Ministry of Agriculture and Animal Resources

Annual Report FY 2011-2012

Republic of Rwanda

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Acronyms & Abbreviations

AfDB	African Development Bank
ASWG	Agriculture Sector Working Group
CAADP	Comprehensive Africa Agriculture Development Program
CICA	Center for Agricultural Information and Communication
DfID	Department for International Development (UK)
EC	European Commission
EDPRS	Economic Development and Poverty Reduction Strategy
FY	Financial Year
GAFSP	The Global Agricultural & Food Security Program
GDP	Gross Domestic Product
GFI	Immediate Action Irrigation
GoR	Government of Rwanda
GWLM	Gishwati Land and Water Management
Ha	Hectare
IFAD	International Fund for Agricultural Development
KWAMP	Kirehe Community-Based Watershed Management Project
LWH	Land Husbandry and Water Harvesting Project
MCC	Milk Collection Center
MDG	Millennium Development Goals
MINAGRI	Ministry of Agriculture and Animal Resources
MINECOFIN	Ministry of Economic Planning and Finance
MINICOM	Ministry of Trade and Industry
MTEF	Medium-Term Expenditure Framework
M&E	Monitoring and Evaluation
NAEB	National Agricultural Export Board
NEPAD	New Economic Partnership for Africa's Development
NGO	Non-Governmental Organisation
NISR	National Institute of Statistics of Rwanda
PADAB	Projet d'Appui au Developpment Agricole de Bugesera
PADEBL	Projet d'Appui au Developpment d'Elevage Bovin Laitier
PAIGELAC	Projet d'Appui a l'Amenagement Integre et la Gestion des Lacs Interieurs
PDCRE	Projet de Developpement des Cultures de Rente et d'Exportation
PHHS	Post Harvest Handling and Storage
PSTA	Strategic Plan for the Transformation of Agriculture
RAB	Rwanda Agriculture Board
RSSP	Rural Sector Support Project
RwF	Rwandan Francs
SWAp	Sector-Wide Approach
USD	United States Dollars

Foreword by the Minister of Agriculture and Animal Resources

I am pleased to present the MINAGRI Annual Report for 2011-2012 to the people of Rwanda and our development partners. The publication of the Ministry's achievements is of vital importance to allow both internal analysis of our progress and the challenges we face, and to provide all stakeholders with an updated account of the activities in Rwandan agriculture.

This year has seen continued progress in the sector. MINAGRI and our supporting agencies have implemented various initiatives to modernize and intensify agriculture through an integrated and sustainable approach. We have worked in partnership with other Ministries, development partners, the private sector and farmers to realize the many achievements outlined in this report.

As we look to the future, agriculture will continue to be essential to Rwanda's development and to achieve the ambitious goals of Vision 2020. The new poverty reduction strategy, EDPRS II, prioritizes rural development and embraces the sector as a potential source of jobs, productivity and economic transformation. MINAGRI will be an important player in the drive to foster inclusive growth, raise incomes for rural households and improve food security.

As we develop our own new sector strategy, PSTA III, the Ministry will maintain a strategic focus on both production and commercialization. Over time MINAGRI's role in the sector will move from provider to facilitator, as capacity grows and increased private sector involvement delivers demand driven agricultural products. The Ministry faces a challenging task, as a pivotal institution to both reduce poverty and generate premium exports which drive growth. MINAGRI will rise to the challenge through hard work, partnership and innovation.

I wish everyone a rewarding year.

Dr Agnes Kalibata
Honorable Minister of Agriculture and Animal Resources, MINAGRI

Foreword by the Permanent Secretary of the Ministry of Agriculture and Animal Resources

The 2011-2012 annual report describes the key achievements of the Ministry of Agricultural and Animal Resources over the last financial year. The diverse activities of the agricultural sector are presented here, including a wide range of successes as we reach the end of the second phase of the agricultural sector strategy, PSTA II.

Some of the most notable achievements of the last year focused on expanding initiatives which drive productivity gains, including land husbandry, irrigation, mechanization, and post-harvest facilities, and bulking up production systems through cooperatives and extension services. However, MINAGRI also recognizes the need to drive the sector forward through efficient agricultural markets, and programs focused on export promotion, agricultural finance and leveraging private sector investment play an increasingly important role.

The sector has witnessed an incredible transformation. Over the last five years, rural poverty has fallen from 61.9% to 48.7% (EICV III), driven primarily by agricultural interventions to move the sector from subsistence to a market economy. Now, MINAGRI must continue to adopt forward-thinking agricultural planning to improve project implementation, efficiency and effectiveness. Synergies with other Ministries driving rural development are vital to create an environment which attracts and retains private investment. MINAGRI aims to facilitate a vibrant, commercial agricultural sector which supports Rwanda's sustainable development.

I would like to thank the many actors who have contributed to MINAGRI's success over the past year. As ever, delivery is key to realize our strategic goals and translate strategy into real benefits for the Rwandan people. We must work together to achieve this.

Best regards for the coming year,

Ernest Ruzindaza
Permanent Secretary, MINAGRI

Picture 1: Terraced hillsides constructed by the Land Husbandry, Water Harvesting and Hillside Irrigation project help farmers increase yields and raise rural incomes

Section 1: Introduction and Summary of Sector Performance

1.1 The Agriculture Sector

Agriculture contributes to development as an economic activity, as a livelihood, and as a provider of environmental services, making the sector a key instrument for growth and poverty reduction. In Rwanda, over 80% of employment is based in rural areas. Agriculture is the main sector making up 32% of GDP. However, rural poverty is also high, measured at 48.7%, in comparison to the urban level of 22.1%. Rural development and the role of agriculture is therefore a key focus for domestically and externally financed projects which aim to increase incomes, alleviate poverty, improve food security, combat malnutrition and drive growth to reach ambitious national targets outlined in Vision 2020 and EDPRS I.

Agriculture in Rwanda faces multiple challenges. Land is scarce and population densities high, and the median land size is approximately 0.59 ha per household (EICV III). Smallholder farmers dominate production, with complex extension needs. The country is also landlocked, which creates higher energy and transport costs than regional neighbours. Rwanda's unique topography means that farm activity depends on a diverse range of geographical landscapes and micro-climates.

The Ministry of Agriculture and Animal Resources (MINAGRI), its two task forces of irrigation and mechanization (TF I&M) and post-harvest handling and storage (TF PHHS), the Single Project Implementation Unit (SPIU) and the two implementing bodies established in 2011, the Rwanda Agriculture Board (RAB) and National Agricultural Export Development Board (NAEB), continue to adopt new and innovative ways to tackle constraints and, in collaboration with development partners, to generate income and food security for rural households. This is evident by the achievements of financial year 2011-2012 which are detailed in this report. MINAGRI also looks to the future, with EDPRS II and the new PSTA III. These strategic documents will provide guidance as we continue to develop agriculture in a manner which is integrated, sustainable and contributes to improving the lives and livelihoods of Rwanda's people.

1.2 Progress towards Vision 2020 and EDPRS Goals

Progress towards Vision 2020 continues, with the introduction of new indicators focusing on mechanization and food security (based on the CSFVA survey). Progress is illustrated in table I. The main driver for reaching these targets has been MINAGRI's integrated approach to both income generation and food security, including interventions in irrigation and land husbandry, crop intensification, post-harvest handling and storage, livestock management, and increasing export quantity and quality through value addition.

Revised Selected Vision 2020 Indicators	2000 (calendar)	FY 2011-2012	2020 revised (calendar)
Agricultural GDP growth (%)	9	5%	8.5%
Agriculture as % of GDP	45	32%	25%
Fertilizer application (kg/ha/annum)	0.5	29 kg	50kg
% of Agriculture Operations Mechanized	n.a.	12%	50%
Food Security Indicator: Food Consumption Score	n.a	Poor FCS: 4% Borderline: 17% (2009)	Poor FCS:0% Borderline:5%
Soil erosion protection (% total land)	20	87.3%	92% *will be revised

Table 1: Selected Vision 2020 Targets

Figure 1 illustrates the agriculture growth rate over the past half-decade. The figure shows recovery from a 2010 decline with a 2011 growth of 5%. The rise in the agricultural growth rate is a promising sign, as it demonstrates the realization of productivity gains through programs such as crop and livestock intensification.

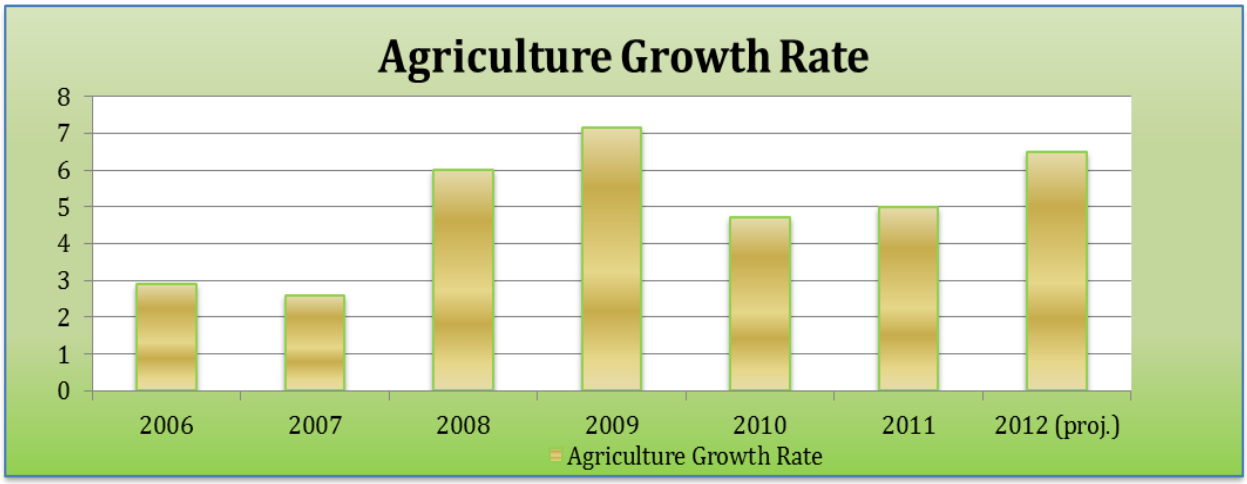


Figure 3: Agriculture Growth Rate (NISR)

Table 2 illustrates the falling trends for poverty over the last decade. Rural poverty fell from 61.9% to 48.7% in the last five years (EICV III). Extreme rural poverty fell from 39.5% to 26.4% (EICV III). This is a significant decline and partly driven by the combination of infrastructure improvements and improved agriculture productivity. However, rural consumption remains three times less that of urban consumers. Furthermore many poor Rwandans, often concentrated in rural communities, continue to live at levels far below the poverty line. It is important to note that the headcount measure only counts people below the national poverty line (118,000 RwF annual income, 2011 prices) and does not differentiate between individuals earning wages within that bracket. The poverty figures have notable implications for agriculture policy, as a combination of poverty targeting and regionally specific policy interventions will be needed to reduce poverty over the next five years.

Province	**2000/01**	**2005/06**	**2010/11**
Kigali City	22.7%	20.8%	16.8%
Southern Province	65.5%	66.7%	56.5%
Western Province	62.3%	60.4%	48.4%
Northern Province	64.2%	60.5%	42.8%
Eastern Province	59.3%	52.1%	42.6%
Urban		28.5%	22.1%
Rural		61.9%	48.7%
Total	58.9%	56.7%	44.9%

Table 4: Poverty Headcount

Figure 2 illustrates poverty changes over the last five years according to provinces. There is a significant decline in poverty in 13 out of 30 districts. There are also differences in poverty across districts, ranging from 8.3% to 73%. However, rural poverty in Rwanda remains persistent, particularly in South, West and Northern provinces.

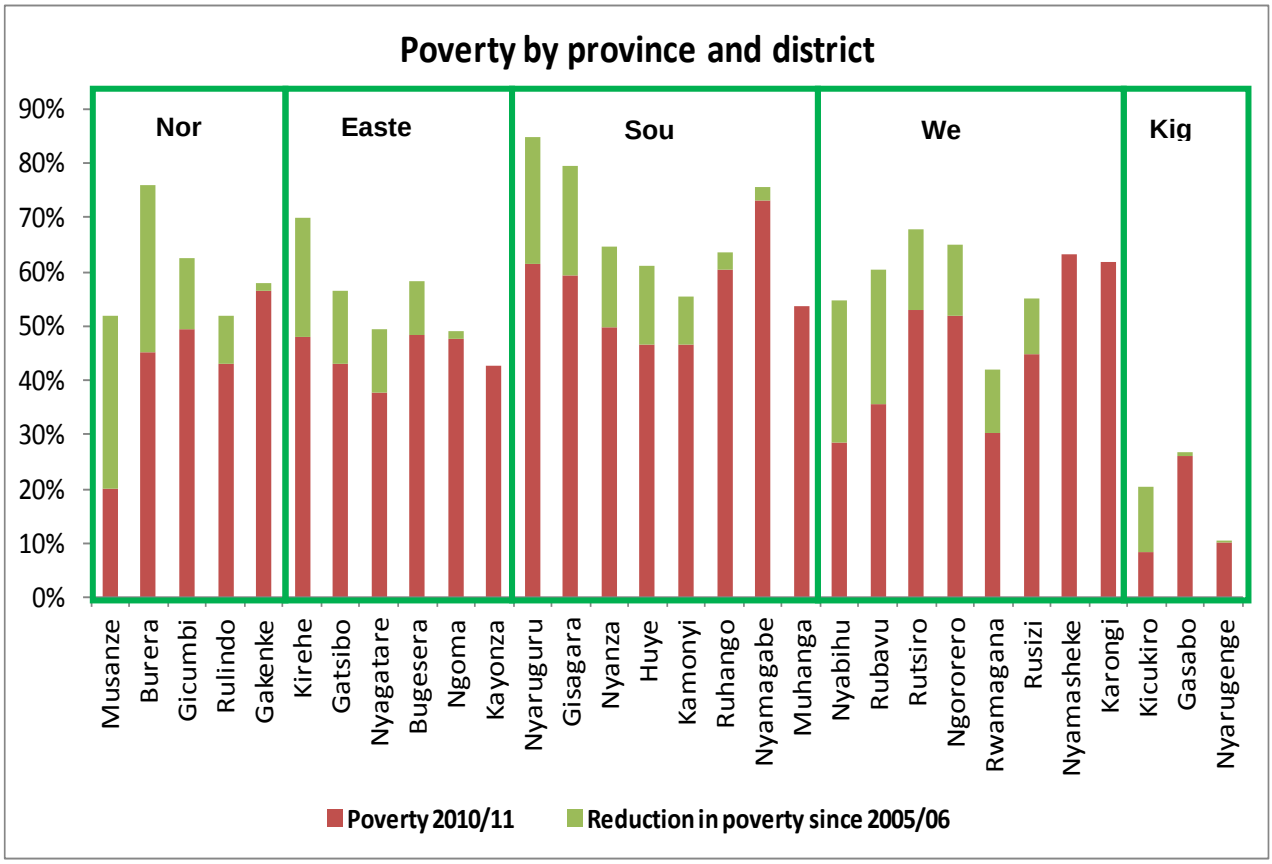


Figure 2: Poverty trends by district (NISR)

The complex distribution and depth of poverty across Rwanda is also reflected by the diverse and dynamic range of agricultural setups and market interactions which must be targeted to increase productivity and raise incomes. Figure 3 illustrates important agriculture-related EICV 3 findings. In many parts of the country, commercial smallholders deliver surpluses to food markets and share in the benefits of expanding premium value agricultural markets. Nationally, on average, 26.9% of household output is sold. The commercialization of agriculture has been a key driver in poverty reduction. However, a large proportion of the population continue to rely on subsistence farming, consuming nearly all the food they produce and participating in the market as buyers of food and sellers of labor. The subsistence farmer is most vulnerable to seasonal fluctuations and may not have other income sources to diversify their income. Additionally, according to the EICV 3 data, women within this group are particularly vulnerable and are the least likely to graduate beyond this category through engaging in off-farm employment.

Nonetheless, the signs of transformation in the sector are evident. First, household shares of marketed agricultural output increased by over 5%. This is a modest figure, but as a national average represents a clear trend towards market utilization. Livestock ownership appears to be an important tool in diversifying income-generating activities: cattle ownership has increased rapidly over the past 5 years, which is most likely accredited to the 'One Cow' (Girinka) program. Forms of soil erosion protection are also being utilized and the figure 83.5% bears resonance to the district-level figures as shown in the CPAF/EDPRS indicator (% of arable land protected against soil erosion). Finally, more households are using fertilizers, pesticides and sacks and packaging,

which is driven production and quality increases, and demonstrates demand for quantity and marketable quality goods.

Agriculture-related findings from EICV 3 National Data Set	EICV2	EICV3
% of households engaged in crop cultivation	91.5	93.0
Share of marketed agricultural output	21.5	26.9
% of livestock-owning households owning cattle	34.4	47.3
% of HHs with any plot affected by land use consolidation	-	22.4
% of crop-producing HHs with any plot protected from erosion	-	83.5
% of crop-producing HHs that added a crop type on any of their plots due to regionalisation policy	-	21.1
% of crop-producing HH purchasing fertilizer	18.0	38.3
% of crop-producing HH purchasing insecticides	24.4	30.5
% of crop-producing HH purchasing sacks and packaging	36.5	48.2

Figure 3: EICV III Agriculture Data (NISR)

With the agricultural context explained, the rest of this chapter shall outline the progress in key agricultural intervention areas of crop production, animal production, irrigation land husbandry and mechanization, post-harvest handling and storage and export promotion. This section shall also outline activities for key cross-cutting issues, including nutrition, environmental sustainability, gender, agricultural finance and encouraging private sector investment.

1.2 Crop Production

The Crop Intensification Program continues to be the main driver of crop production for the sector. Nationally, 46,000 MT of fertilizer was used in Season A and Season B 2012 nationally. In terms of application, Maize, Irish Potato, Climbing Beans, Tomatoes, Rice and ordinary (bush) beans receive the highest usage, according to the Crop Assessment. Maize and Irish potato receive the highest volume of fertilizer by a large margin.

Tables 3 and 4 illustrate key crop figures for Season A and Season B for the Financial Year 2011-2012, including (i) area under the crop, (ii) yield and (iii) resulting production.

	Area under crops (ha.)			Yield (kg./ha.)			Production (Mt)		
Crops	2011A	2012A	Change	2011A	2012A	Change	2011A	2012A	Change
Sorghum	6,483	9,827	52%	1,180	1,232	4%	7,647	12,105	58%
Maize	150,407	168,877	12%	2,270	2,406	6%	341,479	406,389	19%
Wheat	14,067	5,051	-64%	1,924	1,562	19%	27,063	7,887	-71%

Rice	6,140	5,887	-4%	4,317	5,725	33%	31,997	33,702	5%
Beans	191,473	224,229	17%	937	1,093	17%	179,392	245,191	37%
Peas	14,777	20,866	41%	779	729	-6%	11,510	15,210	32%
Groundnuts	11,696	11,563	-1%	530	552	4%	6,204	6,380	3%
Soybeans	19,643	18,038	-8%	663	566	-15%	13,030	10,217	-22%
Banana	173,086	167,714	-3%	8572	9565	12%	1,483,693	1,604,149	8%
I. Potato	103,646	92,853	-10%	12102	12604	4%	1,325,225	1,335,977	1%
S. Potato	35,540	47,667	34%	7,971	8,639	8%	283,299	411,788	45%
Yam & Taro	10,758	9,133	-15%	6,249	6,019	-4%	67,227	54,972	-18%
Cassava	102,971	92,119	-11%	10,917	12,072	11%	1,124,090	1,112,055	-1%
Vegetables & fruits	49,200	24,971	-49%	11,063	10,806	-2%	552,322	269,843	-51%

Table 3: Crop Assessment 2012 A (MINAGRI)

The data from both season A and season B indicates that although there have been production gains overall, the different seasons forced cropping changes. While sweet potato production increased in both seasons, other staple crops including sorghum, maize, wheat and rice were more volatile, illustrating the continued need for infrastructure including irrigation and mechanization and training for farmers in season preparedness.

	Area under crops (ha.)			**Yield (kg./ha.)**			**Production (Mt)**		
Crops	2011B	2012B	Change	2011B	2012B	Change	2011B	2012B	Change
Sorghum	122,777	43,247	-65%	1,416	1,467	4%	173,887	63,433	-64%
Maize	73,007	83,713	15%	2,283	1,950	-15%	166,644	163,201	-2%
Wheat	28,807	34,540	20%	2,039	2,284	12%	58,749	78,893	34%
Rice	8,591	9,044	5%	5,751	5,479	-5%	49,405	49,558	0%
Beans	151,846	257,283	69%	1011	706	-30%	153,500	185,829	21%
Peas	27,288	15,972	-41%	978	732	-25%	26,686	11,690	-56%
Groundnuts	11,362	9,318	-18%	766	586	-24%	8,700	5,458	-37%
Soya	28,313	14,257	-50%	863	607	-30%	24,448	8,656	-65%
Banana	173,623	172,729	-1%	9,067	9,350	3%	1,574,202	1,615,051	3%
I. Potato	65,847	69,466	5%	11,186	13,002	16%	851,939	903,187	6%
S.Potato	70,467	63,032	-11%	8,086	9,691	20%	569,772	610,849	7%
Yam & Taro	17,241	26,971	56%	6,899	5,074	-26%	118,941	123,452	4%
Cassava	107,105	82,311	-23%	13933	18,026	29%	1,492,334	1,483,743	-1%
Vegetables	21,464	23,184	8%	11,488	14,536	27%	246,577	337,004	37%
Fruits	27,439	19,115	-30%	12,005	20,131	68%	329,391	384,805	17%

Table 4: Crop Assessment 2012B (MINAGRI)

Overall, crops showed different trends:

- Beans: In comparison with season 2011B, bean production rose by 21%. The main reason for the increase in production is the increase in cropping area for climbing beans in the Western and Northern provinces
- Wheat: Wheat production increased by 34 percent
- Soybeans: The production of soybeans decreased by 65 percent, while the area under soybean production decreased by 50 percent, demonstrated productivity increases
- Sorghum: The production of sorghum decreased by 64 percent, while the cropping area for sorghum decreased by 65 percent. This was mainly due to late rains that forced farmers to switch to other crops in their plots
- Maize: The estimated production of maize in 2012B decreased slightly when compared to 2011B production. This was due to the delay in sowing and consequently not all cultivated maize grew in good conditions.

Generally, when the recent improvements in crop production are compared with long term trends, (figure 4) we can observe vast improvements in food availability over the last decade. However, although food production overall has increased, many farmers still rely on subsistence, rain-fed agriculture, which is both vulnerable to climate shocks and cannot generate growth or ensure food security. MINAGRI must continue to work to improve crop productivity, facilitate sectoral commercialization and reduce farmer's vulnerability.

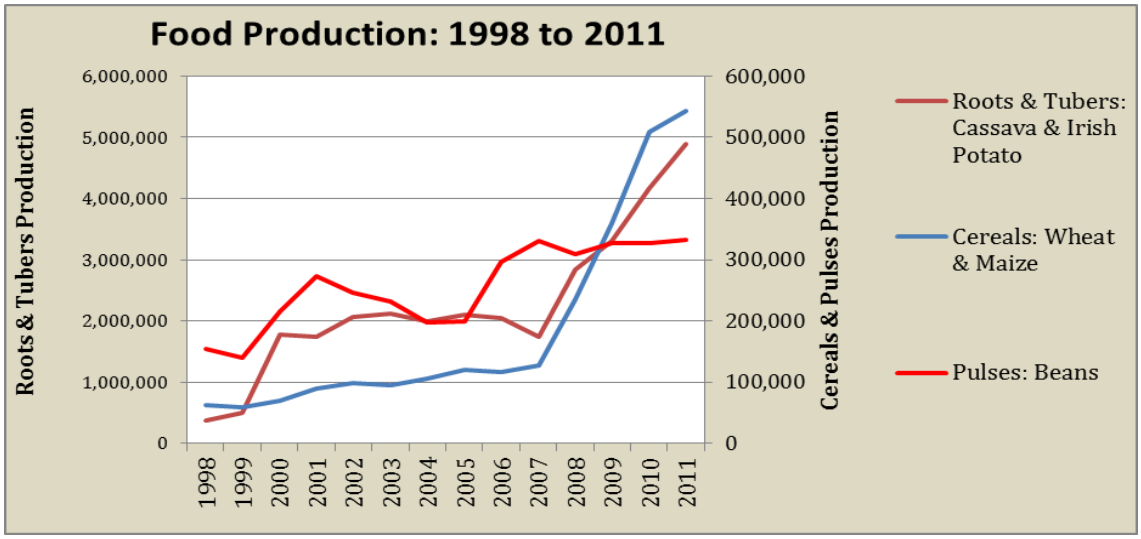


Figure 4: Food Production Time Series (MINAGRI)

Price Trends

As the principle Ministry responsible for production, it is important that MINAGRI tracks and analyses food price movement, to ensure national and regional food security and tackle malnutrition. Given the context of increasing food prices in the last few years, national prices have been relatively cushioned from the upwards pressure. Instead, national commodity prices tend to follow a generally cyclical trend (see Figure 5,6 and 7). Lean periods result in higher prices which are then corrected with the harvest. The 'lean season' generally occurs in October-December, and February-May, which are the pre-harvest period for Season A and Season B respectively.

Figure 5 illustrates the market price trend for staple cereals and pulses. The sharp increase in prices between February and May 2012 was in response to lean season scarcity. However, price increases overall are also partly explained by increasing regional demand for these staple products.

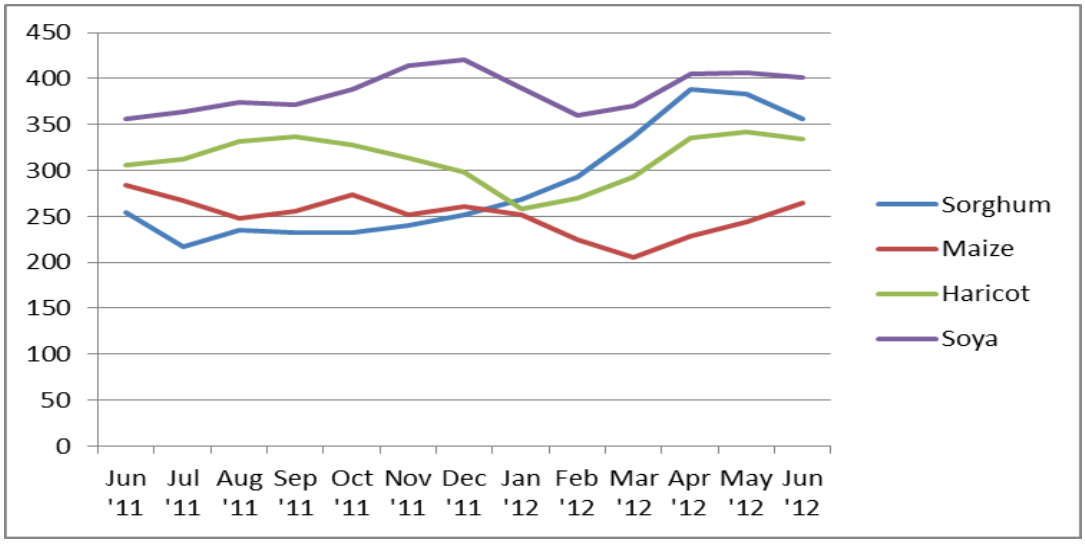


Figure 5: Cereals and pulses average market price (NISR)

Figure 6 depicts the average market price trends for roots, tubers and bananas. As with cereals and pulses, there is a rising tendency towards the end of the financial year. The prices for sweet potato and cooking banana are more stable, which is positive for as both are important nutritional sources for poorer households. Irish potato has experience increasing domestic and external demand, which has generated overall upwards price pressure.

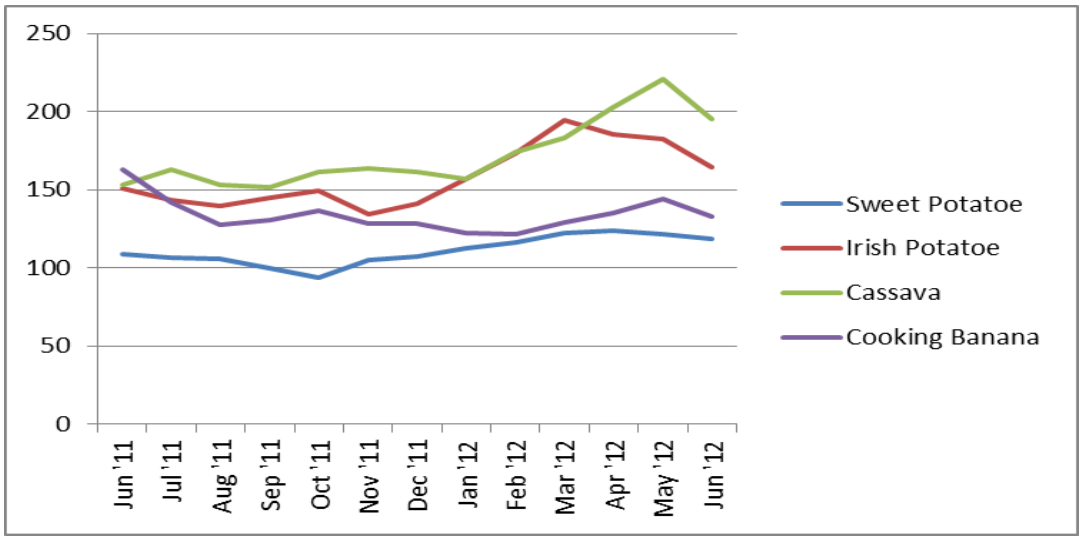


Figure 6: Roots, tubers and banana average market price (NISR)

Finally, figure 7 illustrates the market prices of rice and wheat, both of which have negative terms of trade , but which have remained relatively stable over the last year (except for a peak in Tanzanian rice price pre harvest in Season B). This trend highlights the improvements in domestic production. However, in order to maintain price stability, MINAGRI must continue to scale up efforts which mitigate vulnerability to external price shocks such as regional shortages.

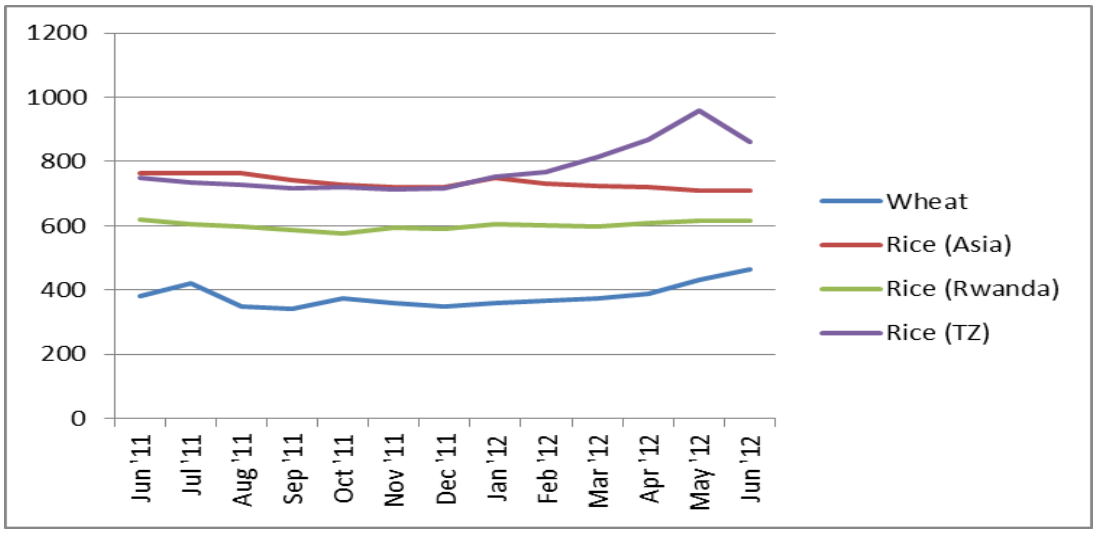


Figure 7: Rice and wheat average market price (NISR)

1.3 Livestock Production

Animal production, the integration of livestock into smallholder farming and the contribution of animal protein to diets are key factors in food security. According to EICV III 70% of households now own livestock. The growing demand for animal products due to economic growth and rising incomes represents a vital opportunity for MINAGRI to continue develop Rwanda's animal resource sector. In the financial year 2011-2012 MINAGRI focused on animal resource sector modernization and investment in genetic improvement, animal health and disease control, feeds and feeding, strengthening livestock infrastructure and improved service delivery.

This has generated significant increases in the animal population in Rwanda over the last five years. Figure 8 illustrates livestock trends over the last three years.

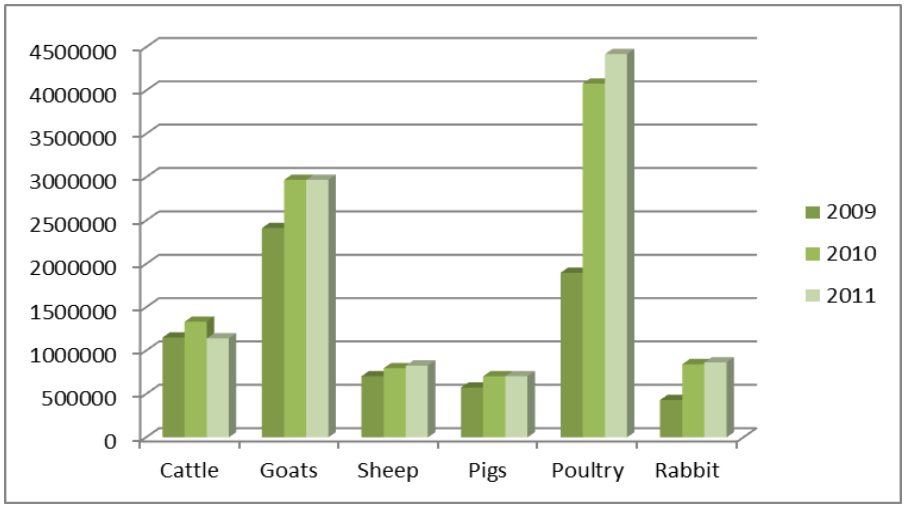


Figure 8: Animal head count for 2009, 2010 and 2011 (RAB)

In the last financial year, the head counts for sheep and rabbit have marginally increased, pigs and goats have stayed constant, poultry has significantly increased (partly drive by the Poultry Development Project) and declined for cattle. This represents the importance of continued investment in the sector. The decline in the cattle population can be explained by the shift to zero grazing and improved cattle

breeds that give more milk. However, the livestock figures also illustrate how livestock distribution alone is insufficient to develop Rwanda's animal resources, and that efforts must be made to train households in providing appropriate care, establish an effective service delivery network to improve animal health, improve the productivity of each animal and focus on value chain development to attract investors and produce premium animal products. This is particularly valid considering Rwanda's limited land availability for livestock grazing. Promisingly, in the last financial year milk and egg production increased, and honey remained constant, which illustrates productivity gains in poultry and cattle. However, production of meat, fish and hides and skin decreased, which would highlights the need to develop the capacity and efficiency of slaughter houses and meat processing facilities. Part of the decrease is also explained by the shift in focus towards developing small livestock, which are most sustainable in the long run and more suitable for the poorest households. Animal production is shown by table 5.

Product	2006	2007	2008	2009	2010	2011
Milk (L)	152,511	189,827	257,480	334,727	401,672	442,337
Meat	52,226	54,780	69,637	65,863	79,035	73,633
Fish	9,267	9,655	12,594	14,104	16,924	15,526
Eggs	1,536	1,620	2,327	3,268	3,921	5,736
Honey	1,676	1,084	1,654	2,684	3,221	3,221
Hides & skin	3,183	4,137	4,496	4,098	5,327	4,017

Table 5: Animal production in tons 2005-2011 (RAB)

Overall, since 2006 animal production has increased, and this represents a market opportunity both for household consumption and commercialization of the sector, particularly to capitalize on regional demand for milk, hides and skins and investigate further marketability of animal products. The fall in production for meat and hides and skins in 2011 was due to changes in the production system to reduce the pasture area required for livestock. Concerns regarding limited land availability led to cattle destocking, also demonstrated by the fall in the number of cows, and a shift in focus to increasing productivity. This should results in greater meat and milk production per hectare in the long run. Increasing animal productivity and production over time is matched by the increasing trend for consumption of animal products (figure 9).

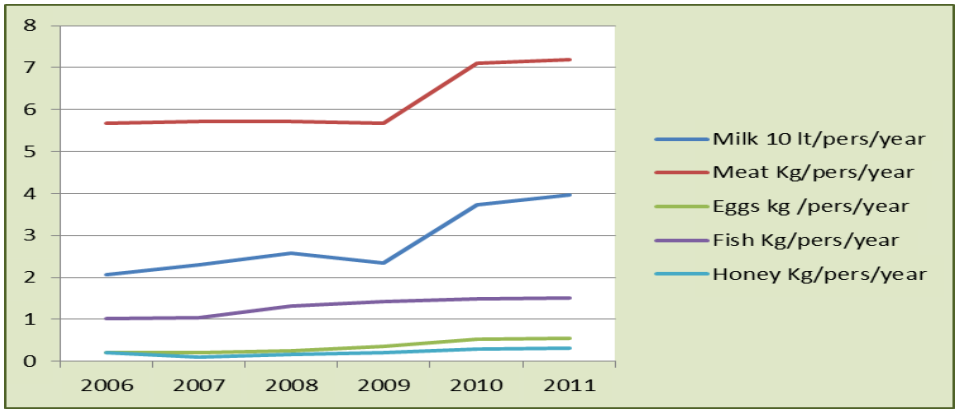


Figure 9: Consumption of animal products per person per year (RAB)

Consumption of all animal products has increased over the last five years. The rise in meat and milk production is greatest, with increases of 27% for meat and 91% of milk consumption since 2006. Increased animal protein consumption supports better nutrition, and these figures are therefore a positive indicator of improved food security.

Farmers have also recognized the potential for livestock production and the benefits of cooperative approaches to rearing and caring for animals. Table 6 shows the number of newly registered cooperatives for agriculture and livestock since 2005. 2011 shows an increase in livestock and combined cooperatives from 2010.

Year	Agriculture	Livestock	Both
2005	13	5	1
2006	61	21	5
2007	147	40	9
2008	32	11	2
2009	482	243	51
2010	366	158	41
2011	344	185	34

Table 6: No. of newly registered cooperatives by year (RCA)

In order to continue to facilitate sector growth, MINAGRI and RAB have developed key strategies and investment plans which will be implemented over the next five years with PSTA III to strengthen Rwandan animal production, with particular focus on developing the small livestock sector. These key documents are:

1. Strategy and investment plan for the poultry industry
2. Strategy and investment plan to strengthen Rwanda's small animal industry
3. Strategy and investment plan for Rwanda's meat industry
4. A strategic plan for animal genetic improvement

1.4 Irrigation, land husbandry and mechanization

Irrigation and land husbandry are key priority areas for MINAGRI as they both improve productivity and mitigate the effects of adverse weather shocks for farmers. Mechanization improved productivity and can contribute to value addition and quality promotion. In the financial year 2011-2012, the Task Force (TF) for Irrigation and Mechanization implemented various activities to improve land and water management and disseminate farm equipment among rural beneficiaries. In relation to irrigation, a total of 24,131 ha of marshland and hillside were developed, shown by table 7.

Type of Irrigation	2011 A	2011 B	2012 A	2012 B
Marshland Development	17,363	17,363	19,681	23,000
Hillside Irrigation	239	450	450	1,471.3

Table 7: Marshland development and hillside irrigation in Ha (MINAGRI)

The major achievements in irrigation include the irrigation of Muvumba marshland for rice farming (1,750 ha), the irrigation of Kagitumba and Nasho valleys (1,000 ha) and the irrigation of Rurambi marshland (350 ha).
In relation to mechanization, by 2012 12% of farm operations were mechanized. Mechanisation progress is illustrated by table 8.

	2011 A	2012 B	2013 A (planned)
Land ploughed	6,300	11,350	12,400

Table 8: land mechanically ploughed in ha during the FY 2011-2012 (MINAGRI)

The Irrigation and Mechanization TF also implements three key projects: the Immediate Action Irrigation Project (GFI), the Gishwati Water and Land Management Project (GWLM) and the Agricultural Mechanization project. The full reports of their achievements are found in chapter three. In addition to the projects, this year the TF has made significant progress in establishing the power tillers assembly line, and water users associations.

1.4.1 Power tillers assembly line

Efforts to increase agricultural mechanization need to be mobilized. This year MINAGRI signed a Memorandum of Understanding (MoU) with the South Korean company Tong Yang Moolsan (TYM) Tractors Corporation to technically support mechanization, and particularly the establishment of a Power Tiller Assembly Plant in Rwanda. With the establishment of the assembly plant in the Special Economic Zone (SEZ), through a Joint Venture between the GoR and TYM, the TF for irrigation and Mechanization plans to assemble around 4000 units per year. Operation at this capacity should enable tilling of 140,000 ha per year, which will give on average a 14% annual mechanization growth rate. MINAGRI therefore should be able to mechanize 52% of cultivated land by 2017. The setting up of the Power Tiller Assembly Plant will cost USD 1.7 million.

The construction of the building that will host the power tillers assembly line is 90% complete. Construction works will be finalised by the end of September 2012, when it is also expected the first shipment of manufacturing equipment will arrive. Equipment includes the ground floor "rail track", by which the component units will be fitted on the power tillers as they cross the assembly hall. The rail track will be complemented by the "overhead hoisted network", through which heavy loads, like engines, chassis and gear boxes will be lowered at specific assembly points. The installation of the initial manufacturing facilities is due to be completed by December 2012.

The second shipment will consist of power tillers assembly parts and is planned to be executed between September and December 2012. The manufacturing of the power tillers, the newly assembled Rwanda brand (RPT) is due to start in January 2013.

Figure 10: Tractor in primary tillage

The use of the machinery in farming is becoming a culture among Rwandans, and the taskforce is responding to the demands of farmers through establishing Village Mechanization Service Centres (VMSCs), a mechanism that brings machines farmers to hasten their adoption. Through these concerted efforts to introduce the use of mechanical power in Rwanda's agricultural sector, the scaling up of the production is taking root, as shown by the maize production in Muvumba, in Nyagatare.

Figure 11: Scaling up in Muvumba

1.4.2 Water Users Associations (WUAs)

MINAGRI has led the construction of irrigation schemes within Rwanda to avoid rainfall dependence. In the financial year 2011-2012 the emphasis has been on ensuring sustainable management of various hydraulic infrastructures. Following the experience of many other countries, MINAGRI is implementing a new management model that separates operation and maintenance of water infrastructure from production activities in irrigation schemes. This new management model is based on the establishment of "Water Users Associations" (WUAs). This initiative has been implemented under the Rwanda Irrigation Master Plan.

The main purpose of forming WUAs is to ensure efficient operation and maintenance of irrigation systems. They have no profit motive and raise water service fees from users who pay the fees from income generated by growing irrigated crops. In irrigation schemes, WUAs and cooperatives are two independent bodies. The WUA is in charge of operation and maintenance of the hydraulic infrastructure, while the cooperative focuses on production and marketing aspects.

The Ministerial Order No 001/11.30 of 23/11/2011 formalises the establishment of WUAs in all irrigation schemes within Rwanda. This Ministerial Order was approved by Cabinet session on 02/09/2011 and published in Official Gazette No 50, 12/12/2011. The Order serves water users in irrigation schemes built on public and private domains and schemes built on government land which has been leased. It serves all existing and future schemes.

The WUA Support Unit has been set up under the TF Irrigation and Mechanization. The Unit's main role is to oversee the implementation of WUAs in all Rwandan irrigation schemes and to ensure their performance, especially regarding the maintenance of irrigation infrastructure. The Support Unit started work in December 2011. Three staff members were recruited - Head of Unit, Irrigation Technician and WUAs Organization Specialist. The Unit Work plan (December 2011 - June 2012) was validated by the Agriculture Sector Working Group (ASWG) during on March 8, 2012. This year activities focused on the establishment and strengthening of WUAs in irrigation schemes developed by MINAGRI and its partners.

Figure 12: Farmers receive training on operation and maintenance of irrigation infrastructure

Five WUA training modules were developed, covering bylaws, internal rules and regulations, administrative management, financial management, operation and maintenance of irrigation infrastructure. 4,206 members of WUAs set up in marshlands developed under QWMDP, PAPSTA and GAA have been trained in operation and maintenance of irrigation schemes. 264 members of the executive and audit committees from the WUAs above and LUX DEV received training on administrative and financial management. Trainers were provided for GAA to organize training for 83 WUAs and farmer cooperatives leaders. In March and April 2012, 40 lead farmers participated in a study tour in Kenya to gain experiences in the management of irrigation schemes. Seven staff members from the TF, RSSP, LWH, PAPSTA, KWAMP and PRICE also participated in the tour, and a further 14 members of staff received technical training in WUA administration and management. Approximately 6,000 farmers from different irrigation schemes attended the 2012 Agrishow. They visited different exhibited agricultural products and technologies.

Figure 13: MINAGRI stakeholders in a workshop developing training modules for WUAs

Despite the progress this year, the WUA program faces challenges. It is a new approach in Rwanda, and therefore there is a great need for capacity building through training and exchange visits. District and Sector level agronomists also need to be trained in irrigation system management and maintenance. The Ministerial Order needs to be diffused among the public at large. WUA already established also need a legal personality. Finally, District level irrigation steering committees must be established to manage irrigation schemes and WUAs.

1.5 Post-Harvest Handling and Storage

Through the CIP, production continues to increase. With these higher yields, sustainability and revenue generation depend on the success of the entire value chain. Post-harvest handling, storage, marketing and value-addition (PHHS) therefore are paramount in ensuring that farmers reap the benefits of increased production. Furthermore, adoption of these techniques increases food availability by avoiding losses and damage, which generates better quality food, improved nutrition and more raw materials for processing. PHHS can thus ensure both better returns for farmers and enhance food security.

For the fiscal year 2011-2012, the PHHS Task Force focused on:

1. Reducing post-harvest losses from 23% to 15% especially for maize, rice and beans
2. Training farmers regarding post-harvest best practice
3. Availing suitable and appropriate drying ground, shelling and storage facilities
4. Managing the Rwanda National Strategic Reserve.

To improve understanding of which post-harvest technologies are appropriate for specific crops, a total of 2,367 cells IDPs, District and Sector agronomists and 899 farmers were trained in post-harvest best practice. The guidance they received was transferred to others farmers and their cooperatives.

With recent production increases, post-harvest infrastructure has become more important. In 2011-2012, 27 drying grounds were constructed across the country to cut post-harvest losses and deliver quality produce. Best post-harvest practices like drying, shelling and winnowing were explained to farmers to ensure high standards of production. Field staff were regularly deployed to Districts and Sectors to coach farmers in harvesting, drying, threshing, winnowing, sorting, packaging, storing and marketing of their produce. In total 58,468 farmers received coaching.

Figure 14: Farmers shelling their maize after the drying process

Due to their efforts in maize production, the Eastern and Northern Provinces received most of the provincial level investment from MINAGRI in terms of sheetings and shellers. These were distributed according to table 9.

Provincial PHHS investments	Sheetings	Value Investment (RwF)	Shellers	Value Investment (RwF)	Total Investment (RwF)
Northern	7,042	40,843,600	322	4,830,000	45,673,600
Southern	7954	41,302,880	280	4,200,000	45,502,880
Eastern	19,950	99,750,000	812	12,180,000	111,930,000
Western	4139	20,695,000	167	2,505,000	23,200,000
Total	39,085	202,591,480	1,581	23,715,000	226,306,480

Table 9: PHHS Investments

Community storage systems help farmers reduce and prevent post-harvest losses. This provides protection against high financial losses as a result of forced selling of produce immediately after the harvest, when prices are typically very low.

The PHHS TF has also developed and rehabilitated storage infrastructure for the National Strategic Reserve to mitigate the impacts of shocks to the food supply. The complete project reports are included in chapter three.

Overall, given that PHHS is a national, multi-sectoral issue, MINAGRI is leading the way as a national coordination unit for PHHS matters. The interventions discussed, and others such as feeder roads (roads connecting farmers to markets) are central to the success of PHHS improvements in Rwanda. The PHHS TF therefore plays an instrumental role in the agricultural sector, to improve rural incomes, ensure food security and generate growth through better quality products and well-developed value chains.

Figure 15: Metallic silos with capacity of 20,000 MT in Kigali Special Economic Zone

1.6 Export Promotion

Agriculture exports are vital to Rwanda's development growth, through generation of foreign exchange earnings. As such, export promotion is a key policy emphasis, and exports make an important contribution to the national economy. In May 2011, The National Agriculture Export Development Board (NAEB) was established as the primary government institutions responsible for development of agricultural exports, focused mainly on coffee, tea and horticulture. NAEB is also exploring other promising value chains such as sericulture, and these emerging sub-sectors are progressively improving and contributing to the diversification of export earnings.

The fiscal year 2011-2012 was a good year for agricultural exports. The annual target for overall coffee production was 19.3 MT, and 16.4 MT were produced (85% realization). In terms of exports, 16.8 MT of coffee were exported, generating revenue of USD 78,752,200 (table 10). The amount of coffee exported exceeded production due to a surplus produced the previous year.

Coffee Type	Production (Kg)	Export (Kg)	Revenue ($)	Av. Unit Price ($)
Fully Washed	4,715,921	4,734,521	28,913,613	6.11
Semi Washed	9,646,200	10,013,400	46,214,737	4.62
Triage	1,891,499	1,928,401	3,350,165	1.74
Robusta	152,262	133062	273,685	2.06
TOTAL	16,405,882	16,809,384	78,752,200	4.69

Table 10: Coffee Exports (NAEB)

NAEB implemented various programs to increase coffee production, quality and value addition. Key interventions including expanding cropping areas, planting more seedlings, application of both mineral and organic fertilizers, mobilizing farmers to use good agricultural practice through farmer field schools (FFS), training and assistance in pest and disease control, and rehabilitation of existing plantations. The coffee promotion project also played an important role and the details are in chapter three.

Tea production has continued to grow over time driven by NAEB's tea expansion program, focused on the mobilization of small holders to develop tea gardens and plantations in industrial blocs. For the fiscal year 2011-2012 the initial planting target of 2545 ha was revised downwards to 2100 ha due to the limited availability of seedlings and challenges related to rains and roads. The eventual area planted was 1083 ha, across six districts. This resulted in an overall production of 97,924,036 kg of green leaf tea, a significant increase over the last two decades (illustrated by figure 16). NAEB also facilitated the start of construction works for three tea factories to promote processing and value addition.

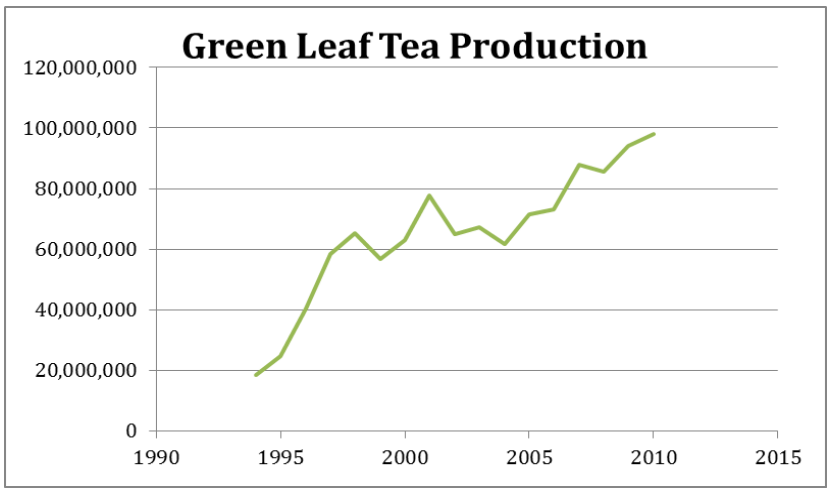


Figure 16: Green leaf tea production over time (NAEB)

Case Study: Tea Export Promotion

This fiscal year, NAEB aimed to explore new markets and maintain existing markets to increase tea revenues from USD 56 million to USD 61 million, a target successfully realized. Efforts included participation in trade fairs at local and international levels and increasing advertising and promotional activities especially at the Mombasa tea convention.
During the Mombasa tea convention, held in July 2011 and chaired by H.E President Mwai Kibaki of the Republic of Kenya, Rwanda teas emerged as the winner of the tea cupping competition. Tea samples were collected from all tea factories in Africa and tea- tasting experts were hired to taste the tea and selects the best quality leafs. Gisovu tea estate emerged as overall winner of the tea tasting competition and Kitabi tea estate came third out of over 35 samples tasted.

From left to right: Dr. Sally Kosgey (Minister of Agriculture of Kenya), President Mwai Kibaki of Kenya, and Mr. Kanyankole Alex (Director General of National Agricultural Export Development Board (NAEB).

President Mwai Kibaki of Kenya, who was the chief guest at the convention, described how there are new emerging demands for tea and its varieties in the global market. Players in the industry should become more aggressive and produce quality tea to be more competitive. Receiving the quality certificate from H.E Mwai Kibaki, Mr. Kanyankole Alex, the Director General of National Agricultural Export Development Board (NAEB) explained Rwanda's quality tea is a result of hard work and a passion for excellence by the tea sector.

The convention was attended by over four hundred delegates and fifty exhibitors, the most important players in the tea industry globally. It's no doubt that the Rwandan tea sector will gain enormously from the positive exposure provided by this event.

The horticulture sector has also expanded in the last fiscal year. Rwanda's climactic and topographical conditions, including abundant rainfall and rich volcanic soils, offer ideal conditions for growing diverse fruits and vegetables. The Horticulture Chain Intensification and Quality Management Project covers key interventions in expanding and promoting horticulture value chains, the full details are included in chapter three. Activities include expanding planting areas, distributing planting materials and constructing collection and processing centers to improve post-harvest management. 2800 ha were planted with vegetables and 4000 ha of fruit.

Export promotion has focused on advertising value addition initiatives which should be adopted to enter international markets. NAEB collaborated with Sorwatom, Urwibutso, Fresh Pack, Shekina, Norlega, HEPCO and Ikirezi to improve export quality and domestic based value addition. Currently, only five companies formally export Rwandan horticultural products. Figure 16 shows the volume of exported and imported fruit and vegetables for the fiscal year. Total exports exceeded USD 11 million. The majority of horticulture products are exported informally or through cross-border trade, and these are not captured in the formal export figures.

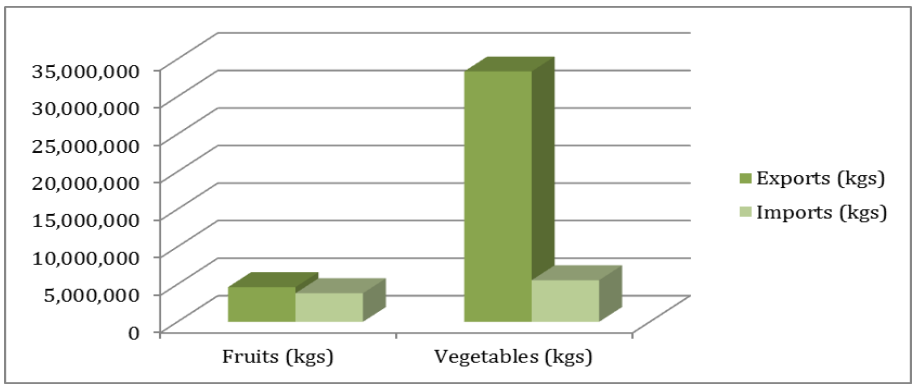


Figure 17: Import and export figures for fruit and vegetables (NAEB)

Pyrethrum also remains an important export crop, and 19,000 kg of refined pyrethrum extract were exported in the last fiscal year, generating more than USD 6 million.

1.7 Institutional Development

1.7.1 Institutional Reform

In the financial year 2011-2012 the institutional agencies of MINAGRI were reformed to clarify responsibilities and streamline strategic implementation, in an effort to bring efficiency to the sector and better integrate agricultural development. Two boards were established to bring together the multiple agencies who had previously acted in the institutional space.

The Rwanda Agriculture Board (RAB) now has responsibility for agricultural research and extension, and was formed from three agricultural agencies: the Rwanda Animal Resource Development Authority, RARDA, the Rwanda Agricultural Development Authority, RADA, and the Rwanda Agriculture Research Institute, ISAR. The merging of research and extension will promote improved communication and a mutual understanding between extension workers and researchers, so that research can focus on what farmers want and need, and so that these innovative solutions can be applied and adopted in the fields. RAB's vision is to improve food security and livelihoods through the use of research and extension to create a modern agricultural sector. Focus areas are crop intensification driven by agricultural inputs, sustainable land husbandry and animal resource development, with an emphasis on environmental sustainability given Rwanda's land use systems.

The second board established in May 2011 was the National Agriculture Export Development Board (NAEB), combining services from the Rwanda Coffee Development Authority (OCIR CAFÉ), Rwanda Tea Development Authority (OCIR THE) and Rwanda Horticulture Development Authority (RHODA). NAEB is responsible for developing Rwanda's agricultural exports, a vital sector for the economy to bring in foreign exchange, improve Rwanda's balance of payment and drive growth. Through NAEB, the export sector focuses on coffee, tea and horticulture, although other promising value chains such as staple crops, floriculture and livestock are developing, and progressively contributing to the diversification of export earnings.

In addition to RAB and NAEB, within MINAGRI there are two task forces, for irrigation and mechanization (TF I&M) and post-harvest handling and storage (TF PHHS). These task forces facilitate a technically competent and efficient approach to these important intervention areas. There are also the SPIUs (Single Project Implementation Unit) to streamline and co-ordinate implementation of large scale donor funded initiatives such as LWH. The Agricultural Information and Communication Centre (CICA) ensures efficient communication and information flows within the agricultural sector. Figure 18 illustrates the different agencies and their mandates.

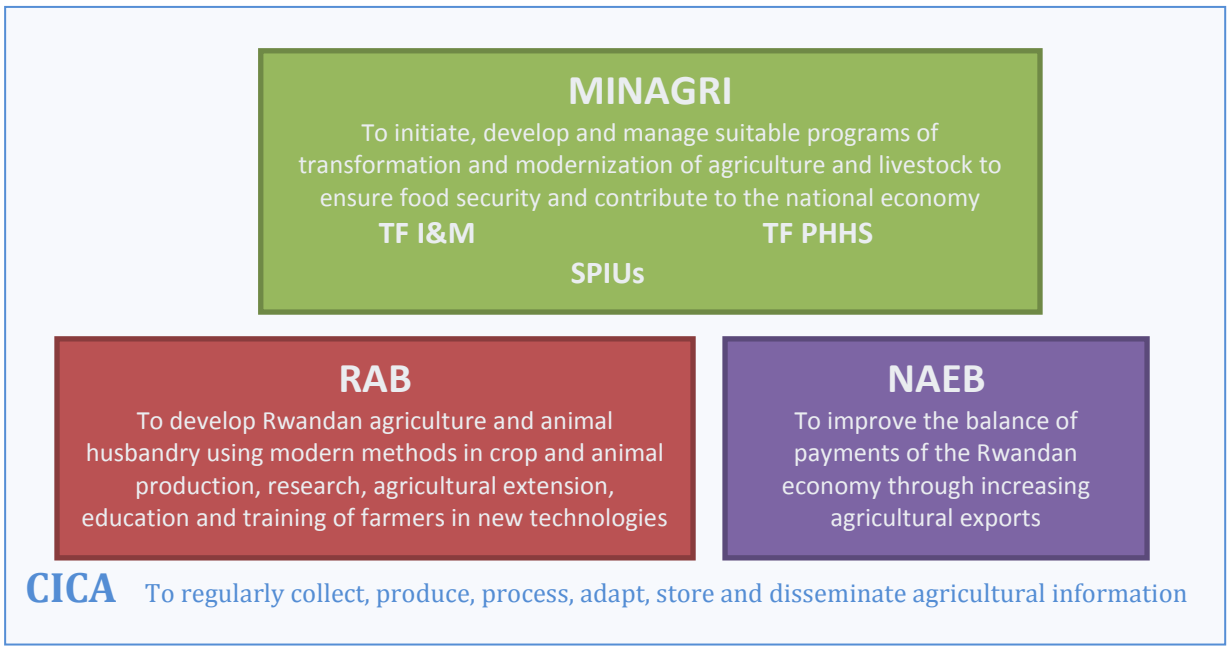


Figure 18: Institutional structure and remit of agricultural agencies

Further information about RAB and NAEB can be found in their respective annual reports. The projects implemented by RAB, NAEB and the task forces are reported in chapter three.

1.7.2 Agricultural Communications

In addition to the creation of RAB and NAEB, MINAGRI also established the Agricultural Information and Communication Center (CICA). CICA is a vital focal point for all agricultural related information, and works with all sector actors and across every District. CICA's objective to regularly collect, produce, process, adapt, store, share and disseminate agricultural information. Currently, agricultural information services are provided in five areas: ICT including the MINAGRI website and the agricultural

management information system AMIS, extension material development, audio-visual extension material development, the library and geographic information systems (GIS).

In relation to ICT, CICA allows for the harmonization of agricultural information support, which facilitates effective planning and avoids duplication of efforts in the sector. CICA also manages the MINAGRI hotline, which collects feedback, comments, inputs and inquiries from agricultural beneficiaries and links them with the staff concerned, resulting in improved service delivery.

CICA also develops extension materials including a monthly magazine (Hinga Worora) to share agricultural information, success stories and best practice, weekly flash news bulletins sent by email, and six extension manuals on different topics which have been disseminated to farmers' organizations and agricultural extension officers. Audio visual materials have also been developed including 52 radio and TV programs broadcasted, 6 documentary films developed, an agricultural media week was organized, and press conferences and community meetings have been held. A well equipped studio is available to make recordings. The CICA library also has 496 new books available on agriculture and an online library catalogue. New maps developed by the GIS team are available both through the library (in hard cops) and online (AMIS). CICA will continue to play an important role in improving agricultural communications and market efficiency through information availability.

Figure 19: The new CICA studio (CICA)

1.7.3 Capacity Building

In the 2011-2012 fiscal year MINAGRI was one of four MDAs to pilot the innovative Strategic Capacity Building Initiative (SCBI), a Government of Rwanda initiative to develop ministry level capacity to deliver on its priorities while simultaneously improving skills retention and institutional memory. The SCBI has three principle components, which set it apart from traditional capacity building through technical assistance:

1. Hiring of International Experts in technical areas aligned behind priority projects to build capacity in the institution embedded for 1-2 years
2. Hiring local Young Professionals, which the experts to coach and mentor
3. Training delivered to ministry staff and smallholder farmers

SCBI interventions thus far have been aligned behind the Crop Intensification Programme, as the flagship programme of the ministry. International experts were hired in the areas of mechanization, statistics, sanitary and phytosanitary services, extension, cooperative strengthening, and a long term and short term experts in grain storage. An economist was also hired to be embedded in RAB, but his start date was delayed to September 2012. Currently the recruitment process is ongoing for experts in agronomic research, agricultural finance and communications. Young professionals have also been recruited to work alongside the experts in the named areas. Some changes were made to the initial SCBI program during the fiscal year, including scrapping the position of Vegetative Reproduction Expert and the young professional

positions in seeds. Remaining funds from these positions will be used to increase the salaries of PhD graduate positions in the research department, to attract better quality candidates.

With the completion of SCBI's first year, MINAGRI and PSCBS are working together the scope out the second year of the program. An implementation plan is being developed, and also many of the activities forecast for 2011-2012, including the hiring of experts and counterparts, will actually be delivered in 2012-2013 due to recruitment delays. In addition, SCBI interventions in Year 2 will be aligned with priorities as identified in the forthcoming PSTA III. SCBI will also continue to collaborate with other capacity building programs such as the Human and Institutional Capacity Development program, DFID's initiative, PAPSTA's support of Program 4 and the PSTA II/III.

1. 8 Cross Cutting Issues in Agriculture

1.8.1 Environmental Sustainability

The environment is an important consideration in agricultural production, as environmental protection ensures long term productivity and sustainability. MINAGRI and RAB implemented various environmental activities throughout the year, including:

- A Strategic Environment Assessment (SEA) was completed for the Rwandan agricultural sector and published
- The implementation of Environment Management Plans (EMPs) was monitored and evaluated and the report is available
- Under RAB, Quick Win Marshland Project areas were protected against soil erosion, Currently at least 5% of the catchment area of each marshland is protected in the following provinces: South – 12 catchments, North – 1 catchment, West – 3 catchments, Kigali city – 2 catchments
- As part of RAB's program to develop environmentally friendly techniques to control major crop diseases, two efficient and environmental friendly fungicides to tackle potato blight were identified and evaluated

1.8.2 Gender Mainstreaming

The majority of Rwandan women are involved in agriculture (87.6%), and women also make up the majority of Rwandan's living under the poverty line (62% are women). An important cause possibly behind this figure is that women fully participate in agriculture, through activities such as planting, weeding and harvesting, but their income may not correspond to the time invested. As such, recognizing gender is agriculture is key to promote gender equity. This fiscal year MINAGRI developed a Gendered Agriculture Strategy to tackle this issue.

The Agriculture Gender Strategy was launched in March 2012 and aims to ensure that all services of the agriculture sector benefit both men and women. The main objective of the Gender strategy is to contribute to poverty reduction and sustainable development through institutionalization of gender responsive programming (planning and budgeting), implementation, monitoring and reporting systems and improve gender equality in the agriculture sector.

The gender strategy will enable MINAGRI and its partners to effectively respond to the practical needs and strategic gender interests of both men and women farmers.

The strategy has five key pillars:

1. To institutionalize gender equality in the agriculture sector
2. To develop capacities in the agriculture sector to enable gender sensitive programming
3. To enhance the gender responsiveness in delivery of agricultural services
4. To promote equal participation in decision making processes
5. To develop and coordinate partnerships and collaborative mechanisms amongst government institutions, CSOs, private sector and development partners and integrate appropriate actions to respond to practical and strategic gender needs in the agriculture sector

Figure 20: Permanent Secretary Ruzindaza of MINAGRI (second left), the Senior Gender Monitor (first left), the Permanent Secretary of MIGEPROF (second right) and the World Bank Representative (first right) at the launch ceremony of the Agriculture Gender Strategy

1.8.3 HIV Mainstreaming

HIV and AIDS compounds poverty and hinders development. MINAGRI is committed to mainstreaming HIV and AIDS within project design and implementation and coordinates with the Global Fund project (MINAGRI/SSF-HIV-GF) which operates in 30 districts in Rwanda. Table 11 summarizes HIV mainstreaming activities this year.

HIV Key indicators	Main Activities Delivered
Number of people living with HIV AIDS who received small livestock	7,576 PLWHA received animals (Pigs, chickens, goats)
Number of people living with HIV and AIDS who were trained as trainers in tree nursery production and management	44 trainers
Number of members of cooperatives living with HIV who received fruit trees seedlings	375 PLWHA received fruit tree seedlings
Number of HIV positive people who accessed agricultural inputs	1,836 PLWHA received agricultural inputs

Table 11: Summary of HIV and AIDS mainstreaming activities in FY 2011-2012

1.8.4 Facilitating Growth

MINAGRI recognizes the key importance of entrepreneurialism, access to finance and private sector investment to develop an efficient and productive agricultural sector. This section discusses two initiatives which are driving value chain development.

Access to Finance Rwanda (AFR)

AFR is a Rwandan registered limited company set up with initial funding from DFID and the World Bank, governed by the Program Investment Committee (AFRIC) and the Board. AFR's mission is to improve the livelihoods of poor people through reducing their vulnerability to shocks, increasing incomes and creating employment, through proving increase access to financial services, targeted at poor, rural and urban populations, women and small enterprises. Agricultural finance plays at catalytic role in rural development and AFR aims to address gaps in all levels in the financial arena.

AFR and MINAGRI have identified priority areas for investment support, including:

- More diversified financial services for rural populations through low costs, efficient delivery channels such as mobile phones and support to MFIs/SACCOs
- Develop financial risk management tools for small scale farmers to monetize surplus production and increase debt service capacity over agricultural cycles, including savings, warehouse receipts, crop yield insurance and inventory credit
- Develop longer term asset finance to improve productivity
- Support loan guarantee funds
- Promote financial education among rural populations
- Build capacity in banks and MFIs in agricultural and rural finance

In 2011-2012 AFR working in collaboration with MINAGRI implemented the following:

1. Costed the Rural and Agriculture Financial Services Strategy
2. Conducted a stock-taking analysis of current inventory credit and potential
3. Completed a feasibility study on livestock and area yield insurance (a new insurance product on the African market). The study identifies specific crops that are economically viable for insurance. AFR will now finance pilot projects with willing insurance companies for livestock, tea, maize and potatoes.

Crop and livestock insurance protects farmers from adverse weather conditions and disease outbreaks. Access to financial instruments more generally is a key mechanism to encourage commercialization and help farmers engage with markets

Grow Africa

The Grow Africa Agricultural Investment Forum is a platform to support African governments to increase private-sector investment and collaboration, thereby accelerating sustainable growth in agriculture.

Initiated at the 2011 World Economic Forum on Africa, and convened jointly by the World Economic Forum, the African Union Commission, and NEPAD Agency, Grow Africa included seven countries in the first phase. The first meeting of the Grow Africa Forum was held in Dar Es Salaam, November 2011, and included country representatives, private investors and major donors. The meeting aimed to kick-start a country-led process to identify priorities and opportunities for private investment and agree on key next steps. Rwanda presented a range of investment proposals, packaged under a Food Basket framework, which had been agreed at a National Stakeholder Roundtable.

Following the first meeting, MINAGRI established a sub-working group under the Agriculture Sector Working Group to bring together private sector stakeholders and relevant MDAs to lead coordination of the Grow Africa process. A team of consultants were contracted through USAID to assess private investment opportunities in Rwanda's agriculture sector and prepare an investment blueprint and action plan, as well as propose a more permanent set of institutional arrangements for public-private partnership. The blueprint and proposals were presented at the second Grow Africa forum held in May 2012, in Addis Ababa. MINAGRI, in collaboration with other key actors, is now taking steps to put the key findings of the Grow Africa process into action.

Grow Africa helps MINAGRI focus on understanding and defining Rwanda's competitive advantage and what we offer the private sector, while identifying real opportunities and addressing challenges to implementation. The process improved understanding about how to compete in a highly competitive environment, given constraints and considering that size is a limiting factor for some investors. Contacts from the Addis Forum have yielded a pipeline of five projects worth $15 million and there are on-going discussions with Unilever, Jain and Export Trading Group. Moving forward MINAGRI will continue to embrace inter-agency dialogue and shared conversations with and between development partners and private sector actors. These partnerships will also facilitate thinking at a regional level, and drive regional level opportunities. In the next fiscal year, key decisions on strategic directions and priority value chains will be made through PSTA III and EDPRS II drafting. Grow Africa is a valuable instrument to prioritize leveraging the private sector in Rwandan agriculture, and MINAGRI will continue to fully commit to the initiative.

Private sector investment can encourage farmers to grow high value, premium generating crops for export

Picture 2: A healthy cabbage crop grown using a water pump irrigation system

Section 2: EDPRS Objectives, CPAF Targets and Development Partner Coordination

3.1 Performance in 2011-2012 EDPRS/CPAF

EDPRS Strategic Objectives	Indicator	Performance Status			Public Policy Actions		
		Baseline 2009-10 (Actual)	Target 2011-2012	Traffic light scoring	EDPRS Policy Action	Status	Brief progress
1.5 Increased Agri. Prod.	1.5.1 Proportion of land sustainably managed against soil erosion	80.9%	90%	87.3% in 2010/2011 Target not measured in FY2011-2012.	1. Publish report on land consolidation progress evaluation	Achieved	Report final version circulated in April, with final presentation with comment incorporated in June 28th ASWG
					2. Endorse and Validate with ASWG a new methodology for estimating the proportion of land sustainably managed against soil erosion	Achieved	The Methodology was presented in March 27th ASWG and the improved/revised version presented in the May 2nd ASWG. This was approved.
	1.5.2 Area of Marshland Developed for Agricultural Use (Ha.)	13,032	20,000	22,681 (G)	3. Validate with ASWG an implementation plan for the operations of Water User Associations for Irrigation	Achieved	The Implementation plan was presented at the February 2nd ASWG by the Taskforce on Irrigation & Mechanization and validated
					4. Develop and Endorse, with ASWG, an Irrigation Policy for Rwanda	Partially Achieved	The Draft Irrigation Policy was presented on the 26th of June ASWG. Comments have been incorporated and the Policy is to be finalized in September.
	1.5.3 Mineral Fertilizer used (MT)	27,906	47,600	46,000 (G)	5. Endorse with ASWG and key stakeholders, a regulatory framework for fertilizer importers/wholesalers, dealers, retailers in Rwanda	Achieved	The Fertilizer Framework was presented at the February 2nd ASWG and the sub-working group agreed upon the formulation and then the framework was approved in the March 27th ASWG.
	1.5.4 Farm Households to Extension Ratio	1:2180	1:1200	1:839 (G)	6. Publish and Endorse with ASWG, a review of the access to and the quality of public and private extension services	Achieved	The Analysis was presented in the 31st May meeting and was subsequently revised through the working group and finally approved by the ASWG in the June 28th meeting.
	1.5.5 Production of key food security crops (1,000 metric	2,996	3100	3,133 (G)	7. Establish a functional secretariat to oversee the implementation of the Post-Harvest	Achieved	The ASWG was notified of the setting up of the PHHS Secretariat on the February 2nd meeting

	tons cereal equivalent)				Handling and Storage Staple Strategy including a new baseline for post-harvest losses		and approved the part to the policy action. The PHHS Losses analysis was presented in the 2nd of February meeting additionally. Comments were incorporated and these baselines are utilized by MINAGRI
					8. Validate and Endorse, with the ASWG, a mid-term evaluation of MINAGRI's progress in the implementation of the Multi-Sectoral Strategy to Eliminate Malnutrition in Rwanda	Achieved	The NSEM action plan was presented by the EU in the 26th of June ASWG meeting and approved
	1.5.6 Percentage of livestock in intensive systems	51.8%	55%	60% (G)	9. Develop and Endorse with ASWG, guidelines for monitoring the decentralization of the One Cow program	Achieved	The guidelines were presented and subsequently approved on the 8th of March ASWG.
					10. Develop and Endorse with ASWG, a Poultry Strategy	Achieved	The Poultry Strategy was presented at the 18th of June ASWG, with the consultant making improvements to the document and subsequently the strategy was approved by stakeholders on the 28th of June.

Table 12: EDPRS/CPAF Scoring Table FY 2011-2012 (MINAGRI)

3.2 Aid Coordination

Agriculture Sector Working Group

There were ten Agriculture Sector Working Group (ASWG) meetings throughout FY 2011-2012. Meetings are chaired by the Permanent Secretary and co-chaired by the World Bank. These meetings are an essential forum for coordination around key agricultural development issues, and are attended by all sector government agencies and development partners. Participants discuss the progress of CPAF/EDPRS indicators and Policy Actions, and findings feed into the Joint Budget Sector Review (JBSR). Meetings also provide a platform to debate cross-cutting themes and sector strategies. Topics covered by the ASWG in FY2011-2012 include:

- Approval of all CPAF/EDPRS Policy Actions including the land consolidation evaluation, a new soil erosion control methodology, the regulatory framework for fertilizer, a review of the quality of advisory and extension services for farmers, a post-harvest system task force, a review of the implementation of the multi-sector malnutrition strategy and development of a poultry strategy
- Consultations on other value chain strategies including rice and meat
- Presentations and discussions on cross-cutting issues including land tenure reform, nutrition and food security, gender, environmental assessment and private sector investment, particularly related to the Grow Africa forum.

Sector-Wide Approach Group

The Sector Wide Approach (SWAp) group met six times in FY 2011-2012. As with the ASWG, the SWAp group is chaired by the Permanent Secretary and co-chaired by the World Bank. The SWAp committee is a sub-set of the ASWG and is focused on systemic strategic issues in the agricultural sector. Objectives include improving aid coordination, assisting in the preparation of Joint Sector Reviews (JSR), supporting the MINAGRI planning unit particularly in budgeting, expenditure tracking, monitoring and evaluation, ensuring collaboration with the ASWG, and providing a forum for budget support donors to meet their fiduciary oversight requirements.

In the FY 2011-2012 the SWAp committee covered the following topics:

- Donor assistance and budget support including the USAID Program for Economic Progress and Productivity Enhancement in Rwanda and the DFID Agriculture Sector Deliver Grant
- JSR preparation and analysis
- Capacity building in MINAGRI, across the institution and within specific areas, particularly agricultural statistics.

The SWAp group will play a key guiding role, in collaboration with the ASWG, in providing input to the development of the new sector strategy, PSTA III, in the next financial year.

Picture 3: Rice paddies established with the support of the World Bank funded Rural Sector Support Project (RSSP)

Section 3: Project and Program Implementation

Program One: Intensification and Development of Sustainable Production Systems

SP 1.1 Sustainable management of natural resources, water and soil conservation

1. PAIGELAC: Inland Lakes Integrated Development and Management Support Project

Basic Information	Project cost: 26.14 million USD Donor: African Development Bank Government contribution: 2.68 million USD Implementation starting date: May 2005 Scheduled Completion date: June 2011 Eventual Extension: 31 December 2012
Mission and Purpose	PAIGELAC focuses on fishery and aquaculture development and has two key objectives: 1. To improve the nutritional values of the population 2. To sustainably improve the population's economic standards in relevant sectors
Achievements 2011-2012	**Institutional capacity building:** • A Women's Network for fish farming was set up and is operational at the district, province and national level • Fish production in Rubengeri and Rwamagana have increased through the construction of cages • 49 veterinarians received training in quality control for fish farming products and now inspect fish as they do for other animal products • Project staff benefitted from a study tour in Zimbabwe of commercial fish farms, and learnt about cages and feed manufacturing • 1,395 people received training in modern fish farming techniques and their application, including 597 women • 763 illiterate beneficiaries including 359 women also received training • 8 technicians were trained in fishery statistical data collection and analysis • 19 representatives of fishery cooperatives visited Uganda to learn about the management of fishery infrastructures and

promotional centers

- 8 fish feed making machines were purchased and installed for cooperatives

- A new fish data collection system is currently being installed using the recommendations of an FAO consultant

Improved production and marketing:

- To help with the recovery of fish stocks 14 tons of concentrated food for fish fry was procured and delivered to Kigembe station

- To promote fish farming, a study was completed to develop an aquaculture master plan for Rwanda. The project also acquired 2.5 million fish fry for restocking lakes, ponds and cages, and 69 HA of fish ponds were rehabilitated. In lake Kivu 170 cages were set up, 160 tons of fish food was distributed to cooperatives and 100 tons of raw material for producing fish feed was delivered to beneficiaries

- Related to watershed protection, construction of radical and progressive terraces continued, and the programme of afforestation and agroforestry also continued in the Muhazi lake watershed and Burera district

- A proposal for manual control of water hyacinth in areas of Lake Mirayi, Lake Gashanga, Lake Rumira and Lake Muhazi was provisionally accepted

- The infrastructure sub-project recruited two consultants, one is supervising the rehabilitation of the Kigembe feeder road and Nkungu canal construction, the other has submitted a business plan for aquaculture infrastructure management. Rehabilitation contracts are being implemented in Kigembe

- Landing piers in the Northern zone, Bugesera zone, Muhazi zone, Gisaka zone and Nasho zone have all been technically accepted, and in Nasho the works are near completion. Construction of regional fish products centers have also received technical acceptance in Northern and Muhazi zone. In Gasabo District the construction of an urban fisheries promotion center with a cold room has also been accepted.

Project management:

- The audit report for the fiscal year of 2011 was submitted and accepted by AfDB

2. LWH – Land Husbandry, Water Harvesting and Hillside Irrigation Project

Terraces constructed by LWH to grow Irish potato

Basic Information	Project cost: 116.49 million USD Donor: IDA, GAFSP, USAID, CIDA Government contribution: 19.5 million USD Implementation starting date: June 2010 Scheduled Completion date: December 2015 Eventual Extension: Not yet decided
Mission and Purpose	The objective of the LWH project is to increase the productivity and commercialization of hillside agriculture in target areas. It has three main components: 1. Capacity development and institutional strengthening for hillside intensification 2. Infrastructure for hillside intensification 3. Implementation through the Ministerial SWAP Structure
Achievements 2011-2012	**Capacity development and institutional strengthening:** • ***Farmer cooperatives were established in four sites:*** to strengthen farmer organizations in LWH sites, primary groups were set up to ensure that all hillside farmers were able to move away from individualistic perspectives towards a cooperative approach, focused on increasing productivity and market access. These groups facilitated the setting up of cooperatives, and four cooperatives in Karongi, Nyanza and Gatsibo have been established, which contain 288 primary groups and 17,434 members. To strengthen these cooperatives, their members have received capacity building training in leadership and governance, marketing, business planning, credit management and financial literacy. The project hopes to develop strong and viable cooperatives, where members have appropriate skills to ensure their sustainability

- ***Farmer mobilization*:** LWH activities have been rolled out to three more sites, and farmers have been mobilized to instill a sense of project ownership over LWH interventions. Farmers have also formed 190 groups across the three sites. These groups aim to help the farmers achieve common goals

- ***South to south training***: Farmers' organizations have received south to south training in group formation, savings and small business management, including the message that savings are the foundation of a shared vision

- ***Provision of extension services*:** LWH signed a MoU with Tubura (One Acre Fund) to ensure effective outreach and delivery of extension services to project beneficiaries of three sites in Karongi, Nyanza and Gatsibo. An extension model has been prepared and operationalized whereby lead farmers, selected by each farmers' group, work closely with TUBURA extension workers. Performance standards have also been established as a monitoring tool, and a pilot feedback mechanism has been set up, in partnership with DIME, to facilitate continuous monitoring and improvement of extension services

- ***Training to improve farming techniques***: Farmers received training in composting to improve soil fertility and production, and were able to use the compost produced in season B2012, resulting in greater production of Irish potatoes, beans and maize. Farmers in Farmer Field Schools (FFS) also received training in farming techniques for selected crops for each hillside, assisted by TUBURA field officers

- ***Development of extension materials and mass communication*:** To facilitate broad transfer of agricultural techniques to farmers, LWH developed crop specific training manuals on wheat, maize, beans and Irish potatoes. 500 copies for each crop were produced and distributed to the farmers, plus 1200 copies of compost making manuals. Communication campaigns and live presentations on planting, weeding, fertilizer application and compost making techniques were also broadcast on two community based radios

- ***Increasing awareness of LWH*:** In the three rolled out sites of Rwamagana 34, Rwamagana 35 and Kayonza opinion leaders participated in study tours to learn about the effectiveness of LWH interventions and the positive impacts on both agricultural production and farmers' lives.

- ***Horticulture development*:** LWH envisions the production of high value horticultural crops with the strong marketing potential, with a particular focus on organics. Horticulture crops have therefore been

introduced in four preliminary sites, and farmers received training in pest and disease management. Tropical fruit including avocado, mango and citrus fruits were planted in terrace embankments in all sites, and template fruits including plums, peaches, pears, grapes and apples were introduced, with a 90% survival rate. Commercial trials for vegetables (onions, carrots and spinach) were carried out in Nyanza, Gatsibo and Karongi, with good yields in the first two sites, where farmers were able to sell their produce worth 2,240,000 RFW to hotels and local markets. Kitchen vegetable gardens were also introduced to boost household nutrition

- ***Capacity building for horticulture**:* For sustainability purpose, a study tour for 'trainers of trainers' was conducted in places where temperate fruits are grown to learn about planting, pruning, grafting and harvesting of apples, grapes, strawberries, pineapples, carrots and onions. These farmers also received training in horticultural handling process. They will now lead their peers in fruit management. Six project agronomists also participated in the study tour to support the selected farmers in their respective sites.

- ***Capacity building for marketing*:** LWH formed market commissions at cooperative level in four sites to build capacities in marketing and encourage cooperative market orientation. The market commissions received training in market principles, business plans, entrepreneurship and small enterprise management. The training helped farmers be more involved in marketing, with the result that 68.4% of produce was marketed across the four sites.

- ***Business plan training:*** Cooperative members have produced viable projects valued at 54 million RwF and have received input financing

- ***Rural finance service development:*** LWH facilitated the cooperatives gaining access to bank credit to finance inputs, and linked farmers with input dealers facilitated through an MoU with Tubura. During season A2012 almost 50 million RWF was disbursed to farmers, and completely repaid. LWH also trained 15 SACCO managers and 15 loan officers in 'Loan portfolio management and product design'. The benefits are already materializing in SACCOs which have developed rural finance projects to help farmers finance activities worth almost 31 million RWF, including roofing, buying cows, and building boutiques. The project has further introduced targeted saving programs and pre-commitment savings in three SACCOs in Karongi, and preliminary results show a take up of 76% and 52% respectively. Overall, the adoption of rural finance services rose from 44.10 % to 87.4 % for males and 53.7% to 84.7 % for females during season A and B

- ***Institutional capacity building of MINAGRI and related agencies:*** LWH contributed to filling the human resource gap through supporting seven MINAGRI staff to complete Masters degrees in irrigation, crop protection and entomology in India. Four staff has now graduated and returned to MINAGRI.

- ***Agricultural training for Ministry staff:*** Modules in compost making were prepared and distributed to MINAGRI staff and other agricultural sectors stakeholders, and local entrepreneurs received training in compost making as a means of promoting certified organic agriculture for export. In collaboration with RDB, LWH also trained 80 young graduate interns in disciplines including land husbandry and extension for agricultural modernization. Some of these young graduates are now working in the Ministry on a permanent contract, using the skills acquired through the training program.

Infrastructure for hillside intensification:

- ***Construction of post harvest infrastructure*:** To minimize postharvest losses, the project constructed five storage facilities of 500-800 tons and seven dryers in the rain-fed areas of four sites. The benefits are already being felt: crop harvests were sorted and stored to maintain optimum quality before selling, storage facilities served as collection centers for stored seeds for the next season and the stored produce provided a boost for sale during peak price periods. The infrastructure also provides a place for farmer group meetings. In addition to the storage facilities, post harvest equipment including maize shellers and palettes were provided. The farmers have elected a committee for infrastructure management.

- ***Land husbandry infrastructure:*** Comprehensive and sustainable land husbandry measures for hillside agriculture intensification have been implemented on 2305 HA across four sites. Measures include radical or bench terraces, draining systems, and water ways to drain excess water during the rainy season. The land husbandry works generated 12,932 jobs for local people, earning 3,101 million RWF. To promote land fertility and protect banks, agro-forestry trees, grasses and fruit trees were planted, providing a holistic package of land husbandry practices.

- ***Dam and hillside infrastructure:*** LWH commissioned design studies for 3 sites, Nyanza 23 and Karongi 12 and 13, which are in the final stages. Automatic stream gauges and rain gauges were purchased and installed to assess soil losses in project intervention areas.

3. GWLM – Gishwati Water and Land Management Project

Radical terrace construction in Arusha under GWLM for potato and maize plantation

Basic Information	Project cost: 25.78 million USD Donor: Government of Rwanda internal project Government contribution: 2 million USD Implementation starting date: June 2005 Scheduled Completion date: June 2013 Eventual Extension: Not yet decided Implementing Agency: TF Irrigation and Mechanization
Mission and Purpose	Under the Task Force of Irrigation and Mechanization, GWLM aims to implement comprehensive and sustainable land use and water management technologies, which contribute to environmental conservation and improve the livelihoods of Gishwati communities. The project's overall objective is to facilitate a healthy co-existence between agrarian communities and Gishwati's fragile ecosystem, while promoting sustainable economic development to improve the community's quality of life.
Achievements 2011-2012	**Mass mobilization and sensitization** • The project facilitated public meetings with beneficiaries on land husbandry activities, and discussed technological measures including graded terraces, waterway construction and rehabilitation, cut-off drain construction and agro-forestry tree and grass plantation. Meetings with local authorities and other potential partners on the ground were also organized. Famers/ beneficiaries were sensitized regarding the land problems in the area of the former Gishwati natural forest. The field team is also currently pursuing a mobilization campaign with local communities through community participation and the HIMO framework. This approach is a key strategy to involve local communities in project implementation.

Meetings and workshops for partners and project stakeholders

- Two steering committee meetings involving all GWLM stakeholders have been held to discuss project progress and key issues. The PCU also participated in an IDP evaluation of Gishwati rehabilitation, which commended progress so far and instructed local leaders to collaborate with the project team to implement project activities.

Training for beneficiaries and field staff:

- 1080 lead farmers received hands-on training, and 15 self-help groups were established, involving 670 farmers. 36 beneficiaries also took part in a study tour to the National Agricultural Show held in Mulindi, Gasabo district in June. In March field staff and technicians from district and sector levels also participated in training on water and land managements for ecosystem conservation, a key knowledge base for implementing activities on the ground.

Contracts for water and land management works development:

- The project engaged both community work (HIMO) and the Reserve Force in land husbandry technology implementation to implement key water and land management activities. The companies OPEDSA and PARVA provided technical guidance on land husbandry techniques for lead beneficiaries and members of the Reserve Force, totaling 6088. The project resulted in the following land husbandry improvements:
    - 455 HA protected
    - 74 km of water ways
    - 60 km of cut-off drains
    - 105 ha of low land protected against flooding
    - More than 10 ha planted with maize and 80 ha with Irish potato crops for season 2012 A and B

Range land development:

- 479 ha of rangeland have been planted with Kikuyu grass in Kijote and Muhe Cells, in Bigogwe Sector. The project also focused on mobilization and sensitization by showing local authorities in the project site which areas should be used for livestock, according to the findings or a project study. In Muhe, planting of kikuyu grass continued. Subdivision of rangeland into paddock occurred in Muhe, Kijote and Yungwe rangeland, with a total area of 1000 ha, which is 74% of the total area to be covered.

Forest regeneration:

- 810ha have been planted in forest block one (F1) by Reserve Forces under a contract between the Ministry of Defence/Reserve Forces and Rwanda Natural Resource Authority. Under the same contract, other activities including replacement planting, weeding and guarding the planted trees continues. 220 ha have been covered by replacement planting with Alnus trees and indigenous trees in 30 ha, including Podocarpus falcatus, Newtonia buchanani and Carapa grandiflora. In most areas, Alnus and Acacia have established themselves well. Finally, 110 km of live fence has been put up to delineate the different forest blocks.

Road network development:

- The project commissioned a study by Hycogec on 132km of roads to be rehabilitated and new roads to be constructed. The estimated cost was 74 million RWF/km. Works also began on the Kinamaba bridge rehabilitation initiative, implemented by Adecober enterprise and supervised by Ace Consultancy.

Monitoring and evaluation:

- Regular field visits have been conducted for monitoring and evaluation of project sites and progress was discussed at steering committee meetings.

SP 1.2 Integrated development and intensification of crops and livestock

The Rwanda Agriculture Board (RAB) is the primary institution to develop and implement research and extension initiatives which integrate sustainable crop production, animal resources and natural resource management. The projects under this sub-program and others are implemented by RAB. Further information can be found in the RAB 2011-2012 Annual Report.

1. GIRINKA – One Cow per Poor Family Program

GIRINKA supports distribution of cows to poor households to provide food security and income

Basic Information	Project cost: 2 billion RWF Donor: Government of Rwanda Government contribution: Internally funded project Implementation starting date: November 2006 Scheduled Completion date: December 2014 Eventual Extension: Not yet decided Implementing Agency: RAB
Mission and Purpose	One Cow Per Poor Family was developed as a result of the 2005-2006 rural household survey which showed alarming rates of rural poverty and malnutrition in Rwanda. The project aims to safeguard households through provision of a productive asset to increase incomes and reduce child malnutrition through access to milk. The program also stipulates that the first female calf must be given to another beneficiary, which ensure sustainable dissemination of project benefits. To qualify for the program households must fulfill certain minimum requirements including practicing good farming techniques, such as terracing, constructing a shed for animal and planting fodder. The householder must also not already own a cow.
Achievements 2011-2012	**Cow distribution to poor families:** • In FY 2011-2012 19,628 cows were purchased and distributed. Cow distribution occurs through three channels: 'pass on' calves born under the program, decentralized GIRINKA programs and fundraising initiatives. Since 2006, this brings the total number of cows distributed to 133,207. Much of the project is now implemented at the District level • RAB supports District implementation through training beneficiaries in animal husbandry and providing disease screenings for cows to be distributed

2. LISP – Livestock Infrastructure Support Program

Milk Collection Centers (MCCs) under construction supported by LISP to develop the dairy value chain

Basic Information	Project cost: 21.8 million UAC Donor: African Development Bank Implementation starting date: June 2011 Scheduled Completion date: December 2015 Eventual Extension: Not yet decided Implementing Agency: RAB
Mission and Purpose	The overall goal of LISP is the creation of an enabling environment that will stimulate the development of a modern livestock industry in Rwanda through value addition and access to markets. The specific objective of LISP is to build the necessary infrastructure and services that will contribute to the development of a sustainable and profitable livestock production and marketing and overall improvement of the livestock industry in Rwanda. The program comprises of two components and sub-components namely: **1. Livestock infrastructure:** 1.1. Community livestock infrastructure 1.2. Public livestock infrastructure **2. Food security enhancement and capacity building:** 2.1. Support to One Cow per Poor Family 2.2. Support to productivity enhancement technologies 2.3. Capacity building
Achievements 2011-2012	**Livestock infrastructure:** • ***Milk collection centers (MCC)***: construction of 30 MCCs started in January 2012 and was 50% complete by the end of the financial year. Procurement of milk processing equipment and generators was at the contract negotiation stage by June 2012 • ***Livestock watering system (LWS):*** The LWS study was 90% complete by June 2012 with the adoption of the detailed study for one site identified by MINAGRI as a priority, and provision adoption of the detailed study for the remain sites (3-10). The table below summarizes the findings from the study according to farm coverage by district.

District	Mapped farm boundaries		Livestock Water Supply Project			
	No. of farms	Surface area (ha)	Surface to be covered	% of Area covered	No. of farms covered	% Farms covered
Kayonza	2,411	24,197	4,274	17.7	481	20
Gatsibo	463	4,133	302	7.3	34	7.3
Nyagatare	4,871	37,781	10,912	28.9	1,593	32.2
TOTAL	7,745	66,111	15,488	23.4	2,108	27.2

- ***Mukamira Dairy:*** This dairy is a private public partnership imitative started in 2010 by 16 local dairy farmer cooperatives and the Government of Rwanda. The Rwandan government committed to contributing 600 million RWF to implement the project through LISP. Construction works started in March 2012 and were 15% complete by the end of the year. Procurement of milk equipment was at the stage of notification letters and the lot for a wastewater treatment system was re-advertised June 2012.

Food security enhancement and capacity building:

- ***Hay storage facilities:*** Construction of two hay storage facilities in Nyagatare and Bugesera were 50% complete by June 2012

- ***Tractors, tools and post-harvest machinery for hay:*** the contracts for supplying this equipment have been signed

- ***Fodder seed plantation in Gishwati range-land:*** 350 ha of seed plantation has been achieved, of the 600 ha originally planned

3. Genetic Improvement Program

Basic Information	Project cost: 400 million RWF Donor: Government of Rwanda Government contribution: Internally funded project Implementation starting date: September 2006 Eventual Extension: Not yet decided Implementing Agency: RAB
Mission and Purpose	The Genetic Improvement Program aims to improve food security and rural incomes in Rwanda through improving the genetic stock of Rwandan livestock to increase meat and milk production. The project has four key components: • To improve artificial insemination (AI) rates and expand AI practices • To develop biotechnologies to increase semen production • Capacity building • Policy development.
Achievements 2011-2012	**Identifying high quality semen:** • Semen was collected from the RAB Masaka Bull Station and analyzed. After microscopic evaluation of mass and individual motility, 120,000 doses of semen identified as high quality were packed in straws ready for insemination. **Supporting artificial insemination:** • 75,000 cows were inseminated with high quality semen • To provide AI services close to farmers, 30 AI input supply centers were established, one in each district. • 100 inseminators from across the country received AI training

4. Development of the Poultry Industry

Chickens in the Rulindo District Chicken Farm

Basic Information	Project cost: 200 million RwF Donor: Government of Rwanda Government contribution: Internally funded project Implementation starting date: July 2010 Eventual Extension: Not yet decided Implementing Agency: RAB
Mission and Purpose	The Poultry Industry Development program aims to: • Increase the production of chicks, • Distribute chicks and support the Rwandan poultry industry • Promote safe poultry production in Rwanda • Develop capacity in poultry management and the value chain
Achievements 2011-2012	**Revitalize the poultry industry:** • The poultry strategic plan document was completed • 5,000 one day old chicks were purchased as new parent stock • 9,346 parent stocks are well managed • 355,994 day old chicks were produced and distributed to farmers • 304 farmers across the Northern, Eastern and Western Province received training in poultry production practices • More than one million chicks were vaccinated against new castle disease

5. APEL – Support to Small Stock Development

Goats in Kirehe. APEL distributes small stock to farmers and encourages improved effective and sustainable production methods

Basic Information	Project cost: 3,950 million RWF Donor: Belgian Development Agency (BTC) Government contribution: 395 million RWF Implementation starting date: January 2009 Scheduled completion date: June 2012 Eventual extension: December 2012 Implementing agency: RAB
Mission and Purpose	The project's general objective is to contribute to poverty reduction by improving the living standards of small stock farmers. Expected project outputs include: 1. Small stock breeding by poor farmers using improved, effective and sustainable production methods 2. Goat, sheep, pigs, rabbits and poultry are subject to genetic improvement and appropriate breeding techniques 3. Private sector development of the small stock value chain 4. MINAGRI capacity is strengthened at national and district level The project targets five districts: Ngororero, Huye, Nyamagabe, Nyaruguru and Gisagara, which were selected due to having the highest percentage of food insecure households.
Achievements 2011-2012	**Support to small livestock sector development:** • By the end of September, 2012, the project had built 4,913 pig sheds, 3,332 goat sheds, 345 sheep sheds and 127 rabbit sheds, with an overall construction of 8,717 sheds (87% of the original number planned • The project distributed 7,894 pigs, 15,213 goats, 1,778 sheep and 907 rabbits, with a total distribution of 25,792 (100 % implementation rate)

- There were 16,252 project beneficiaries (100% implementation rate), with 2,875 beneficiaries in Huye, 3,024 in Nyamagabe, 3,648 in Gisagara, 2,986 in Ngororero and 4,046 in Nyaruguru

- The construction of 850 planning sheds in Ngororero is ongoing, the rehabilitation of 300 sheds in Gisagara is being finalized and the planned 1080 sheds in Nyamagabe may not be completed – it is likely the contract will be partially cancelled

- The procurement of drugs and feed has been finalized in all districts and the procurement of small livestock is 100% complete.

- One slaughterhouse has been completed in Ngororero, delivered in Huye, and the construction is ongoing in Gisagara and Nyaruguru. Market fencing is being finalized in Nyamagabe, and construction is ongoing in Huye and Nyaruguru. All public tendering is complete with pending requests for additional works for the Gisagara and Nyaruguru slaughter houses

- Beneficiaries received training by sector veterinarians and most have now been organized in pre-cooperatives. The best farmers in each District also received intensive training to become small stock breeding community leaders

- In relation to research, the Boer Goat nucleus has been imported and reproduced with a loss rate of 34%, and there has been collaboration with three key goat breeders but follow up is required. Merino sheep nucleus has also been imported and is in the reproduction stage, in collaboration with farmers in the Northern province and members of CODERU

SP 1.3 Marshlands development

1. RSSP – Rural Sector Support Project

Rice harvesting in Muvumba IV-COPRORIKA. Farmers supported by RSSP dry their rice in the sun.

Basic Information	Project cost: 35 million USD Donor: World Bank Government contribution: 2 million USD Implementation starting date: July 2008 Scheduled Completion date: October 2012
Mission and Purpose	RSSP aims to increase agricultural production and marketing in an environmentally sustainable manner in marshland and hillside areas targeted for development by the project
Achievements 2011-2012	RSSP achieved all its targets 10 months before the original closing date. **Marshland development:** • The marshlands target was 3,300 ha. This target was met and slightly surpassed as RSSP managed to construct irrigation networks in 3,324 ha of marshlands in total. This year work focused on two marshlands, Kinyogo II in Kirehe and Muvumba VIII in Nyagatare. Three dams and a river weir were also constructed in Muvumba. Apart from Muvumba VIII, where irrigation infrastructure works ended late in the financial year, all other developed marshlands were cultivated with rice by June 2012. The farmers managed to maintain last year's good yield average of 6.5 tons per hectare. • Another big achievement this year was the launching of Water Users Associations (WUA) in all supported marshlands. 22 WUAs were formed and trained; and after the 2012 agricultural season, by June 2012, 95% of the farmers had paid water charges through the WUAs. • To protect developed marshlands by preventing siltation through hillside erosion and to increase productivity on the hillside themselves, RSSP sustainably developed 10,096 ha of hillside land over 3 years, with 2,070 ha developed in 2011-2012 through the following interventions: progressive terraces (1,650 ha), buffer zones above dams and main canals (245 ha) and radical terraces (175 ha).

Supporting farmer cooperatives:

- RSSP continued to positively affect the structure and accountability of supported cooperatives. This has generated a high level of trust in the leadership of those cooperatives, illustrated by an increase in membership by over 8,000 farmers, reaching a total of 85,000 farmers. The Project supported training through a 'Training of Trainers' approach. The training provided covered various areas: cooperative organization, crop intensification, water management, business planning and small enterprise management. By December 10,982 lead farmers had received training.

- An independent impact assessment commission by RSSP found 67 of the supported cooperatives reported revenues 50% higher than when they first received Project support.

- The number of cooperatives increased, including cooperatives for producing and marketing certified maize and potato seed which increased from 8 to 15, and cooperatives with quality business plans which increased from 74 to 81.

- Project support also helped to increase the living conditions of its beneficiary cooperatives members. The number of farmers supported by the Project living under the poverty line was almost halved, with a reduction from 65.66% to 39%. The current national average is 45.3% according to EICV3.

Post harvest facilities:

- To help improve postharvest systems, RSSP supported the construction of 4 storage facilities and 10 dryer bays during the financial year 2011-2012. As a result, the number of farmers using fertilizers increased to 86% in marshlands and 69% in hillside areas. An independent impact assessment commissioned by RSSP found only 30% usage among non-beneficiaries. The assessment also established that 98% of supported farmers adopted sustainable marshland or hillside intensification technologies (the baseline was 25%).

Project extension:

- During the 2011-2012 fiscal year, and after the achievements of all Project phase two targets, the Government team including MINAGRI and Project technical team successfully negotiated a third project phase (RSSP3) and the World Bank approved a contribution of USD 80 million. RSSP3 became effective in June 2012, one year before the initial projected third phase launch.

SP 1.4 Irrigation Development

1. PADAB – Bugesera Agricultural Development Support Project

Niragire Françoise, a farmer supported by PADAB from Mwogo Sector, Bugesera District, is proud of the bananas she was able to produce after adopting FHIA 17

Basic Information	Project cost: 18.7 million USD Donor: African Development Bank Government contribution: 4.3 million USD Implementation starting date: October 2006 Scheduled Completion date: December 2013 Eventual Extension: Not yet decided
Mission and Purpose	PADAB aims to reinforce food security through increasing crop production in the Bugesera region through the following interventions: • Setting up irrigation infrastructure in a 1000ha marshland • Protecting catchments and improving rain-fed farming on 3200 ha of hillsides • Capacity building for farmers and supervisory institutions
Achievements 2011-2012	**Marshland reclamation and watershed development:** • ***Development works for the 1000 ha Rurambi marshland:*** Marshland development works 87% complete, with a projected completion date of 30th September 2012**.** Works include the following: ○ Protection dyke :100% complete (9.3 km x 2.5 m) ○ Irrigation network: 78% complete ○ Drainage network: 98% complete ○ Feeder roads network: 80% complete ○ Civil works on pumping station and other infrastructures: 100% complete ○ Hydromechanics equipment (supply & installation): 75% complete **Hillside protection:** • Excavation of radical terraces over 106 ha around Rurambi and

rehabilitation of over 300 ha of progressive terraces

Agricultural development:

- Seed multiplication with the expected production of 1,000T of maize over 512 ha in Rurambi marshland under development, and 60 farmers received training
- The mushroom seed production unit was inaugurated in Nyabagendwa (Rilima Sector), managed by the Bugesera mushroom cooperative union
- Kabukuba market construction was completed and a cooperative set up for infrastructure management and maintenance under Bugesera District supervision
- A total of 16,612 grafted fruit trees were transplanted (avocado and mango) for fruit orchard development;
- 130 Farmer Field Schools (FFS) were set up and 4,127 farmers were trained in modern agricultural techniques and IPM
- As a result of FFS interventions, for banana crops the fruit weight increased from 10-15 kg for local varieties to 40-50 kg each, while the fruit reached 80-120 kg for newly introduced varieties (FHIA 17 and FHIA 25)

The construction of a protection dyke under the project protects maize cultivation against Nyabarongo river floods and allows crop production without compromising the ongoing marshland development works

2. PAIRB – Bugesera Natural Region Rural Infrastructure Project

A banana seedling macro-propagation unit constructed by PAIRB

Basic Information	Project cost: 2.25 million USD Donor: African Development Fund Government contribution: None Implementation starting date: April 2010 Scheduled Completion date: December 2015 Eventual Extension: Not yet decided
Mission and Purpose	Bugesera PAIRB aims to help reduce poverty in its impact area. Core activities include: • Development of lake and marshland watersheds • Irrigation development and rehabilitation • Developing production, through distribution of seeds, integration of cattle and goat rearing with irrigated farming, organizing farmers into cooperatives • Rehabilitating rural roads • Establishing storage and processing facilities
Achievements 2011-2012	**Development of irrigation facilities in small hillside area in 1000ha of lake watersheds:** • Detailed studies conducted for 108 ha in 3 sites, in Kayovu, or Kilimbi lake, Ihara of Gaharwa lake and Nyiragiseke of Rweru lake. A list of land owners and their respective plots was also established, and sensitization meetings held to familiarize the local community with infrastructure proposals. Bidding documents for the 108 ha have been submitted for international competitive bidding, and the recruitment process re-launched. An ongoing technical study continues for the remaining 900 ha of lake watersheds, and an interim report of the first 100 ha has been completed

Rehabilitation of irrigation facilities over 1500 ha in Gashora marshland:

- The recruitment process is 95% complete for a company to implement the programme, and works are planned for 750 ha with an estimated cost below the projected budget. CIMA International has also been recruited to supervise the works. An assessment of the marshland's current users is ongoing

Other rural infrastructure:

- Preliminary construction works of silo buildings are 30% complete. The building will house three silos with a total capacity of 6000 MT
- The tender process for the construction of two milk collection centers and four seed centers is at the contract signing phase.
- A technical study for 54.1km of feeder roads is at the stage of contractual signing

Integration of cattle and goats rearing with irrigated farming:

- 554 cows (27 died) and 1092 local goats distributed to 364 poor families
- 47 community animal health workers (para-vets) received training

Agricultural development:

- Farmer Field Schools (FFS) were engaged to popularize modern agricultural techniques, IPM and new technologies. 2,980 farmers in 89 FFS received training related to cassava, banana and pineapple
- Seeds and cuttings were produced and distributed:
  - 10,000 banana seedlings produced
  - Pineapple crown macro propagation initiated across 9 units
  - Cassava cuttings were introduced on 16 ha, which is expected to produce 1,000,000 plants, of which 460,000 will be for variety maintenance and 540,000 will be used for dissemination

3. KWAMP – Kirehe Community Based Watershed Management Project

KWAMP supported the Rusozi-Kabuye road rehabilitation, to facilitate market access and trade for local produce including banana, ground nuts, beans, coffee, milk, rice and cassava

Basic Information	Project cost: 49.32 million USD Donor: The International Fund for Agricultural Development Government contribution: 9.5 million USD Implementation starting date: June 2009 Scheduled Completion date: December 2016 Eventual Extension: Not yet decided
Mission and Purpose	KWAMP is an agricultural investment project which aims to develop sustainable and profitable small-scale agriculture in Kirehe District. Through project areas including local institutional development, agricultural and livestock intensification, irrigation development, soil and water conservation and feeder roads, KWAMP aims to reduce rural poverty in Kirehe District.
Achievements 2011-2012	**Local institutional development:** • District staff received training in multiple areas. 49 district staff were trained in strategic planning, 32 accountants were trained in fiscal decentralization policy, a district irrigation team of 14 people received training, and a further 42 district staff attended training in rainwater harvesting techniques. 3 staff from 'Community Centers for Innovation' received Gender Action training. • Approximately 90 members from 23 local cooperatives also received training on market analysis, production costs estimates and post harvest handling techniques. • The sub-goal of water and land use management involved training in land conflict resolution, training for WUA on bylaws and administrative management, and training for beneficiaries in pond management techniques. **Agricultural intensification:** • In relation to value chain development, a commodity chain study was completed and tender re-advertised for the Warehouse Receipt System

	• Regarding crop and livestock intensification, farmer groups were reorganized and trained in conservation agriculture and Farmer Field School (FFS) approached. Improved bean varieties were planted in two site and demonstration plots of animal grass established in two watersheds. In the livestock sub-sector, 620 cows were given to poor families, and 959 sheds constructed, and a further 279 cows were distributed through the 'Pass on Gift' programme, by which the first calf is passed on to another poor family. • Irrigation development is the third key sub-component, and the project continues to support hillside irrigation, Marshland development and soil erosion protection through land husbandry. 47 HA were protected from soil erosion, 1.2 million trees were planted, a hillside irrigation feasibility study for 11 watersheds was completed and work continued on 4 downstream irrigation schemes. 5,768 people received training on soil protection and conservation, and 1351 farmers were trained in composting and land husbandry techniques. **Feeder roads rehabilitation:** • Feeder road rehabilitation in Rusozi-Mahama Centre was 90% completed, and major improvements to the road between Mahama Centre and Nasho Health Centre were 40% completed. The small bridge construction initiative was 60% completed.

3. GFI – Government Funded Irrigation Immediate Action Irrigation Project

Maize under a sprinkler irrigation system supported by GFI

Basic Information	Project cost: 5 billion RWF Donor: Government of Rwanda Government contribution: 100% Government funded Implementation starting date: January 2010 Scheduled Completion date: December 2012 Eventual Extension: Yes Implementing Agency: TF Irrigation and Mechanization
Mission and Purpose	The Immediate Action Irrigation (IAI) initiative for food self-sufficiency and livelihood improvement under MINAGRI's Task Force of Irrigation and Mechanization aims for the intensification and modernization of agriculture, to successfully reduce dependence on rain fed agriculture in the Eastern Province, the driest part of Rwanda. The targeted Districts are Kirehe and Nyagatare. The project aims to cover 5,000 ha in three years.
Achievements 2011-2012	**Infrastructure, input and support services:** • ***Development of 600 ha of sprinkler irrigation in Nasho valley, Kirehe District***. Chine Geo-Engineering is implementing 600 ha of irrigation infrastructure in Nasho Valley. The scheme is divided into three lots, with a total cost of 6,920,228,600 RFW. 100% of the irrigation infrastructure planned has been installed and project testing is due to take place on the 10th October. By the end of the 2011-2012 financial year, each lots had the following infrastructure: 1. *Lot 1 (200ha) Sprinkler irrigation development:* • Reservoir construction 100% complete • Pump station construction 100% complete • Pipeline laying 100% complete • Roads 100% complete 2. *Lot 2 (195ha) Sprinkler irrigation development :* • Pump station 100% complete • Pipeline laying 100% complete • Roads 100% complete 3. *Lot 3 (205ha) Sprinkler irrigation development :* • Reservoir construction 100% complete • Pump station construction 100% complete • Road construction 100% complete

- ***Development of 400ha of pressurized irrigation in Muvumba valley, Nyagatare District.*** The project is being implemented by two companies: Jain Irrigation Systems is working on Lot 4, and is 73% complete, and UNIE-Tech is working on Lot 5, which is 95% complete. The total budget for 400 ha is 4,856,478,208 FWR. Current progress for each lot include:

1. *Lot 4 (200 ha) installed with pressurized and gravity irrigation:*
    - Pump station 50% complete
    - Pipeline laying 90% complete
    - Roads 80% complete
    - Design and execution plans approved
2. *Lot 5 (200 ha) installed with pressurized and gravity irrigation:*
    - Reservoir construction 100% complete
    - Pump station construction 100% complete
    - Pipeline laying 100% complete
    - Roads 100% complete
    - Transformer and electricity connection in progress

- ***Supervision of works***: BICHE Tunisia supervises works in Lot 1, 2 and 3 in Nasho Valley, Kirehe District, and Lot 4 and 5 in Muvumba Valley, Nyagatare District. The company is in charge of approving all on site design modifications and civil works and ensure on-time project delivery. The supervision period has been extended for six months.

- ***Recruitment of key staff:*** The project has seven members of staff on each site, including, two site coordinators, two irrigation engineers, two agronomists and one electric-mechanic technician. They are charged with day to day monitoring of execution of works, mobilization of beneficiaries for irrigation scheme development and operation of pumps. Three Water User's Associations (WUA's) have been formed in Nasho and two in Muvumba.

Strengthening and building the capacity of District, Sector and site-level facilitators:

- ***Study Tour for Beneficiaries from Nasho in Kirehe District and Muvumba in Nyagatare District.*** Beneficiaries were given the opportunity to visit an exhibition of different irrigation systems held in Mulindi. This made farmers more familiar with different irrigation systems. They learnt about the following systems: sprinkler irrigation, drip irrigation, rain water harvesting technologies and different uses of mechanization equipment.

- ***54 farmers attended a skills building course on leadership***

	• ***Five farmers went to Kenya for a 'Look and Learn' Tour*** **GFI Phase II:** • ***Procurement for 2012-2013:*** A contract for 6.6 billion RWF has been awarded to UNIE-TECH and Chine Geo-Engineering to install Centre Pivot works in 700 ha in Kagitumba. The procurement process of works related to the development of 2500 ha of commercialized irrigated agricultural in Nasho Valley, Kirehe District, has also begun, as requests for proposals have been sent to three shortlisted consortiums.

SP 1.5 Supply and use of agricultural inputs

1. Banana Program

The banana program increases productivity, production and management of bananas

Basic Information	Project cost: 200 million RwF Donor: Government of Rwanda Government contribution: Internally funded project Implementation starting date: July 2010 Scheduled Completion date: June 2012 Eventual Extension: Yes Implementing Agency: RAB
Mission and Purpose	The Banana program aims to achieve the following: • Increase the productivity and production of cooking bananas and Kamaramasenge, thereby improving their contribution to households' incomes, food and nutritional security, agricultural development and poverty reduction • Increase the production of cooking bananas to meet rural household food and income needs and local and urban market demand • Increase the production of dessert bananas to meet local and export demand • Improve management of bacterial wilt • Strengthen capacity of banana producers and program staff
Achievements 2011-2012	**Banana rehabilitation and wilt control:** • A Community Mobilization Campaign (CMC) was implemented to generate large-scale banana rehabilitation and Banana Xanthomonas Wilt (BXW) control. Using this approach, 1,225 Ha of banana plantation were rehabilitated, and the campaign benefitted 35,962 farmers.

2. Agricultural Mechanization Program

A woman farmer receives training in power tiller usage

Basic Information	Project cost: 3.3 billion RWF Donor: Government of Rwanda Government contribution: 100% Government Funded Implementation starting date: January 2010 Eventual Extension: Not yet decided Implementing Agency: RAB/TF Irrigation and Mechanization
Mission and Purpose	The Agricultural Mechanization Program, implemented by the Task Force for Irrigation and Mechanization, has two key aims: • To disseminate appropriately scaled mechanization options to farmers throughout the country • To enhance and develop the use of agricultural mechanization along the value chain in Rwanda
Achievements 2011-2012	**Disseminating mechanization options to farmers:** • ***Land mechanically ploughed:*** ○ 2011A: 6,300ha ○ 2012B: 11,350ha ○ 2013A (planned): 12,400ha • ***Village Mechanization Service Centers (VMSCs):*** 14 VMSCs have been established in ten districts, with two centers in Nyamata and Gatsibo, and one center in Karongi, Rulindo, Rwamagana, Nyanza, Nyagatare, Musanze, Ngoma, Gasabo, Kirehe and Ruhango. In the coming financial year of 2012-2013 the TF for Irrigation and Mechanization plans to establish at least one VMSC in each District to respond to the increasing demands of farmers for mechanization services. With the establishment of VMSCs in each district, the Task Force will also sensitize and mobilize the farmers regarding the advantages of using farm machinery to enhance mechanization uptake • ***Farmer training in use of machinery:*** 296 farmers received training in the use of power tillers

Developing mechanization along the value chain:

- ***Infrastructure to support mechanization:*** Buildings were constructed to host power tiller assembly lines in Special Economic Zones

Review of current levels of mechanization in Rwanda:

- The current fleet of agricultural mechanization in Rwanda includes 226 tractors, 266 power tillers, 35 rice transplanters and around 1200 attachment tools (i.e. disc ploughs, mouldboard ploughs, rotovators, iron wheels, potato diggers and seed drills) for tractors and power tillers, mainly dominated by TYM (Tong Yang Moolsan) tractor models. Only 20% of this powered fleet is owned by the private sector, with the remaining 80% owned by the government. MINAGRI tractors represent 36% of the total fleet, and include machines that range from 12 to 15 HP for Power Tillers (PT), 35 HP, 50 HP, 60 HP, 90 HP and 100 HP for tractors, and CAT 928H wheel loader, CAT 963D chain loader, CAT 825H soil compactor, CL 365C excavator machine and D8R bulldozer machine. This heavy machinery is used for earth moving operations in the sites that require complex and complicated activities such as land clearing and leveling for agriculture, dam construction and construction of access roads. In the 2011-2012 financial year 12% of farm operations were mechanized.

3. Crop Intensification Program

Beans from Gatsibo produced under the CIP

Basic Information	Project cost: 9 billion RWF Donor: Government of Rwanda Government contribution: Internally funded project Implementation starting date: September 2007 Scheduled Completion date: None Eventual Extension: Not yet decided Implementing Agency: RAB
Mission and Purpose	CIP aims to increase agricultural productivity by significantly increasing the production of food crops across the country. It is based on three pillars: 1. Land use consolidation 2. Improved seed and fertilizer use and 3. Extension service at farm level 4. Post harvest handling and storage initiative CIP focuses on seven priority crops, which are determined by agro ecological zones. These crops are: maize, wheat, rice, Irish potato, beans, cassava, soy bean and sunflowers.
Achievements 2011-2012	**Land use consolidation:** • Agricultural land use consolidation and new agricultural production models seek to increase agricultural yields, protect smallholder land rights, improve the livelihoods of rural Rwandans and promote efficient and sustainable use of land resources and agricultural inputs. As a result of the CIP program, the consolidated land area planting CIP crops has increased from 989,390 ha in 2011 (seasons A and B) to 1,267,589.26 ha in 2012 (A and B), shown by Table I.

Crop	Baseline 2011 A & B (ha)	Target 2012 A & B (ha)	Achievement 2012 A & B (ha)
Maize	224,158	308,750	312,283.2
Beans	497,122.75	480,000	637,715
Cassava	102,528	143,631	125,589.7
Rice	12,056	17,000	15,124
Wheat	36,079	74,800	37,108.5
I. Potato	97,446	186,000	111,778.7

Improved seed distribution and use:

- To increase productivity of priority crops RAB distributed improved maize, wheat and cassava seeds to farmers as follows, illustrated by Table II.

Crop	Baseline	Target	Achievement
Maize	4,079.31 MT	7,089 MT	5,615 MT
Wheat	1,052.45 MT	7,480 MT	2,538 MT
Cassava	39,924,900 cuttings	40,000,000 cuttings	56,058,000 cuttings

Distribution of fertilizers:

- A lack of access to mineral fertilizer has impeded efforts to increase crop productivity. The CIP program, in collaboration with the Postharvest Task Force, distributed more than 44,000 MT of fertilizer to farmers. Table III illustrates fertilizer distribution by type.

Type of fertilizer	Baseline (MT)	Achievement (MT)
DAP	12,000	13,913.066
UREA	4,000	11,495.789
NPK (17x3)	5,877.90	18,855.056

Proximity to extension services:

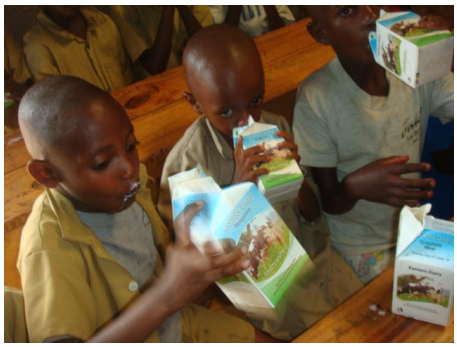
- To reinforce proximity based service delivery, the CIP program contracted District level service providers to support cooperatives and producers engaged in CIP activities. Table IV shows service providers by District.

Service Providers	District
IBAKWE	Ruhango, Muhanga, Kamonyi, Nyanza.
ENAS	Kirehe
UNICOOPAGI	Nyamagabe, Nyaruguru, Huye
ARDI	Gisagara
ALUPA	Rutsiro
RDO	Nyagatare
ARDR	Rwamagana, Kayonza
INATEK	Ngoma
APEPARWA	Bugesera, Gicumbi
IMBARAGA	Musanza, Gakenke, Rulindo
OTP	Ngororero, Rubavu, Nyabihu

SP 1.6 Food security and vulnerability management

1. One Cup of Milk per Child Program

School children enjoy milk distributed by One Cup of Milk per Child



Basic Information	Project cost: 1 billion RWF Donor: Government of Rwanda Government contribution: 100% Government funded Implementation starting date: June 2009 Scheduled Completion date: June 2013 Eventual Extension: Not yet decided
Mission and Purpose	One cup of milk per child has five key, complementary objectives: 1. Reduce malnutrition in children 2. Support children's development and capacity to learn 3. Provide children with a balanced diet and instill good dietary practices 4. Reduce post-harvest losses 5. Develop the Rwandan dairy sector through increasing demand for dairy products
Achievements 2011-2012	**Child health and school attendance:** • 74,728 school children, based in 100 school across 14 districts, receive milk through the programme. These children have good health and better class attendance. The program is due to be scaled up in 2012-2013, to include 66 new schools, to reach a new total of 100,000 children **Development of the dairy value chain**: • Post harvest losses of milk have been reduced and dairy farmer incomes have increased.

Program Two: Support to the Professionalization of Producers

SP 2.1 Promotion of farmers' organizations and capacity building for producers

1. Support to SPAT II

Community Mobilization Campaigns engage with farmers using participatory techniques at the grass-roots level. Here, RAB talks with farmers as part of a campaign to rehabilitate a banana plantation

Basic Information	Project cost: 18.6 million Euros Donor: BTC Government contribution: 620 thousand Euros Implementation starting date: July 2011 Scheduled Completion date: 2016 Eventual extension: Not yet decided Implementing agency: RAB and CICA
Mission and Purpose	The project's goals it to increase agricultural outputs and incomes through sustainable production systems for all groups of farmers, and to ensure food security for all the population. The specific objective is improved access to advisory services for crops and livestock, and improved access to and use of high quality food crop planting materials for men and women
Achievements 2011-2012	**Agriculture advisory services:** • ***Launched the Rwanda Seed initiative and Rwanda Farmer Field School (FFS)initiative:*** On 9th March 2012 in Bugesera district, in collaboration with MINAGRI, RAB and BTC launched a new program: 'Market-oriented Advisory Services and Quality Seed program', and launched two key initiatives for seeds and FFS. The project prepared an MoU in collaboration with RAB with was signed between BTC and RAB to facilitate program implementation. The project structure was updated in collaboration with program support staff and staff of the new seed and FFS initiatives. The logical framework indicators have also been updated during the partners retreat, in order to improve the planning process • ***The project supports RAB in the implementation of the Rwanda Farmer Field School initiative (FFS)***: during 2011-2012 the program in collaboration with RAB implemented various activities with FFS.

This participatory approach avoids a top down system and instead asks farmers to contribute their own perspectives to identify the problems and eventual opportunity, test and validate options and solutions, and adopt them in their own field. The FFS model provides a suitable platform for developing interactions between extension, research and farmers in all Districts in the country. The table shows the activities of the FFS initiative and Community Mobilization Campaign (CMC) in banana plant rehabilitation and disease management last year:

Commodity	FFS Facilitators	FFS groups	Beneficiaries in FFS groups
Potato	125	483	13937
Cassava	70	130	2300
Maracuja	52	52	1394
Tamarillo	62	62	2225
Striga management	62	62	1905
Maize	98	98	2897
Rice	112	111	3066
CMC banana rehabilitation and BXW	0	0	44,643
Overall total	**581**	**998**	**72,367**

- ***Advisory Services:*** The Agriculture Advisory Services Survey found that 32% of farmer householder received advice in the last 12 months, and 33% of farmers were satisfied regarding their access to relevant information and advisory services

Supporting RAB in implementation of The Rwanda Seed Initiative:

- ***Research:*** The project supported RAB in researching new seed varieties and seed production, including breeder, pre-basic, basic and certified seed and QDS in all RAB stations, and further information is available in the RAB Annual Report 2011-2012

- ***Seed Strategy:*** The project assisted RAB in development of the seed strategy and policy on the basis of key issues and solutions. The strategy aims to strengthen public and private sector involvement to develop a sustainable seed sector, and is based on three main pillars: increased quantity, improved quality and generating effective and sustainable demand. A seed task force was also established

Supporting CICA's activities:

- ***Support to CICA***: The program supported CICA in developing ICT including the MINAGRI website and agricultural information system (AMIS) and both printed and audio-visual extension material development.

SP 2.3 Research for transforming agriculture

1. Supporting Seed Production and Distribution

Improved potato seed in Musanzi

Basic Information	Project cost: 155 million RwF Donor: Government of Rwanda Government contribution: Internally funded project Scheduled Completion date: July 2012 Eventual Extension: Not yet decided Implementing Agency: RAB
Mission and Purpose	This project aims to increase seed quality and productivity, to contribute to the availability of high quality seeds to be used by the Crop Intensification Program and maize producers. The goal is to increase the amount of seed which is harvested and processed.
Achievements 2011-2012	**Seed production:** • The following amounts of seed were produced by the project and disseminated to farmer beneficiaries for multiplication and commercial farming: ○ 265.81 MT of maize ○ 121.39 MT of common beans ○ 129.34 MT of wheat ○ 8,394,540 cuttings of cassava ○ 1,581.4 MT of Irish potato, ○ 79,560 banana suckers and plantlets ○ 61.3 MT of rice ○ 109,320 pineapple crowns, produced using macro-propagation techniques ○ 800,000 avocado scions ○ 3,500 mango seedlings ○ approximately 100,000 scions of citrus fruits ○ 15,000 grafted citrus seedlings ○ 10 kg of Tamarillo seeds ○ 217 kg of indigenous vegetables ○ 50,000 grafted seedlings of preferred avocado varieties.

Program Three: Commodity Chain Development and Agribusiness Development

SP 3.2 Promotion and development of traditional export crops

1. Improving Coffee Production, Productivity and Quality

A successful coffee nursery produces high quality seedlings in Macuba Sector, Nyamasheke District

Basic Information	Project cost: 2.7 million RWF Donor: Government of Rwanda Government contribution: 100% Government funded Implementation starting date: July 2010 Scheduled Completion date: June 2012 Eventual Extension: Not yet decided Implementing Agency: NAEB, OCIR-CAFÉ
Mission and Purpose	The objective of this program is to increase coffee production and productivity as well improving coffee quality. To achieve this objective, the project focuses on activities including land expansion, planting seedlings, application of mineral and organic fertilizers, mobilization of farmers to use Good Agricultural Practices, intensive pests and diseases control and rehabilitation of existing plantations.
Achievements 2011-2012	**Coffee seedling preparation:** • A total of 11,642 kg of coffee seeds were distributed and 29,103,750 coffee seedlings were prepared. Table I shows coffee seed distribution by Province

Province	Tons of seeds distributed	Seedlings expected
SOUTH	2,930	7,325,000
WEST	1,784	4,458,750
EAST	5,452	13,630,000
NORTH	1,342	3,355,000
MVK	134	335,000

Increasing coffee acreage:

- 16,655,633 coffee seedlings were planted in the fiscal year, covering an area of 6,662 ha, of which 37% was consolidated land. Table II shows seedling prepared and planted by province

Province	Available seedlings	Planted seedlings	Total planted area (ha)
WEST	3,880,071	3,874,475	1,550
NORTH	3,778,220	3,764,514	1,506
KIGALI CITY	98,366	98,366	39
SOUTH	4,617,959	4,578,173	1,831
EAST	4,373,279	4,340,105	1,736

Coffee production:

- Between July 2011 and June 2012 Rwanda produced 16,405 tons of coffee and exported 16,809 tons, earning revenue of USD 78.8 million. Exports exceed production due to a surplus from the 2010-2011 fiscal year of more than 1 million Kg. The annual target for coffee export was 19.349 MT and the realization was 16.809 MT (85% of the target). The fully washed coffee target was 5.573 MT and realization was 4.715 MT (85 % of the target). Table III illustrated coffee production and export revenue according to coffee type

Coffee Type	Production (Kg)	Export (Kg)	Revenues ($)	Av. Unit price ($)
Fully Washed	4,715,921	4,734,521	28,913,613	6.11
Semi Washed	9,646,200	10,013,400	46,214,737	4.62
Triage	1,891,499	1,928,401	3,350,165	1.74

Coffee processing and value addition:

- 20 mini coffee washing and processing machines were purchased, 16 machines including 5 for private stakeholders were installed in different areas in the country. In total, 215 coffee washing stations are in place, and during the coffee season 2011/2012, 197 coffee washing stations operated at a capacity of 61% and processed 56,739 tons of cherries, equivalent to 8,500 tons of green coffee. 18 coffee washing stations were unable to operate due to financial problems

Coffee promotion and marketing:

- To promote Rwandan coffee on the world market and facilitate

	contact between coffee producers and buyers, NAEB attended coffee exhibitions, conferences and many international coffee programs (SCAJ, SCAE, SCAA and EAFCA). The project also supported regional and international advertisements. The overall marketing performance for the period was successful, although the market was characterized by a price decline towards the end of the year from USD 5.2 to USD 3.37 **Rwanda Cup of Excellence 2011:** • Rwanda hosted the 3rd Cup of Excellence (COE) competition event in Africa in August 2011. It was an honor to organize and host the event. An international Jury of Coffee Cuppers from 12 countries participated in selected the best coffee. This event helps to make Rwanda known globally as a premium quality coffee producing country.

SP 3.3 Development of non-traditional high-value export crops

1. NSC – National Sericulture Centre

Women feeding silk worms
(National Sericulture Centre, 2011)

Basic Information	Project cost: 551 million RWF Donor: Government of Rwanda Project Government contribution: Internally funded project Implementation starting date: June 2009 Scheduled Completion date: Ongoing Implementing Agency: NAEB
Mission and Purpose	The National Sericulture Centre aims to increase sericulture productivity and to contribute to the diversification of Rwandan exports. Activities include: • Supporting sericulture cooperatives • Supporting research related to sericulture • Strengthening the National Sericulture Centre, which coordinates farmer support activities
Achievements 2011-2012	**Promote sericulture productivity through increasing cocoon production:** • Farmers received infrastructure and equipment. 12 silk worm rearing house were constructed and 8 cooperatives received equipment and material to support sericulture activities. 7 cocoon dryers were also purchased and given to cooperatives, and 6 sets of reeling machines imported and installed at NSC. • Activities to increase silkworm productivity included the import of 100 boxes of more productive silkworm eggs from China, which generated good results in production. Two pairs of elite silkworm parents were also supplied to the NSC for testing and development **Provide technical support for sericulture activities:**

- 8 technicians based in regional centers and the NSC assisted cooperatives and farmers in cocoon production, rearing and mulberry maintenance activities.

Raising awareness of household based sericulture production:

- In August 2011 a stakeholders meeting was organized to establish the criteria to identify beneficiary farmers. Cooperatives then mobilized their members and an evaluation in December found members were ready to accept the new household based approach. In the last quarter of the financial year beneficiary farmers received training in mulberry cultivation and rearing techniques.

Training in reeling and weaving:

- Participants have been identified and a training program prepared for the six new reeling machines at the NSC

Cocoon harvesting and sorting at cooperative ICYEREKEZO (National Sericulture Centre, 2011)

2. Horticulture Commodity Chain - Intensification and Quality Management

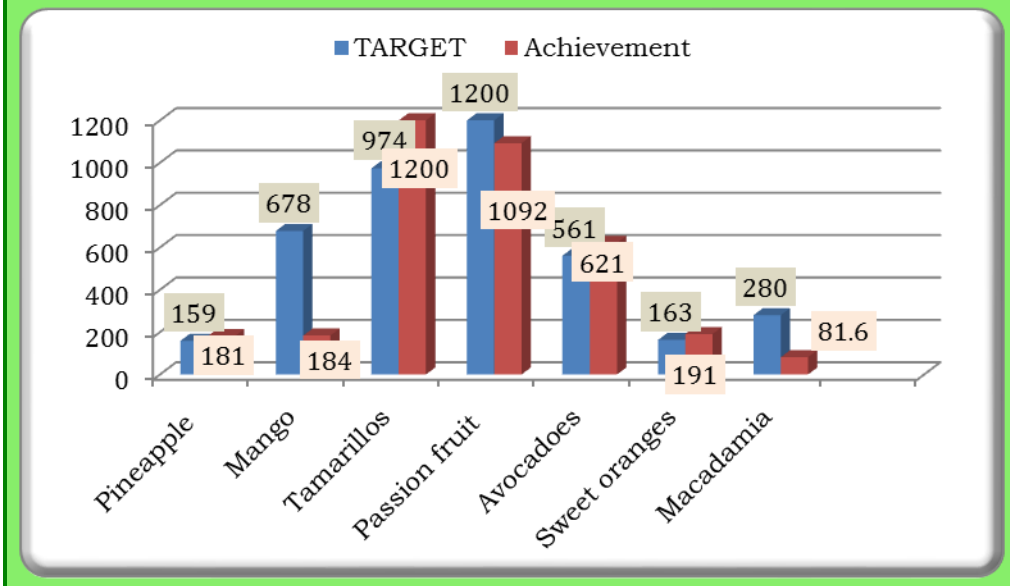
Basic Information	Project cost: 2.26 million RWF Donor: Government of Rwanda Government contribution: Internally funded project Implementation starting date: July 2010 Scheduled Completion date: June 2014 Eventual Extension: Not yet decided Implementing Agency: NAEB
Mission and Purpose	The horticulture commodity chain has emerged as a key emerging agricultural enterprise to accelerate economic growth. The horticulture value chain has a very important role in Rwanda's nutritional security, poverty alleviation and employment generation programmes. It offers not only a wide range of crop diversification options to farmers, but also provides scope for sustaining high numbers of Agro-industries which generate employment opportunities through production, value addition, and marketing of fresh produce, in particular fruits, vegetables and flowers. This project aims to support and develop the horticulture commodity chain through three major activities: 1. Organizing, diversifying and intensifying horticultural production to increase and diversify Rwandan exports 2. Acquisition and provision of good quality fruit and vegetable planting materials to farmers in different agro-ecological zones 3. Promotion of efficient and effective post harvest techniques and infrastructures
Achievements 2011-2012	*To increase export revenues, NAEB and other partners supported farmers in vegetable and fruit production, post harvest handling and marketing of fresh produce.* **Vegetable production:** • 4153 ha were planted with vegetable under the program, and more than 16,000 seeds distributed. Table I highlights achievements in production of different vegetables:

Crop	Area Planted (ha)	Seed Distributed
French beans	267 .0	13,340.0
Eggplants	626.0	313.0
Carrots	142.0	568.5
Hot pepper	1790.0	895.0
Tomatoes	1114.0	554.0

Onions	74.5	43.0
Watermelon	22.0	43.0

Fruit tree production:

- The production area for fruits increased beyond the 2011-2012 target originally set by NAEB, to cover 5252 ha. Clean planting materials for different species were provided to farmers depending on their adaptability to different agro-ecological zones. Graph I illustrates the targets and achievement in fruit tree planting:



Summer flower production:

- Key preliminary activities have been carried out to prepare for flower production. Different flowers were identified for different climactic zones. Temperate climate varieties were found to be more suitable for districts such as Musanze, Nyabihu, Rubavu and Rulindo, while for tropical climate varieties, site such as Kigali-Kinyinya, Masaka, Kicukiro and Kacyiru were identified. It was found that White Alums (Calla Lillies) and tuberoses were most promising in production tests. Three districts Musanze, Nyabihu and Rubavu have ideal climactic and soil conditions to grow these flowers.

SP3.5 Market-oriented rural infrastructure

1. Flower Park Construction

Basic Information	Project cost: 200 million USD Donor: Government of Rwanda Government contribution: 100% Government funded Implementation starting date: July 2010 Scheduled Completion date: June 2012 Eventual Extension: Not yet decided Implementing Agency: NAEB
Mission and Purpose	The objective of this project is to create competitive advantages in Rwandan floriculture and make Rwanda a key player in the global flower business. The Flower Park Construction program provides suitable land and facilities for floriculture to incentivize local and international investment. The project has three key objectives: 1. To encourage local farmers to invest in the flower production and export industry in order to increase foreign exchange earnings 2. To modernize flower production to levels acceptable by international standards 3. To provide employment to the local communities in Rwamagana and thus improve their welfare
Achievements 2011-2012	**Land and infrastructure for floriculture production:** • 34.8 ha of land were acquired in Gishari sector, Rwamagana District, Eastern Province • The land is now connected to the national power grid, and 80% of the total bill has been paid to EWSA • RAB and KWAMP irrigation technicians have designed an irrigation system and the tender to supply and install the irrigation infrastructure, spray system and cold storage is in process • The tender to install 10 ha of greenhouses is also in the initial phases, and green house material has been procured for 2 ha • The contract has been signed with a construction company to build offices, pack houses, staff houses, post harvest facilities. Construction is due to start November 2012 • 16 ha of land has been cleared and leveling will be completed by the construction contractor

2. Kigali Wholesale Market for Fresh Produce

Kigali wholesale market will eventually provide a selling and collection point for horticultural commodities such as the fresh tomatoes seen here, grown in Kirehe

Basic Information	Project cost: 100 million USD Donor: Government of Rwanda Government contribution: 100% Government funded Implementation starting date: July 2011 Scheduled Completion date: June 2014 Eventual Extension: Not yet decided Implementing Agency: NAEB
Mission and Purpose	The overall goal of the Kigali Wholesale Market for Fresh Produce project is to construct a well-managed and fully equipped modern fresh produce market to support the horticultural commodity chains serving both local and international markets. The Kigali Wholesale Market has three main objectives: 1. To provide a selling and collection point for fresh produce 2. To stimulate increased horticultural production 3. To promote horticultural product commodity chains and agro-industry development in Rwanda
Achievements 2011-2012	**Preliminary activities for Kigali Wholesale Market construction:** • NAEB became fully responsible for the projects • Tenders were advertised to hire experts to design architectural plans and develop a project business plan • An EIA was conducted, and NAEB will design an Environmental Management Plan for the architectural designs

3. National Strategic Food Reserve

Post harvest infrastructure to improve storage and processing across value chains

Basic Information	Project cost: 2.5 billion RwF Donor: Government of Rwanda Government contribution: Internally funded project Implementation starting date: July 2010 Scheduled Completion date: June 2016 Eventual Extension: Yes Implementing Agency: TF Post Harvest Handling and Storage
Mission and Purpose	The National Strategic Food Reserve aims to ensure national food security, mitigate the impacts of potential shocks to the food supply, and reduce malnutrition and hunger among the population, while avoiding market distortion
Achievements 2011-2012	**Storage infrastructure:** • MINAGRI has developed and rehabilitated storage infrastructure to address potential food supply shocks. In order to increase storage capacity, two metallic silos (20,000 MT capacity) and one seed plant were constructed in the Kigali Special Economic Zone. • Construction works for two metallic silos in Nyagatare and Bugesera with a total capacity of 16,000 MT is due to be completed in December 2012. Public and private sector agencies also constructed eleven warehouses with a total storage capacity of 88,100 MT. Finally, three rice mills were constructed in Bugesera, Gatsibo and Kirehe Districts to promote processing and value addition **Maintaining the National Strategic Reserve:** • The National Strategic Reserve has been maintained to ensure food security. Adequate grain was purchased on time for the National Strategic Reserve, which contributed significantly to post-harvest management of crops and price stabilization

- For FY 2011-2012, the total volume of maize and beans that different warehouses received was 13,783 MT (6,758 MT of maize and 7,025 MT of beans). The current food stocks are located in warehouses in Kicukiro, Musanze, Nyabihu, Nyamagabe and in metallic silos in the Kigali Special Economic Zone (Nyandungu)

- In the second season of 2011, food reserves were used to support people who faced losses due to climate change through the 'Food for Work' program

- The National Strategic Reserve is a key pillar of the National Post-Harvest Handling and Storage Strategy. For the next financial year, the targeted purchases of food reserves are 10,000 MT of maize and 7,000 MT of beans.

Program Four: Institutional Development

SP 4.3 Monitoring and evaluation systems and coordination of the agricultural sector

1. PAPSTA - Support Project to the Strategic Plan for the Transformation of Agriculture

PAPSTA provides extension support for the distribution of cows to poor families

Basic Information	Project cost: 28 million USD Donors: IFAD, DFID, Belgium Government, WFP, DED Government contribution: 1.3 million USD Implementation starting date: March 2006 Scheduled Completion date: 2013 Eventual Extension: Not yet decided
Mission and Purpose	The core objective of PAPSTA is to support the implementation of the Strategic Plan for the Transformation of Agriculture and therefore to increase rural incomes and improve nutrition levels for poor rural populations.
Achievements 2011-2012	**Institutional strengthening:** • Contracts are currently under execution for international experts in irrigation and horticulture development, the public expenditure review was completed and a knowledge management strategy developed. • In relation to the sub-component of central level capacity building, 5 MINAGRI staff received training in project planning, monitoring and evaluation, and workshops were carried out considering different thematic areas and PSTA performance. 46 staff successfully completed their Masters degrees in India, for which PAPSTA provided the fees, and the staff has now returned to Rwanda. • Local level capacity building has been supported through a cooperative evaluation, and cooperation business plan development in 5 districts. • Marketing support included market baseline information surveys, establishing marketing committees in 6 districts, the completion of a commodity value chain mapping and analysis in five districts, the recommendations are now being worked on by project staff, and the promotion of cooperatives for maize and bean value chains.

	Planning and project implementation: • Watershed protection activities included training in watershed protection for 6795 beneficiaries, 4925 HA of erosion trenches maintenance, rural road maintenance and the production of more than 5 million seedlings in community nurseries. 27 tree nursery technicians also received training. • Agriculture and livestock intensification programmes included the distribution of cows, goats and pigs and an exchange visit for 57 beekeepers • Seed multiplication resulted in the distribution of thousands of cuttings, banana suckers, pineapple suckers and cassava cuttings • Land use consolidation projects supported the planting of maize, climbing beans, Irish potatoes and cassava • The new models of production programme area resulted in the distribution of 3000 mushroom tubes to cooperatives • Upland irrigation projects set up 67 rain water collection ponds • Marshland development was assisted through the development of three valleys in Gakenke, Ngororero and Nyamagabe, the construction of 4 paddy drying grounds and storage facilities and water management and hydro-agri infrastructure training • Research for agricultural intensification was also supported through testing rice varieties in various watersheds and researching fertilizer application in Rwabikwano and Cyunzi marshlands.

Picture 4: A maize drying shed managed by the UMUCYO cooperative, based in Bugesera

Section 4: Financial Year 2011-2012 Budget Analysis

2.1 Overall Budget Execution

The overall internal budget execution for MINAGRI is given in table 13 below:

MINAGRI Budget	Allocation (RwF)	Execution (RwF)	Execution Rate (%)
Total Budget	**37,247,815,388**	**44,557,387,687**	**119.62**
Development	28,522,664,290	36,040,043,557	126.36
Recurrent	8,725,151,098	8,517,344,130	97.62

Table 13: 2011-2012 MINAGRI Internal Budget Execution (MINAGRI)

MINAGRI over-executed its budget for FY2011-2012 due to overspending in the development budget. A considerable proportion of this over-expenditure was in Irrigation, Crop Intensification and Post Harvest Infrastructure investments, which are all of major importance for sector development. The Government Funded Irrigation (GFI) project over-spent due to the contract payment timing and the availability of public funds after the budget revision in January 2012. The Crop Intensification Program (CIP) initially received substantially less resources than planned but later in the financial year the program received additional transfers from the Ministry of Finance.

The budget over-execution highlights two important factors regarding MINAGRI's operations. First, it illustrates the demand for resources to achieve ambitious sector targets, which recognize that agriculture is a pivotal driver of national economic growth and remains the primary source of employment for the majority of Rwanda's population. Second, the execution rate demonstrates MINAGRI's capacity to disburse and execute the budget on planned activities. The 'total budget' represented here only captures MINAGRI's own budget and internal government financing. This does not therefore capture the total financing in the agriculture sector, which also includes significant external financing contributions to projects, other Ministry's agricultural programs and off-budget development partner interventions.

Table 14 depicts the quarterly budget execution according to the fours PSTA II strategic programs:

1. Intensification and Development of Sustainable Production Systems
2. Support to the Professionalization of Producers
3. Commodity Chain Promotion, Horticulture and Agribusiness Development
4. Institutional Development

Prog.	Quarterly Execution (RwF)				TOTAL	Budget Allocated	Execution Rate (%)
	Q1	Q2	Q3	Q4			
1.	5,247,796,538	7,693,225,868	10,087,942,913	7,793,212,802	30,822,178,121	26,244,765,138	117.44
2.	695,094,631	733,003,492	797,457,113	747,457,112	2,973,012,348	3,128,898,727	95.02
3.	856,009,936	1,609,143,178	1,766,757,510	3,505,451,414	7,737,362,038	5,952,722,756	129.98
4.	447,263,413	977,203,401	780,133,103	820,235,263	3,024,835,180	1,921,428,767	157.43

Table 14: 2011-2012 MINAGRI Quarterly Execution by PSTA II Program (MINECOFIN)

2.2 Agency Level Budget Execution

Table 15 illustrates agency level budgetary implementation. The budgetary execution in terms of total budget, recurrent and development budgets are detailed for RAB, NAEB and MINAGRI Central.

Agency	Budget Type	Allocation (RwF)	Execution (RwF)	Execution Rate (%)
RAB	**Total Budget**	**8,071,911,751**	**7,925,523,165**	**98.2**
	Recurrent	4,516,911,751	4,370,523,165	96.8
	Development	3,555,000,000	3,555,000,000	100.0
NAEB	**Total Budget**	**1,714,035,954**	**1,701,525,318**	**99.3**
	Recurrent	731,425,954	731,425,954	100.0
	Development	982,610,000	970,099,364	98.7
MINAGRI Central	**Total Budget**	**27,461,867,682**	**35,133,530,926**	**127.9**
	Recurrent	2,476,813,392	2,481,701,038	100.2
	Development	24,985,054,290	32,651,829,888	130.7

Table 15: FY 2011-2012 Agency Budget Execution (MINECOFIN)

2.3 National Budget Allocation to Agriculture

The trend of overall Government of Rwanda budget allocation to agriculture is represented by figure 19. The total agriculture budget was 74.2 billion RwF, which includes MINAGRI's recurrent, domestically and externally financed development budgets, district budgets and RDB's agricultural development budget. The revised budget figures depict an increase in absolute terms in MINAGRI's allocation. The expectation is that this trend will continue, with the scaling up of MINAGRI's programs and the implementation of the new sector strategy, PSTA III, and new poverty reduction strategy, EDPRS II, from 2013 onwards.

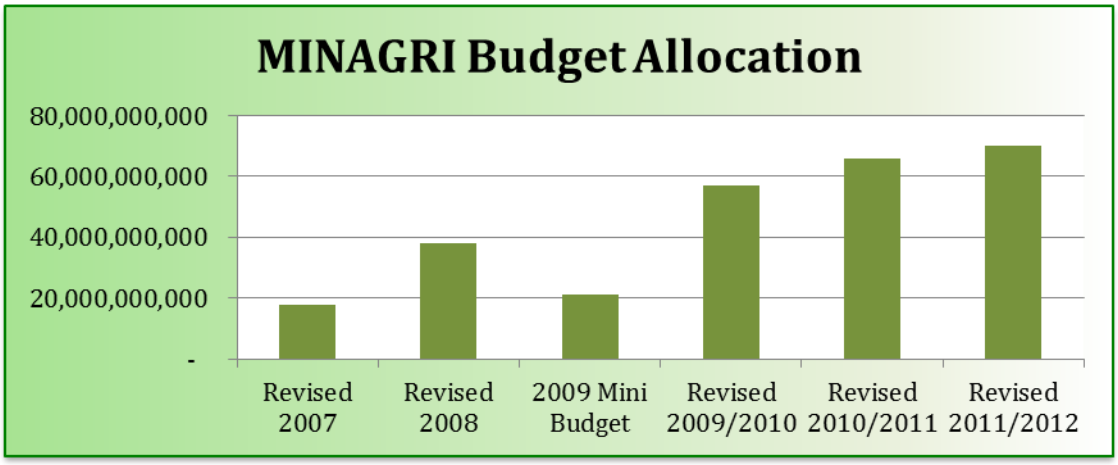


Figure 21: MINAGRI Budget Time Series (MINECOFIN)

However, when MINAGRI expenditure is compared to national expenditure, there is a decrease in the proportion of the national budget that MINAGRI received, from 6.8% in FY 2010-2011, to 6.2% in FY 2011-2012 (including domestically and externally financed projects), illustrated by figure 20. It is likely that the budget will remain at a similar level in relation to national expenditure in the coming year.

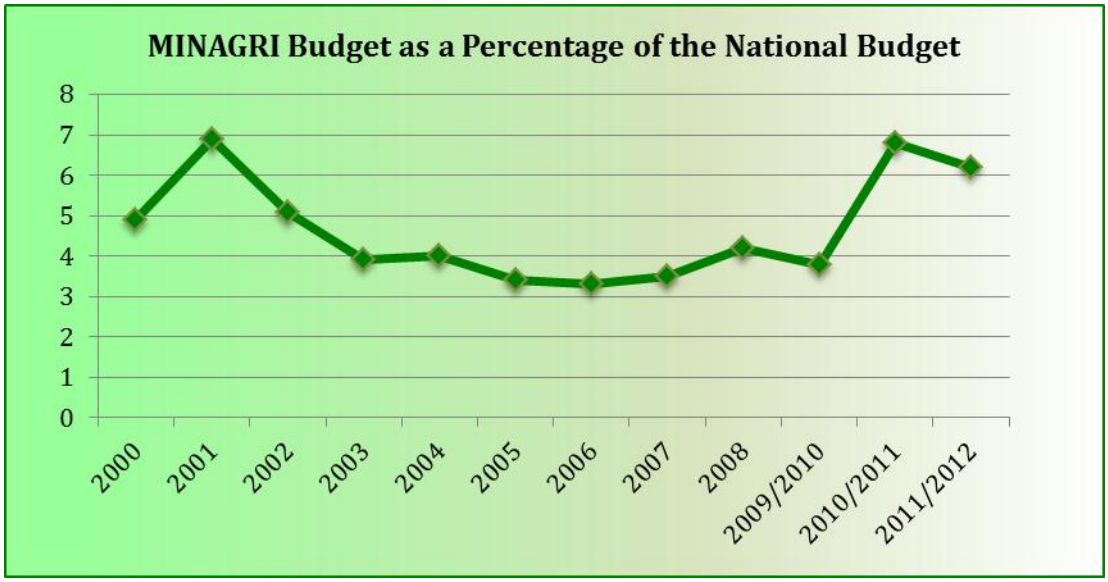


Figure 22: MINAGRI Budget as a percentage of national budget

2.4 Internal and External Projects

Annex 1 illustrates in detail project level execution of internally and externally funded projects. The projects are arranged according to PSTA II program.

2.5 Budgetary Decentralization

Table 16 below depicts district budget allocation and execution according to first three PSTA II programs, and relevant sub-programs. Program 4 'Institutional Development' is not included in District level budget expenditure as it is implemented at central MINAGRI level. Allocations to Districts are determined by two, equally weighted factors: population index and the cultivated land area. The programs included in district level expenditure include:

1. Intensification and Development of Sustainable Production Systems
2. Support to the Professionalization of Producers
3. Commodity Chain Promotion, Horticulture and Agribusiness Development

Prog.	Sub-program	Allocation (RwF)	Execution (RwF)	Execution Rate (%)
1.		**3,423,212,453**	**3,423,084,343**	**99.9**
	1.1 Sustainable management of natural resources	1,516,930,833	1,516,802,725	
	1.2 Crop and livestock intensification	1,702,032,485	1,702,032,483	
	1.4 Irrigation	204,249,135	204,249,135	
2.		**276,004,914**	**276,004,914**	**100**
	2.1 Promotion of farmers' organizations and capacity building for producers	276,004,914	276,004,914	

3.		**408,000,000**	**407,999,999**	**100**
	3.3 Development of high value, non-traditional export crops	30,000,000	30,000,000	
	3.5 Market oriented rural infrastructure	378,000,000	377,999,999	
TOTAL		**4,107,217,365**	**4,107,089,256**	**99.9**

Table 16: District level budget allocation, expenditure and execution by program and sub-program

The total district level expenditure was 4.1 billion RwF. The represents a significant increase from the FY 2009-2010 budget allocation of 1.2 billion, and a slight increase from the revised allocation of 4 billion RwF in FY 2010-2011. Fiscal decentralization is a relatively recent strategic approach in Rwanda, and the increasing trend of decentralized expenditure is expected to continue to rise as District level absorption capacity grows.

The EU Sector Budget Support for Decentralized Agriculture programme is comprised of a fixed and variable tranche of District level budget support over five years. The fixed tranche consists of 65% of the budget, while the variable tranche makes up the remaining 35%. For FY 2011-2012 the amount realized was 11 million Euros.

With the continued emphasis on decentralization, rural development, growth and employment in the next phase of the poverty reduction strategy (EDPRS II), it is likely that District level budget allocation will grow. This must be accompanied by concerted multi-scalar capacity building initiatives to support budget execution and accountability.

Picture 5: Members of the KOIMERU cooperative stand among their mulberry plantation, based in Kigoma/Ruhango District. Mulberry is an essential part of the sericulture value chain, and this cooperative is involved in National Sericulture Centre program.

Section 5: Challenges from FY 2011-2012 and Priorities for FY 2012-2013

Based on the analysis of MINAGRI implementation in FY 2011-2012, below we highlight some **key challenges** faced by the sector in the financial year 2011-2012:

1. Over execution of the budget (at 119% for the total budget) is a concern as it represents the need for further resources to meet the high level priorities of the Ministry. The financing gap for key projects such as irrigation is a challenge in light of the Government of Rwanda Seven Year Plan and Vision 2020 targets, which requires substantial increases in expensive interventions including irrigated land.

2. Leveraging private sector investment remains a challenge. The public sector alone cannot achieve the ambitious targets set, even with development partner support. MINAGRI must continue to focus on attracting private sector investors, creating a market for growth and removing barriers to market efficiency.

3. MINAGRI must continue to engage with the ASWG and all sector actors on vital strategic issues, particularly malnutrition. NGOs are an important part of the agricultural forum and collaboration must be increased to facilitate effective and accountable actions in the development process.

4. Capacity development is required across Ministry actors at all levels. The SCBI has started well and contributed to building capacity in key strategic areas, but capacity building efforts need to be more uniformly adopted and the model expanded.

5. To better implement interventions with implications beyond the agricultural sector, MINAGRI must improve its coordination with other relevant ministries particularly MINECOFIN, MININFRA, MINALOC and MINICOM. Improved collaboration with these and other government institutions can facilitate private sector investment, accelerate program implementation for projects such as infrastructure, and improve government accountability, efficiency and financial management.

As we look to the 2012-2013 financial year and beyond, we must consider the second phase of the national poverty reduction strategy (EDPRS II) and the third agricultural sector strategy (PSTA III). Both these key strategic documents will guide sector programs and projects up to 2017. Table 17 depicts MINAGRI's **Strategic Priorities for 2012-2017.**

Key challenges/ constraints	Strategic priorities	Targets to achieve by 2017	Roadmap of key interventions and innovations
- Low productivity of agricultural production& high proportion of farmers using only rain-fed agriculture **- Low productivity and poor-quality of food/cash crops due to low levels of mechanization**	Development of Quality Irrigation & Mechanization Systems (utilizing public & private resources)	• 70 000Ha of new irrigated land (Gov 7-Year Target) • Mechanized farm operations by 25 % (Vision 2020 target)	• Utilizing private financing in irrigation scheme development and related value-chain development • Utilizing private sources and financial mechanisms for access to mechanization • Introduction of new methods of farming that require significant (private & public) agricultural extension support • Build capacity in key priority areas such as irrigation and mechanization • Establishment of Agricultural development bank
Soil erosion on hillsides and poor agricultural land management leading to lower productivity.	Comprehensive Approach to Land Husbandry (Soil Fertility, Soil Conservation, Water Harvesting & Management, Livestock Feed)	• Land Protected Against Soil Erosion: Increase 10% per year from the baseline established end 2012 • Comprehensive Land Husbandry Scaled-up to 100,000 hectares (GAKO)	• Introduction of new methods of farming that require significant (private & public) agricultural extension support • Community-level financing through VUP/Public Works to conduct Comprehensive Land Husbandry) • Scaling from LWH Project to Country-wide district-led implementation • Engagement of private sector for funding • Strengthen cooperatives around land consolidated to become viable enterprise.
Low levels of crop productivity, low access to inputs and low levels of extension on input use	Increased use of agricultural inputs: fertilizer, quality seeds and extension services	• Agriculture fertilizer use: 45 kg/ha/year by 2017. • Farmer using improved seeds: 100% by 2017 • Production of staple crops increased	• Proximity advisory services to be rolled out nationwide in all sectors & districts (for example Farmer Field Schools and Tubura who cover over 100,000 clients (farmers) today) • Other private advisory services in Agriculture to be encouraged to setup in rural areas.

Low levels of animal productivity stemming primarily from no animal feed industry with associated proximity extension support	Animal resources modernization	• Increase the livestock population • Increase the livestock products • Animal Genetic Improvement: • Government to engage private sector to build 3 animal feed plants to increase animal productivity • 350,000 cows distributed through Girinka • Milk collection centers will go up to 320	• Other private advisory services in Livestock to be encouraged to setup in rural areas • Consumption of meat per capita increased • Distribution of the livestock guided by low agricultural potential areas, to supplement the use of the fertilizers and agricultural income • Rehabilitate a livestock market in each province and the private sector should build 5 rural slaughterhouses and a pig slaughterhouse in Kigali • Introduction of improved breeds for small animals • Livestock watering infrastructure to promote livestock intensification • The production of one day old chicks will increase • Promote Family Poultry Production (One egg per child) and 30 chickens per Family program
Lack of post-harvest handling and storage services for farmers and farmer groups (cooperatives)	Develop the agricultural post-harvest handling storage system and farmer capacity	• Post-Harvest Losses in Rwanda are reduced from 22.5% (maize), 15.7% (paddy) and other crops to 5% • Storage capacity of staple crops: 200,000 MT by 2017. • Farm-level knowledge of post-harvest management is greatly improved • By 2015 private sector funds dominate agriculture storage development • 2000 km of feeder roads constructed/maintained	• Encouragement of direct purchasing (P4P) model with cooperatives and farmer groups • PHHS Strategy within MINAGRI funded mainly by private sector (such as storage silos & warehouses) • Financial mechanisms around storage & value-addition are developed and implemented with financial institutions & private sector players
Lack of development (and focus) within commodity agricultural value chain development	Develop and target with private sector high-value commodity chain, encouraging innovation	• Agribusiness sector growth (jobs created in agribusiness) • Exports of traditional and non-traditional at the national level increase by:	• Financial service innovation required to increase financing in commodity development • Within horticulture sector, NAEB to define 5-year strategy and focus on a shorter list of priority horticulture crops for value-chain development • Taskforces setup through operational PPD framework (developed in RDB) to try to ensure • Ensuring linkages to private sector through investor agribusiness forums • To promote International certification (Global GAP, etc…) for agricultural export
- Low productivity of agricultural production& high proportion of farmers using only rain-fed agriculture **- Low productivity and poor-quality of food/cash crops due to low levels of mechanization**	Development of Quality Irrigation & Mechanization Systems (utilizing public & private resources)	• 70 000Ha of new irrigated land (Gov 7-Year Target) • Mechanized farm operations by 25 % (Vision 2020 target)	• Utilizing private financing in irrigation scheme development and related value-chain development • Utilizing private sources and financial mechanisms for access to mechanization • Introduction of new methods of farming that require significant (private & public) agricultural extension support • Build capacity in key priority areas such as irrigation and mechanization • Establishment of Agricultural development bank

Table 17: MINAGRI's strategic priorities, targets and interventions for the next five years

Annex I: Internally financed projects budget execution

Internally Financed Projects	Financing Type	PSTA Program	Revised (RwF)	Execution (Rwf)	Execution Rate
PAIGELAC	**CP**	1.1	200,000,000	200,000,000	100.0%
LWH	**CP**	1.1	380,862,065	380,862,065	100.0%
One Cow Program	**FI**	1.2	962,225,266	926,287,366	96.3%
Genetic Improvement	**FI**	1.2	184,540,000	184,540,000	100.0%
Hatchery Development	**FI**	1.2	65,418,890	65,418,890	100.0%
RSSP	**CP**	1.3	1,300,000,000	1,300,000,000	100.0%
PADAB	**CP**	1.3	633,801,327	633,801,327	100.0%
KWAMP	**FI**	1.4	500,000,000	500,000,000	100.0%
Irrigation Masterplan	**FI**	1.4	132,980,477	132,980,477	100.0%
GFI	**FI**	1.4	2,500,000,000	6,034,292,396	241.4%
PAIRB	**CP**	1.4	53,881,979	53,881,979	100.0%
Banana Development	**FI**	1.5	397,698,300	397,698,300	100.0%
Crop Intensification Program	**FI**	1.5	8,833,494,686	12,269,688,283	138.9%
Mechanisation Program	**FI**	1.5	1,500,000,000	1,550,976,263	103.4%
Food Security & Vulnerability Management (RSGR/PHHS)	**FI**	1.6	3,500,200,000	8,012,409,579	228.9%
PASNVA	**CP**	2.1	147,643,871	147,643,871	100.0%
Support to Improved Seeds	**FI**	2.3	500,000,000	500,000,000	100.0%
Rubona Station	**FI**	2.3	200,000,000	200,000,000	100.0%
Sericulture	**FI**	3.5	150,000,000	150,000,000	100.0%
Commondity Chain Programme	**FI**	3.5	150,000,000	150,000,000	100.0%
Flower Park	**FI**	3.5	300,000,000	300,000,000	100.0%
PDCRE	**CP**	3.6	140,000,000	140,000,000	100.0%
Improving Coffee	**FI**	3.6	700,000,000	700,000,000	100.0%
PAPSTA	**CP**	4.3	100,000,000	100,000,000	100.0%

Annex II: Externally financed projects budget execution

Category		FY 2011-2012				Total Project Timeframe			
Project	Prog	Budget Approved	Execution	Balance	Execution Rate	Project Length	Cumulative disbursement as of 30/06/2012	Total allocated	Cumulative disbursement rate (%)
PAIGELAC	1.1	**4,950,591,989**	**4,026,754,486**	**923,837,503**	**81.34%**	06/06 to 12/12	**12,060,206,006**	**11,182,470,000**	**107.85%**
AfDB		4,172,042,989	3,681,180,319	490,862,670				9,825,670,000	
GOR		200,000,000	200,000,000	0				1,144,550,000	
Other Income		578,549,000	145,574,167	432,974,833				212,250,000	
LWH	1.1	**8,383,534,201**	**9,609,793,412**	**-1,226,259,211**	**115%**	06/10 to 12/15	**12,848,609,162**	**55,417,365,000**	**23.19%**
IDA		8,033,534,201	9,293,808,114	-1,260,273,913				19,363,000,000	
GOR		**300,000,000**	**300,000,000**	0				4,174,435,000	
Other Income		50,000,000	15,985,298	34,014,702				1,275,680,000	
RSSP	**1.3**	**8,944,119,310**	**6,764,750,844**	**2,179,368,466**	**75.63%**	10/08 to 02/13	**21,179,632,232**	**21,249,550,000**	**99.67%**
IDA		7,890,119,310	5,764,750,844	2,125,368,466				19,075,000,000	
GOR		1,000,000,000	1,000,000,000	0				1,090,000,000	
Other Income		54,000,000	0	54,000,000				1,084,550,000	
PADAB	1.3	**3,237,786,700**	**3,120,830,808**	**116,955,892**	**96.39%**	10/06 to 12/13	**7,251,841,623**	**10,342,000,000**	**70.12%**
AfDB		2,697,786,700	1,415,064,723	1,282,721,977				7,955,384,600	
GOR		540,000,000	540,000,000	0				2,386,615,400	
Other Income		0	20,145,765	-20,145,765				0	
KWAMP	1.4	**4,336,154,634**	**5,621,305,854**	**-1,285,151,220**	**129.64%**	04/09 to 12/16	**13,646,567,787**	**27,256,740,000**	**50.07%**
IFAD		3,897,372,000	4,913,155,464	-1,015,783,464				19,566,348,000	
GOR		438,782,634	438,782,634	0				5,274,090,000	

Other Income		0	269,367,756	-269,367,756				2,416,302,000	
PAIRB	1.4	**3,855,696,500**	**420,158,160**	**3,435,538,340**	**10.90%**	10/09 to 12/15	**1,211,986,651**	**15,518,376,706**	**7.81%**
ADB		3,805,696,500	362,253,509	**3,443,442,991**				13,151,166,700	
GOR		50,000,000	50,000,000	**0**				2,367,210,006	
Other Income		0	7,904,651	**-7,904,651**				0	
SPATII*	2	2,609,097,600	2,751,067,620	-141,970,020	105%	07/11 to 06/16	2,751,067,620	15,268,400,000	18%
BTC		2,509,097,600	2,292,965,675	216,131,925				14,760,000,000	
GOR		100,000,000	457,869,601	-357,869,601				508,400,000	
Other Income		0	232,344	-232,344					
PDCRE*	**3.6**	**6,344,709,624**	**4,166,717,432**	**2,177,992,192**	**65.67%**	09/03 to 03/12	**14,902,836,965**	**11,998,897,900**	**124.20%**
IFAD		5,570,550,000	3,821,143,265	1,749,406,735				10,139,897,900	
GOR		195,610,624	200,000,000	-4,389,376				1,859,000,000	
Other Income		578,549,000	145,574,167	432,974,833					
PRICE*	**3.6**	**2,568,590,000**	**2,419,911,672**	**148,678,328**	**94%**	**01/12 to 12/18**	**2,419,911,672**	**33,657,000,000**	**7%**
IFAD		2,520,808,292	2,418,189,532	102,618,760				22,440,000,000	
GOR		47,781,708	0	47,781,708				3,044,400,000	
Other Income		0	1,722,140	-1,722,140				8,172,600,000	
PAPSTA*	4.3	**797,624,000**	**3,230,679,471**	**-2,433,055,471**	**405.04%**	03/09 to 09/13	**17,109,320,642**	**29,160,523,207**	**47.60%**
IFAD		697,624,000	3,081,241,645	-2,383,617,645				15,051,771,684	
GOR		100,000,000	100,000,000	0				777,514,973	
Other Income		0	49,437,826	-49,437,826				633,901,306	

Picture 6: Community terrace construction organized by the Land Husbandry, Water Harvesting and Hillside Irrigation project

Ministry of Agriculture and Animal Resources

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