rehabilitation A total area of 2,212 Ha of marshlands were developed or rehabilitated for the following Five marshlands (Rwangingo-Karangazi: 937 Ha; Nyirabirande-Ndongozi: 535 Ha; Mushaduka: 200 Ha; Kamiranzovu: 140 Ha and Rugende: 400 Ha).</p> <p>b. Sustainable Lands Management During the FY 2016/17; 1,998 Ha of land were treated (sustainably protected against soil erosion) through comprehensive land husbandry technologies in targeted hillside sites surrounding marshlands developed and/or under development in order to prevent siltation to the developed marshland and increase economic value of treated lands.</p> <p>c. Rural Investment for Economic Infrastructure With the aim of coping with beneficiary farmers for their expected agricultural production both on quantity and quality, the Project has completed one medium storage and 2 drying grounds to be used by rice farmers of Kamiranzovu marshland.</p> <p>d. Farmer organizations The number of direct Project beneficiaries has increased; from 77,039 to 80,185 people during the FY 2016-17.</p> <p>e. Water Users Associations (WUAs) formed and technically supported for strong and sustainable management of the irrigation system For sustainable and continuous agricultural production in irrigated marshlands developed or rehabilitated by RSSP, 39 WUAs formed of which 9 were created during the FY 2016-17.</p> <p>f. Extension and Agri-business Rice growing: In Season A 2017, the production obtained is over 30,000 Ton around 6,250 Ha of area planted; and farmers have sold 90 percent of their produce; with 79.5 percent collected at Cooperatives' level. For this ending SB 2017 rice was planted on 6,500 Ha in 24 schemes. Hillside crops (Maize; Beans; Soybean) in Project treated hillsides were planted on 4,758 Ha.</p>

<p>Project Implementation Progress (Compared to overall project targets)</p>	<p>g. Marshlands development/rehabilitation With regard to marshlands development and rehabilitation works, the Project has so far completed; for thirteen marshlands; 5,948 Ha out of 7,000 Ha; i-e 85 percent.</p> <p>h. Sustainable Lands Management In order to protect the hillsides adjacent to concerned marshlands against soil erosion; and mostly the critical areas to prevent siltation, the Project has so far implemented comprehensive land husbandry technologies in 13 hillside sites surrounding marshlands developed and/or under development. Currently the cumulative area protected is 15,620 Ha; which means 90.81 percent of the total Project target (17,200 Ha).</p> <p>i. Rural Investment for Economic Infrastructure With aim of supporting beneficiary farmers to minimize post-harvest losses for their produces, the Project has so far completed 15 storage facilities and 52 drying grounds/areas which are being used beneficiary farmers post-harvest infrastructures in both marshland and hillside sites. So far, the Project has completed</p> <p>j. Farmer organizations In both hillside and marshland treated sites, Project activities are currently benefitting 80,185 people considered as direct beneficiaries out of a target of 101,500 beneficiaries (79 percent). These beneficiaries are organized into 2,978 Self-Help Groups (SHGs); which are at the second level regrouped into 334 zones; and into 42 Cooperatives at the third level.</p> <p>k. Water Users Associations (WUAs) For sustainable and continuous agricultural production in irrigated marshlands developed or rehabilitated by RSSP, 39 WUAs were formed with the main purpose/mission of ensuring efficient operation and maintenance of the irrigation systems. Water fees are paid by Users at the rate of 99 percent.</p> <p>l. Extension and Agri-business <i>Certified seeds producer Cooperatives</i> The Project has also supported beneficiary Cooperatives to become certified seed producers. Currently 20 Cooperatives; the majority of which are for rice growing do certified seeds production.</p>
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Challenges faced	<p>The Project has faced an exchange loss (USD vs XDR) as detailed below:</p> <ul style="list-style-type: none"> - US\$75.60 million out of the US\$80 million disbursed (currently USD 73.48 million due to the exchange loss of XDR and USD) of IDA Loan Credit No. 50640, representing 90.45 percent of disbursement rate; - For the IDA additional credit No. 54030, the disbursement rate stands at 98.05 percent equivalent to USD 14.22 million out of USD 15.9 million (currently USD 14.64 million because of exchange loss).
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iii) Government Funded Irrigation Project

IMMEDIATE ACTION IRRIGATION PROJECT/ GOVERNMENT FUNDED IRRIGATION (IAI/GFI)	
Mission & Purpose	Development and management of Soil and water resources, intensive and sustainable irrigated agriculture promoted, food security sustained and incomes for farmers generated
Major components	Hillside Irrigation Development Marshland Irrigation Development Irrigation Development Studies Operation, Maintenance and Management of Irrigation Schemes
Area of intervention	<p>The project started as a hillside irrigation project targeting Nyagatare and Kirehe districts, but has been expanded to incorporate;</p> <ul style="list-style-type: none"> - Marshland and Hillside Irrigation Development Activities in all Districts - IWUOs for Operation, Maintenance and Management of irrigation schemes in across the country. <p>The project implements both Hillside and Marshland Irrigation Development Studies across the Country.</p>
Basic Information	<ul style="list-style-type: none"> - Implementation Start date: 2010 - Scheduled Completion Date: 30/06/2018
Budgetary information	<ul style="list-style-type: none"> - Total project budget: 50,000,000,000 - Amount budgeted in FY 2016/17: 6,913,387,113 - Actual amount Executed in FY 2016/17: 6,883,778,046 - Budget execution rate 2016/17: 99.57

Project achievements in FY 2016/17	<p>Achievements</p> <p><u>1. Area under irrigation:</u> Area under marshland Irrigation</p> <ul style="list-style-type: none"> ➤ 225Ha were developed during 2016/2017. <p><u>2. IWUOs (Operation, Maintenance and Management of Marshland irrigation schemes).</u></p> <ul style="list-style-type: none"> ➤ 23 Marshland and 3 Hillside Irrigation Schemes are supported by professionals (HoReCo) hired to support and build capacity of farmers in Operation, Maintenance and Management of irrigation schemes. <p><u>3. Hillside Irrigation studies conducted:</u></p> <ul style="list-style-type: none"> ➤ The progress out of 100 percent target by end of year 2016/2017 was as follows; ➤ Gabiro:87 percent ➤ Rilima:60 percent ➤ Rweru:75 percent ➤ Cyohoha Suorth:60 percent <p><u>4. Marshland Irrigation Studies conducted</u></p> <ul style="list-style-type: none"> ➤ They were all completed at the end of year and they are as follows; ➤ Urwonjya/Nyaruguru:100 percent ➤ Nzavu/Nyamagabe:100 percent ➤ Makera/Muhanga:100 percent ➤ Mwura-Gatare/Gisagara:100 percent ➤ Rubuyenge/Burakari:100 percent
Challenges faced	Budget limitations

iv) Ngoma 22

Ngoma22 Project	
Mission & Purpose	Increase the productivity of paddy and hillside crops in Rurenge and Remera sectors of Ngoma district
Major components	<ul style="list-style-type: none"> ● Project contents Main irrigation facilities <ul style="list-style-type: none"> ✓ Dam: Capacity 960,000m³ ✓ Dam Height: 14.9m ✓ Canal: Main 28 km (open canal, pipe) ✓ Secondary 26km (pipe) ✓ Pump + Solar Power plan, ✓ Pump capacity (5): 140m³/hr/ with solar system and national power grid ✓ Regulating tanks: 3 numbers ✓ Water application systems: Check basin for marshland, Hydrant, Hose pipe and watering can for hillside Marshland irrigation Soft component: Training of IWUOs (water user organisations) and cooperatives members
Area of intervention	Ngoma District (Remera and Rurenge Sectors)
Basic Information	<ul style="list-style-type: none"> - Implementation Start date: July 2015 - Scheduled Completion Date: November 2016 ✓ 22nd July 2014: The approval of Japanese Government: ✓ 8th August 2014: Exchange of note (MINECOFIN and Embassy of JAPAN) ✓ 2nd September 2014: Grant Agreement (MINAGRI and JICA) ✓ June, 2015: Detail design and compensation ✓ July, 2015-November 2016: Construction ✓ November, 2016: Storing water ✓ November, 2017: Irrigation - Eventual Extension: NO - Donors: Government of Japan Grant amount: 13,215,596 Million USD (JPY 1,549,000,000 Yen) - Implementing agency: MINAGRI/RAB - Government contribution:0.58 Million USD (393,477,800Frw)
Budgetary information	- Total project budget: 9,500,000,000Frw
Remarks on budget execution for 2016/17	Budget well executed
Project achievements in FY 2016/17	<p><u>Irrigation development</u></p> <p>Dam with Capacity of 960,000m³ completed</p> <p>Hillside Irrigation on terraced area on 265Ha (165 by gravity & 100ha by pumping)</p>
Project implementation progress (compared to overall project targets)	Completed 100 percent (265ha of hillside irrigation and 14.9 m high water retention dam)
Challenges faced	Issues related to compensation because some farmers had no land titles

v) Small Scale Irrigation Technology (SSIT)

SMALL SCALE IRRIGATION TECHNOLOGY (SSIT)	
Mission & Purpose	To promote widespread use of demand driven, affordable locally assembled SSIT in order to support Rwandan small scale farmers with simple and affordable irrigation technology; increase their crop productivity, thus improving the sustainability of irrigation development through farmer based approach.
Major components	<ul style="list-style-type: none"> - Increasing area cultivated using small scale irrigation technology - Capacity building
Area of intervention	All districts
Basic Information	<ul style="list-style-type: none"> - Implementation Start date: July 2014 - Scheduled Completion Date: June 2018 - Eventual Extension: Yes - Donors: GoR - Implementing agency: RAB - Government contribution: 100 percent
Budgetary information	<ul style="list-style-type: none"> - Total project budget: 5,000,000,000 - Amount budgeted in FY 2016/17: 764,437,042 - Actual amount Executed in FY 2016/17: 764,437,042 - Budget execution rate 2016/17: 100 percent
Remarks on budget execution for 2016/17	100 percent execution
Project achievements in FY 2016/17	<p><u>Increased area under SSIT:</u></p> <ul style="list-style-type: none"> ➤ The area achieved under SSIT is 2,130 Ha <p><u>Capacity Building in SSIT</u></p> <ul style="list-style-type: none"> ➤ 168 SSIT demonstration sessions were conducted. ➤ Over 1,100 people (including 70 technicians, 1,030 farmers) were trained on SSIT
Project implementation progress (compared to overall project targets)	<p><u>Increased area under SSIT:</u></p> <p>The area under SSIT is 4,574Ha out of 10,000ha target (46 percent)</p>
Challenges faced	<p>Challenges :</p> <p>>There is still a number of farmers who are struggling to meet their contribution even after getting the Government subsidy.</p>

SP 1.3 Mechanization**(i) Agriculture Mechanization Unit**

AGRICULTURE MECHANIZATION	
Mission & Purpose	Promotion of appropriate farm mechanization technology to the farmers through demonstration, exhibition and mechanization week <ul style="list-style-type: none"> - Increase access of farm machinery to the farming community - Promoting private sector investment in mechanization - Development of broad-based skills and knowledge through capacity building on farm machineries and implements.
Major components	<ul style="list-style-type: none"> - Increasing area of land cultivated using mechanization - Increasing access of agricultural machinery to the farmers - Capacity building
Area of intervention	All districts
Basic Information	<ul style="list-style-type: none"> - Implementation Start date: February 2010 - Scheduled Completion Date: June 2018 - Eventual Extension: NO - Donors: GoR - Implementing agency: RAB - Government contribution: 100 percent
Budgetary information	<ul style="list-style-type: none"> - Total project budget: 5,000,000,000 - Amount budgeted in FY 2016/17: 519,970,256 - Actual amount Executed in FY 2016/17: 519,970,256 - Budget execution rate 2016/17: 100 percent
Remarks on budget execution for 2016/17	100 percent executed
Project achievements in FY 2016/17	<ul style="list-style-type: none"> - The area cultivated using agricultural mechanization is 4,400 ha, the target was 3,000 ha. - 12 Farm machinery demonstrations conducted. - Training: 85 machinery operators, 307 Farmers and 77 Agro-mechanic Technicians were trained. - Percentage increase of mechanized farm operations has been increased from 19 percent in June 2016 to 25.2 percent by June 2017
Project implementation progress (compared to overall project targets)	The project has so far achieved 36,552 Ha of land mechanized out of 44,910 ha target (73 percent).
Challenges faced	<ul style="list-style-type: none"> • No agricultural mechanization supportive policy and consolidated master plan in Rwanda; • The low purchasing power of most small-scale farmers ; • Local investment in mechanization still low • No strong awareness of famers on agricultural mechanization; • Lack of qualified technicians in agricultural mechanization;

SP 1.6. Livestock Development**(i) GIRINKA- One Cow Per Poor Family Programme**

One Cow Per Poor Family Programme –GIRINKA	
Mission & Purpose	Reducing poverty through dairy cattle farming; improving livelihoods through increased milk consumption and income generation; participation in decision making, environment protection, improving agricultural productivity through the use of manure as fertilizer and promoting unity and reconciliation among Rwandans based on the cultural principle that if a cow is given from one person to another, it establishes trust and respect between the giver and the beneficiary.
Major components	<ol style="list-style-type: none"> 1. Selection of beneficiaries at grassroots level 2. Training of beneficiaries before receiving cows; 3. Heifers screened for diseases and health before they are given to vulnerable families; 4. Daily follow up of the program across the country 5. Follow up of Girinka program decentralization 6. Accompanying measures (package of artificial insemination inputs, feeds, health, training farmers, Organization in cooperatives and linking beneficiaries to Milk collection centers) 7. Encouraging/mobilizing different partners' groups and local initiatives (e.g. Girinka week, local fundraising, etc) to support the Program
Area of intervention	All districts of the country
Basic Information	<ul style="list-style-type: none"> - Implementation Start date: 2006 - Scheduled Completion Date: 2017 - Eventual Extension: 2018 - Donors: GoR - Implementing agency: RAB - Government contribution: 100 percent
Budgetary information	<ul style="list-style-type: none"> - Total project budget: 39,771,270,000 - Cumulative amount disbursed by end FY 2016/17: 8,865,901,788 - Amount budgeted in FY 2016/17: 701,480,225 - Actual amount Executed in FY 2016/17: 701,021,495 - Budget execution rate 2016/17: 99.93 percent - Cumulative project budget execution rate: 22.29 percent
Project achievements in FY 2016/17	34,072 heifers have been distributed to poor families out of 34,777 cows targeted during the Fiscal Year of 2016-2017
Project implementation progress (compared to overall project targets)	98 percent
Challenges faced	<ol style="list-style-type: none"> 1. Delay in identification of beneficiaries and procurement processes in some districts 2. Delay of earmarked transfers to Districts accounts

(ii) Livestock Intensification Programme (LIP)

Livestock Intensification Programme	
Mission & Purpose	To improve the competitiveness of the livestock subsector in regional and international markets
Major components	<ol style="list-style-type: none"> 1. Bovine and Small stock improvement 2. Access of vulnerable families to livestock through small stock initiatives 3. Animal diseases' control for regional and international market access 4. Strengthening the honey value chain 5. Support to National Rubilizi Hatchery
Area of intervention	All districts
Basic Information	<ul style="list-style-type: none"> - Implementation Start date: 2004 - Scheduled Completion Date: 2018 - Eventual Extension: 2019 - Donors: GoR - Implementing agency: RAB - Government contribution: 100 percent
Budgetary information	<ul style="list-style-type: none"> - Total project budget: 13,000,000,000 - Cumulative amount disbursed by end FY 2016/17: 10,905,287,198 - Amount budgeted in FY 2016/17: 1,708,904,141 - Actual amount Executed in FY 2016/17: 1,703,746,382 - Budget execution rate 2016/17: 99.70 percent - Cumulative project budget execution rate: 83.89 percent
Project achievements in FY 2016/17	<p>*Small stock: 1,600 Goats distributed; ; 1,237 pigs distributed; 27,000 Poultry/Layer distributed</p> <p>*Animal Nutrition: 450 Ha with improved forage seeds</p> <p>*Genetic Improvement: 77,221 cows have been artificially inseminated; 27,386 AI calves registered; 324 new AI technicians trained</p> <p>*Animal Health: Vaccination against BQ: 261,985; Vaccination against LSD: 352,550; Vaccination against RVF: 22,800; Vaccinated against Brucellosis: 2,790; 8,024 dogs and cats vaccinated ; 2,150 stray dogs culled</p>
Project implementation progress (compared to overall project targets)	60 percent
Challenges faced	<ol style="list-style-type: none"> 1) Due to lack of Liquid Nitrogen in the first 4 months of this fiscal year, the insemination was only carried out in 8 months 2) There is a need to modernized infrastructure for storing and conserve forage seed at different RAB station 3) Irregularity to transfer the allocated budget for this project from MINECOFIN to district account



Programme 2: Research & Technology Transfer, Advisory Services & Professionalization of Farmers

PROGRAMME 2: RESEARCH AND TECHNOLOGY TRANSFER, ADVISORY SERVICES AND PROFESSIONALIZATION OF FARMERS

SP 2.1. Research and technology transfer

(i) Enhanced breeding research capacity

The advanced laboratory equipment and laboratory consumables were purchased and laboratory technicians recruited. Musanze in vitro laboratory was equipped with autoclave, laminar flow, Water distiller GLF, pH meter, STERI 350, and water distiller GLF. Rubona laboratories received 18 air conditioners. For effective functioning of the laboratories, seven laboratory technicians were recruited and allocated as follows: five at Rubona laboratory, and two at Musanze laboratory.

Two water harvesting dams with a capacity of 900 m³ were established at Rubona centre. Underground water tanks and pumping system at Rubona centre were rehabilitated and strengthened. To increase the capacity of seed production, four screenhouses (2 at Rubona, one at Musanze, and one at Gakuta) and aeroponic facility at Musanze centre were rehabilitated. To increase the capacity of sweet potato pre-basic seed production, two screen houses were rehabilitated and 2 mobile net tunnels constructed at Rubona. Three Kraals were rehabilitated at Songa, Kinigi and Bugesera centres and pellet machine for animal feeds was purchased.

(ii) Achievements of research programs

Cereals

Maize Program developed 19 inbred lines from local Open Pollinated Varieties (OPVs) and hybrid lines from OPVs. Further research to develop hybrids were conducted including 23 highland lines, combining abilities of 18 inbred lines for mid altitudes, multi-location trials to evaluate three Cross Hybrid varieties for mid altitudes, evaluation of Rwandan germplasm for maize leaf necrosis disease (MLN) resistance/tolerance under artificial and natural inoculations and selection of two MLN mild resistant and three MLN tolerant hybrid varieties, pre-release of eight maize hybrid varieties, and production of 50 kg of breeder seeds and 600 kg of pre-basic seeds of hybrid varieties. The program backstopped seven local seed companies for hybrid seed production.

Rice Program pre-released 4 varieties and developed five lines: RCE004, RCE005, RCE 006, RCE 007, and RCE 008 lines were selected from F3 population crosses with long grain and good cooking preferences. The adaptability trials of high yielding introduced rice varieties, rice blast disease pathogen identification, and basic seed production were conducted. A study on rice blast disease caused by *Magnaportheoryzae* showed an increased pressure of the pathogen in Rugeramigozi and Cyabayaga marchlands and large diversity of the pathogen. Basic seeds were produced in Rwamagana (2,903kg), Rubona (2,505kg) and Bugarama (1,374kg) marchlands.

Farmer Field Schools (FFS) approach in rice farming was used for technology adoption and scaling out. FFS groups were established in Bugarama I-IV, Rwinkwavu, Gacaca, MP8 rice schemes to accelerate the adoption of modern rice variety and management packages.

Wheat Program conducted participatory variety trials for testing local superior lines for milling and baking quality. These led to the release of 10 varieties and pre-release of 4 varieties yielding up to 4.99 t/ha in farmers' fields. A total of 12.81 tons of basic seed were produced for 10 released varieties (Nyaruka, Cyumba, Keza, Mizero, Rengerabana, Nyangufi, Kibatsi, Gihundo, Reberaho, and Majyambere) at Rwerere (1,074 tons), Kinigi (0.45 tons) and Masogwe (161 tons). Pre-basic seeds of 319 kg was produced from Kibatsi and Nyangufi varieties at Kinigi centre. A total of 730 kg of breeder seeds were produced at Kinigi (50 kg) and Rwerere (680 kg) centres for these varieties.

Nursery screening trials evaluated 272 lines from 50th IBWSN (International Bread Wheat Screening Nursery) and 165 lines from 11th STEMRRSN (Stem Rust Resistance Screening Nursery) at Rwerere and Kinigi centres. Preliminary and advanced yield trials were established to evaluate 590 lines from local and international trials. As a result of the evaluation, 209 lines were selected.

Pulses

Bean Program evaluated more than 500 lines for stability to high yield, altitude adaptability, cold resistance, high seed iron/zinc content, good colour and multiple disease resistance. About 1,500 MT of bio-fortified bean seed were produced and disseminated.

Soybeans Program focused on participatory evaluation of early maturing (87-95 days) and high yielding (up to 3 t/ha) locally bred varieties S0102 and S0103. Soybean breeding produced 354 crosses. A total of 1107 lines were evaluated for adaptability and from this evaluation only 100 lines were selected. Five hundred (500) kg of Peca 6 and SB24 pre-basic seeds were produced while basic seed production from the two varieties were 6,000 kg and 1,000 kg, respectively.

Roots and Tubers

Cassava Program selected 11 improved clones for CMD and CBSD tolerance from preliminary yield trial. Several clones are under field evaluation (MM06/0090-OP/12, MM06/0128-OP/1, MM06/0128-OP/4, MM06/0128-OP/3, MM06/0128-OP/10, Bulk/35, Bulk/16, NASE14 (Check), MH05/0091-OP/11, Bulk/13, MH05/0091-OP/12 and NAROCASS1). Pre-basic seed of improved clones (01/1206/75, 05/0127/35, TME 419/60 and 01/1412/63) were multiplied at Rubona centre. Basic seed of NASE 14 and NAROCASS1 as improved clones were produced on 22 ha at Rubona and Karama centres.

Irish Potato Program focused on germplasm maintenance, clean seed production, minituber production through conventional and aeroponic methods and variety development. Seventy potato varieties and clones were maintained *in vitro* in the tissue culture laboratory and in open field. New method for minitubers production by direct transfer of *in vitro* potato plantlets to open field after reduced 2-week-nursery was developed. Seeds were produced *in vitro* (1,283,770 plantlets), in conventional screenhouses (1,054,000 minitubers), through direct transfer from laboratory to field (8,002,166 minitubers), and aeroponics (653,891 minitubers). Potato variety development selected seven clones evaluated at Musanze, Burera, Nyabihu

and Rubavu districts. A total of 14 potato clones were bred locally. A total of 98 Fe- and Zinc-biofortified potato clones were introduced from International Potato Center (CIP in Spanish) and are in the course of evaluation at Kinigi, Rwerere and Sigira.

Sweet Potato Program conducted clonal evaluation, preliminary trial and advanced yield trials. Sixty-eight demonstration plots of 5 promising sweet potato varieties (Terimbere, Kakamega7, Kabode, Vita, Gihingumukungu) and Local check were established in collaboration with IMBARAGA, DERN and UNICOPAGI organizations. Kabode variety was the high yielding variety across districts, followed by Kakamega-7. The preferred high yielding orange fleshed sweet potatoes (OFSP) which are Naspot 9, Naspot 10, Cacearpedo, Gihingamukungu, Terimbere (RW11-2560), Ndamirabana (RW11-2910) including some white fleshed varieties were maintained, produced and availed to Decentralized Vines Multipliers (DVMs) for further multiplications and distribution. In total, 2,641,650 sweet potato cuttings were availed to end-users. Trainings of DVMs and RAB technicians were conducted in Rapid Multiplication Techniques (RMT), Integrated Pests Management (IPM) and Sweet potato Virus indexing, respectively. Around 13 million vines were distributed in collaboration with different partners. The final and proposed sweet potato seed standard document has been approved by the Rwanda Standard Board (RSB) technical committee and submitted to RSB board for approval.

Banana Research

Banana Program focused on germplasm conservation, new cooking varieties evaluation, and study of intercropping practices (bean and banana). A total of 117 banana varieties were conserved in field genebanks at Rubona and Ngoma. Scaling out of banana management activities concentrated on rehabilitation of the existing banana fields and management of banana wilt disease. Banana wilt control campaigns were organized in Eastern Province and involved 13,625 people. A total of 20,786 ha were rehabilitated.

Horticulture Research

Horticulture Program targeted Citrus disease management, water melon variety development, hot pepper pest management, Stevia research on adaptability, and participatory research on vegetable production through FFS. Use of Benlate alternating with copper dioxide was evaluated and recommended as cost-effective and efficient to reduce incidence and severity of *Pseudocercospora* leaf and fruit spot disease on Citrus spp. Water melon varieties Julie F1 hybrid, Sukari F1 and Sugar baby, and agronomic practices were evaluated. The seasonal rate of 90:60:60 of N: P: K kg/ha, spacing of 2 x 1.5m; and pruning to 4 main vines with two fruits per vine were recommended.

For aphid pest management on hot pepper, use of sunflower border intercrop over sorghum and maize were evaluated and recommended to keep the pest population at minimum level. Study of Stevia diseases identified water mould disease (Downy mildew), fungal disease, and soil insects like termites and cutworms. Mancozeb combined with and cypermetrin were proved efficient for management of these pests and disease complex. For agronomic practices, use of 20 x 20cm spacing and organic manure were evaluated and recommended to achieve 2.7, 2.4 and 2 t/ha in Musanze, Rubona and Karama, respectively. Market oriented vegetable production extension package was promoted through providing training to 250 beneficiaries from 6 farmer field schools.

Industrial crops

Tea Research evaluated 17 clones for yield and quality traits, the use of organic fertilizer and its effect on productivity and value were also assessed.

Coffee Research developed new variety "Batian" resistant to coffee leaf rust and CBD with high yield, good adaptation and excellent cup quality. A total of 1,200 plantlets of new coffee hybrids were produced. An IPM package was developed for Antestia bug management, and recommendations for banana-coffee intercropping were developed. A total of 2.5 tonnes of clean seeds (covering 3,000 ha plantation) from three commercial varieties (BM 139, Jackson and RABC 15) were distributed to coffee farmers through NAEB. A total of 450 field technicians and farmers were trained on best coffee cultural practices.

Crosscutting Research

Genebank activities focused on conservation of plant, animal and forestry genetic resources. A total of 105 plant accessions were collected and conserved, 209 were morphologically characterized; 46 local animal genetic resources including indigenous cows -Inyambo and Inkungu - were morphologically characterized. For forestry genetic resources, a total of 22 tree species were collected and conserved.

Biotechnology activities geared towards utilizing modern technologies to improve agricultural productivity hence increasing food security. Emphasis is put on tissue culture and development of modern disease diagnostic tools. The program started development of plans to incorporate molecular technologies to accelerate crop breeding. Biotechnology backstops crop research programs through capacity building in biotechnology-related issues including laboratory operations and management as well as advisory services.

Soil and Water Management Program targeted improving soil fertility and climate change indicators of nutrient loss through erosion, soil acidity and low organic matter. Crop yield improvement studies were performed by promoting integrated soil fertility management interventions. Fertilizer evaluations were made to enhance efficient use of N, P & K by rice, wheat, beans and maize in different agro ecologies.

The assessment of the effects of different types and sources of lime in combination with other inputs on yields of beans, maize and Irish potato to approach the optimum lime use at Nyaruguru, Nyamagabe, Nyamasheke and Karongi revealed a recommended rate of 2.5T/ha of lime that is able to reduce the soil acidity up to the tolerable pH by crops. Doubling the recommended rate of source of lime (Travertine) did not lead to any significance difference on crop yield, size and weight. Other agricultural inputs such as farmyard manure and DAP are recommended to the farmer to increase crop productivity.

Based on biophysical and socio-economic characteristics prevailing in Karongi and Rutsiro, different management options for integrated soil fertility management were set for experimentation in rural areas to dominant crops which were also under the Crop Intensification Program. In Karongi and Rutsiro, the combination of lime/travertine, FYM and inorganic fertilizer was the most performing while control and lime/travertine applied alone were least performant. In Karongi sites, the performing treatment had generated 7.7 t/ha maize yields and 24.2 t/ha potato yield. In Rutsiro site, this treatment had 26.0 t/ha of potato yield and 4.7 t/ha of wheat yield.

The results of the effect of treatments on dynamic change of soil properties in different sites indicated improvement of soil properties with application of lime/travertine in combination with organic and inorganic fertilizers. The pH increased from 5.7-6.7 and 6.0-7.7 respectively at Nyarusange and Mushirarungu in Nyanza site which resulted in fully neutralization of exchangeable Aluminium. Results from Rugabano and Mukura in Karongi and Rutsiro districts indicated an increase of pH from 4.6-5.3 and 4.5-6.2 respectively with application of lime/travertine associated with organic and inorganic fertilizers. Considering the dynamic change of pH and organic carbon across seasons in these sites, there is need to further apply lime/travertine after the second cropping season and continuously add organic and inorganic fertilizers at each cropping season.

Soil and Water Management Program conducted also research to enhance fertilizer use efficiency for improved rice yield and profitability in Rwandan wetlands. In Rugeramigozi wetland, the best performing treatment was NP (5.5-6.9 t/ha) followed by NPK with 5.9-6.1 t/ha. In Rwasave wetland, all combinations i.e. NP, NK, PK and NPK induced higher rice grain yield ranging from 4.4-6.2 t/ha. In Cyiri, Bugarama and in Mukunguli wetlands NPK and NP were the best performing treatments while the control recorded the lowest rice grain yield suggesting P as the most limiting nutrient.

Forestry and Agroforestry Program conducted the evaluation of (i) the agroforestry potential of nine indigenous tree species, (ii) adaptability of adaptability and biomass production of four bamboo species, (iii) growth performance of several other exotic and indigenous tree species, and (iv) appropriate pre-treatment methods of difficult to germinate tree seeds.

The different tree-crop systems evaluated at Rubona indicated that the average grain yield in the control plot (no indigenous tree present) was high and approximately the same as in plots combining maize with *Ficus* and *Podocarpus*. Grain yields were the lowest in Maize-Maesopsis system (0.9 T ha⁻¹) and in Maize-Croton system (1.0 T ha⁻¹). The presence of *Ficus* and *Podocarpus* trees depressed yield by 2 percent and 9 percent respectively, while the presence of *Maesopsis* and *Croton* reduced maize grain yield significantly by nearly 67 percent and 63 percent respectively. Yield reduction in the remaining plots was also high, ranging from 25 percent (*P. fulva*) to 44 percent (*P. mildbraedii*). These preliminary results indicated that *Maesopsis* and *Croton* are not compatible with crops. Further research will foster increasing crop yields through identifying appropriate management practices of the indigenous trees.

The early evaluation of the four bamboo species at Kanombe showed identical diameter growth for *B. vulgaris*, *D. barbatus* and *D. latiflorus*, in the range of 5.1 cm to 5.9 cm. The diameter of *B. textilis* was much smaller (2.3 cm). Growth in height of the four bamboo species followed the same trend as their performance in diameter. Taller culms were registered by *D. barbatus* (6.7 m), followed by *B. vulgaris* (6.1 m) and *D. latiflorus* (6.0 m) and least for *B. textilis* (3.7 m). The shooting ability is important characteristic for highly productive bamboo species. The density of bamboo shoots were in the order of : 11,973 shoots ha⁻¹ for *B. textilis*; 8,213 shoots ha⁻¹ for *D. barbatus*; 7,440 shoots ha⁻¹ for *B. vulgaris* and 5,600 shoots ha⁻¹ for *D. latiflorus*. The smaller sizes and high shooting abilities of *B. textilis* make it suitable for use in erosion control practices, the production of stakes for climbing bean and use as small materials in the production of wood pellets as source of clean energy for cooking meals.

The evaluation of the survival and growth performance of afforestation tree species tested in

different plots at Ruhande Arboretum showed that the highest survival rates (> 80 percent), were observed for *Eucalyptus tereticornis*, *Eucalyptus dunnii*, *Faurea saligna*, *Zanthoxylum gillettii* and *Cupressus funebris*. The lowest survival rates were observed for *Juniperus procera* and *Pinus caribaea* with 66.4 percent and 67 percent respectively. *E. dunnii* was a fast growing species in Ruhande arboretum with a mean annual increment (MAI) in diameter at breast height (DBH) ranging from 1.8 to 2.3 cm year⁻¹ while MAI in height was between 2.1 and 2.5 m year⁻¹. There was no large difference among the rest of the tree species in terms of MAI in DBH (0.8-1.3 cm year⁻¹). Low MAI in height was found in species dominated by coniferous species including *Pinus caribaea* (0.7- 0.9 m year⁻¹), *Juniperus procera* (0.6 m year⁻¹) and *Cupressus funebris* (0.4 - 0.9 m year⁻¹). Lower growth rates in height of coniferous tree species could be due to their characteristics of developing many branches at early stage of growth.

The germination of seeds on many tree species in Rwanda is very low and efforts to increase their germination capacity have been made, starting with *Maesopsis eminii*, *Entada abyssinica*, *Polysias fulva* and *Harungana montana*. For these tree species, pre-treatments of seeds before sowing in seedbeds increased the germination rate. Soaking seeds of *Maesopsis eminii* in cold water for 24 hours improved the germination rate up to 57 percent. This pre-sowing treatment led to significant increase in the germination rate of *H. Montana* up to 93 percent. Although seeds of *E. abyssinica* germinated satisfactorily (75 percent) without any pretreatment applied, soaking seeds in hot water for 24 hours increased the germination rate up to 83 percent. The removal of seed coat from seeds of *P. fulva* resulted in germination rate of 75 percent while the germination in the control treatment was about 69 percent.

Livestock research

Cattle Improvement Research focused on evaluation of artificial insemination with 68 percent success rate in RAB station; the calving interval is high (13 -18 months) in indigenous cattle, 14 months for crosses. The calving rate was 70 percent for indigenous and 65 percent for crosses. Study of factors affecting milk yield showed that milk yield declined during dry season (between May and August) and attributed to the limited availability of fresh feed. Also, the conducted embryo transfer research targeted staff training on transfer and flushing, as well as selection of appropriate cow donors. Existing AI technicians and District Veterinary Officers (DVOs) were given refresher courses on use of PRID Delta protocol for estrous synchronization, liquid nitrogen handling and cattle reproductive management.

Goats' research includes maintenance of Boer and Galla races and their crossbreeds with local goats. A total of 453 goats were maintained and evaluated at Karama Centre. From this evaluation it was found that crossbreeds produced more meat and lower level of disease susceptibility.

Pig Genetic Improvement targeted to strengthen pig industry. RAB supports pig breeders and farmers to acquire and disseminate the best pig genetic materials. In the 2016-2017 fiscal year, RAB worked with farmers to improve pig husbandry and genetics through support to artificial insemination and recording of piglets' bon on AI. Specifically, RAB provided 8 exotic boars to three breeding centers (CPPA Kisaro, UR-CAVM Busogo campus and APTC Ltd) to improve availability and access of quality pig genetics. RAB helped to operationalize the pig AI center of UR-CAVM and now we count 2 pig AI centers with the one at CPPA Kisaro. In partnership with the centers we have carried out two pig AI campaign, inseminated more than 200 pigs and trained 11 technicians.

Poultry Research focused on Kuroiler chickens being evaluated for adaptability to Rwandan intensive management conditions. They showed good potential for intensive production and improved growth rates as compared to local chicken, and better meat characteristics as compared to broiler chicken. Egg of Kuroiler weighted higher than that of local chicken: 65.7g for pure Kuroiler, 55g for crossbreed (75 percent Kuroiler) against 45.5g for local chicken. Current Kuroiler flock consists of 107 birds, and this number will be increased for further breed production and dissemination.

Aquaculture and Fisheries research focused on improving fish hatchery productivity, breeding of *Tilapia nilotica*, assessment of limnological quality of Rwandan lakes, development and dissemination of fish production guidelines for pens and cage farming, trigger production of carp and catfish and development of local fish feed formulations. A total of 483,712 Tilapia fingerlings were produced in hatchery: 161,040 distributed to fish farmers and 322,672 kept in Kigembe Centre. Best *Tilapia nilotica* genitors were selected for reproduction, with 6,000 brood stock selected and conditioned for reproduction. From these brood stock, 200,060 eggs were collected, out of which 150,200 eggs hatched and 100,170 fries were obtained. Best Tilapia brood stock were selected and mated to obtain F2 generation. Routine water quality monitoring was performed in hatchery. Technical assistance in fish farming was provided to 49 fish cooperatives in Southern province, and 20 best cooperatives were trained in good aquaculture practices. Gaharwa and Kirimbi lakes were assessed for water quality and bio-characteristics (Temperature, pH, DO, Transparency, nitrite, nitrate, ammonia, hardness, alkalinity, CO₂, Chloride, phytoplankton). Guidelines for sampling in pens and cages in interior lakes are under development for Muhazi, Burera and Ruhondo lakes.

Commercial insects: Selective breeding of honey bee was performed after identifying highly productive bee and clean *Varroa*-free family hive, and 23 queens were obtained and distributed to bee keepers. Honey quality from Southern Rwanda samples was assessed, and the best honey characteristics were identified in honey from Ibisi bya Huye sample. Training on colony splitting for bee keeping cooperatives was conducted, where 100 bee keepers were trained. Another group of 120 Beekeepers from Rubavu, Rutsiro, Rusizi, Musanze and Burera was trained on Periodic Colony Inspections, how to recognize signs of bee diseases and pests, differentiate between serious and not so serious problems, and to know some corrective actions for each case.

Sericulture Program carried out mulberry variety characterization, silkworm breed characterization, germplasm maintenance for mulberry and silkworms, production of silkworm eggs, and development of mulberry varieties and silkworm lines. Six mulberry varieties from the National Genetic Resources of mulberry were characterized based on the characteristics of leaves, internodes and color of stem. Seven mulberry varieties were evaluated based on their moisture content and moisture retention. A comparative evaluation of mulberry indicated that Sangilppong variety had the highest water content in leaves (61.7 percent). Diamond had the highest (90.9 percent) moisture retention capacity while Kanva-2 variety showed the lowest (74.7 percent) moisture retention capacity after 12 hours. Among 21 silkworm breeds characterized, the breed V5 (W) had the highest cocoon weight and therefore the best market value. To screen the less consuming and best growers among silkworm breeds, 5 breeds (IS-2, R-50H, NGL-13, H-50, and GH-2) were evaluated for feeding efficiency. Results showed R-50H and NGL-13 breeds were the least feed consuming. More than 700,000 mulberry cuttings of high yielding mulberry varieties were planted for the production of saplings.

Animal Nutrition research identified seven improved forage grasses as alternative feed resources. Animal feed formula developed and disseminated: 288 tons of rice straw were collected, treated and fed to 400 cows in communal sheds of Mpanga, Nasho, Kitazigurwa, Mukarange and Rweru sectors. As a test for Livestock feeding strategies a formula from maize-stovers- and rice-straw-based rations was developed. Study of *Brachiaria* identified clones with best nutritive traits. Improved *Brachiaria* grasses have been established by 565 farmers in Rwamagana, Bugesera and Nyamagabe districts. Selected *Brachiaria* genotypes were Piatá, MG-4, Xaraes and Marandú. Seeds of these genotypes were purchased and distributed to farmers. Training manual of *Brachiaria* seed production was developed. Livestock farm field schools (LFFS) facilitators were trained and each of 30 districts was represented by at least 2 participants. Four communal dairy feedlots of more than 629 farmers were using *Brachiaria* grasses to increase feed available in the smallholder livestock owners. A total 180 farmers were trained on the use of *Brachiaria* in feeding, milk recording and cattle live and goats' weight measurement. To improve fish feed availability, prospectations on locally available feed were made and new sources for fish feed formulations were identified: maize, rice, wheat, soybean bran and blood meal.

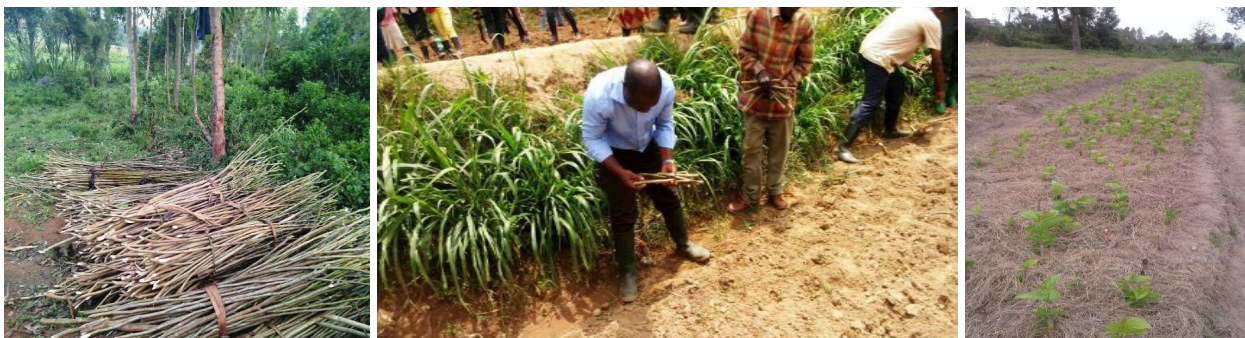
Experimental trial on the Immunization against East Coast fever in Rwanda: East Coast Fever (ECF) is a cattle disease caused by a protozoan parasite, *Theileriaparva*, and transmitted by the brown ear tick *Rhipicephalusappendiculatus*. Climatic conditions in Rwanda are favorable for a year round presence of the three major tick species (*Amblyommaspp*, *Boophilusspp* and *Rhipicephalusspp*) recorded in Rwanda. ECF is prevalent in all regions of the country except in the mountainous volcanic regions. ECF incidence rates of 70 percent to 80 percent were recorded in calves less than one year old with corresponding fatality rates of 30-40 percent. Immunization trials have been carried in Rwanda aiming at elucidating the levels of protection conferred by the Muguga cocktail vaccine under local epidemiological conditions. The protection conferred by the Muguga cocktail vaccine (MCL01) is slightly high, and 216 cows were immunized against East Coast Fever during 2016/2017.

PROGRAMME 3: VALUE CHAIN DEVELOPMENT AND PRIVATE SECTOR INVESTMENT

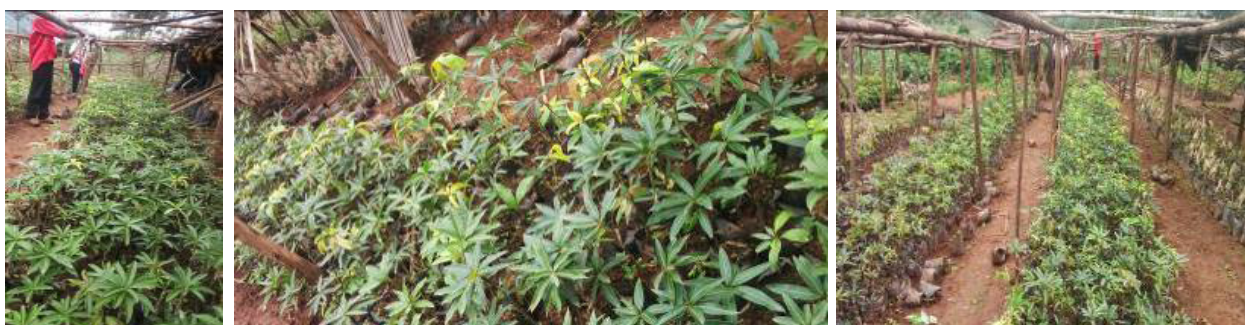
SP 3.3. Development of Priority Value Chains: Export Crops

i) Project name: Project for Rural Income through Exports (PRICE)

The picture shows cutting distributed to the farmers (left) at Rwamagana District and



mulberry plantations (middle) in Northern Province/Burera District and nursery bed prepared at sericulture center Nyanza for gap filling, 15th March 2017.



The picture shows the mango seedlings sorted and arranged in Ngoma District, Dec 2016

1. Mission & Purpose of Project

(i) To achieve sustainable increased returns to farmers from key export-driven agricultural value chains through increased volumes and quality of production, improved marketing and effective farmer organization.

(ii) The Project shall strengthen producer cooperatives as full-fledged economic partners of the private sector.

2. Major Project components

The Project is composed by 6 components: 1. Coffee Component. 2. Tea Component. 3. Silk Development component. 4. Horticulture Component. 5. Finance Service Component. 6. Project Management and Coordination unit Component

3. Area of intervention: National wide**4. Basic information for Externally Financed Projects**

1. Implementation start date: 20th December 2011
2. Scheduled completion date: 31st December 2018
3. Eventual extension:-
4. Donor: IFAD
5. Implementing Agency: Ministry of Agriculture and Animal Resources (MINAGRI)
6. Government contribution: USD 5,074,176 or Frw 33,871,316,557

5. Budgetary Information

1. Total Project Budget: USD 56,095,367 or Frw 33,871,316,557
2. Cumulative Amount disbursed by end FY 2016/2017: Frw 27,089,190,553
3. Amount budgeted in FY 2016/2017: Frw 6,112,431,000
4. Actual Amount executed in FY 2016/2017: 3,886,077,184
5. FY 2016/2017 Budget Execution rate: 63.58 percent
6. Cumulative Project Budget Execution rate till end FY 2016/17: 79.98 percent

6. Project achievements in FY 2016/17**a. Coffee component**

- **Infilling and maintenance of 1500 ha coffee plantations:** Plantation and maintenance of coffee plantations on 1500 ha was done. PRICE signed a Memorandum of Understanding with Reserve Force to carry out this activity and gap in filling reached 70 percent.
- **Capacity building of coffee farmers through Turnaround Programme (TP):** cooperatives were trained by SNV through TP on different aspects: 25 cooperatives were trained on cooperatives governance, processing technologies, financial management and bookkeeping. They have started putting in place an accounting system in compliance with national standards and RCA requirements and thereafter, all the 25 cooperatives will be able to produce financial statements on 31st December 2016. The 20 new cooperatives have been created and they have put in place their organs. 18 are already at RCA level for the final step of registration, 1 cooperative has decided to merge with an existing cooperative in Musha sector, Rwamagana District and 1 was already registered at RCA.
- **Capacity building of coffee farmers through Farmer Field School (FFS):** out of **15,000** coffee farmers to be trained by Technoserve through FFS. Up now, 391 FFS sites (demonstration plots) were established and 15,129 farmers were registered and attended at least one training. FFS groups have been trained in 5 agronomy topics such as pruning & rejuvenation, coffee planting hole preparation, coffee nutrition & NPK

application, coffee seedlings planting and coffee weeding & intercropping. 13 coffee extension agents from NAEB received training on coffee agronomy best practices and training of trainers in adult training methods.

- **Organize a coffee day.** The coffee day took place on 7th July 2016 in Nyamasheke district in Gihombo sector and 2000 farmers participated in the event.
- **Certification of cooperatives, including facilitation.** 6 junior consultants were recruited and provided the coaching and advisory services to cooperative members on coffee certification program standards and requirements.
- **Coffee Quality Profiling (Appellation).** The project recruited an internal consultant and he produced the inception report and it was approved. The roadmap of samples collection developed and presented to coffee washing stations.
- **Extension services by cash crop officers at District level .**15 motorcycles were procured and distributed to cash crop officers at District level for monitoring and follow up of coffee activities on fields. Tripartite contracts for management and effective use of motorcycles were signed between NAEB, District and beneficiary staff.

b. Tea Development Component

- **Infilling and maintenance of 1019 tea plantations:** the maintenance of 1019 ha of tea plantations is ongoing in Gatare, Rutsiro, Karongi, Mushubi and Muganza Kivu Greenfield sites and the works is being carried out by Reserve Force in favor of Farmers.
- **Rehabilitation of 900 ha of tea plantations in 5 districts:** The project has signed the MoU with Reserve Force and 400 ha were rehabilitated in favor of tea farmers in 5 districts: Nyaruguru, Nyamagabe, Rutsiro, Karongi and Nyamasheke. The rehabilitation of remaining 500 ha of tea plantations is ongoing and shall be completed in December 2017.
- **Training for tea farmers on FFS.** Training of 101 Training of trainers(ToTs) has been completed and 202 farmer groups made of 30 each were developed and about 660 farmers selected from 6 coops under PRICE support are being trained by the ToT's and the training was ended in September 2016.
- **Establish National Tea Brand and mark of origin,** SPIU recruited a company and the final report of National Tea Brand and mark of origin produced and approved by all tea stakeholders.
- **Purchase and distribute 5 vehicles to support tea cooperative for transport of green leaves to Factory.**5 trucks were purchased and distributed to support cooperatives for transport of green leaves. MoU for effective management of trucks between NAEB, FERWACOTHE, Cooperatives and districts have been signed.

- The project provided a support for Cooperative technical staff by paying remuneration for managers and 6 agronomists recruited by tea cooperatives. This team would be in charge of daily management of each of the six coops to enhance the improved use of agricultural practices in the tea sector.
- **Elaboration of cooperative business plans.** 6 Business Plans of tea cooperatives were developed by cooperatives and approved in collaboration with NAEB, SPIU, FERWACOTHE and cooperative representatives.
- **Extension services by tea agronomists officers at Cooperate level,** 12 motorcycles were procured and distributed to cooperatives for monitoring and follow up of tea activities on fields. Tripartite contracts for management and effective use of motorcycles were signed between NAEB, District and cooperatives.

c. Silk Development component

- ✓ **Construction of silkworm rearing houses.** Out of 150 rearing houses planned to be constructed by farmers and supported by project for roofing material, **57** rearing houses constructed by individual farmers of which 30 received support for roofing materials.
- ✓ Purchase planting materials to mobilized farmers for mulberry expansion. Acquisition and distribution **9,645,864** mulberry cuttings to the farmers.
- ✓ **Expansion of mulberry plantations** (new mulberry on 500 ha and gap filling on 500 ha). **458.5 ha** for new area and the gap filling has been done on an area of **350.9 ha** in 14 districts (Kamonyi, Muhanga, Ruhango, Nyanza, Huye, Nyaruguru, Rwamagana, Kirehe, Gatsibo, Gicumbi, Rurindo and Gakenke).
- ✓ **Support to sericulture centres to access the fertilizers.** 196 tons of compost manure purchased, distributed and applied in mulberry plantations at 4 sericulture centres and NSC in order to access the fertilizers to maintain the mulberry plantation.
- ✓ **Training of sericulture farmers.** The trainings were conducted in Karongi Cocoon Production Centre (CPC), Nyanza CPC, and Gatsibo CPC. The main purpose of this training conducted at CPCS focus on maintenance of mulberry plantations such as weeding by using hoe, gap filling, pruning, and nursery bed preparation, cut cuttings from mature mother trees and how to plant those cuttings. Other trainings were also conducted at the districts levels (Kirehe, Ngoma, Rutsiro, and Karongi).

In collaboration with district of Ngoma, NSC together with HEworks Rwanda Silk Ltd. conducted the training in Ngoma District with emphasis on basic skills of sericulture such as: Mulberry plantation, nursery preparation, rearing of silkworms. The trainees include district authorities, sector authorities together with sericulture farmers from Ngoma District. The trainees were: Agriculture staff at district level (cash crop officer, director of agriculture, forestry officer, SEDO: Social Economic & Development Officer), 60 Sericulture farmers, 13 Sectors agronomist.

- ✓ **Housing structure for silk reeling machines**, SPIU is in process of facilitating NSC for processing of dried cocoon into raw silk by construction of factory for reeling machine. Contracts signed with the contactors for reeling construction house and Supervision Company. Plot for construction of reeling factory in Special Economic Zone has been paid by NAEB. The tender was canceled due to different reasons of procurement process and management of the contract. SPIU received RPPA No objection to use single source method for the recruitment of contractor. SPIU therefore received IFAD No objection to use Reserve Force to undertake the construction of Silk reeling Factory and .
- ✓ **Production of cocoons**. Out of 10 MT planned, **10 MT** of fresh cocoons produced
- ✓ **Rehabilitation works of Drainage System in mulberry plantations of Karongi marshland**. Rehabilitation works on 5.5 km of Drainage System in mulberry plantations of Karongi marshland was completed. The marshland has been canalized and the main and secondary canals have been rehabilitated.

d. Horticulture Component



- ✓ **Production of 408,000 avocado and mango seedlings: 259,339** avocado and mangoes seedlings produced , grafted and planted by farmers in 16 districts of Nyagatare, Gatsibo, Kayonza, Rwamagana, Ngoma, Kirehe, Bugesera, Kicukiro, Rulindo, Gicumbi, Kamonyi, Ruhango, Muhanga, Huye, Gisagara and Rusizi.
- **Production of 700,000 Geranium seedlings: 278,000** Geranium seedlings produced in Ruhango District /Gafunzo Sector, distributed and are being planted by KOKUGEKA Cooperativemembers.
- **Production of 700,000 Patchouli seedlings: 436,309** seedlings produced and distributed to KOAPARU, SOPYRWA co. and COHUMU cooperatives in Nyabihu, Musanze, Rusizi and Kayonza Districts.
- **Training of farmers on maintenance, prevention and diseases control on Citrus, Mango and Avocado**. 1000 farmers in 16 districts trained on land preparation, and planting methodology before receiving the avocado and mango seedlings.

- **Technical Assistance in extension services by 15 cash crop officers at District level.** 15 motorcycles were procured and distributed to cash crop officers at District level for monitoring and follow up of horticulture activities on fields. Tripartite contracts for management and effective use of motorcycle were signed between NAEB, District and beneficiary staff.

e) Finance Service Component

- ✓ Capacity Building of 28 FIs (Banks, MFIs and SACCOs). Addendum to the MoU between BDF and SPIU/PRICE signed for capacity building of Financial Institutions and 28 FIs were trained on different topics. The final report produced, discussed and approved by SPIU/PRICE.
- ✓ **Equity financing in newly established tea companies** .The construction of Gatara Tea Factory is almost completed and COTHEGA cooperatives will pay its shares (1.8 Million USD) to be financed by PRICE Project.

f) Project Coordination and management Component

- ✓ Addendum to the MoUs between PRICE, NAEB and BDF signed and its implementation is ongoing.
- ✓ The action plan and budget FY 2016/17 as well as the revised budget were done and approved by IFAD in July 2016 and January 2017 respectively.
- ✓ The final report of PRICE Impact assessment study was produced and approved by SPIU.
- ✓ IFAD conducted a joint implementation support mission from 29th May to 9th June 2017.

7. Project implementation progress (compared to overall project targets)

(a) Coffee Component



- **Expansion of coffee plantations:** The initial target was **6,000 ha** where the project was supposed to plant coffee for farmers and during the implementation of the project, the approach was changed. The new targets were reviewed and set at 15,000 ha (1500 ha to be planted by project in favour of farmers and 13500 ha to be planted by farmers themselves). The current achievements of coffee planted is **15,607 ha**. (104 percent)
- **Infilling and maintenance of 1500 ha coffee plantations:** Plantation and maintenance of coffee plantations on 1500 ha was done. PRICE signed a Memorandum of Understanding with Reserve Force to carry out this activity and gap in filling is ongoing. (70 percent)
- **Capacity building of coffee farmers through Farmer Field School (FFS):** out of **40,000** coffee farmers, **33,402** farmers have been trained in different aspects such as harvest, erosion control, coffee shade, mulching, weeding, coffee nutrition, IPM, record keeping, lime application and composting on their coffee farms (83.5 percent). The remaining **15,000** coffee farmers will be trained by Techno serve as service provider recruited by the project during the fiscal year 2017/18.
- **Capacity building of coffee farmers through Turnaround Programme (TP):** out of **115** coffee cooperatives, **90** coffee cooperatives trained through TP on different aspects such as strategic planning, cooperative governance & management, business plans, financial management, coffee washing stations management, coffee marketing and coffee export procedures (78 percent). The remaining 25 cooperative will be trained by RCA in collaboration with NAEB and coaching and follow up of coffee cooperatives trained through TP on different aspects shall be carried in the next year 2017/18.
- **Conduct a national Coffee Census.** The census was conducted by NAEB/PRICE in collaboration with NISR and MINALOC. It was officially launched on 13th May 2015 and the result from the census report showing that the total number of coffee farmers across the country is equivalent to **355,771** with coffee trees **89,726,809** compared to **72,063,912** of 2009 as per previous census.(100 percent)
- **Coffee branding strategy,** the final report of coffee branding was produced and approved. This involves making information about quality standards and international markets available to producers and processors, description of Rwandan coffee profiles per district, establishing quality control systems and capacities, and developing promotional activities to build Rwandan coffee brand.(100 percent)
- **Purchase of laptops for key users of information system (NAEB Extensionists,** 30 computers purchased and distributed to coffee extensionists.
- **Extension services by cash crop officers at District level,** 15 motorcycles were procured and distributed to cash crop officers at District level for monitoring and follow up of coffee activities on fields. Tripartite contracts for management and effective use of motorcycles were signed between NAEB, District and beneficiary staff.

(b) Tea Component



- **Expansion of tea plantations: 3,542 ha** out of 2,645 were planted by tea farmers in 5 Greenfield sites (Mushubi, Nshili, Muganza Kivu, Gatare, Karongi and Rutsiro sites). (134 percent)

The exceeded ha planted (897ha) are due to loans obtained by farmers from BRD for expansion of their tea plantations using the seedlings provided by the project.
- **Infilling and maintenance of 1019 tea plantations:** the maintenance of 1019 ha of tea plantations is ongoing in Gatare, Rutsiro, Karongi, Mushubi and Muganza Kivu Greenfield sites and the works is being carried out by Reserve Force in favour of Farmers. (80 percent).
- **Rehabilitation of 900 ha of tea plantations in 5 districts:** The project has signed MoU with Reserve Force and 400 ha were rehabilitated in favour of tea farmers in 5 districts: Nyaruguru, Nyamagabe, Rutsiro, Karongi and Nyamasheke. The rehabilitation of remaining 500 ha of tea plantations is ongoing and shall be completed in December 2017 (80 percent).
- **Capacity building of 4,700 tea farmers through Farmer Field School.** Training of 101 ToTs has been completed. 202 farmer groups made of 30 each were developed and training of 6,060 farmers was done. (100 percent).
- **Construction and equipped 5 cooperative offices:** 5 cooperative offices were constructed and handed over to COTHEMUKI, COTHEGAB, COTHEGA, KATECOGRO and RUTEGROC cooperatives. Office equipments were also provided to the mentioned cooperatives. (100 percent).
- **Construction of 30 leaf collection points:** 30 leaf collection points were constructed and handed over to cooperatives located in Mushubi, Muganza-Kivu, Gatare, Rutsiro and Karongi Greenfield sites. (100 percent).

- **Purchase and distribute 5 vehicles to support tea cooperative for transport of green leaves to Factory.** 5 trucks were purchased and distributed to support cooperatives for transport of green leaves. MoU for effective management of trucks between NAEB, FERWACOTHE, Cooperatives and districts have been signed (100 percent).
- **Establish National Tea Brand and mark of origin,** SPIU recruited a company and the final report of National Tea Brand and mark of origin produced and approved by all tea stakeholders.(100 percent)
- **Extension services by tea agronomists officers at Cooperate level,** 12 motorcycles were procured and distributed to cooperatives for monitoring and follow up of tea activities on fields. Tripartite contracts for management and effective use of motorcycles were signed between NAEB, District and cooperatives.

(c) Sericulture Component

- **Support farmers for the construction of silkworm rearing houses,** out of 1600 rearing houses, **862** individual silkworm rearing houses were constructed by farmers and supported on roofing materials by the Project. (54 percent)
- **Expansion of mulberry plantations,** out of **5000 ha,** **1879.5 ha** of mulberry plantations were planted by farmers and gap filling on 354.9 ha of mulberry trees have been done. (37.6 percent)
- **Installation and maintenance of 5 Cocoon drying machine.** 4 drier machines have been installed and are located in Nyanza, Karongi, Gatsibo and Gakenke Districts. (80 percent)

(d) Horticulture Component

- **Production of fruits seedlings (avocado, mango and citrus),** out of 578,000 fruit seedlings,**429,339** avocado and mangoes seedlings produced , grafted and planted by farmers in 16 districts of Nyagatare, Gatsibo, Kayonza, Rwamagana, Ngoma, Kirehe, Bugesera, Kicukiro, Rulindo, Gicumbi, Kamonyi, Ruhango, Muhanga, Huye, Gisagara and Rusizi (74 percent).
- **Production of Geranium seedlings:** Out of 1,320,000 Geranium seedlings, **427,810** Geranium seedlings produced and distributed to farmers for plantation in Nyaruguru, Nyamasheke, Ruhango and Kayonza Districts. (63.5 percent)
- **Production of Patchouli seedlings:** Out of 1,200,000 Patchouli seedlings,**838,950** Patchouli seedlings produced and distributed to farmers for plantation in Rusizi, Nyabihu, Musanze and Kayonza Districts.(36 percent)
- **Acquisition of dryers' equipments.** 4 dryers located in Nyabihu, Nyamasheke, Rusizi & Nyaruguru Districts were constructed and handed over to COHUMU, KOAPARU, COOPPA, and BGCC Cooperatives.

- **Extension services by cash crop officers at District level**, 15 motorcycles were procured and distributed to cash crop officers at District level for monitoring and follow up of horticulture activities on fields. Tripartite contracts for management and effective use of motorcycles were signed between NAEB, District and beneficiary staff (100 percent).

(e) Financial Services Component

- **Performance-based grant and Guarantee facilities** (USD 1.95 million): **179** horticultural with total investment of Frw **1.96 Billion** of which PRICE grants disbursed is **Frw 831,202,790**. The coffee projects have benefited from the PRICE Grant for a total amount of **Frw 726 Million**, 6 coffee washing station projects received the guarantee for a total amount of **Frw 285 Million** (70 percent)
- Capacity building of Financial Institutions (100 FIs): 100 FIs were trained in different aspects of agricultural finance. (100 percent)


8. Challenges faced during the project implementation:

PRICE was facing a gap financing of 10 Million USD at design to be financed by unidentified financiers. The project is under preparation of impact assessment to justify the project impact and be able to request the supplementary financing support from IFAD.

A supplementation financing of USD 11.3 million was approved by donors in March 2017, but a legal instrument that is required to make this additional financing effective is received in July 2017 and this delay was negatively impacting project implementation since funds available to the project have been exhausted.

SP 3.8. Market Infrastructure

(i) Rwanda Feeder Roads Development Project (RFRDP)

<p>Project Photograph</p>	
<p>Mission and purpose of the Project</p>	<p>Enhancing all season roads connectivity to agricultural markets centers in selected Districts. This will be achieved by improving access roads to agricultural market centers in selected areas</p>
<p>Major Project Components</p>	<p>Component 1: Rehabilitation, Upgrading and Maintenance of Selected Feeder Roads: This component aims to enhance connectivity to agricultural marketing centers, high agricultural production areas, and the classified road network. The objective is to improve about 270 km of feeder roads in four (4) districts.</p> <p>Component 2: Strategy Development for Rural Access, Transport Mobility Improvement: This component includes preparation of a national feeder roads development strategy and program and the preparation of business plans for feeder roads development and maintenance and improvement of rural transport services in selected district. It also includes capacity building for the participating Districts.</p> <p>Component 3: Institutional Development and Project Management: This component is about Providing advisory services and technical assistance for financial management, monitoring and evaluation, and engineering aspects to MINAGRI. It is also aimed at providing technical assistance for environmental, social, technical and financial Audit in line with project management.</p>
<p>Areas of Intervention</p>	<p>Rwamagana, Gisagara, Karongi and Nyamasheke.</p>
<p>Basic Information</p>	<ol style="list-style-type: none"> 7. Implementation Start date: 19 June 2015 8. Scheduled Completion date: 30 June 2021 9. Eventual Extension: (No): 10. Donors: World Bank 11. Implementation Agency: Ministry of Agriculture and Animal Resources (MINAGRI) 12. Government Contribution: 2,720,000,000 Frw

<p>Budgetary Information (Figures in Frw) <i>Externally Financed Projects</i></p>	<p>7. Total Project Budget: 33,320,000,000 Frw</p> <p>8. Cumulative Amount Disbursed by the end of FY 2016/2017: 9,582,555,977 Frw</p> <p>9. Amount Budgeted in FY 2016/2017: 7,010,969,443 Frw</p> <p>10. Actual Amount Executed in FY 2016/2017: 5,379,072,589 Frw</p> <p>11. FY 2016/2017 Budget Execution Rate: 77 percent</p> <p>12. Cumulative Project Budget Execution Rate: 28.7 percent</p>
<p>Remarks on Budget Execution for FY 2016/2017 <i>(If not at 100 percent)</i></p>	<p>The contractor in Rwamagana delayed to start works and all planned amounts were not paid. Rehabilitation and upgrading works for Karongi and Nyamasheke feeder roads were initially planned to start in November 2016; but there was some delay due to the approval of some documents by the World Bank; and the works started in June 2017. Only advance payments were paid.</p> <p>There are also 2 consultancy services (feeder road master plan and local community association formation) that were planned to be carried out and were transferred to RTDA which delayed the start of these 2 consultancies and as consequences, the related payments were not done.</p>

**Project Achievements
in FY 2016/2017**

The Project target was initially 270 km to be rehabilitated and upgraded in 4 Districts of Rwamagana, Gisagara, Karongi and Nyamasheke. After feasibility studies, the total km to be rehabilitated become 291 km distributed as follows: Rwamagana: 93 km, Gisagara: 71 Km, Karongi: 75 km and Nyamasheke: 52 Km.

For Rwamagana and Gisagara, contracts for works and for supervision are still under implementation. For Karongi and Nyamasheke, the contracts were awarded on 16 January 2017 and 28 December 2016 respectively. In Rwamagana and Gisagara, the compensation of affected people was completed even before works started. In Karongi and Nyamasheke, compensation processes are being done. In Karongi where physical works started on 26 June 2017, compensation was completed for 2 roads FR1 and FR10.

Key progress registered this quarter:

Nyamasheke and Karongi procurement process for the supervision firm completed and contracts awarded on 25/04/2017 to CAVICON Consultants.

- Rwamagana feeder roads are at 57.3 percent for (53.2 Km).
- Gisagara feeder roads are at 78.5 percent (55.81km)


The national feeder roads policy and strategy was completed and approved by the cabinet on 05/04/2017. Consultancy for feeder roads master plan and consultancy for Local Community Associations establishment were transferred to RTDA.

For Master plan, revised ToRs were shared to the World Bank; and the project is waiting for ToRs clearance. For the Consultancy for LCAs, the deadline for proposal submission was extended up to 7 July 2017, while the baseline survey field data collection was completed for all 10 Districts (4 Districts: Karongi, Nyamasheke, Rwamagana and Gisagara for the current Project and under WB support and 6 Districts of Nyagatare, Gatsibo, Nyaruguru, Rutsiro, Nyabihu and Gakenke under the additional financing).

The 2 consultancy services (feeder road master plan and local community association formation) that were transferred to RTDA) are still in procurement process. Two (2) consultancy services mainly; baseline survey, Environmental and Social Impact Assessment for additional financing was completed (100 percent) and final reports submitted.

<p>Project Implementation Progress (Compared to overall project targets)</p>	<p>Works for feeder roads rehabilitation in Rwamagana and Gisagara Districts are at 57.3 percent and 78.5 percent respectively. For Karongi and Nyamasheke the works are still at starting stage and no progress recorded so far.</p> <p>The national feeder roads policy and strategy was approved on 5/04/2017: Progress is at 100 percent.</p> <p>The Feeder road master plan as well as consultancy for Local Community Associations (LCAs) establishment were handed over to RTDA. For Project management, the baseline survey field data collection was completed in 10 Districts (4 Districts for the current financing and 6 Districts under additional Financing). This was also completed at 100 percent.</p> <p>The preparation for the Additional Financing was completed and an appraisal mission completed in June 2017.</p>
<p>Challenges faced</p>	<ul style="list-style-type: none"> ▪ Counterpart found not yet provided for the FY 2016-17. This delayed the start of works in Nyamasheke and Karongi Districts as we could not start physical works before compensation is completed. For that reasons, we decided to compensate 2 roads in Karongi while waiting for enough budget to do the compensation for all roads. For the delays observed and due to different reasons; mainly the updating of BoQ, contracts for rehabilitation for Rwamagana and Gisagara feeder roads were extended for a period of 3 months and the cots were revised accordingly. ▪ Exchange loss equal to 4.3 million USD. The actual value of 45,000,000 USD approved budget is now 40,666,668 USD.

ii) National Strategic Food Reserve

<p>Project name 1</p>	<p>NATIONAL STRATEGIC GRAIN RESERVE</p>
<p>Project photograph</p>	
<p>Mission and Purpose of the Project</p>	<p>Improved post-harvest management and Agro processing promotion</p>
<p>Major Project Components</p>	<p>Reduction of Post-harvest losses National Strategic Grain Reserve development</p>
<p>Areas of intervention</p>	<p>Dissemination of Post-harvest tools to farmers' cooperatives in different districts. Management of National Strategic Grain Reserve</p>

Basic Information	<p>Implementation Start Date: July 2010 Scheduled Completion Date: June 2018 Donors: GoR Implementing Agency: MINAGRI Government Contribution: Internally Financed Project</p>
Project Achievements in FY 2016/17	<p>Reduction of Post-harvest losses In order to minimize post-harvest losses, 140 tarpaulins have been distributed to maize farmers' cooperatives. Public and private media were used to increase awareness of the benefits of post-harvest improvements at the farmer and private sector.</p> <p>National Strategic Grain Reserve development Management of National Strategic Grain Reserves with the principal objective of coping with food emergencies and contributing to a reduction in food insecurity has been done to address potential shocks to food supply. 15,948.178 MT of maize and beans has been stored for the National Strategic Grain Reserves: Maize: 10,344.442 MT; beans: 5,603.736 MT.</p> <p>The Ministry of Agriculture and Animal Resources has provided food to the families affected by disasters (drought) respectively in Eastern and Southern Provinces as following: 6,469.631MT of maize and 3,135.376 MT of beans in East (Kayonza, Ngoma, Kirehe, Gatsibo, Nyagatare, Bugesera), and 1,242.191 MT of maize and 883.012 MT beans in South (Kamonyi, Muhanga, Ruhango, Gisagara, Nyaruguru, Nyanza, Huye, Nyamagabe districts)</p> <p>MINAGRI through NSGR has a close partnership with private sector actors in linking farmers to market and reduction of post-harvest losses by using adapted storage facilities.</p> <p>Through this partnership, 11 cooperatives have delivered 1,822.07 MT of beans and 218.334 MT of maize to the National Strategic Grain Reserve. Different companies (RGCC, EAX, API) have respectively delivered as following : RGCC :8,755.730 MT (5,755.730 MT of maize and 3,000 MT of beans); EAX :4,058.678 MT (3,058.678 MT of maize and 1,000 MT of beans) and API :1,311.700 MT of maize. As a result, there is increased farmers' investment in agriculture and increased capacity to engage in the market.</p> <p>In addition to the National Strategic Grain Reserve, the total strategic reserve of maize and beans in the country accounts for reserves stored by other public (District governments) and private (e.g. Rwanda Grain and Cereals Corporation, East Africa Exchange) entities and in total the MT stored is 117,402.178.</p> <p>Thus the total available strategic reserve of maize and beans at the end of FY 2016-2017 (excluding MT stored by RGCC, EAX, and those stored at district & household level) was 15,905.248 MT. This amounts to 106 percent of the annual target of 15,000 MT.</p> <p>The function of the NSGR is not commercial. It is a tool for emergency response and GOR humanitarian obligations. In FY 2016-2017 NSGR has executed 98.9 percent of its allocated budget (Revised Domestic Budget: 5,750,760,040).</p>

Challenges faced	In this Fiscal year, disaster particularly drought has affected different districts of Eastern and Southern provinces. Construction of 1 warehouse at Nyagatare district and rehabilitation of 1 warehouse at Nyamagabe district haven't been done.
Way Forward	For the Fiscal year 2017-2018, activities will be continued by NSGR with a main focus of: Management of National Strategic Reserve. Supporting farmers by training and coaching them on storage management and pest control. Constructing warehouse at Nyagatare silos and Nyamagabe warehouse rehabilitated.

(iii) Climate Resilient Post-harvest and Agribusiness Support Project (PASP)

1. Mission & Purpose of Project

PASP overall project goal is to alleviate poverty, increase rural income and contribute to the overall economic development of Rwanda. PASP development objective is to increase smallholder and rural labourer incomes (including women, youth and vulnerable groups) from CIP crop and dairy businesses, especially those related to aggregating production for markets, supporting transformation, and creating value-added to enable smallholders to capture a higher share of the value.

2. Major Project components

The Project is composed by 3 components: (1) HUB capacity development programme and business coaching; (2) Post-harvest climate resilient agri-business investment support; and (3) Project management and coordination.

3. Area of intervention: 11 Districts: Musanze, Nyabihu, Rubavu, Kamonyi, Muhanga, Ruhango, Gatsibo, Kayonza, Ngoma, Nyagatare and Kirehe.

4. Basic information for Externally Financed Projects

1. Implementation start date: 28th March 2014
2. Scheduled completion date: 31st March 2019
3. Eventual extension:-
4. Donor: IFAD
5. Implementing Agency: Ministry of Agriculture and Animal Resources (MINAGRI)
6. Government contribution: USD 3,401,193

5. Budgetary Information

7. Total Project Budget: USD 83,350,440 or Frw 56,489,956,545
8. Cumulative Amount disbursed by end FY 2016/2017: Frw 14,895,014,556
9. Amount budgeted in FY 2016/2017: Frw 10,467,464,000
10. Actual Amount executed in FY 2016/2017: 6,347,510,133
11. FY 2016/2017 Budget Execution rate: 60.64 percent
12. Cumulative Project Budget Execution rate till end FY 2016/17: 26.37 percent

6. Project achievements in FY 2016/17

Component 1: HUB capacity development programme and business coaching

- **Awareness campaign at District level**, the awareness campaign have been conducted in PASP intervention zones with main objective to undertake quick mapping and identification of private enterprises and producers cooperatives presenting best opportunities to implement the proposed 4Ps approach. **1016** persons participated in the awareness campaign and they came from different institutions such as: local government (Governors, Mayors, district officers, Sector Agronomists and Veterinaries, cooperatives representatives, financial institutions managers and BDF representatives).
- 4 technical **service providers** for dairy, Irish potatoes, maize & beans, cassava (HPI, IRONA, EWACS & SORWAFFA) and 3 business development service providers (ADC, BDF & SORWAFFA) have been recruited to give trainings to the cooperatives and facilitate in BP elaboration.
- Through those 4 technical service providers recruited and **3** business development service providers, **146** Business plans were elaborated of which **54** were fully financed, **11** have been approved with loan notification by financial institutions, **46** under FIs analysis.
- Support the development of the identified potential HUBs. 62 Hubs established of which 10 Hubs for maize & beans are in stage 4 and 52 Hubs (41 Maize and beans and 11 Irish Potatoes) and are in stage 3.
- **Capacity building and coaching of farmers on Maize and Beans** value chain commodity, **12,679** farmers were trained on maize and beans post-harvest operations, marketing and production cost calculation and cooperative management.
- **Capacity building of Irish Potato** cooperatives on post-harvest handling & storage, **6,913** farmers were trained on Irish potato post-harvest operations, infrastructure management & maintenance and cooperative management.

- **Capacity building of cassava** cooperatives in Kamonyi, Muhanga and Ruhango Districts has been done. A total of 947 farmers from 20 cooperatives have been trained on different topics: post-harvest handling, marketing, cooperative governance and financial management. 19 cooperatives were supported to develop strategic plans.
- **Capacity building and coaching on dairy post-harvest operations.** Training conducted on group dynamic, milk handling, MCC's operations, accounting, hay making, and disease control: 5,061 were trained on hay making and on disease mastitis management and control, 255 individuals were trained with the objective to improve maintenance of MCC infrastructures and facilities, 3,266 cooperative members from 52 cooperatives were trained on governance of cooperative, 498 milk transporters were trained on milk quality and best milk handling practices and 384 Dairy Farmer Groups (DFGs) coached and 23 new DFGs formed in Nyanza District
- 156 cooperative representatives were taken for a study tour to learn from IAKIB and KIGABIRO experience on successful HuB model.
- Training of cooperatives by RCA. **35 cooperatives** have been trained by RCA in legal assistance, internal audit, financial management & cooperative leadership. 2370 farmers participated in the training of which 711 are women.
- **Purchase and distribute Milk equipments to MCC,** 4,072 milk cans, 7 coolers and 180 alcohol guns have been distributed to Milk Collection Centers.
- Construction of 100 Milk Collection Points: Identification of 100 sites has been completed and farmers paid their contribution. Presently, 87 MCP are at level of site clearing.
- **Electrification of Milk Collection Centres (MCCs).** Out of 9 MCCs to be connected to 3 phase electricity, 7 MCCs (5 in Nyagatare District: Isangano, Zirahumuje, BNRT Rwimiyaga, KAMDAMCO & Muvumba Zirakamwa, 1 in Kayonza: Giramata Kayonza and 1 in Nyabihu District: CEMO) have been completed. However, remaining 2 sites in Nyabihu District namely CEZONYI in Rambura and Inkomezamiryango MCCs are not yet completed due to expropriation issue with tea plantation that belongs to Rwanda Mountain Tea.
- **Promotion of climate technologies for maize and beans drying & storage and milk cooling (Solar bubble driers),** 80 Solar Bubble Dryers (SBDs) and 80 moisture meters procured and distributed to 80 selected farmer's cooperatives.
- **Training on existing Climate Change Management Policies and risk management:** out of 720 farmers, 14 PASP staff and 26 services providers' staff trained on Climate Change Management Policies and 720 farmers from 12 districts have been trained on Climate Change and Climate Risk Management, 20 participants from 6 financial institutions and 2 from insurance companies participated in the training and received a basic understanding about climate system and to explore climate risks.
- **Capacity building of farmers on the use of timely weather and climate information for agriculture activities:** out of **3600** farmers, **3,204** farmers from 122 Cooperatives) were trained on the use of timely weather and climate information for agriculture activities.

- **Distribution of climate information to farmers through different channels, especially cell-phones.** A total of 767 people (546 men and 221 women) for season A and 653 (484 men and 169 women) for season B participated to a one day meeting organized in 12 Districts. The targeted group included: Agronomists, Agri-extensionists and different agricultural/livestock cooperative members. During the meeting the participants acknowledged the importance of obtaining meteorological information and therefore requested daily, weekly, monthly and seasonal information. The Rwanda Meteorological Agency sends messages to farmers which contain the required climate information. Currently, 5089 farmers have received SMS on a daily basis.
- Acquisition of notice board to publish climate information in HUB established, 50 notice boards were delivered and distributed.
- Promotion of climate smart technologies for forage. 2,000 silage bags for storing forage during the dry season have been procured, waiting for delivery. Furthermore, 5,421 dairy farmers have been trained on forage storage.

Component 2: Post-harvest climate resilient agri-business investment support

- Business Plans supported and accessed Funds from FIs: out of 50 Business plans planned, 54 business plans related to the construction and rehabilitation of maize warehouses, transportation, cassava fermentation, horticulture and support to a dairy HUB were financed with total cost of investment of Frw 1,805,397,396, Loan amount of Frw 1,130,011,956 from Financial institutions, PASP grant equivalent to Frw 320,363,459 and the beneficiaries' contribution is equivalent to Frw 675,385,440.
- Financing business plans under ASP Climate Risks Management Grants: 16 Business plans approved with total investment of Frw 182,671,148. These include: investment in rehabilitation of maize warehouse in Kamonyi District, purchase of maize milling machine in Kayonza district, construction of Irish potatoes warehouse in Musanze and Nyabihu districts and construction of dairy processing unit Nyabihu District.
- Construction of warehouses. Out of 8 warehouses to be constructed, 5 warehouses for maize & beans and Irish Potato were completed in Kamonyi, Ngoma, Kayonza, Nyanza and Musanze Districts. The other remaining 3 warehouses located in Ruhango, Nyabihu and Kirehe Districts are under construction. The construction works stands at 70 percent.
- Acquisition and distribution tarpaulins: 8224 tarpaulins (plastic sheeting) distributed to farmers for post-harvest activities.

Component 3: Project management and coordination

- 6 Addendum to the MoUs with RAB, BDF, RCA, Meteo Rwanda, NAEB and CICA/MINAGRI signed and its implementation is ongoing.
- Conduct **baseline study** on PASP project. Final report submitted, discussed and approved by the SPIU.
- 16 participants including PASP Staff and service providers were trained on capitalization experience of the 4Ps mechanisms in value chain development projects by IFAD consultants for a period of 4 days (14th -16th December 2016).

- The final report of Updated Project Implementation Manual (PIM) of SPIU IFAD Funded Project produced and approved.
- Prepare **Annual Work Plan and Budget**. The action plan and budget FY 2016/17 was done and approved by IFAD in July 2016. The revised budget FY 2016/17 is approved by IFAD in January 2017.
- PASP mid-term review was conducted by IFAD from 20th to 31st March 2017 and the report is in place.

PASP introduced different technologies at household and cooperative level:

- ✓ Hermetic storage bags: reduction of spoiled maize and beans between harvest, consumption and last selling.
- ✓ Solar bubble dryers : Time for drying reduced, time for selling accelerated, economies made in time and boosted impacts on livelihoods
- ✓ Collapsible dryer case: Introduction of Simple process that relies on free solar energy.
- ✓ Large scale biogaz system: Provided alternative energy, contributing to the preservation of environment, through limitation of deforestation. Its size determines capacity of energy release and level of suitability in current PASP value chains operations :
- ✓ Solar system installation to generate electricity for different uses: Solar energy to accelerate post-harvest operations, save time and get as rapid as possible, the returns, to remunerate agricultural efforts.
- ✓ Rain water harvesting technologies (plastic tanks, masonry tanks and underground water tanks) solar powered water pumping machines: Limited water hazards and turned into opportunities of providing water for different uses.

Challenges faced during the project implementation:

- Low level of engagement of private sector in post-harvest handling, processing, marketing and trading of farm outputs;
- Delay in business plan development and loan approval by financial institutions;
- Business promoters especially farmer's cooperatives without enough collateral required by financial institutions;
- Low interest of financial institutions to finance rural agricultural investments, especially if connected with cooperatives/farmer associations;
- Low capacity of smallholder farmers to payback the loans provided by financial institutions.

Way forward

- ✓ Continue awareness on PASP existing financial facilities through call for proposal (PASP Grant, Post-Harvest Climate Resilient grant and Guarantee);
- ✓ Close follow up on key identified financial institutions that are interested in financing post-harvest investments;
- ✓ Promotion of the Public Private Producer Partnership (4Ps) model to increase the access to finance for post-harvest related project through the following models: Business Driven Cooperative Development Plan, Cooperative Led Business Plan, Private Agribusiness Led Business Plan and Joint Venture Business Plan.

PROGRAMME 4: INSTITUTIONAL DEVELOPMENT AND CROSS-CUTTING ISSUES

4.1 Institutional Capacity Building (needs to be improved)

MINAGRI has been striving to equip its staff with required skills to enable the ministry deliver on its mandates. In this regard, some staff members of Inspection and Certification Directorate have benefited from different trainings such as:

1. One staff participated in Australia-African Plant Biosecurity Training from the 27th February to 3rd March, 2017 in Lusaka, Zambia
2. 3 staff members participated in standard development strategies workshop at Rwanda Standards Board (RSB) on 25th May 2016 held in Kigali, Rwanda.
3. 1staff participated in training on Harmonization of agrochemical regulations held in Kampala, Uganda from the 27th February, 2017 to 04thMarch 2017
4. 4 staff participated in training of inspection risk training organized by World Bank on 19th June, 2017 in Kigali, Rwanda
5. All border plant inspectors (10) participated in a training organized by Agri- consulting Europe (AESA) under financial support from Trade Mark East African.

4.2 Agricultural Information and Communication

In this area, interventions supported the Ministry in achieving its mandate through enhanced (1) Public Relations and communication, (2) development and production of agricultural extension and promotional materials, and (3) use of e-soko system; an ICT-enabled solution that the ministry has been using to regularly monitor price trend of 78 agricultural commodities from 62 markets across the country.

a. News production, publication and visibility in the media

From the 1st July, 2016 to 30th June, 2017, different events, conferences and other initiatives of the ministry have been covered:

- 154 news articles have been published on the Ministry's website;
- 2641 news articles have been tracked from online-based local media;
- 52 pre-recorded TV programmes (broadcast by RTV);
- 292 live and pre-recorded Radio programs were broadcast on Radio Rwanda, and community Radios namely RC Musanze, RC Rubavu, RC Rusizi, RC Huye and RC RC Nyagatare.

b. Media Relations

The Media relations has also been a paramount activity by working with media for the purpose of informing the public of the ministry's mission, policies, improved agricultural practices and other burning or emerging issues in a professional manner and in a consistence way.

In this regard, a media tour was organized from the 30th May to 2nd June, 2017 in Western, Northern and Eastern agricultural zones, and has provided 27 journalists with first-hand information on different initiatives taking place on the ground – which increased agricultural fair reporting and sector visibility in media; thus boosting the ministry’s good image.

The communication team has also been on daily basis handling media requesting for interviews with officials or asking for agricultural information. On average, 20 inquiries from journalists have been handled every week.

c. Social Media

The communication team managed the ministry’s social media mainly twitter, Facebook, Flickr, YouTube and Instagram accounts. These social media platforms have been used to timely communicate to public the latest information from the ministry’s activities as social media have become key channels of communication in the digital world.

Achievements:

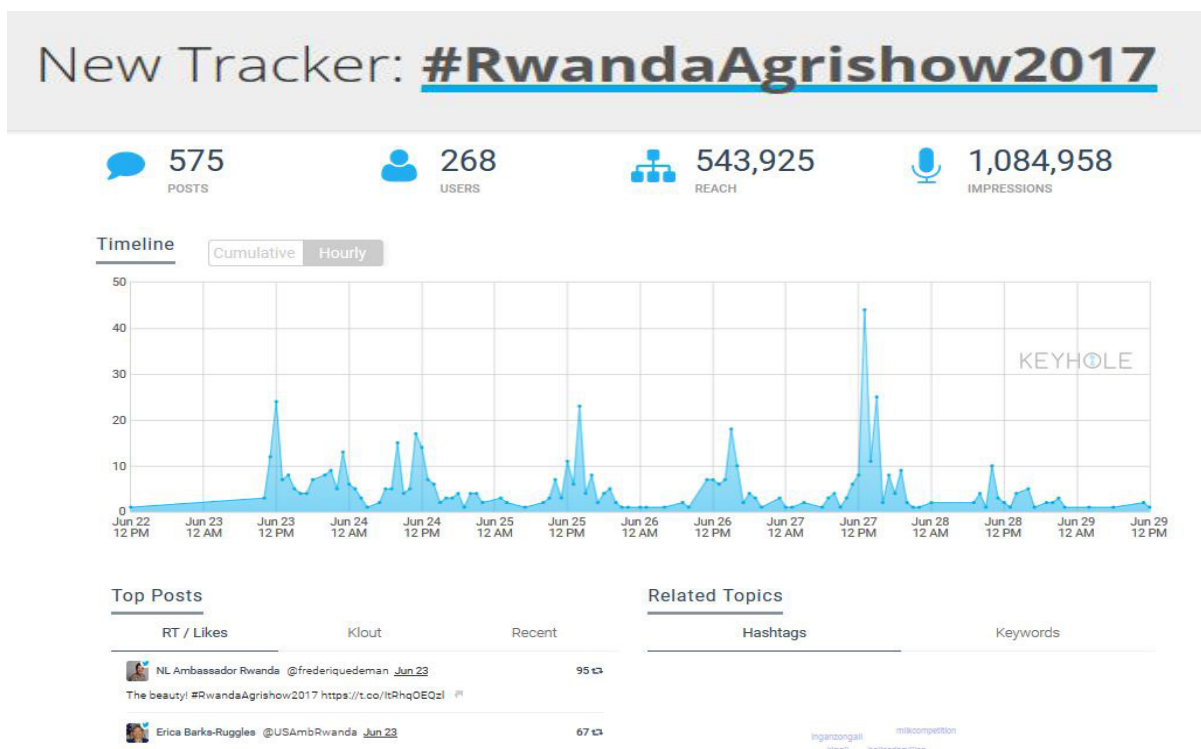
Twitter:

From July 1, 2016 to June 30, 2017; MINAGRI twitter account recorded:

- 1,951 tweets
- 7,600 retweets
- 4,166 likes
- 1,335,704 impressions

Thanks to these new channels of communication, the ministry has been able to convey its messages to a wide range of audiences in a fast and cheap way.

Example showing how Twitter is being used to reach so many people



Real-time tracking report of the #RwandaAgrishow2017

Link:

#AskMinagri Twitter session

The Ministry has been organizing **#AskMinagri**; a twitter session whereby members of the general public ask questions and get instant answers from Minister or Minister of state. During the fiscal year, **27 #AskMinagri** Twitter sessions were hosted by Minister/Minister of State of Agriculture and Animal resources; thus increasing interaction between the Ministry and the public hence improving the sector visibility and accountability through social media.

Facebook: From July 1, 2016 to June 30, 2017; MINAGRI Facebook page recorded: 183 posts and 144,158 total reach.

Flickr: 30 albums with 2,000 photos uploaded,

YouTube: 52 videos uploaded,

Instagram: 126 photos posted, 320 followers gained.

- Organized and conducted workshop training on media relations and use of social media. 80 MINAGRI and agencies staff attended and improved their communication.

d. e-Soko system

The Ministry uses e-Soko system to collect and enter market information in the databases that can serve both farmers and decision makers to make informed decisions. In this regard, 95 data collators were trained and they have been collecting pricing information on 78 commodities from 62 markets across the country. A mobile application by AOS was also updated to enable the public to easily access market information by using their mobile phones.

4.4 Extension and promotional materials

Agricultural extension and promotional materials were developed with inputs from farmers as end users. These tools are among the most effective way to convey agricultural extension messages using both print and audio-visual channels.

Achievement include:

a. Extension materials

- 3 booklets on soya beans, kitchen garden and knowledge seminar on PSTA 4 were developed, produced and disseminated.
- MINAGRI annual reports for the fiscal year 2013/2014 and 2014/2015 were designed and printed.
- Posters on the use of agrochemicals (1000 copies) and aflatoxin control (1000 copies) were developed and printed.

- 300 copies of MINAGRI factsheet with current ministry figures were printed
- Developed 300 TV segment messages to be broadcasted on Rwanda Television
- 12,000 copies of extension materials were disseminated to end users through 12th National agriculture agro-show, cooperatives and other channels.

b. Promotion materials

In that area, 2,210 promotional materials including pull up banners, folders, T-shirts, badges, certificates and trophies to ensure the visibility and branding of the ministry at various occasions and events developed and produced.

SECTION 4: BUDGET EXECUTION PERFORMANCE ANALYSIS

The source of budget executed by MINAGRI central and its implementing agencies (RAB and NAEB) came from Government (domestic budget) and Development Partners (loan and/or grant). On the side of domestic budget, the revised budget allocated to MINAGRI and its affiliated agencies in 2016/17 FY was **53,135,129,630 FRW** executed at 92 percent compare to 52,345,513,541 FRW allocated in 2015/16 FY executed at 95 percent (see table 1).

Table 1: Domestic Budget Execution per Agencies 2015/16 and 2016/17 FY

AGENCIES	BUDGET TYPE	REVISED BUDGET 2015/16 FY	EXECUTED BUDGET 2015/16	%	REVISED BUDGET 2016/17 FY	EXECUTED BUDGET 2016/17 FY	%
RAB	Total Budget	30,250,041,912	28,647,513,881	95	33,127,630,996	30,805,749,594	93
	Recurrent	4,240,258,512	4,179,332,598	99	4,414,531,525	4,123,623,182	93
	Development	26,009,783,400	24,468,181,283	94	28,713,099,471	26,682,126,412	93
NAEB	Total Budget	9,694,691,934	9,433,243,231	97	7,709,197,287	7,059,685,271	92
	Recurrent	1,600,300,260	1,600,300,260	100	1,187,939,902	1,187,939,902	100
	Development	8,094,391,674	7,832,942,971	97	6,521,257,385	5,871,745,369	90
MINAGRI Central	Total Budget	12,400,779,695	11,647,991,415	94	12,298,301,347	10,771,323,747	88
	Recurrent	1,822,873,534	1,720,506,473	94	1,888,721,017	1,607,617,796	85
	Development	10,577,906,161	9,927,484,942	94	10,409,580,330	9,163,705,951	88
TOTAL		52,345,513,541	49,728,748,527	95	53,135,129,630	48,636,758,612	92

Source: MINECOFIN (Revised Budget Finance Law 2015/16, 2016/17) & MINAGRI-SPIUs reports 2015/16 FY

With regard to budget execution per type of budgets, the externally funded projects have registered low rate of budget execution at 76 percent in 2016/17 FY compared to 85 percent in 2015/16 FY (see Table 2). The quantitative reduction of budget execution compared to previous fiscal year is due to delays that have been noted in getting the 'no objection' from donors (i.e. PRICE), in starting of some projects (i.e. Rwanda Dairy Development Project) and in disbursement of funds (i.e. Improving Market Access Program)⁴.

⁴ See Annex 3.0 for details

Table 2. Budget Execution per types of budget

MINAGRI BUDGET TYPES	REVISED BUDGET (2015/16)	EXECUTED BUDGET (2015/16)	Percent	REVISED BUDGET (2016/17)	EXECUTED BUDGET (2016/17)	Percent
Recurrent	7,663,432,306	7,500,139,331	98	7,491,192,444	6,919,180,880	92
Development (Internal)	44,682,081,235	42,228,609,196	95	45,643,937,186	41,717,577,732	91
Development (External)	89,301,963,344	75,769,045,008	85	62,176,450,952	47,284,724,473	76
Earmarked Transfers	19,308,310,362	19,318,686,031	100	28,753,496,718	27,379,135,177	95
Total	160,955,787,247	140,198,779,575	87	144,065,077,300	123,300,618,262	86

Source: MINECOFIN (Revised Budget Finance Law 2015/16, 2016/17) & MINAGRI-SPIUs reports 2015/16 FY

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LIST OF ANNEXES

- Annex 1.1:** EDPRS 2 Core Indicators Matrix
- Annex 1.2:** Progress on Sector Indicator Matrix
- Annex 2.1:** Execution Performance against Domestically Financed Budget
- Annex.2.2:** Execution performance of the Projects externally financed
- Annex.3.0:** Projects Budget Execution 2016/17 FY

Annex 1.1: EDPRS 2 Core Indicators Matrix

Outcome	Indicator	Achievement (2015-16)	2016/17 Targets	Achievement (2016-17)	Rating and Achievement level
Increased productivity and sustainability of agriculture	9. Area under irrigation (Marshland & Hillside)	M: 35,161 ha H: 5,948 ha (T: 41,109ha)	M: 2,217 ha H: 1,465 ha (T: 3,682 ha)	M: 1,360.2 ha H: 1,465 ha (T: 2,825.2 ha)	77%
Enhanced food security and nutrition	20. Maize and beans stored as a strategic food reserve (EDPRS II)	15,000 MT stored (not cumulative)	45,000 MT	117,401MT stored (74,271 MT of beans and 43,130 of maize).	260%

Annex 1.2: Progress on Sector Indicator Matrix

Outcome	Indicator	Achievement (2015-16)	2016/17 Targets	Achievement (2016-17)	Rating and Achievement level
Enhance agribusiness environment for agricultural enterprises	Increased cash crops produced (MT/year)	Coffee: 20,029 MT/year (FY)	Coffee: 22,650 MT	Coffee: 18,168 MT	80%
		Tea: 26,261 MT /year (FY)	Tea: 27,500 MT	Tea: 26,891 MT	98%
		Pyrethrum: 22 MT / year (FY)	Pyrethrum: 19.5 MT	Pyrethrum: 11.1 MT	57%
Increase in agricultural finance lending for agriculture sector (production and agro-processing) [% of total]	Horticulture: 23,000 MT	Horticulture: 23,000 MT	Horticulture: 30,000 MT	Horticulture: 25,931MT	86%
		7.4%	10.5%	N/A	

Increased productivity and sustainability of agriculture	Yield of priority crops (MT/ha)	Maize: 4.1 Wheat: 3.3 Rice: 6.1 Bush Beans: 1.06 Climbing Beans: 1.48 Irish Potato: 26.5 Soybeans: 1.2 Cassava: 19	Maize: 4.7 Wheat: 4.5 Rice: 5.9 Bush Beans: 2 Climbing Beans: 3.2 Irish Potatoes: 26 Soybean: 1.3 Cassava: 13.9	Maize: 5 Wheat: 3.2 Rice: 6.2 Bush Beans: 1.7 Climbing Beans: 3.2 Irish Potatoes: 30.7 Soybean: 2 Cassava: 25	Maize: 94% Wheat: 140.6% Rice: 95% Bush Beans: 117.6% Climbing Beans: 100% Irish Potatoes: 84.7% Soybean: 65% Cassava: 55%
Transformed agriculture through research and extension services	Ratio of extension workers per farmer household (Farmer Promoters and FFS Facilitators)	1/519	1/300	1/500	
	No. of innovation technologies introduced and released, and adopted by farmers. Figures refer to incremental technologies and % to adoption rate.	5 (61.8%)	6 (70%)	6 (54.5%)	
	Proportion of animal protein production in total of recommended "safe" protein consumption		Develop the methodology to track the indicator (AGR-TAF)		Waiting for the methodology
Improved post-harvest management and agro processing promotion	Number of warehouses constructed	191	18	11	61%
Developed institutional capacity and mainstreamed cross cutting Issues	Cross cutting Issues are mainstreamed in agriculture		N/A	N/A	
	Update gender-sensitive MIS framework and Action plan for Agriculture sector	M&E Framework approved, MIS developed and initiated	MIS rolled out into 30 districts and producing regular reports	MIS rolled out into 30 districts and districts report through MIS	100%

Annex 2.1: Execution Performance against Domestically Financed Budget

Table.1 2016/17 Budget Execution by Programme and Sub Programme			
	Allocation (Frw)	Execution (Frw)	% Execution
Programme 1: AGRICULTURE AND ANIMAL RESOURCE INTENSIFICATION	28,802,762,825	26,844,130,965	93
Sub Programme a Soil Conservation And Land Husbandry	680,000,000	680,000,000	100
Sub Programme b Irrigation And Water Management	11,060,931,749	9,285,425,218	84
Sub Programme c Agricultural Mechanization	613,885,072	503,005,426	82
Sub Programme d Livestock Development	3,179,088,998	2,742,851,015	86
Sub Programme e Nutrition And Household Vulnerability	2,345,456,225	2,244,970,402	96
Sub Programme f Seed Development	6,276,951,781	6,872,415,782	109
Sub Programme g Inputs to improve soil fertility and water management	4,646,449,000	4,515,463,122	97
Programme 2: RESEARCH, TECHNOLOGICAL TRANSFER, ADVISORY SERVICES AND PROFESSIONALIZATION OF FARMERS	2,706,385,545	2,445,066,326	90
Sub Programme a Research And Technology Transfer	1,525,844,353	1,352,389,999	89
Sub Programme b Farmer Cooperatives And Organizations	202,358,000	202,280,000	100
Sub Programme c Extension And Proximity Services For Producers	978,183,192	890,396,327	91
Programme 3: VALUE CHAIN DEVELOPMENT AND PRIVATE SECTOR INVESTMENT	13,924,865,385	12,846,309,793	92
Sub Programme a Creating An Environment To Attract Private Sector Investment, Entrepreneurship And Access To Market	331,196,025	371,342,216	112
Sub Programme b Development Of Priority Value Chains: Export Crops	5,868,016,900	5,175,706,693	88
Sub Programme c Inspection And Certification	7,403,608,000	6,977,216,424	94
Sub Programme d Market-Oriented Infrastructure For Post-Harvestmanagement Systems	322,044,460	322,044,460	100
Programme 4: INSTITUTIONAL DEVELOPMENT AND AGRICULTURAL CROSS-CUTTING ISSUES	447,043,880	408,828,245	91
Sub Programme a Decentralization	138,043,880	109,205,564	79
Sub Programme b Agricultural Statistical Systems Mis M And E And Knowledge Management	305,000,000	297,622,681	98
Sub Programme c Cross Cutting Issues In Agriculture	4,000,000	2,000,000	50
Programme 5: ADMINISTRATIVE AND SUPPORT SERVICES	7,254,071,995	6,919,180,880	95
Sub Programme a. Administrative and Support Services	7,254,071,995	6,919,180,880	95
Total	53,135,129,630	49,463,516,209	93

Annex.2.2 Execution performance of the Projects externally financed												
MAIN AGENCY	PROJECT NAME	DONOR	FIN. TYPE	PROJECT TOTAL COST BUDGET	2016/17 BUDGET	START DATE	END DATE	ACTUAL BUDGET BY END JUNE 2016	CUMULATIVE DISBURSMENTS END JUNE 2016	ANNUAL EXECUTION RATE IN FY 2016/2017	CUMULATIVE PROJECT SPENDING RATE	TIME EXECUTION RATE
MINAGRI	KWAMP (Kirhe Community-Based Watershed Management Project)	IFAD & CoR	Loan & Grant	35,588,483,344	416,201,000	30/04/2009	12/31/2016	416,201,000	36,281,469,960	595,242,915	102	143
	Project for Rural Income through Exports (PRICE)	IFAD & CoR	Loan & Grant	33,871,316,557	6,112,431,000	26/01/2012	31/12/2018	6,112,431,000	27,089,190,553	3,886,077,184	80	64
	Climate Resilient Post-Harvest and Agribusiness Project (PASP)	IFAD & CoR	Loan & Grant	56,489,956,545	10,467,464,000	28/03/2014	31/03/2019	10,467,464,000	14,895,014,556	6,347,510,133	26	61
	Rwanda Dairy Development Project (RDDP)	IFAD & GoR	Loan & Grant	53,283,020,111	1,060,762,000	12/19/2016	6/30/2023	1,060,762,000	110,137,100	129,150,975	0.2	12.2
	Feeder Roads Development Project	World Bank/ID A& CoR	Loan	33,320,000,000	7,010,969,443	19-Jun-15	30-Jun-21	7,010,969,443	9,582,555,977	5,379,072,589	29	77
	Rural Community Support Project (RCSP)	KOICA & GoR	Grant	8,750,000,000	1,197,561,552	1-Jan-15	30-Dec-18	1,197,561,552	1,474,647,996	1,009,003,109	16.85	84.25
	Third Rural Sector Support Project (RSSP3)	World Bank/ID A& CoR	Loan & Grant	61,732,500,000	12,199,862,402	20-Jun-12	30-Oct-18	12,199,862,402	69,921,722,977	11,721,033,959	113.27	96.08
	Land Husbandry, Water Harvesting and Hillside Irrigation (LWH)	World Bank/ID A& USAID, CIDA, GAFSP, GoR	Loan & Grant	91,381,331,062	13,831,675,338	20-Jun-10	30-Jun-17	13,831,675,338	80,917,782,781	12,809,449,345	89	93

Annex.3.0: Projects Budget Execution 2016/17 FY

RWANDA AGRICULTURAL BOARD (RAB)						
Projects	Revised Domestic Budget	Revised External Loan	Revised External Grant	Total	Executed Budget	%
Project: Immediate Action Irrigation Project (GFI)	6,913,597,113	-	-	6,913,597,113	6,318,296,799	91.4
Export Targeted Modern Irrigated Agriculture Project(ETI)	435,000,000	-	-	435,000,000	431,999,085	99.3
Small Scale Irrigation Technology(SSIT)	764,437,042	-	-	764,437,042	951,659,651	124.5
The Project For Rehabilitation Of Irrigation Scheme In Bugesera District.	179,348,526	-	-	179,348,526	177,710,526	99.1
One Cup Of Milk Per Child	1,476,476,000	-	-	1,476,476,000	1,405,451,461	95.2
Livestock Intensification Project	2,153,595,887	-	-	2,153,595,887	1,796,713,563	83.4
Project: One Cow Per Family	671,480,225	-	-	671,480,225	660,333,946	98.3
Safeguarding National Genetic Resources For Food Security And Sustainable Development	60,135,803	-	-	60,135,803	42,651,248	70.9
Promotion Of The Use Of Lime To Increase Agricultural Productivity In Acidic Soils Of Congo-Nile Divide Ridge Region	152,813,125	-	-	152,813,125	124,933,997	81.8
Project: Agricultural Mechanisation Programme	474,970,260	-	-	474,970,260	455,056,740	95.8
The Project For Valorization Of Rurambi Irrigation Scheme In Bugesera District.	275,214,432	-	-	275,214,432	273,750,512	99.5
Aquaculture And Fisheries Development Project	266,106,020	-	-	266,106,020	254,155,337	95.5
Priority Crop Intensification Project (including Fertilizer import)	13,305,283,573	-	-	13,305,283,573	12,432,452,601	93.4
Development of market responsive plant varieties and seed systems to reduce Rwanda's dependency on seed importation	844,629,425	-	-	844,629,425	735,969,088	87.1
Livestock Infrastructure Support Project (LISP)	740,012,040	-	-	740,012,040	620,991,858	83.9
RAB Competitive Research Project	-	-	3,152,970,465	3,152,970,465	574,537,767	18.2
TOTAL	28,713,099,471	-	3,152,970,465	31,866,069,936	27,256,664,179	85.5

MINAGRI Central						
Projects	Revised Domestic Budget	Revised External Loan	Revised External Grant	Total	Executed Budget	%
Buffet Project	1,783,072,330	-	-	1,783,072,330	963,152,846	54.0
National Strategic Food Reserve Project	5,750,760,040	-	-	5,750,760,040	5,688,071,440	98.9
Gako Intergrated Beef Project	997,855,647	-	-	997,855,647	635,783,984	63.7
e-SOKO PROJECT	298,817,313	-	-	298,817,313	297,622,681	99.6
KWAMP: Kirehe Community-Based Watershed Management Project	-	208,100,500	208,100,500	416,201,000	595,242,915	143.0
PRICE: Project For Rural Income Through Exports	268,575,000	2,921,928,000	3,056,215,500	6,246,718,500	3,886,077,184	62.2
PASP: Post Harvest And Agribusiness Support Project	200,000,000	5,133,732,000	5,233,732,000	10,567,464,000	6,347,510,133	60.1
Rwanda Dairy Development Project (RDDP)	-	530,381,000	530,381,000	1,060,762,000	129,150,975	12.2
LWH: Land Husbandry Hillside Irrigation And Water Harvesting	300,000,000	13,531,675,338	-	13,831,675,338	12,809,449,345	92.6
RSSP: Rural Sector Support Project (Phase II)	350,000,000	11,849,862,402	-	12,199,862,402	11,721,033,959	96.1
RCSP: Rural Community Support (Koica Funded Project)	30,000,000	-	1,167,561,552	1,197,561,552	1,009,003,109	84.3
PAIRB: Proje D'Appui Aux Infrastructures Rurales De La Region Naturelle De Bugesera	75,000,000	-	4,980,917,429	5,055,917,429	5,051,606,536	99.9
Feeder Roads Development Project /World Bank	355,500,000	6,655,469,443	-	7,010,969,443	5,379,072,589	76.7
Sector Policy Support Programme(SPSP) for Rural Feeder Roads	-	-	817,596,240	817,596,240	572,287,378	70.0
Improving Market Access Program/Embassy of the Kingdom of Netherlands	-	-	2,197,827,583	2,197,827,583	788,827,583	35.9
Total	10,409,580,330	40,831,148,683	18,192,331,804	69,433,060,817	55,873,892,657	80.5

NATIONAL AGRICULTURAL EXPORT DEVELOPMENT BOARD (NAEB)						
Projects	Revised Domestic Budget	Revised External Loan	Revised External Grant	Total	Executed Budget	%
Project: Improving Coffee Production, Productivity And Quality	916,572,168	-	-	916,572,168	907,542,968	99.0
Increasing Pyrethrum Production, Productivity And Quality	14,276,783	-	-	14,276,783	14,222,844	99.6
Tea Expansion Project	2,950,105,324	-	-	2,950,105,324	2,630,924,608	89.2
Project: Commodity Chain Programme (Horticulture Intensification And Quality Management)	1,367,872,633	-	-	1,367,872,633	1,054,860,555	77.1
Development Of New Agriculture Export Chain	233,732,483	-	-	233,732,483	233,181,654	99.8
Kigali Wholesales Market	322,044,460	-	-	322,044,460	322,044,460	100.0
Project: Flower Park Construction	371,552,662	-	-	371,552,662	371,342,216	99.9
SERICULTURE PROJECT	345,100,872	-	-	345,100,872	337,626,064	97.8
Total	6,521,257,385	-	-	6,521,257,385	5,871,745,369	90.0

ANNEX 4: Agriculture Joint IMIHIGO FY 2016/17

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
OUTCOME 1: Increased Agricultural Productivity								
2016/17 Targets: Agricultural production for priority crops increased by end June 2017								
1.1. Agricultural productivity through land use and input use increased.	Consolidated land increased to Average yields for priority crops in MT/ha	[Baseline end June 2016] Rice: 6.1 Wheat: 3.3 Maize: 4.1 Irish Potatoes: 26.5 Cassava: 19 Bush Beans: 1.06 Climbing Beans: 1.48 Soybean: 1.2 Banana: 15.9				Rice: 6.2 Wheat: 3.2 Maize: 5.0 Irish Potatoes: 30.7 Cassava: 25.0 Bush Beans: 1.7 Climbing Beans : 3.2 Soybean: 2.0 Banana: 18.6	MINAGRI 1. Timely supply of inputs to all farmers in seasons A, B and C. 2. Train farmers on good agriculture practices 3. Build capacity of extension agents DISTRICTS 1. Mobilize farmers for season preparation to ensure access to agriculture inputs 2. Monitor season implementation 3. Farmers mobilization for land consolidation 4. Monitor agro-dealers to ensure timely inputs delivery to farmers 5. Prepare and organize seasonal meetings MINICOM (RCA) Organize farmers into cooperatives PSF Avail inputs	Average yield for priority crops on Consolidated sites: Rice: 5.9 Wheat: 4.5 Maize: 4.7 Irish Potatoes: 28 Cassava: 19 Bush Beans: 2 Climbing Beans : 3.2 Soybean: 1.3 Banana: 17

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
	Ha under land consolidation	Season A (Q2):2016 Maize: 273,796 ha Beans: 320,630 ha Irish potatoes: 75,000 ha Wheat: 22,574 ha Cassava: 106,713 ha Rice: 11,332 ha Soybeans: 19,061 ha	Season A (Q2) Maize: 279,267 ha Beans: 323,836 ha Irish potatoes: 94,713 ha Wheat: 23,702 ha Cassava: 218,183 ha Rice: 22,501 ha Soybeans: 19,251 ha			MINAGRI 1. Radio spots on season preparation 2. Ensure timely supply of inputs to all farmers: Fertilizers: 54,566 MT; and improved seeds: 200 Millions of cassava cuttings, 3100 MT of Maize and 1000 MT of soybeans. 3. Contract seed companies and local seed multipliers to avail seeds on time 4. Provide technical support in compost production and lime application 5. Closely follow up with districts compost and lime use by farmers	Season A (Q2) Maize: 294,027 ha Beans: 367,426 ha Irish potatoes: 63,274 ha Wheat: 6,770 ha Cassava: 67,663 ha Rice: 9,566 ha Soybeans: 11,173 ha	
		Season B (Q4) : Maize: 128,936 ha Beans: 375,175 ha Irish potatoes: 75,000 ha Wheat: 55,000 ha Rice : 11,030 ha Soybeans: 24,676 ha	Season B (Q4) : Maize: 131,515 ha Beans: 340,355 ha Irish potatoes: 85,404 ha Wheat: 86,602 ha Rice : 11,251 ha Soybeans: 24,922 ha Total: 1,562,003 ha			DISTRICTS 1. Farmer mobilization on season preparation (land use consolidation, and inputs use) 2. Organize and monitor the agricultural inputs distribution system involving agro-dealers and districts agronomist. 3. Follow up compost production (44,240 MT) and lime (26,421 MT) 4. Capacity building of farmers on lime use 5. Regular monitor lime and compost application by farmers	Season B (Q4) : Maize: 64,153 ha Beans: 353,181 ha Irish potatoes: 59,086 ha Wheat: 41,936 ha Rice : 13,456 ha Soybeans: 12,178 ha Total: 1,405,262 ha	
			Total: 1,562,003 ha			MINICOM (RCA) Organize farmers into cooperatives		

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
	54,566 MT of subsidized fertilizers bought by farmers by end of June 2017	Food crops :43,516 MT	26,109			17,407		Tot: 32,056 MT
		Cash crops: 11,050 MT		8,050		3,350		Coffee: 4916 MT Tea:7985 MT Tot: 12,901 MT
	26,421 MT of lime on acidic soils subsidized (MT bought by farmers) by end of June 2017	19,012 MT	15,945			10,476		Cumulative:24,362.6 MT of lime applied
	44,240 MT of compost produced and utilized by farmers	NA	24,500			19,740		Cumulative:146,652.8 MT of compost produced and used by farmers

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
1.2. Seed Processing Plant operational	Level of operationalization of the Plant	The facility is completed and tested	Contingent on unsuccessful negotiation alternative private partner identified	Contingent on unsuccessful negotiation alternative private partner identified	Seed processing plant operational at 20%	Seed Processing Plant full operational	<p>(i) The request for expression of interest for the acquisition of the seed processing plant was made through an open competition tender process;</p> <p>(ii) Only one bidder "ZAAD Holdings", a company from South Africa expressed interest to the parastatal;</p> <p>(iii) A request for Pre-qualification was made, and this company was assessed as Qualified based on technical and financial criteria;</p> <p>(iv) The bidder is now in the process of submitting his proposal document on the acquisition and operationalization of the seed processing plant;</p> <p>Following this submission, RDB will then assess the quality of the proposal with regard to the requirements for the effective operationalization of the plant</p>	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
1.3 Irrigation and terraces schemes valorised	Indicator: 3,371 ha of hillside irrigation sites utilized	NA		9001,230	1,241		Districts 1.Sites Identification 2.Negotiation for framework contracts with companies / cooperatives for compost and lime supply 3.Farmers mobilization for season preparation and growing of priority crops 3.Follow up compost production (44,240 MT) 4.Capacity building of farmers on lime use 5.Regural monitor lime and compost application by farmers	3,000Ha utilized for crop growing on hillsides
	Indicator: 3,000 ha of marshland under irrigation sites utilized	NA		8001300	900			5,382 Ha utilized for crop growing in marshlands
	Indicator:3, 000 ha of radical terraces utilized	NA		1200950	850		MINAGRI (RAB) 1.Timely avail improved seeds to farmers 2.Provide technical support in compost production and lime application 3.Closely follow up with the districts compost and lime use by farmers	6,123.4 ha utilized for crop growing in radical terraces

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
1.4. Soil erosion infrastructures increased	Indicator: Number of ha (4,599 Ha) of radical terraces (RT) constructed	103,918 ha Baseline by June 2016	800	1,500	1,200	1,099	MINAGRI 1. Joint planning for soil erosion control to set implementation modalities; 2. Design implementation modalities and guidelines for land husbandry; 3. Provide technical support to districts and supervision for the establishment of radical and progressive terraces 4. To support financially the construction of RT and PT	Q1: 765 ha Q2: 1,733.45 ha Q3: 1,974.95 ha Q4: 1,650 ha Total: 6,123.4 ha
	Indicator: Ha of progressive terraces (PT) developed (6,349 ha)	913,212 ha Baseline by June 2016	1,540	1,750	1,675	1,384	MINALOC (LODA) Work closely with the districts to construct RT and PT through VUP program Districts 1. Conduct mobilization campaigns for soil erosion control activities through community works 2. Mobilize other stakeholders at districts level	Q1: 840 ha Q2: 1,622.1 ha Q3: 3,782.87 ha Q4: 4,147 ha Total: 10,392 ha

Output	Indicator	Baseline	Targets / milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
1.5. Irrigation infrastructures increased	Indicator: New Ha under Marshland irrigation developed (2,217 ha)	35,161 ha Baseline by June 2016	400	517	600	700	<p>MINAGRI (SPIU) & MINAGRI (RAB)</p> <p>1. Design and implement marshland development works</p> <p>2. To support financially marshland development works on the following sites :</p> <p>RSSP: Karangazi-Rwangingo: 900ha (100%); Mushaduka: 200ha (100%)</p> <p>RCSP: 58 ha (Ruterana and Ruzigambogo at 100%)</p> <p>RAB: QWMDP/ GFI : 500 ha</p> <p>3. Marshland rehabilitation works :</p> <p>RAB: Rurambi : 300 ha(100%), Kajevuba : 65 ha (100 %)</p> <p>4. Provide technical assistance and monitoring for marshlands development.</p>	<p>In Q1:</p> <p>(i)1204.2 ha of marshland developed:</p> <p>Karangazi-Rwangingo:900ha</p> <p>Mushaduka:200ha</p> <p>Ruterana:35ha</p> <p>QWMDP/GFI: 69.2ha</p> <p>In Q2:</p> <p>(i)81 ha GFI/ QWMDP completed progress)</p> <p>In Q3:</p> <p>35 ha of marshland developed (GFI/QWMDP)</p> <p>Q4:</p> <p>40 ha under QWMDP/GFI</p> <p>Total: 1,360.2 Ha (61.3%)</p>
	Indicator: Ha under Marshland irrigation rehabilitated (365 ha)			200		165	<p>DISTRICTS</p> <p>1. Farmers mobilization and Following up marshland development works</p> <p>2. Facilitate compensation process</p> <p>MINICOM (RCA)</p> <p>Organize farmers into cooperatives</p> <p>MINIRENA</p> <p>To provide water use permit</p>	<p>In Q2:</p> <p>(i)88ha of marshland rehabilitated:</p> <p>Ruzigambogo-Kajevuba</p> <p>(ii)Rurambi marshland rehabilitation work is at 90.5%</p> <p>In Q3: 32.5 ha of marshlands rehabilitated (Rurambi)</p> <p>In Q4: 800 ha (Rugende and Mukunguri)</p> <p>Cumulative: 1,209.7 ha</p>

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
	Indicator: Ha under Hillside irrigation developed (1,465 ha)	5,948 ha Baseline by June 2016	300	387	358	420	<p>MINAGRI (SPIU) & MINAGRI (RAB)</p> <p>1. Design and implement hillside irrigation works: Buffet : 1,200 ha (Mpanga and Nasho) (100%); RAB/JICA: Ngoma-22: 265 ha (100%).</p> <p>2. Provide technical assistance and monitoring for hillside development works</p> <p>DISTRICTS</p> <p>1. Farmers mobilization and Following hillside development works</p> <p>2. Facilitate compensation process</p>	<p>In Q1: 1200 ha of hillside development at Mpanga & Nasho completed,</p> <p>In Q2: Ngoma-22: 265 Ha completed</p> <p>In Q3 & Q4: Follow up hillside irrigation studies development</p> <p>Total: 1465 ha</p>

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
	Indicator: 1,400 Ha under Small Scale irrigation Technology	2,444 ha	300	300	400	400	<p>MINAGRI (RAB)</p> <ol style="list-style-type: none"> 1. Joint planning with RAB for SSIT to set implementation modalities; 2. Implement Small Scale irrigation technologies development 3. Provide technical assistance and monitoring <p>Districts</p> <ol style="list-style-type: none"> 1. Joint planning with RAB for SSIT to set implementation modalities; 2. Farmers mobilization for SSIT adoption 3. Identification of SSIT beneficiaries 4. To monitor regularly district service provider 	<p>In Q1: 1,160 Ha irrigated by small scale irrigation technology 145 farmers and technicians trained 70 demonstration session conducted</p> <p>In Q2: 420 ha irrigated by small scale irrigation technology 30 demonstration session conducted 149 farmers and technicians trained 2,000 farmers mobilized for SSIT 4 Service providers recruited to maintain SSIT equipments</p> <p>In Q3: 250 ha of SSIT installed In Q4 : 300 ha Cumulative : 2,130 ha</p>

Output	Indicator	Targets/milestones				Activities	Annual achievements
		Q1	Q2	Q3	Q4		
	Indicator: Irrigation Studies conducted for marshland and Hillside development, covering 8,800 Ha	ToRs development and advertisement	Tendering	Study development	Study development	MINAGRI (RAB) Conduct feasibility and detailed studies for marshland and hillside irrigation development: GFI-QWMDP (500 ha); GFI-Hillside -Gabirol & Ririma (2500 ha); ETI-Mahama-1 (1700 ha); ETI-Mahama-2 (2500 ha); RSSP (1500Ha); RCSP (100Ha)	GFI/ Marshlands:500 Ha Marshlands studies completed and their final reports validated: (i)Urwonjya (133Ha) located in Nyaruguru (ii)Nzavu Marshland (107Ha) located in Nyamagabe (iii)Makera Marshland (109ha) located in Muhanga, (iv)Mwura-Gatare (101Ha) located in Gisagara (v)Rubuyenge –Burakari (416Ha), GFI/Hillside: (i)Gabirol: First draft of detailed study report has been submitted (ii)Inception and feasibility reports validated for : Rilima, Rweru, and Cyohoha South (iii)Rukumberi: Inception report not yet submitted, study on going RSSP (1500ha) marshlands: (i)Rwamagana & branches (559ha): study completed; the procurement process of marshland development is at final notification , (ii)Migina(435ha): study completed (iii)Kabuye 300ha: study completed and works started (iv)Murindi-Rwampara 117ha): study completed

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
							<p>RCSP (100ha) Marshlands: Inception report presented for kanyonyamba marshland (110 ha) , the general study progress is at 80%</p> <p>ETI Progress Mahama-1: Study completed and now in the tender process Mahama-2: Draft of the feasibility study submitted</p>	
	Indicator: Irrigation Master Plan updated	2010 Irrigation master plan Document	ToRs development and advertisement	Inception report validated		<p>MINAGRI To lead study preparation ,elaboration and validation process MINAGRI/ DISTRICTS To assist in availing information required related at grassroot level MINIRENA To provide information related to National water resources master plan</p>	<p>Terms of references have been developed and next step was the tendering process which has not been done due to budget shortage</p>	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
1.6. Turnaround strategies for 20 irrigation Profiles developed implemented	10 sites with turnaround strategy implemented	Booklets on 20 profiled sites for investors prepared and posted on Minagri web site.	Engage farmer cooperatives and the private sector	Engage farmer cooperatives and the private sector	5 sites with turnaround strategy implemented	Additional 5 sites with turnaround strategy implemented	<p>(i) Turnaround strategies of 4 sites (Matimba, Muvumba 4, Mukunguri and Nyanza 23) implemented by investors in collaboration with farmers.</p> <p>(ii) 5 sites have implemented turnaround strategies as follows: Rurambi, 200Ha have been given to Agriculture Innovation Development Company (AIDC) for stevia production; Nasho Phase I is being exploited by COVAMIS Cooperative</p> <p>Cyili, Rusuli-Rwamuginga and Rwagitima - Ntende irrigation schemes are being exploited by COPRORIZ- Cyili; COPRORIZ- Rusuli and COPRORIZ-Ntende respectively</p> <p>(iii) Karongi- 12 is being exploited by farmers cooperatives KOABIBIKA and KOABIMURU</p> <p>Total: 10 profiled sites under permanent exploitation</p>	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
1.7. Access to mechanization services to the rural farmers increased	Indicator: % of mechanized farm operations (annual target 6% to achieve 25% by end June 2017)	19%	20.5% (Cumulative)	22% (Cumulative)	24% (Cumulative)	25% (Cumulative)	<p>MINAGRI (RAB)</p> <ol style="list-style-type: none"> Overall coordinate of mechanization activities in collaboration with the private companies Collect data and compile report on mechanized farm operations; Inspect and monitor private service providers (private companies) to ensure service delivery Mobilize farmers through demonstration during mechanization week Build farmer's capacity and skill in operation and maintenance farm machineries in collaboration with WDA <p>DISTRICTS</p> <ol style="list-style-type: none"> Mobilize farmers for farm mechanization week Identification of cooperatives/ individual farmers that need mechanization service Facilitate linkage of farmers with private service providers in collaboration with RAB <p>MINICOM (RCA) Organize farmers into cooperatives</p> <p>RDB Mobilize more investors</p> <p>MINECOFIN Mobilize financial institutions to provide leasing to mechanization equipments</p>	<p>(i) The area under mechanization has increased and cumulatively: 25.2% mechanized farm operations</p> <p>(ii) 10 private companies now involved in providing mechanization services of which 3 are dealers of farm machinery and 7 are providing machinery hiring services to farmers.</p>

Output	Indicator	Baseline	Targets/ milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
OUTCOME 2: Increased Animal Resources productivity								
2016/17 Targets: Increased animal protein production and consumption by end June 2017								
2.1. Bovine genetics improved	109,253 cows inseminated	Baseline end June 2016: 61,593 (not cumulative)	20,000	30,000	35,000	24,253	<p>MINAGRI (RAB)</p> <ol style="list-style-type: none"> 1. Management and replacement of bull study 2. Production, processing, storage and ensuring the quality of bovine semen 3. Production and distribution of liquid nitrogen 4. Monitor supply system of semen and AI inputs to the public and private. AI Workers 5. Organization of refresher courses for AI Technicians 6. Provide technical support <p>In Q1: (i) Fast truck the repair of Liquid Nitrogen plant: (ii) 102 Technicians trained on Artificial Insemination technique</p> <p>In Q2: (i) 89 Technicians trained on Artificial Insemination technique (ii) 12,431 Cows have been inseminated</p> <p>In Q3: 28,223 cows inseminated 102 Vet Technicians trained in AI Technique and equipped with complete AI kits</p> <p>In Q4: 36,567 Cows have been inseminated</p> <p>Cumulative : 77,221 cows (70.68%) inseminated</p>	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
	49,888 AI calves registered by end June	Baseline end June 2016: 29,176 (not cumulative)	9,000	11,574	15,674	13,640	DISTRICTS 1.Purchase of Semen 2.Facilitating inseminators for insemination and recording 3.Insemination of targeted cows (109,253 cows across the country) 4.Monitoring and evaluation of pregnant cows 5.Recording of AI born calves	In Q2: 6,141 AI born calves have been identified In Q3: 11,084 AI calves identified Q4: 10,161 AI born calves have been identified Total : 27,386 AI calves Registered
2.2 Animal health improved	390,000 of Animal vaccinated against BQ 400,00 of Animal vaccinated against LSD 40,000 of Animal vaccinated against RVF 3000 of Animal vaccinated against Brucellosis 10,000 dogs vaccinated against rabies and 1500 stray dogs culled	390,000 against Black quarter-anthrax, 320,000 against LSD 25000 against RVF 12000 Against brucellosis 6054 against rabies	250,000	250,000	140,000	150,000	MINAGRI (RAB) 1.Provide technical support 2.Timely avail vaccines to the districts 3.Monitor vaccination campaign DISTRICTS 1. Farmers mobilization to vaccinate their animals 2.To organize vaccination campaign 3. Train farmers in basic skills of treating simple diseases in first aid techniques PSF (Rwanda Veterinary Council) Facilitate vaccination campaign	Annual achievements: 340,433 453,350 76,800 3,670 9,649 dogs vaccinated , 2,863 stray dogs culled

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
2.3. Grazing pastures improved	450 ha of forage seeds multiplied	0	200		250		<p>MINAGRI (RAB)</p> <ol style="list-style-type: none"> 1. Avail seeds required to multipliers 2. Provide technical support 5. Follow up the seeds multiplication process <p>DISTRICTS</p> <ol style="list-style-type: none"> 1. Site identification 2. Forage seeds multipliers mobilization 3. Follow up forage seeds multiplication 	<p>(i) 570 Ha of land cultivated for forage grasses & Leguminous (North and South)</p> <p>(ii) 1396 Farmers cooperative trained and started forage multiplication in their respective land</p>

Output	Indicator	Baseline	Targets/ milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
2.4. Fish production increased	27,000 MT of fish produced	Baseline: 20,406 MT (not cumulative)	6000	7500	7500	6000	<p>MINAGRI (RAB)</p> <ol style="list-style-type: none"> 1. Strengthening of fish farming 2. Restocking of lakes; 3. Restocking of fish ponds 4. Monitor the production of 27,000 MT of fish 5. Provide incentive and stimulants to investors <p>RDB</p> <ol style="list-style-type: none"> 1. Promote investment in Aquaculture <p>DISTRICTS</p> <ol style="list-style-type: none"> 1. To promote fishing services at district level 2. To fight against illegal and uncontrolled fishing <p>MINICOM(RCA)</p> <p>To organize and assist technically fishermen cooperatives</p>	<p>In Q1: 4,556 MT of fish produced</p> <p>In Q2: Fish federation (FEFICORWA) assisted to develop business plan ,access to market strategy and procedure manual 4,669MT fish produced</p> <p>In Q3: (i)8,959MT of fish produced. (ii) Fingerling production from Kigembe was only 45,700 Tilapia Fingerlings (iii)30 fish farmers cooperatives trained (iv)Lakes surveillance continued whereby in the North 34 illegal nets and 38 illegal fishing while 128 illegal nets and 48 canoes were confiscated and destroyed (v) 8 private companies involved in fish production were registered; fish collection center (located in Kigali SEZ) now privatized and operational In Q4: 8,344 MT of fish produced Cumulative: 26,528 MT of fish produced.</p>

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
Outcome 3 : Increased growth of Agricultural Exports								
2016/17 Targets:								
Increased growth of traditional exports by 21%, Increased growth of non-traditional exports by 38%	3.1 Gishali Flower Park (by Bella Flowers Ltd.) operational	2ha of flower planted	9	9				
			Ha of flowers planted in green houses					
Number of stems exported (2,318,800)		0	363,800	530,400	656,200	768,400		Q2: 466,260 stems are exported In Q3: (i)1,881,310 stems of cut flowers were exported for Euro 209,269 In Q4: 2,250,220 stems exported
								Investor: 1. To initiate plantation of flowers on 18 ha (Bella Flowers) MINICOM 2.To facilitate flower exports 2.Facilitate access to export growth fund via BRD and BDF RDB 1. To mobilize more investors for the Project MINALOC/District 2. Mobilization of households for project expansion MININFRA (RTDA, WASAC & REG) Provide access roads, water and electricity. PSF To particularly encourage local investors

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
3.2.	Indicator: 5ha developed and planted	Baseline:0	Start and Finalize acquisition of land on 20 ha	Maintenance of the acquired land	Investor attracted and infrastructures developed at 50%.	20 ha rehabilitated 5ha developed and planted	(i) Land acquisition of 20HA of Nyacyonga completed. (ii) An investor to develop 10ha is conducting trials of different flower varieties. (iii) Rehabilitation of infrastructures: pack house and road construction stands at 80%. Bush clearing, pavement works, poles installation, plastering works completed	
3.3	Development of Gashora site for horticulture production	Land developed	Site preparation (land clearing & leveling on 72ha). Investor mobilization	Upgrade irrigation on 72 ha. Soil amendment on 72ha. Start production on 72ha. Investor mobilization for second phase.	Upgrading irrigation on 128ha. Soil amendment on 128ha.	Upgrading irrigation on 50 ha. Start the vegetables production on 200ha.	(i) PRODEV a local investment company has accepted to co-invest with NAEB on the area dedicated for export crops. (ii) Joint agreement with investor signed, land leveled, irrigation canals prepared and irrigation equipment procured. (iii) Joint agreement with the investor to develop Gashora approved by cabinet. Company registration in progress.	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
3-4 Increased made tea production through increase in productivity from 6.8 to 7 MT /ha	Volume in MT of tea produced (27,500 MT)	Baseline: 26,261 MT	5,179	6,776	8450 MT	7,095	<p>MINAGRI (NAEB)</p> <ol style="list-style-type: none"> 1. Support tea growers to apply 6,700MT of mineral fertilizers 2. Conduct capacity building of tea professional pluckers (4500) 3. Finalize expropriation of land in Rugabano (438 ha) 4. Gapfilling of tea plantation on 1089 ha <p>Districts</p> <p>Mobilize tea farmers to maintain properly tea plantation</p> <p>MINICOM(RCA)</p> <p>Support technically tea farmers cooperatives</p>	<p>Q1:</p> <p>4,404 MT of tea produced 1,500MT of fertilizer were delivered</p> <p>Q2:</p> <p>Trained management and technical staff of ASSOPTHE in Rulindo district on management and cooperative accounting. RCA inspectors carried out inspection, conflict resolution of tea cooperative in Western Province</p> <p>6,542 MT of tea produced 2891 MT of fertilisers applied</p> <p>In Q3:7,775 MT of tea produced</p> <p>In Q4: 8,160 MT of tea produced</p> <p>Cumulative: 26,891 MT of tea produced.</p>

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
3.5 Increased tea factories	Progress level (in %) of Gatare tea factory construction works	Investor identified and Tea factory construction agreement signed	20 % of construction level	40%	70%	<p>Q4</p> <p>1. Construction works completed</p> <p>2. Equipments and machines installed and tested.</p>	<p>MINAGRI (NAEB) & MINICOM Provide technical support</p> <p>MINALOC/ DISTRICTS</p> <p>1. Land mobilization</p> <p>2. Regural monitoring of tea factory construction</p> <p>MININFRA (RTDA & REG) To provide access roads, water and electricity</p> <p>RDB Follow up the implementation plan</p> <p>MINICOM (RCA) To provide technical assistance to Farmers cooperative(COTHEGA)</p> <p>PSF Support technically investor (RMT)</p>	<p>Construction works at 95%: Levelling, foundation, pillars and roofing works, installation of machines completed.</p> <p>Now installing the boiler prior to testing phase expected by August 2017</p> <p>RCA assisted COTHEGA in conflict resolution regarding un equal share capital, and facilitated negotiation in collaboration with RDB for loan repayment</p>

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
3.6. Promotion of sericulture	Additional 650ha developed under Sericulture (mulberry)	1422 ha planted		250250		150	<p>DISTRICTS</p> <ol style="list-style-type: none"> Mobilize farmers Land preparation for mulberry plantation Provide technical support to growers <p>MINAGRI (NAEB)</p> <ol style="list-style-type: none"> Re-organize production models for mulberry cultivation around 3 identified zones Plant additional 650 ha of mulberry Rehabilitate 3 cocoons production centers in Nyanza, Kayonza and Karongi Establish a full set of silk reeling machines and accessories Conduct capacity building of 150 sericulture farmers and 15 technicians Operationalize a sericulture buying center to purchase and process all available cocoons production Monitor production of 10 MT of Silkworm Fresh cocoons <p>MINICOM</p> <p>Provide technical support for sericulture processing</p>	<p>In Q2:</p> <p>(i) 246.5 ha of mulberry planted</p> <p>(ii) Agreement to rehabilitate the cocoon processing centers was signed with Reserve force.</p> <p>In Q3: 223 ha planted: 106ha new & 117ha gap filled.</p> <p>In Q4:</p> <p>(i) 458.5ha planted and 350.9ha gap filled</p> <p>(ii) 5 technician were trained and more than 100 farmers around rehabilitated center</p> <p>(iii) Rehabilitation of 3 cocoon centers is at 87%</p> <p>(iv) 4 drier machines have been installed and are located in Nyanza, Karongi, Gatsibo and Gakenke Districts</p> <p>Cumulative: New 811 ha planted and 467.9 gap filled</p>
	10MT of silkworm fresh cocoons produced	5.6 MT of cocoons produced		34		3	<p>In Q2: 2.8 MT of cocoons produced</p> <p>In Q3: 2.2 MT of cocoons produced</p> <p>In Q4: 3.9 MT of cocoons produced</p> <p>Cumulative: 8.9 MT</p>	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
Outcome 4: Increased private sector investment and financing								
2016/17 Targets: Agriculture investment increased and Agro processing industries capacities improved								
4.1. Agro-processing industries promoted through increase supply of raw material and enhance their operational capacities.	<p>Indicator: MT of raw materials supplied: (i) 22,000 MT of Soya supplied to SoyCo and AIF. (ii) 130,400 MT of Maize supplied to AIF/MINIMEX and SMEs (iii) 20-30 MT of Cassava /day) supplied to Kinazi (iv) 1,104 MT of pyrethrum supplied to SOPIRWA</p>	<p>Soya processors:3,855 MT Cassava: 15MT/day</p>		13,200	8,800	<p>DISTRICTS 1.Mobilisation of land and framers to increase raw materials production of soya, Cassava, Maize and Pyrethrum. 2. Follow up the plantation of 15,000 ha of Soya, 20,000 ha of cassava, MINAGRI (RAB) 1.Technical support to farmers: Agricultural practices, input distribution., 2.. Enhancing the partnership with agro processors with farm cooperatives 3.To avail high yielding and resistant varieties to farmers MINAGRI/RALICS Quality control of raw materials to supply to agro-processing industries MINICOM To implement agreement between farmers and industrial operators to increase supply of raw materials RDB Mobilize investors in agro-processing industries PSF 1.To organize training and field schools for farmer's cooperatives 2.To assist in contract farming elaboration</p>	<p>For 2017 A: 820 MT of Soya supplied to SOYCO For 2017 B: 2,374 MT of Soya supplied Tot : 3,194 MT</p> <p>2017 A: 1,182 MT of cassava supplied to Kinazi 2017 B: 6,428 MT of cassava supplied to agro processing industries Tot: 7,610 MT</p> <p>2017 A: 47,050 MT of Maize supplied to MINIMEX, AIF and SMEs 2017 B: 45,228 MT TOT: 92,278 MT</p> <p>1605 MT of Pyrethrum supplied to SOPYRWA</p>	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
4.2. Access to finance in agriculture sector Increased	Indicator: Percentage of loans attributed to agriculture sector increased from 10.5 %.	Baseline:7.4		8.5	9	10.5	<p>MINAGRI</p> <ol style="list-style-type: none"> 1. Link farmers to financial institutions through grantee and grant schemes 2. Promote financial literacy campaigns 3. Prepare and conduct awareness access to finance campaigns <p>MINECOFIN</p> <ol style="list-style-type: none"> 1. Work with BRD and other banks to develop new financial products specific to agriculture. <p>MINICOM</p> <ol style="list-style-type: none"> 1. Warehouse receipt system development 	<p>(i) A project on Co-financing agriculture insurance has been prepared and funded. This project will allow banks to expand their lending portfolio to agriculture sector, provide insurance coverage and financial support to the farmers in case any crop failure.</p> <p>(ii) Farmers have been linked to financial institutions through PASP schemes and 85 projects have been funded with 7.79 Billion Rwf.</p> <p>Two business plans are under BDF approval and 11 Business Plans have been approved by financial institutions, waiting for grant approval at BDF level</p> <p>(iii) Access to finance awareness campaigns has been conducted and currently loans attributed to agriculture sector reached to 6.45 %.</p>

Output	Indicator	Baseline	Targets / milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
4.3 Improved linkages in supply systems of milk to processing plants.	<p>Indicator: 61,810,000 liters of Milk supplied to processing plants per year</p> <p>Number of MCC full operational as hub (i.e. AI services, pharmacy and feed outlet)</p>	41,270,000 liters /year	10,452,500	15,452,500	20,452,500	15,452,500	<p>MINAGRI</p> <p>1. Continue water supply project in parts of Nyagatare District</p> <p>2. Put in place Ministerial Order to regulate feed manufacturing</p> <p>3. Start process of enforcing bush clearing and pasture improvement in all farms</p> <p>4. Support access to training on methods of hay and silage making at farm level including feeding of crop residues.</p> <p>5. Implement Genetic Improvement Policy</p> <p>6. Operationalize 100 MCC to operate as hub.</p> <p>RALIS/ MINAGRI: Quality control of milk produced</p> <p>MINICOM /RCA</p> <p>1. To reinforce the milk supply agreement between cattle breeders with processors</p> <p>2. Strengthen the milk value chain</p> <p>DISTRICTS</p> <p>1. Mobilize farmers to supply milk to the MCCS</p> <p>2. Reinforcement of the implementation of milk supply regulations</p> <p>MININFRA: To provide access roads, water and electricity to MCCS</p> <p>RDB: Attract investors in MCCs management</p> <p>PSF: Train farmer's cooperative on quality milk production</p>	<p>In Q1: 5,092,395 liters</p> <p>In Q2: 27,765,180 liters:</p> <p>In Q3 : 20,501,144 liters</p> <p>In Q4: 13,032,035 liters</p> <p>Total amount of milk processed :</p> <p>66,390,754 liters</p> <p>Q1: 13 MCCs fully operational</p> <p>Q2: 7 MCCs</p> <p>Capacity building of MCCs cooperatives is ongoing through PASP Project (384 Dairy Farmer Groups were established, and formed management committees that are being lined to cooperatives to improve capacity for milk bulking and accountability).</p> <p>In collaboration with MININFRA, MCCs were connected to water and electricity</p> <p>Q3: 4 MCCs were added in category 1 (hub): Kiramuruzi in Gatsibo, Gahini in Kayonza, Nkomane in Rubavu and Mayange in Bugesera .</p> <p>In Q4: 3 additional MCCs were transformed into Hub Model</p> <p>Cumulative achievement: 55 MCCs</p>

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
4.4 Nyanza dairy plant improved	The capacity of Nyanza dairy increased from 10,000 to 20,000 liters per day	Baseline: 10,000 liters/day	Rehabilitation of the dairy	Avail and installation of upgraded equipment's	Dairy full operational with capacity of 20,000 liters/ day	<p>MINAGRI</p> <ol style="list-style-type: none"> To finalize rehabilitation of the dairy installation To avail and install equipment's Follow up the rehabilitation works <p>MINICOM & MINICOM (RCA)</p> <ol style="list-style-type: none"> To reinforce the milk supply agreement between cattle breeders and Nyanza dairy Quality control of milk produced To assist in building the capacity of farmer cooperatives <p>MINALOC:</p> <p>Farmers mobilization and facilitation of linkage between farmers and Nyanza dairy</p> <p>MINADEP through EPTC</p> <p>To rehabilitate the Nyanza dairy</p>	<p>The equipments for upgrading Nyanza dairy to increase its capacity up to 20,000 liters per day were delivered and installed.</p> <p>Currently, other related works are ongoing:</p> <ol style="list-style-type: none"> Waste water treatment unit Renovation of premise of the dairy 	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
4.5. Gako Beef project implemented	Number of cows under feedlots in Gako farm	Baseline:				500	<p>MINAGRI</p> <ol style="list-style-type: none"> To oversee the overall project implementation To lead the process of preparing the site and other preliminary activities To monitor the process of delivering water for livestock and 500 cows in the farm 	<p>(i) Fencing and bush clearing of the allocated farms still on going and Forage pasture established on 433ha, the investors are in the harvesting and hay storage process.</p> <p>(ii) The breeding of 600 cows in the farm of Gako started by Gako 's investors</p>
	Number of Km of access roads constructed	39.6 km	6			4.77	<p>MINADEP</p> <ol style="list-style-type: none"> To construct the 10.77Km access road <p>REG</p> <p>Avail electricity</p> <p>INVESTORS</p> <ol style="list-style-type: none"> Plant 500ha of fodder Start up with 500 cows under feedlots in Gako farm Fencing and bush clearing on 3880 ha 	<p>The road construction works completed. Some defects highlighted in technical handover corrected, the provisional handover was done.</p>
	Number of boreholes with solar water pump systems delivering drinking water for livestock	0	4			9	<p>RDB & MINICOM</p> <ol style="list-style-type: none"> Elaborate suitable business model for Gako Project Monitor implementation plan <p>MINIRENA</p> <p>Provide water use permit and assist in supply of water for livestock</p>	<p>(i) Hydrological survey for 9 farms out of 13 farms was done,</p> <p>(ii) Drilling on going and water was found into 5 farms in which pumping test has been done</p> <p>(iv) 5 boreholes installed with solar equipments completed, the remaining borehole will be installed in next fiscal year 2017/18</p>
Gako irrigation study conducted		0	ToRs development and advertisement	Tendering	Study development	Study development	<p>(i) Area to be irrigated has been identified on 2,377 ha, the contract is under negotiation, irrigation works will start next FY 2017/18.</p> <p>(ii) Installation of electricity is ongoing, the poles erected on 100% of the whole area to be covered ; cables and transformer were installed at 70%</p>	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
Outcome 5: Improved Post Harvest Infrastructures								
2016/17 Targets: 15,000MT and 30,000 MT of grains (Maize and Beans) stored at central and decentralized level respectively								
5.1. Post-Harvest infrastructures increased	Indicator: 15 new warehouses constructed	Baseline: 191 Warehouses	4	6	5	<p>DISTRICTS</p> <ol style="list-style-type: none"> 1. Land mobilization 2. Farmers organization in cooperatives 3. Farmers mobilization for local storage <p>MINICOM (RCA)</p> <ol style="list-style-type: none"> 1. Capacity building of cooperative members 2. To assist in farmer's cooperative management <p>MINAGRI (SPIU)</p> <ol style="list-style-type: none"> 1. Follow up warehouses construction: <p>NSGR: Construction of 7 warehouses</p> <p>RSSP3: Construction of 4 medium storage and 1 small storage facility in Kamiranzovu, Mirayi, Mushaduka, and Nyarabirande-Ndongezi. (Warehouses of storage capacity ranging from 500MT to 1,500 MT)</p> <p>Construction of 6 collection centers in Nyirabirande-Ndongezi and Rugende .</p> <p>PASP: 4 warehouses (600 MT of capacity) in Gatsibo, Kirehe, Kamonyi and Muhanga district.</p> <ol style="list-style-type: none"> 2. Provide technical support to the districts 	<p>RSSP/LWH</p> <p>4 warehouses construction completed in Kamiranzovu, Kajevuba, Rutsiro</p> <p>PASP:</p> <p>(i) 5 warehouses were completed in Kamonyi, Ngoma, Kayanza, Nyanza and Musanze Districts,</p> <p>(ii) Additional 3 warehouses located in Ruhango, Nyabihu and Kirehe Districts are under construction (80%)</p> <p>Cumulative : 11 warehouses constructed</p>	

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
5.2 Postharvest facilities utilised	30,000 MT of grains (Maize and Beans) stored at decentralized level	3000 MT	18,000	12,000			MINALOC/ DISTRICTS 1.Senzitize famers to store the production 2.Follow up the storage process of 25,000 MT of Maize and 5,000 MT of beans MINAGRI/ RAB 1.Provide Technical support	101,456 MT stored (68,668 MT of beans and 32,786 of maize).
5.3.Transport of fresh produce (vegetables) improved	Number of refrigerated trucks acquired (5)		0	2	2	2	MINAGRI/LWH, NAEB, Christal Ventures, APTC/NYANZA, Mukamira dairy: 1. Tender 2.Procurement process 3.Acquiring 5 refrigerated trucks	Cumulatively : 2 refrigerated trucks acquired
5.4. Market oriented infrastructures increased	456 Km of feeder road rehabilitated	273.6 km rehabilitated	86	150	100	120	DISTRICTS 1. Identification of priority roads to be constructed 2.Tendering process 3. Regular monitor roads construction MININFRA (RTDA) Provide technical assistance to Districts	Annual Achievements: 407.7 (i)WB: 74.2 Km (ii)EU & LODA: 213 Km (iii)Netherlands: 63.5 (iv) RTDA: 57 Cumulatively: 1,940.9 Km rehabilitated
	549.2 Km of feeder road maintained	889 km maintained	100	140	190	119.2	MINAGRI (Feeder road) & PSF 1.Follow up the implementation	1,178.48 km (cumulative)

Output	Indicator	Baseline	Targets/milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
Outcome 6: Strengthened Institutional Capacity								
2016/17 Targets: 170 Agriculture graduates equipped with hands on agriculture and livestock skills and Gender mainstreaming within farmers reinforced								
6.1 Mainstreaming youth capacity development	Indicator: Number of freshly Agriculture graduates equipped with hands on agriculture and livestock new techniques (170)	386	Recruitment process	170				<p>MINAGRI</p> <p>1.Coordinate the recruitment process</p> <p>2.Follow up training for 11 months through agro studies in ISRAEL</p> <p>3.Follow up recruitment process of the candidate to enroll the undergraduate training at University of Nebraska- Lincoln USA and Earth University in Costa Rica.</p> <p>MIFOTRA (NEP)</p> <p>Assist in the recruitment process</p> <p>MINEDUC (WDA)</p> <p>Facilitate TVET Programme rolled out in irrigation and mechanization</p> <p>(i)Recruitment process completed (ii)120 Students went for agro studies in Israel and 49 went for the undergraduate training at University of Nebraska- Lincoln USA and Earth University in Costa Rica.</p> <p>Cumulative achievement: 169</p>

Output	Indicator	Baseline	Targets/ milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
	Number of agro-studies employed and self-employed end June 2017 (100)	48	15	30	30	25	<p>1) A meeting with 120 agro-studies graduates was conducted to expose them to the existing financing opportunities in the country. Already, some are organized into cooperatives (Horeco, Hadscoo) and others have registered companies.</p> <p>2) Horeco cooperative supported with 599,704,354 Rwf through RAB and LWH</p> <p>3) Two projects are being implemented by Horeco members in which 48 are permanently employed. Those projects are: (i) Operation, maintenance and management of irrigation schemes (ii) Vegetable production on 7ha in Rwabicuma hillside / Nyanza district</p> <p>4) 10 agro-studies initiated their own business in various value chains. Currently 58 are permanently employed. A part from that 281 universities graduates were recruited for 11 month of professional internship in rice value chain.</p>	

Output	Indicator	Baseline	Targets/ milestones				Activities	Annual achievements
			Q1	Q2	Q3	Q4		
6.2 Gender mainstreaming within farmers reinforced	Number of farmers trained on gender equality and GBV prevention.		01,500	2,000	3,000	2500	<p>MINALOC/DISTRICTS</p> <p>1.To identify the trainees and training avenue</p> <p>2.Trainees mobilization</p> <p>MIGEPROF</p> <p>To validate training modules</p> <p>MINAGRI</p> <p>1.To elaborate modules</p> <p>2.Training of trainers (300)</p> <p>3.Training of 9,000 farmers.</p>	<p>(i)15,000 farmers trained on gender equality and GBV through FFS</p> <p>(ii)9247 Farmer Promoters, 1361 FFS Facilitators, 1336 cell officials trained</p>

ANNEX. 5: INSTITUTIONAL IMIHIGO FY 2016/17

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
<p>Outcome 1: Increased Productivity and sustainable agriculture</p> <p>1.1. Agricultural productivity through land use and input use increased</p>	<p>Average yields for priority crops in MT/ha</p>	<p>[Baseline end June 2016]</p> <p>Rice: 6.1</p> <p>Wheat: 3.3</p> <p>Maize: 4.1</p> <p>Irish Potatoes: 26.5</p> <p>Cassava: 19</p> <p>Bush Beans: 1.06</p> <p>Climbing Beans: 1.48</p> <p>Soybean: 1.2</p> <p>Banana: 15.9</p>					<p>1. Timely supply of inputs to all farmers in seasons A, B and C</p> <p>2. Mobilise farmers for season preparation to ensure access to inputs, finance and insurance,</p> <p>3. Build capacity of extension agents</p> <p>4. Train farmers on good agriculture practices</p> <p>5. Monitor season implementation</p>	<p>Average yield for priority crops on Consolidated sites:</p> <p>Rice: 5.9</p> <p>Wheat: 4.5</p> <p>Maize: 4.7</p> <p>Irish Potatoes: 28</p> <p>Cassava: 19</p> <p>Bush Beans: 2</p> <p>Climbing Beans : 3.2</p> <p>Soybean: 1.3</p> <p>Banana:17</p>
						<p>Rice: 6.2</p> <p>Wheat: 3.2</p> <p>Maize: 5</p> <p>Irish Potatoes: 30.7</p> <p>Cassava: 25</p> <p>Bush Beans: 1.7</p> <p>Climbing Beans : 3.2</p> <p>Soybean: 2</p> <p>Banana: 18.6</p>		

Output	Indicator	Baseline	Targets				Annual achievement							
			Q1	Q2	Q3	Q4								
Ha under land consolidation	Season A (Q2) :2016	Season A (Q2) :2016	Q1	Q2 Season A (Q2)	Q3	Q4	Annual achievement							
								Maize: 273,796 ha	Maize: 279,267 ha	Maize: 294,027 ha				
								Beans: 320,630 ha	Beans: 323,836 ha	Beans: 367,426 ha				
								Irish potatoes: 75,000 ha	Irish potatoes: 94,713 ha	Irish potatoes: 63,274 ha				
								Wheat: 22,574 ha	Wheat: 23,702 ha	Wheat: 6,770 ha				
								Cassava: 106,713 ha	Cassava: 218,183 ha	Cassava: 67,663 ha				
								Rice: 11,332 ha	Rice: 22,501 ha	Rice: 9,566 ha				
								Soybeans: 19,061 ha	Soybeans: 19,251 ha	Soybeans: 11,173 ha				
								Activities to deliver output MINAGRI 1. Radio spots on season preparation 2. Ensure timely supply of inputs to all farmers: Fertilizers: 54,566 MT; and improved seeds: 200 Millions of cassava cuttings: 3100 MT of Maize and 1000 MT of soybeans. 3. Contract seed companies and local seed multipliers to avail seeds on time 4. Provide technical support in compost production and lime application 5. Closely follow up with districts compost and lime use by farmers DISTRICTS 1. Farmer mobilization on season preparation (land use consolidation, and inputs use) 2. Organize and monitor the agricultural inputs distribution system involving agro-dealers and districts agronomist. 3. Follow up compost production (44,240 MT) and lime (26,421 MT) 4. Capacity building of farmers on lime use 5. Regular monitor lime and compost application by farmers MINICOM (RCA) Organize farmers into cooperatives						

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
		Season B (Q4)					Season B (Q4) :
		Maize: 128,936 ha					Maize: 64,153 ha
		Beans: 375,175 ha					Beans: 353,181 ha
		Irish potatoes: 75,000 ha					Irish potatoes: 59,086 ha
		Wheat: 55,000ha					Wheat: 41,936 ha
		Rice : 11,030 ha					Rice : 13,456 ha
		Soybeans: 24,676 ha					Soybeans: 12,178 ha
							Total: 1,405,262 ha
							Cassava cuttings: 158,126,320 cuttings from existing multipliers were distributed in season 2017A , QDS (Positive selection): 72,345,500 Total: 230,471,820
	Quantity of improved seed distributed and used by farmers	Baseline: Cassava cuttings: 6.7 million Maize: 2,000 MT Soya: 600 MT		Maize: 2,000 MT Soybean: 500 MT Cassava cuttings: 100 Million	Cassava cuttings: 100 Million Soybean: 500 MT	Maize: 1,100 MT Soybean: 500 MT	1. Organize and monitor the agricultural inputs distribution system involving agro-dealers and districts agronomist. 2. Ensure timely supply of inputs to all farmers 3. Contract seed companies and local seed multipliers to avail seeds on time

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
	Quantity of local seeds produced	Baseline: Hybrid maize: 300 MT Soybean: 100 MT Cassava: 6.5 Millions of cuttings Irish Potatoes: 3,000 MT		Cassava: 100 million cuttings Irish Potatoes: 5,500 MT	Hybrid maize: 700 MT Soybean: 300 MT Cassava: 100 million cuttings Irish Potatoes: 4,000 MT	Hybrid maize: 300 MT Soybean: 200	1. Mobilize local company to invest in seeds production 2. Technical support to local seed producers 3. Quality control of local seeds produced	Maize: 350 MT Soybean: 336 MT Irish potatoes :2,090 certified seeds QDS(Positive selection: 3840) Total: 5,930 MT Cassava cuttings from mother garden (season A& B) : 148,126,320

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
	Number of local fertilizer blending plants established	3 Local companies identified			One new blending plant established		<p>1. Sensitize private companies to invest in fertilizer blending</p> <p>2. Promote balanced fertilizers and blend</p>	<p>Mobilization of private companies to invest in fertilizers blending plant in Rwanda is underway. So far Agreement between Government of Rwanda and Moroccan's investors was signed. Following activities were done:</p> <p>(i) Feasibility study completed (ii) Business plan approved by RDB (iii) Terms sheet between Office Cherifendes Phosphates (OCP) Africa, Morocco investors & APTC to shareholders' agreement (iv) Join venture agreement between Morocco & Rwanda Investors under development (v) Fertilizer Trials conducted by RAB to Bulk Blending Fertilizer Formulation. 100 trials of NPS fertilizers were implemented and are currently being harvested. (vi) 8 ha land allocated to OCP in Bugesera</p>

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
1.2.Irrigation area increased	2,582 Ha under Marshland irrigation developed	35,161 ha	530	672	650	730	In Q1: (i)1204.2 ha of marshland developed: Karangazi-Rwangingo:900ha Mushaduka:200ha Ruterana:35ha QWMDP/GFI: 69.2ha In Q2: (i)81 ha GFI/ QWMDP completed progress) In Q3: 35 ha of marshland developed (GFI/QWMDP) Q4: 40 ha under QWMDP/GFI Total: 1,360.2 Ha (61.3%)
							Marshlands development : 1.RSSP: Rugende (400ha) (80%), Mukunguri: 400 (50%), Karangazi-Rwangingo:900 ha (100%) , Mushaduka:200ha (100%), Rwamagana and branches: 559ha (100%), Migina: 435ha (70%) 2.RCSP: 123 ha (Ruterana,Ruzigambogo and Kajevuba) RAB : Rurambi : 300 ha (100%), QWMDP :500ha (100%) 3.Provide technical assistance and monitoring for marshland development

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
	1,465 Ha under hillside irrigation	5,948 ha	300	387	358	420	<p>In Q1: 1200 ha of hillside development at Mpanga & Nasho completed,</p> <p>In Q2: Ngoma-22: 265 Ha completed</p> <p>In Q3 & Q4: Follow up hillside irrigation studies development</p> <p>Total:1465 ha</p>
							<p>1. Hillside development: Muyanza : 1100 ha (70%), Rwamagana 34: 267 ha (75%) Buffet :1200 ha (Mpanga and Nasho) (100%) RAB/ JICA: Ngoma 22: 265 ha (100%)</p> <p>2. Provide technical assistance and monitoring for hillside irrigation development</p>

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
	1,400 hectares developed for small scale irrigation	2444 ha	300	300	400	400	n Q1: 1,160 Ha irrigated by small scale irrigation technology 145 farmers and technicians trained 70 demonstration session conducted In Q2: 420 ha irrigated by small scale irrigation technology 30 demonstration session conducted 149 farmers and technicians trained 2,000 farmers mobilized for SSIT 4 Service providers recruited to maintain SSIT equipment In Q3: 250 ha of SSIT installed In Q4 : 300 ha Cumulative : 2,130 ha

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
1.3 Irrigation and terraces schemes maintained and managed profitably	6 hillside irrigation sites managed with professional farm managers	0	2	2	2		6 hillsides with farm managers HoReCo has been contracted to coach cooperatives and WUOs for Mpanga, kagitumba and Matimba Hillsides Schemes
	26 marshlands irrigation sites managed with professional farm managers	0	6	9	11		34 marshlands irrigation sites managed with professional farm managers
	Baseline survey of agricultural households using irrigation system established	Inception report elaborated.	Presentation of draft report	Presentation and validation of final report			The report was produced and validated. The study was completed.
	Unit in charge of valorisation developed irrigation sites in place	0			OMM unit in place		The structure of the Unit (OMM) was designed under the new RAB structure.

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
1.4. Soil fertility management improved through use of organic, inorganic fertilizers and lime	54,916 MT of subsidized fertilizers bought by farmers(MT) by end of June 2017	Baseline by end June 2016: 30,661 MT	15,675	12,938	10,145	Link farmers to financial institutions and insurance companies Organize and involve agro-dealers in subsidized fertilizer distribution	Food crops :32,056 MT of subsidized fertilizers used by farmers	
		Baseline end June 2016: Coffee & Tea: 11,050MT		8,050	3350	Link farmers to financial institutions and insurance companies Organize and involve agro-dealers in subsidized fertilizer distribution	Cash crops :12,901 MT (4,916 MT for coffee and 7,985 MT for tea)	
	44,240 MT of compost produced and utilized by farmers	Baseline end June 2016: N/A	24,500		19,740	1.Farmers mobilization and capacity building 2.Organize and monitor the compost production	Cumulative: 146,652.8MT of compost produced and used by farmers	
	26,421 MT of lime on acidic soils subsidized (MT bought by farmers) by end of June 2017	Baseline by end June 2016: 19,012 MT	15,945		10,476	1. Farmers mobilization and capacity building lime purchase and distribution 2.Organize and monitor the lime distribution system involving	Cumulative:24,362.6 MT of lime applied	

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
1.5 Soil erosion infrastructures increased	Indicator: Number of ha (4,599 Ha) of radical terraces (RT) constructed	103,918 ha Baseline by June 2016	800	1,500	1,200	1,099	1. Design implementation modalities and guidelines for land husbandry; 2. Provide technical support to districts and supervision for the establishment of radical and progressive terraces 3. Mobilization campaigns for soil erosion control activities through community works 4. Mobilize other stakeholders at districts level	Q1: 765 ha Q2: 1,733.45 ha Q3: 1,974.95 ha Q4: 1,650 ha Total: 6123.4 ha
	Indicator: Ha of progressive terraces (PT) developed (6,349 ha)	913,212 ha Baseline by June 2015	1540	1,750	1,675	1,384	Q1: 840 ha Q2: 1,622.1 ha Q3: 3,782.87 ha Q4: 4,147 ha Total: 10,391.97ha	

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
Outcome 2: Increased Productivity and sustainable animal resources							
2.1.Bovine genetics improved	109,253 cows inseminated	Baseline end June 2016: 61,595 (not cumulative)	20,000	30,000	35,000	24,253	In Q1: (i) Fast truck the repair of Liquid Nitrogen plant: (ii) 102 Technicians trained on Artificial Insemination technique In Q2: (i) 89 Technicians trained on Artificial Insemination technique (ii) 12,431 Cows have been inseminated In Q3: 28,223 cows inseminated 102 Vet Technicians trained in AI Technique and equipped with complete AI kits In Q4: 36,567 Cows have been inseminated Cumulative : 77,221 cows inseminated
							1. Monitor supply system of semen and AI inputs to the public and private AI Workers 2. Inseminate 109,253 cows across the country 3. Train 350 AI technician

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
	49,888 AI calves registered by end June	Baseline end June 2016: 29,176 (not cumulative)	9,000	11,574	15,674	13,640	1. Register new AI Calves 2. Organization of refresher courses for AITs 3. Training of new inseminators 4. Provide technical support	In Q2: 6,141 AI born calves have been identified In Q3: 11,084 AI calves identified Q4: 10,161 AI born calves have been identified Total : 27,386 AI calves Registered
2.2 Grazing pastures improved	Number of Ha with improved forage seeds	0	100		100		1. Site identification 2. Land preparation and farmers mobilization 3. Training of farmers 4. Sowing 5. Monitoring	(i) 570 Ha of land cultivated for forage grasses & Leguminous (North and South) (ii) 1396 Farmers cooperative trained and started forage multiplication in their respective land

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
2.3. Fish production increased	27,000 MT of fish produced	Baseline: 20,406 MT (not cumulative)	6000	7500	7500	6000	<p>In Q1: 4,556 MT of fish produced</p> <p>In Q2: Fish federation (FEFICORWA) assisted to develop business plan, access to market strategy and procedure manual 4,669MT fish produced</p> <p>In Q3: (i) 8,959MT of fish produced. (ii) Fingerling production from Kigembe was only 45,700 Tilapia Fingerlings (iii) 30 fish farmers cooperatives trained (iv) Lakes surveillance continued whereby in the North 34 illegal nets and 38 illegal fishing while 128 illegal nets and 48 canoes were confiscated and destroyed</p> <p>In Q4: 8,344 MT of fish produced</p> <p>Cumulative: 26,528 MT of fish produced</p>	

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
Outcome 3 : Enhanced food Security and Nutrition								
3.1 Food security enhanced	MT of maize and beans stored as a strategic food reserve	15,000MT (not cumulative)		7,500		7,500	<p>In Q1: (i) 4,998.6 MT (3,748.5MT of maize and 1,250MT of beans) have been stored as strategic food reserve</p> <p>In Q2: (i) 2,402MT (857MT of maize and 1,545MT of beans) have been stored as strategic food reserve</p> <p>In Q3: 6,405 (3,687MT of Maize and Beans 2,718MT) stored as strategic grain reserve</p> <p>In Q4: 2,142.2MT (Maize 2,051.8MT and Beans 90.3MT)</p> <p>TOTAL: 15,948.2MT</p>	1,164 MT of Certified seeds Produced
	1,500 MT of biofortified beans produced	600 MT of biofortified beans produced end June 2016	350	400	400	350	<ol style="list-style-type: none"> 1. Collaborate with Private Sector (e.g. EAX, EAGC) to generate market intelligence. 2. Provide Incentive to access the East African Market trade through EAX. 3. Following up farming contract with NSGR 	<ol style="list-style-type: none"> 1. To avail timely basic seeds 2. To increase the number of multipliers from 70 to 100. 3. Follow up multiplication process 4. Provide technical support 5. Farmers mobilization 6. Selection of beneficiaries

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
3.2 Household Malnutrition Reduced into poor families	34,777 cows distributed to poor families through Girinka program	Baseline by end of 2016: 236,932 cows	8,182	8,690	8,115	9,790	<p>Q1: 1854 cows distributed to poor families,</p> <p>Q2: 7 642 cows distributed to poor families.</p> <p>Q3: 8700 cows distributed to poor families</p> <p>Q4: 15,876 cows distributed</p> <p>Cumulative: 34,072 cows distributed</p>	
	<p>Indicators:</p> <p>Number of poor HHs benefited from pigs distributed (1,650 HHs)</p> <p>Number of poor HHS benefited from goats distributed (1,100HHs)</p>	0	400	950	300	<p>1. Identification of beneficiaries (HHs in category 1 and 2)</p> <p>2. Follow up construction of hen houses and communal sheds "Ibukumba"</p> <p>3. Conduct procurement process</p> <p>4. Selection of performant small stock</p> <p>5. Distribution of small stock to the beneficiaries: 18,000 layers (Rusizi), 9,000 layers (Nyamasheke); 550 pigs (Nyamasheke), 1,100 pigs (Nyaruguru); 1,100 goats (Bugesera)</p>	<p>1,287 HHs benefited from Pigs distribution [737 in Nyaruguru and 550 in Nyamasheke]</p> <p>3,100 HHs benefited from Goats [1,100 in Bugesera and 2,000 in Nyaruguru]</p>	

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
	Number of youth cooperative (from poor families) benefited from Poultry (27 Youth cooperatives)	0		10	17		27 Youth cooperatives benefited from 27,000 pullets Distributed in Nyamasheke and Rusizi
	Number of households with kitchen garden (disaggregated by sex of head of household)	1,721,678 out of 2,424,898 (71%)	1,777,128 (73%)	1,852,278 (76%)	1,915,669 (79%)	1,978,930 (81%)	<p>(i) District agronomists and in charge of health at districts level have been trained</p> <p>(ii) 500 farmers under the Adventist Church supervision have been trained</p> <p>(iii) 150 farmers (Farmers field school representative, cooperatives leaders and model farmers) under supervision of Caritas and Catholic relief Services have been trained</p> <p>(iv) Vegetable seeds have been distributed to Nutritionally vulnerable group</p> <p>(v) 1,988,029 HHs HHs have been identified with Kitchen gardens</p>

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
Outcome 4: Transformed Agriculture through Research and Extension services								
4.1. High yielding varieties for priority crops developed and disseminated	Number of varieties released	1-Rice: 6 varieties 2-Wheat: 5 varieties 3-Sorghum: 6 varieties	Preparation of on-farm trials and seed multiplication	Conduct participatory variety trials	Maize: 6 hybrids Rice: 4 varieties Wheat: 5 varieties	1. On-farm trials 2. Seed multiplication 3. Conduct participatory variety trials for locally testing superior lines for milling and baking quality 4. Breeder seeds production 5. Micro propagation in tissue culture laboratory	(i) Hybrid maize: 8 varieties have been pre-released 600 kg of pre-basic seed of hybrid maize and 50 kg of breeder's seed of hybrid maize produced (ii) Wheat : 10 varieties released and 4 varieties pre-released (iii) Rice : 4 varieties pre-released	
4.2 Diseases resistant, highly yielding of mulberry varieties and silkworm breeds developed and disseminated	Number of mulberry varieties developed	Baseline: 36 mulberry varieties maintained	Working on agro-morphological traits of different mulberry varieties	Genetic description ,evaluation and maintenance of mulberry varieties	40 varieties of mulberry maintained and 3 new ones introduced	1. Research agro-morphological traits of different mulberry varieties 2. Management and maintenance of National Genetic Resource of mulberry Introduction NGRM with new genetic form/varieties of mulberry 3. Carrying out research on Genetic description, evaluation and maintenance of mulberry varieties	(i) 39 mulberry varieties maintained ,including three newly introduced (ii) 6 Mulberry varieties were characterized based on the characteristics of leaves ,internodes and color of stem (iii) 7 mulberry varieties were evaluated based on their moisture content and moisture retention	

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
4.3. Biotechnology packages developed and/or validated	1. Number of varieties in vitro multiplication system developed by end June 2017	Baseline: 5 F1 coffee hybrid explants initiated	Initiation of coffee F1 hybrids			2 coffee varieties in vitro developed	Initiation of coffee F1 hybrids	(i) 800 coffee explants (leaves) initiated on artificial media; (ii) 19 coffee hybrids regenerated (sub-cultured), (iii) 755 germinated into somatic embryos, (iv) 4,484 coffee plantlets multiplied.
	2. Number of disease diagnostic protocol developed for cassava blight and maize lethal necrosis disease	Baseline : Protocol of cassava tissue culture 2 MLN diagnostic protocols		Initiation of cassava protocol	Development of protocols for MLN diagnostic	1 disease protocol developed for cassava and 1 for Maize	1. Initiation trials of cassava protocol. 2. Development of protocols for MLN diagnostics	(i) Two protocols (> 100%) based on ELISA and RT-PCR (for CBSD and MLN diagnostics) finalized and tested. (ii) 16 maize samples collected from seed multiplication plot at Muhanga with suspected MLN symptoms were tested for MLN disease using the finalized ELISA and RT-PCR diagnostics protocols. The results indicated no presence of MLN (iii) 300 maize samples from different parts of the country screened for MLN presence using the ELISA and RT-PCR protocols. (iv) Virus indexing of CBSD (by RT-PCR) successfully utilized to identify disease-free explants to introduce in tissue culture systems.

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
	3.Plant and animal genetic resource conserved to reduce agro-biodiversity losses	Baseline: 300 plant genetic resources conserved				100 more plant genetic resources conserved	105 accessions were collected and conserved (> 100%): 33 bean landraces, 6 wheat landraces, 6 soybean landraces, 14 pea landraces, 2 pigeon pea landraces, 1 rice landrace, 31 indigenous vegetables, 2 groundnut landraces, 2 finger millet landraces, 1 cowpea landrace, 2 maize landraces, 1 finger potato, 2 sorghum landraces, 2 passion fruits
		Baseline: 70 animal genetic resources conserved 3000 doses of Inyambo semen conserved 10 local cattle inkunku collected & conserved				40 animal(bulls) genetic resources conserved	(i) 20 local animal genetic resources inkungu were morphologically characterized. (100%) (ii) 26 new calves of local genetic resources inyambo were also morphologically characterized. (iii) The tender procedure of procuring 2 animal genetic resources inyambo bulls is at the stage of selection

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
4.4 Access to extension services- strengthened- (Through TWIGIRE Muhinzi)	1.Increased number of households reached through Twigire Muhinzi	1,300,000	950,000		598,450		(i)53,778 TWIGIRE groups have been formed (ii)16,459 extension materials were provided Cumulatively : 1,584,776 farmers were reached through Twigire Muhinzi
	2. Increased number of demo plots and FFS plots established and used for farmers learning	9355 Demo plots established	8764		6236		15,381 Demo plots have been established
		8382 FFS plots established	7850		5254		12,178 FFS plots established

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
Outcome 5: Increased export promotion and Enhanced agribusiness environment for agricultural enterprise							
5.1 Volume of exported produced and exported refined pyrethrum Products increased	Volume of refined pyrethrum produced and exported (19.5)	Baseline end June 2016: 22 MT (not cumulative)	6	6	4.5	3	Q1: 0.447MT Q2: 3.1MT, Q3: 0.51MT, Q4: 7MT Cumulative : 11.1 MT
5.2 Increased coffee production through increase in productivity from 2.4 to 2.6kg/tree and fully washed coffee from 50 to 60%	MT of coffee produced (22,650)	Baseline: 20,029 MT (Not cumulative)	7,637	6,109	5,346	3,558	Q1: 6,537 Q2: 5,672 Q3: 2,157 Q4: 3,802 Total coffee produced : 18,168 MT
							1. Support pyrethrum growers to improve crop husbandry 2. Support farmers to acquire seeds 5,000 kg of seeds to prepare 100ha of pyrethrum nursery. 3.Support farmers to produce seedlings necessary to cover new 1,000 ha 1. Produce coffee 1millions seedlings for distribution to cover new area of 1,500ha 2. Preparation of seedlings for gap filling and rejuvenation of old coffee trees 3. Follow up on the acquisition and application of 4,700MT of mineral fertilizer and extension services 4. Organize competition of farmers in good coffee husbandry 5. Increase fully washed coffee from 50% to 60% 6.Follow up the construction of 10 coffee washing station 7. Control of pests and diseases

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
5.3 Increased tea production through increase in productivity from 6.8 to 7 MT /ha	Volume in MT of tea produced (27,500 MT)	Baseline: 26,261 MT	5,179	6,776	8,450	7,095	<p>In Q1: 4,404 MT of tea produced</p> <p>In Q2: Trained management and technical staff of ASSOPTH in Rulindo district on management and cooperative accounting. RCA inspectors carried out inspection, conflict resolution of tea cooperative in Western Province</p> <p>In Q2 :6,542 MT of tea produced</p> <p>In Q3:7,775 MT of tea produced</p> <p>In Q4: 8,160 MT of tea produced</p> <p>Cumulative: 26,891 MT of tea produced.</p>
							<p>1. Support tea growers to apply 6,700MT of mineral fertilizers</p> <p>2. Conduct capacity building of tea professional pluckers (4500)</p> <p>3. Finalize expropriation of land in Rugabano (438 ha)</p> <p>4. Gapfilling of tea plantation on 1089 ha</p>

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
5.4 Accelerated horticulture (Fruits and Vegetables) development initiatives resulting in consistency in exports and generating 12 Million USD	Volume in MT of exported fruits and vegetables (30,000 MT)	Baseline: 23,000 MT (not cumulative)	4232	9,663	11586	4519	1. Land acquisition and Development of horticulture export hubs 2. Develop horticulture nucleus farms (equity for Gashora) 3. Support operationalization of agriculture center of excellence 4. Support building post-harvest infrastructures (carrots Rubavu) 5. Training of farmers on maintenance, prevention & control of Pest & disease.	Q1:4581 Q2:4819 Q3:6679 Q4: 9,679 MT exported Cumulatively fruits exported: 25,931 MT
5.5 Promotion of sericulture	Additional 650ha developed under Sericulture (mulberry)	Baseline : 1422 ha planted		250	250	150	Mobilization of land and farmers 2. Monitor mulberry plantations process on 650 ha Technical support and provision of planting materials Rehabilitation and upgrading 3 cocoons centers	New 811 ha planted and 467.9 gap filled
	Volume in MT of silkworm fresh cocoons produced (10 MT)	Baseline: 5.6MT (end June 2016)		3	4	3	Follow up production of 10 MT of silkworm fresh cocoons	In Q2: 2.8 MT of cocoons produced In Q3: 2.2 MT of cocoons produced In Q4: 3.9 MT of cocoons produced Cumulative: 8.9 MT

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement	
			Q1	Q2	Q3	Q4			
Outcome 6: Improved Post Harvest Infrastructures									
6.1 Post Harvest in-frastructures increased	18 new warehouses constructed	Baseline: 191 Warehouses			3	9	6	<p>RSSP/LWH 4 warehouses construction completed in Kamiranzovu, Kajejuba, Rutsiro</p> <p>PASP: (i) 5 warehouses for maize and beans were completed in Kamonyi, Ngoma, Kayonza, Nyanza and Musanze Districts,</p> <p>(ii) Additional 3 warehouses located in Ruhango, Nyabihu and Kirehe Districts are under construction (80%)</p> <p>(iii) 1 warehouse for Irish Potato seeds in Musanze District completed</p> <p>Cumulative : 11 warehouses constructed</p>	
								<p>1. Land mobilization</p> <p>2. Farmers organization in cooperatives</p> <p>3. Capacity building of cooperative members</p> <p>4. To assist in farmer's cooperative management</p> <p>5. Follow up warehouses construction:</p> <p>RSSP3: Construction of 4 medium storage and 1 small storage facility in Kamiranzovu, Mirayi, Mushaduka, and Nyarabirande-Ndongozi.</p> <p>(Warehouses of storage capacity ranging from 500MT to 1,500 MT)</p> <p>-Construction of 6 collection centers in Nyirabirande-Ndongozi and Rugende.</p> <p>PASP: 4 warehouses (600 MT of capacity) in Gatsibo, Kirehe, Kamonyi and Muhanga district.</p> <p>7. Provide technical support to the districts</p>	

Output	Indicator	Baseline	Targets				Annual achievement		
			Q1	Q2	Q3	Q4			
	35 drying grounds constructed	Baselines: 251 drying grounds			5	15	15	Follow up drying grounds construction Provide technical support	26 drying ground completed PASP: 2 drying constructed (Ruhango, Ngoma) LWH/RSSP: 6 constructed (Kamiranzovu, Ruzigambo-go-Kajevuba,) Buffet: 18 drying grounds constructed
6.2 Transport of fresh produce improved	Number of refrigerated trucks acquired	0				1	1	Tender Procurement process Acquiring equipment	2 refrigerated trucks acquired
Outcome 7: Strengthened Institutional Capacity									
7.1 Institutional reporting system Strengthened	MIS developed and operational	Baseline: MIS system in testing phase	Migrating the MIS from Consultant firm Server to Rwanda National Data Center	The MIS system fully operational	Training of farmer promoters on mobile phone use	Annually report produced		1. Training of relevant staff on the use of the MIS system (90 from Districts & and 15 from Ministry and Agencies) and farmers promoters 2. Update regularly indicators 3. Data entry and analysis 4. Quarterly report availed	1. Training of MIS end users from MINAGRI Central, RAB, RAB zones, NAEB and Districts completed 2. The indicators for each institution has been defined 3. Data Entry has been made at district level on quarterly basis 4. MIS is producing a quarterly report

Output	Indicator	Baseline	Targets				Annual achievement
			Q1	Q2	Q3	Q4	
7.2 Key performance Indicators regularly updated through Government Command Center	% of key performance indicators in the Government Command Centre (GCC) updated regularly	Based on the current situation	Quarterly update of KPI	Quarterly update of KPI	Quarterly update of KPI	100%	<p>The KPIs is Quarterly updated</p>
7.3 Planning Documents updated and validated	Agriculture policy updated	Agriculture policy Document (2004)	ToRs development and advertised	Follow up documents development process	Documents updated and validated	<p>1. ToRs development</p> <p>2. Tendering process</p> <p>3. Organization validation session of the documents updated</p>	<p>(i) Consultation meeting organized at different level: MINAGRI senior managers, Agriculture sector working group and Gender sub sector working group</p> <p>Private sector</p> <p>Civil society and farmer's organizations,</p> <p>(ii) consultation meeting organized with lines Ministries (Minaloc, Minecofin, Primature, Mininfra, Minirena, Migeprof, Minafet), local govt, academics and research institutions</p> <p>All stakeholders were contacted and their comments have been considered.</p> <p>The draft was produced</p>

Output	Indicator	Baseline	Targets				Activities to deliver output	Annual achievement
			Q1	Q2	Q3	Q4		
	SPAT 3 updated (Strategic Plan for the Transformation of Agriculture)	2013 SPAT3 document	ToRs development and advertised		Follow up documents development process	Documents updated and validated	1. ToRs development 2. Tendering process 3. Organization validation session of the documents updated	Mid-term review of SPAT3 completed. The document was presented to MINAGRI and is serving in PSTA4 development
Outcome 8: Performance of Development projects fast tracked through improved Projects management and coordination								
8.1 Project implementation performance improved	Number of low performing projects (Low performing projects exhibit characteristics such as budget execution of below 50% and timeline extensions)	Baseline:5	0	0	0	0	1. Design and implement recovery plans for all non-performing projects (Including capacity issues, procurement among others) 2. Provide quarterly updates on implementation plan and strategic actions taken by Executive Management	The projects improved their performance in Q4 most of them perform well with budget execution rate more than 50%.

ANNEX 6: SOCIAL IMIHIGO FY 2016/17

Output	Indicator	Baseline	Targets/Milestones				Activities to deliver output
			Q1	Q2	Q3	Q4	
Outcome 1 : Increased coverage of social protection programmes to the extreme poor and vulnerable.							
1. Joint action plan to eliminate malnutrition implemented. 2016 NLR (#12)	1) Indicator: 34,777 cows distributed by end June 2017	Baseline by end June 2016: 236,932 cows	6,182	9,115	9,690	9,790	MINALOC & DISTRICTS 1. Identification of Girinka beneficiaries 2. Preparation of tender document for Heifer to be purchased 3. Mobilize different partners' groups mobilized to support Girinka program 4. Organize Girinka week and pass on events MINAGRI (RAB) 1. Elaboration of technical specification for Heifer to be purchased 2. Technical assistance of heifers selection and laboratory test 3. Monitoring and evaluation of Girinka program at decentralization level.
	2) 85,282 children benefited from one cup of milk program at school	Baseline by end of June 2016 85,028 children benefited from one cup of milk	85,282 children benefited from one cup of milk program at school	85,282 children benefited from one cup of milk program at school	85,282 children benefited from one cup of milk program at school	85,282 children benefited from one cup of milk program at school	MINAGRI & Districts 1. Ensure the supply of milk to schools 2. Upscale the program from 112 to 128 schools 3. Linking 7 MCCs to 7 schools 4. Use milk zone to supply milk to schools in Bugesera, Kigali, Burera and Nyanza. MINEDUC 5. Ensure that milk provided is consumed by targeted children. MINAGRI & MINEDUC 6. Joint follow up with MINGARI and MINEDUC milk supply to the schools

Output	Indicator	Baseline	Targets/Milestones				Activities to deliver output
			Q1	Q2	Q3	Q4	
	3) 1,500 MT of biofortified beans produced	600 MT of biofortified beans produced end June 2016	350	400	400	350	<p>MINAGRI (RAB) & Harvest plus</p> <ol style="list-style-type: none"> To avail timely basic seeds To increase the number of multipliers from 70 to 100. Follow up multiplication process Provide technical support <p>DISTRICTS</p> <ol style="list-style-type: none"> Farmers mobilization Selection of beneficiaries
	4) Number of households with kitchen garden (Cumulative)	1,721,678 out of 2,424,898 (71%)	1,777,128 kitchen garden constructed (73%)	1,852,278 kitchen garden constructed (76%)	1,915,669 kitchen garden constructed (79%)	1,978,930 kitchen garden constructed (81%)	<p>MINAGRI (RAB)</p> <ol style="list-style-type: none"> Provide improved seeds and technical support to needy HHs. <p>MINALOC & DISTRICTS</p> <ol style="list-style-type: none"> Mobilize households for kitchen gardens establishment. Kitchen garden awareness and monitoring <p>MINAGRI (RAB)</p> <ol style="list-style-type: none"> Training of farmers through Farmer Field school Joint follow up with Districts kitchen garden establishment Provide technical support

Output	Indicator	Baseline	Targets/Milestones				Activities to deliver output
			Q1	Q2	Q3	Q4	
1.6) Incomes of poor HHs increased through provision small livestock	1) Number of poor HHs benefited from small livestock distribution with Pigs (1,650)	0		400	950	300	Districts: 1. Identification of beneficiaries (HHs in category 2. Follow up construction of hen houses and communal sheds "Ibikumba" 3. Conduct procurement process 4. Selection of performant small stock 5. Distribution of small livestock to the beneficiaries: 18,000 layers (in Rusizi), 9,000 layers (in Nyamasheke); 550 pigs (in Nyamasheke), 1,100 pigs (in Nyaruguru), 1,100 goats (in Bugesera) 6. Distribution of small livestock to the beneficiaries: poultry (27,000) MINAGRI / (RAB) 1. Technical support to the beneficiaries 2. Elaboration of technical specification for small stock, feeds, drugs and construction materials 3. Availing medicine, vaccination and animal feeds MINICOM (RCA) 1. Coaching youth cooperatives 2. Youth cooperative organization and registration
	2) Number of poor HHs benefited from small livestock distribution with goats (1,100)	0		300	600	200	
	3) Number of youth cooperatives (identified from poor families) supported through poultry distribution (27)	0		10	17		

ANNEX 7: PROGRESS ACHIEVEMENTS TOWARDS 7YGP (2010-2017)

No	Interventions	Indicator	Target (7YGP)	Achievements
1	To improve agriculture through land consolidation, use of inputs (improved seeds and fertilizers), fighting soil erosion, mechanization and irrigation	Ha Radical terraced established Ha of progressive terraces established % of mechanized land	165,596 ha 1,054,661 ha 25%	110,041 ha of Radical terraces established 923,604 ha of progressive terraces established 25.2 %
2	To encourage farmers to grow crops that are more productive and profitable in their regions (comparative advantage)	Ha of land cultivated to appropriate crops in each Province		Season A <ul style="list-style-type: none"> •Maize:294,027ha •Beans:367,426ha • Irish potatoes: 63,274 ha •Wheat:6,770ha •cassa va:42,031ha • Rice: 9,566ha • Soybeans: 11,173ha Tot:794,267 ha Season B <ul style="list-style-type: none"> •Maize: 64,153 ha •Beans:353,181ha • Irish potatoes:59,086 ha •Wheat:41,936 ha • Rice: 13,456 ha • Soybeans: 12,178 ha Total: 543,990 ha
3	To promote research on seeds; establish seed multiplication nurseries and disseminate research findings to the end users so that use of improved seeds increases from 60% to 100% on consolidated land	% of farmers using improved seeds	From 60 to 100%	52% of farmers are using improved seeds for CIP subsidised crops

No	Interventions	Indicator	Target (7YGP)	Achievements
4	To promote land consolidation so that consolidated land increases up to 70% (980,000 ha)	Ha of land consolidated	980,000 ha	Land consolidated: 2017A: 794,267 ha of land consolidated 2017B: 543,990 ha
5	To promote marshland and hillside irrigation from 27,796 to 40,000 ha	Ha of land irrigated	40,000 Ha	48,508 ha (36,521 ha for marshland irrigation, 7,413 ha for hillside irrigation and 4,574 ha for Small scale irrigation).
6	To promote the use of inorganic fertilizers, especially on radical terraces so that it increases from 29kg/ha to 45 kg/ha	Quantity of inorganic fertilizers used (kg/ha)	45 kg/ha	32kg/ha
7	To increase the quantity and quality of traditional export crops (coffee, tea, pyrethrum) by at least 10% annually, and non-traditional high value export crops by at least 30% each year	% of increase in quantity and quality of traditional and non-traditional crops	Coffee: 37,648 MT (from 19,319 MT in 2010) Tea: 43,357 MT (from 22,248 MT in 2010) Pyrethrum: 10.9 MT (from 5.6 MT in 2010) Horticulture: 65,723 MT (from 10,474 MT in 2010)	33,213 MT of coffee exported 46,961 MT of tea produced 29.8 MT of Pyrethrum exported 50,997 MT of horticulture exported

No	Interventions	Indicator	Target (7YGP)	Achievements
8	To put in place improved and sustainable mechanism to bring together crop producers and consumers (post-harvest action) by improving crop marketing in the country and abroad, crop collection centres and outlets in all Districts	1. Number of post-harvest facilities constructed in different districts (drying grounds....) 2. Km of feeder roads rehabilitated and maintained		(i)202 Warehouses constructed with 295,495 MT of capacities (ii)251 drying grounds constructed (iv)1,940 Km of feeder roads constructed (MINAGRRI) (v)47,282 farmers were trained in post-harvest handling
9	To encourage farmers and breeders to form stronger and more effective and profitable cooperatives for their members and for the country in general so they can reach at least 70%	% of crop and livestock farmers operate in strong cooperatives.	70%	39.1% of smallholder farmers are members of cooperatives that are formally registered under RCA
10	To step up efforts in crop and animal disease prevention and treatment endeavour	Number of vaccine against FMD, RVF, LSD, BQ, Rabies, Brucellosis Mechanism to prevent crop and animal diseases in place		390,000 against Black quarter-anthrax, 320,000 against LSD, 25000 against FMD, 10,000 against RVF, 12,000 against brucellosis Nyagatare veterinary laboratory rehabilitated. Incidence of Kiribiranya (BXW : Banana Xanthomonas Wilt) kept below 5% in affected areas; 20,604 Ha of banana plantations rehabilitated. Plant clinics established in most of districts

No	Interventions	Indicator	Target (7YGP)	Achievements
11	To increase loans in agriculture and livestock from 4% to 18% of loans granted countrywide.	% of loan to agriculture and livestock activities.	Loan from 4% to 18% of loans	In the current and ongoing restructuring of BRD, agriculture financing will be given more attention. 6.4 % of loans were attributed to agriculture activities
12	To promote genetic improvement programmes in order to increase animal resources productivity and enhance processing and marketing of animal products at domestic, regional and international level.	Number of cows inseminated		<ul style="list-style-type: none"> - INSEMINATION: 77,221 cows inseminated - ABATTOIRS: There are 7 Abattoirs established (i.e. Nyamata, Rubavu, Kabuga, Ruyenzi, Nyamagabe, Nyabugogo and Kicukiro). - So far 5 industries are in place namely: Zamura feed located in Musanze, Gorilla (Rubirizi/Kicukiro), PAFI (Premier Animal Feed Industry), PRODEV located in Rwamagana and Huye Animal Feed Plant
13	Strengthening Girinka program so that the cows to be distributed to increase from 197,087 to 350,000 cows and follow up pass on gift scheme.	Number of cows distributed to poor family	350,000 cows	297,230 cows distributed
14	To enhance national storage system so that the crop storage capacity in national silos increases from 165,000 to 200,000 MT and be able to feed people at least 3 months	Capacity of storage facilities (warehouses and metallic silos)	200,000 MT	Storage capacity: 295,495 MT

No	Interventions	Indicator	Target (7YGP)	Achievements
15	To promote fishing, cattle and small stock farming in order to increase livestock production (meat, milk, eggs, hides and skins, fish)	Quantity (MT) of livestock products (meat, milk, eggs, hides and skins, fish)		Milk: 66,390,754 Liters /Year supplied to processing plants/year Animal products produced: Meat: 152,029 MT Fish: 26,528 MT Eggs: 7,475MT Honey:5,105MT Milk:816,791 MT Hides and Skins: 6,781 MT
16	To support livestock farmers in water harvesting (for livestock) and feed conservation	Ha (farms) supplied with water (for livestock)		Works to supply water in farms completed. So far 5,511 ha of farms in Nyagatare and Kayonza districts are connected to potable water for livestock.

ANNEX 8: Implementation status of the 14th NLR Resolutions

No	Resolution	Output & Indicators	Annual target Baseline (If any)	Progress Vs annual targets (Q3)
7	Develop and implement strategies aimed at increasing productivity to ensure food security i.e building a strong seed distribution system and boost exports of agricultural products	<p>Output: Research plan to increase productivity through development of high yielding varieties implemented</p> <p>Indicator: new high yielding varieties developed</p>	<p>Target: Development and release of new high yielding varieties: Maize: 9 hybrids Rice: 4 varieties Wheat: 10 Cassava: 2 Soybean: 2 Irish potato: 4</p>	<p>1.Maize: (i) 9 hybrids developed and released. (ii) 36 new hybrids are under evaluation, including 7 with tolerance to Fall Army Worm, 8 with drought tolerance and 2 with MLN disease tolerance</p> <p>2-Rice: 15 varieties under evaluation, including 5 introduced from Guinea Conakry</p> <p>3.Wheat: 19 wheat lines evaluated</p> <p>4- Soybean : 354 soybean lines are under evaluation, with promising 21 potentially new varieties</p> <p>5-Cassava: (i) 4 new varieties on farm trials and seed multiplication; (ii) 17 new varieties are under evaluation; (iii) 47,000 disease free plantlets of cassava produced by tissue culture and macro-propagation.</p> <p>6-Irish potato: 5 new varieties established in demonstration trials for release</p>

No	Resolution	Output & Indicators	Annual target Baseline (If any)	Progress Vs annual targets (Q3)
		<p>Output: Locally seeds produced for maize, wheat, soya, cassava, Irish potato.</p>	<p>Certified seeds produced: Maize: 1000MT</p> <p>Irish potato: 960MT</p> <p>Rice: 220 MT</p> <p>Wheat:300 MT</p> <p>Soybean:400 MT</p> <p>Baseline 2015/16: Certified seeds produced: Maize: 145 MT</p> <p>Soybean: 150MT</p> <p>Irish potato: 1000MT</p>	<p>Progress on local seeds production:</p> <p>1-Maize: 3,703 MT Open pollinated varieties produced, Hybrid maize production 18A season: -Basic seed : 4 Ha planted to give 32 MT -Certified seed: 130 Ha planted to give 260MT</p> <p>2- Irish potato - 2,4,000MT produced in season 17B, 34.8 Ha of basic seeds planted to give 348MT and 7,920 MT of certified seeds on-going for season 18A</p> <p>3- Rice 178MT of Rice produced in season 17B, -On-going for 18A season include: -Basic seeds: 9 ha (2ha in East, 2 ha West and 5 ha in South) to give 36 MT -Certified seeds: 50 ha planted to give 200MT</p> <p>4- Wheat - Certified seeds produced: 193.4MT - Basic seeds:10,5 Ha planted to give 16 MT</p> <p>(v) Soybean production : 314 MT that include: - Certified + QDS in 17B: 164 MT -On-going certified + QDS for 18A: 150MT</p> <p>(vii) Beans (Bio-fortified): 1,030MT that include - Certified seeds 17B: 456 MT -Certified seeds 18A: 574MT</p> <p>(viii) Cassava seeds -Quality declared cuttings (QDS) (17B&18A)= 289,690,500 cuttings -Basic seed: 46,283 cuttings -Tissue culture laboratory seedlings: 36,992 pieces -Macro-propagation seedlings: 9,291 pieces</p>

No	Resolution	Output & Indicators	Annual target Baseline (If any)	Progress Vs annual targets (Q3)
		Output: Climate change resilience strategies implemented	Targets: Marshlands (M): 835 ha Small Scale Irrigation (SSIT): 1,250ha in Hillside (H):1,867ha ETI/Kirehe:700ha LWH: Rwamagana-34: 267ha Muyanaza: 900 Ha	(1) Marshlands development: 800 Ha of marshland were developed (400ha in Mukunguri and 400ha in Rugende) (2) Small Scale Irrigation (SSIT): 1500 ha were developed under Small Scale Irrigation (SSIT)
		Baseline Irrigation infrastructures developed (2015/16): Marshlands: 35,161ha Hillside: 5,948 ha SSIT: 2,444 ha		(3) Hillside development: Hillside irrigation development works is ongoing: (i) Rwamagana-34: (267 Ha) Dam construction works completed, and other related hillside development works stands at 96.25%. (ii) Muyanaza (1,100ha): Water retaining dam completed. Other hillside irrigation works stand at 62%.

No	Resolution	Output & Indicators	Annual target Baseline (If any)	Progress Vs annual targets (Q3)
		<p>Output: Zoning strategies implemented to increase coffee export</p>	<p>Targets: Coffee exported: 21,604 MT 63.34 USD Million earned</p> <p>Baseline 2015/16: Coffee: 20,029 MT exported 58.49 USD Million earned</p>	<p>18,670MT exported</p> <p>64.1 USD million earned</p>
		<p>Professionalization of pluckers strategies implemented to increase tea exported</p>	<p>Targets: Tea exported: 29,745 MT 67.86 USD Million earned</p> <p>Baseline 2015/16: Tea: 26,261 MT 63.42 USD Million earned</p>	<p>26,242 MT exported</p> <p>84.3 USD million</p>

No	Resolution	Output & Indicators	Annual target Baseline (If any)	Progress Vs annual targets (Q3)
		Output: Investors mobilized through nuclear farm to increase export of fruits, vegetables and flowers	Target: 30,000 MT of horticulture exported 12.90 USD Million earned Baseline 2015/16: Horticulture exported: 20,267 MT 10.03 USD Million earned	30,710 MT exported 21 USD million
			Target: 173.81 US Million Organization of Diversified commodities traders into recognized associations, Support on certification to meet international standards Baseline: New Value chains (animal product, Cereals, honey) exported 154.5 US Millions	256.9 USD million Earned.

ANNEX 9: AGRICULTURE IN NUMBERS (2016/17)

Impact Indicator	Baseline (Reference pd.)	Achievement (by end FY 2014-15)	Achievements (by end FY 2015-2016)	Achievements (by end FY 2016-2017)	Source
Agricultural growth rate (% per annum)	5.6 % (2008-12 avg.)	5.0%	5.0%	3.0%	NISR, National Account Statistics
Share of Agriculture in national GDP (%)	33% (2008-12 avg.)	33%	33%	31%	NISR, National Account Statistics
% of the labor force directly employed in agriculture, forestry and fishing	72.6% (2010/11)	69.7%	69.7%	68.3%	NISR, Labor force survey 2017
% of population under national poverty line	44.9 % (2010/11)	39.1%	39.1%	39.1% (2013/14)	NISR, EICV 4 Poverty Profile Report
% of population under national extreme poverty line	24.1% (2010/11)	16.3%	16.3%	16.3% (2013/14)	NISR, EICV 4 Poverty Profile Report
% of households that are considered food secure (CARI Index ¹)	Not available	80%	80%	Available data: 80% (2015)	CFSVA 2015
% of households with poor and borderline food consumption	21 % (2012/13)	26%	26%	26% (2015)	CFSVA 2012 & 2015
Impact Indicator	Baseline (Reference pd.)	Achievement (by end FY 2014-15)	Achievements (by end FY 2015-2016)	Achievements (by end FY 2016-2017)	Source
% of children under 5 that are stunted	44% (2010/11)	38%	36.7%	36.7% (2015)	CFSVA, 2015
% of children under 5 that are wasted	3% (2010/11)	2%	1.7%	1.7% (2015)	CFSVA, 2015
% of children under 5 that are underweight	11% (2010/11)	9%	8.1%	8.1% (2015)	CFSVA, 2015

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