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SEASONAL AGRICULTURAL SURVEY ANNUAL REPORT 2019

NATIONAL INSTITUTE OF STATISTICS OF RWANDA

SEASONAL AGRICULTURAL SURVEY 2019 ANNUAL REPORT

December 2019

Seasonal Agricultural Survey (SAS) 2019 annual report was produced by National Institute of Statistics of Rwanda (NISR).

Additional information about Seasonal Agricultural Survey 2019 report may be obtained from NISR.

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FOREWORD

The National Institute of Statistics of Rwanda (NISR), in partnership with the Ministry of Agriculture and Animal Resources (MINAGRI), conduct Seasonal Agricultural Survey (SAS). SAS provides key agriculture statistics which include agricultural land use, crop area, yield, production, agricultural inputs, agricultural practices and other agricultural items. These data are crucial to the government of Rwanda for monitoring progress of the agriculture programs and policies as well as addressing key agricultural issues and provides information to policy makers and other stakeholders. SAS 2019 covered all three agricultural seasons (A, B and C). Results of SAS 2019 indicate the substantial progress in area under cultivation and production of some crops, comparing to previous agricultural years.

I recommend stakeholders: government, researchers, partners and the general public, to value and use optimally the findings of this report.

I acknowledge the NISR core technical team for their excellent work, and extend my special gratitude to other partners for their great role in 2018/2019 Seasonal Agricultural Survey.

Yusuf MURANGWA
Director General, NISR

EXECUTIVE SUMMARY

This is the consolidated report for 2019 Seasonal Agricultural Survey (SAS). National Institute of Statistics of Rwanda (NISR) conducted SAS in 2018/2019 agricultural year following Rwanda agricultural seasons. Main agricultural seasons are Season A (which starts from September to February of the following year) and Season B (which starts from March to June). Season C is the small agricultural season mainly for vegetables and sweet potato grown in swamps and Irish potato grown in volcanic agro-ecological zone.

This report presents main findings related to:

1. Land use:
    - Agricultural land: includes land already used for farming and land that can be brought back into cultivation (fallow or pasture land). Agricultural land indicates land potential for agriculture.
    - Arable land: land able to be grown and produce crops for food and feeds supply purpose. This area excludes land under permanent crops[1] and permanent pasture.
    - Physical crop cultivated area: area occupied with crops. It is synonymous with cropland;
    - Pasture land: area under natural grasses reserved for livestock or occupied with fodder crops;
    - Fallow land: cultivable land free for cultivation in a temporal period (less than 5 years);
2. Crop land: Cultivated land devoted to each grown crop.
3. Crop production: Amount of harvested crop used for food or livestock (quantified into kilograms or tons.)
4. Crop yield: It is a measurement of the amount of crop harvested per unit of land area (kg per hectare). It is used to determine the efficiency of food production.
5. Use of inputs (this assesses the use of improved seeds, fertilizers and pesticides)
6. Agricultural practices (practice of irrigation and soil protected against erosion) and others.

Estimates for major crops are prepared mainly to give timely and current district and national totals and averages. They are based on data obtained by a sample of surveyed small-scale plots and large-scale farmers. Survey data are supplemented by tea and coffee data from National Agriculture Export Board (NAEB) collected through the routine activities of monitoring coffee and tea production, and coffee census conducted every five years.

Land use

SAS 2019 results estimate agricultural land at 1.4 million hectares (59% of total country land), from which 1.14 million of hectares was arable land. In 2018/2019 agricultural year the physical crop cultivated land was 1.1 (79% of total agricultural land), and increased by 16.8 % comparing to 2017/2018 agricultural year. Out of physical cultivated area, 1 million hectares was used for seasonal crops while 0.5 million hectares of land was under permanent crops.

[1] Permanent crops are crops produced from plants which last for many seasons, rather than being replanted after each harvest. Those crops are fruit trees, sugar cane, coffee, tea, banana, tree plantations, nuts trees…).

Crop area

SAS 2019 results indicate that, comparing with Season A 2018 area estimates, in season A 2019 there was an increase of cultivated area for sorghum (12.2%), wheat (22.2%), sweat potato(11.6%), yams and taro(11.3%), banana(13.4%), bean (4.3%), pea(16.8%), groundnut(16.9%), soybean (8.8%). The decrease of cultivated area was reported on maize (1.4%). Cassava cultivated area remained slightly the same. In season B 2019, crops that increased in cultivated area are sorghum (12.3%), paddy rice (8.9%), sweat potato (1.2%), banana (1.7%) and bean (4.8%). There was a slight decrease of area under cultivation for maize (-0.5%), cassava (-0.5%), and high decrease on Irish potato (-18.8%), yams and taro (-19.8%), pea (-35.4%), groundnuts (-4.7%) and soybean (-29.2%).

Crop production

In 2018/2019 agricultural year there was the increase of 5% of annual crop production comparing with 2017/2018 agricultural year 2018. There was a slight decrease of annual production for maize (-1%) and bean (-0.3%), while there was a great increase of annual production for paddy rice (15.5%) and wheat (16.4%).

Crop yield

As indicated by SAS 2019 results, the annual average yield for of main crops in Rwanda were: 1.46 t/ha for maize, 0.99 t/ha for sorghum, 4 t/ha for paddy rice, 1.19 t/ha for wheat, 14.8t/ha for cassava , 6.78/ha for sweet potato, 9.05t/ha for Irish potato , 6.10 t/ha for yams and taro, 18.04 t/ha for cooking banana, 12.79 t/ha for desert banana, 8.67 t/ha for banana for beer , 11.77 t/ha for banana as whole, 0.83 t/ha for bean, 0.62 t/ha for groundnut, 0.53 t/ha for pea, 0.53 t/ha for soybean, 10.39 t/ha for vegetables and 6.37 t/ha fruits.

Use of inputs

Findings from SAS 2019 illustrate that in 2018/2019 agricultural year, 17.1% of farmers used improved seeds, 55.7% used organic fertilizers, 24.6% inorganic fertilizers and 16.1% used pesticides. Most of improved seed come from agro-dealers. Improved seeds were used mostly for crops such as vegetables, fruits, paddy rice, wheat and maize. DAP, UREA and NPK are inorganic fertilizers mostly used in 2019 agricultural year. Dithane, Cypermethrin and Rocket were reported as most used pesticides in 2019.

Agricultural practices

SAS 2019 results also show that 3.3% of farmers practiced irrigation and 24% of cultivated land was protected against erosion.

Sowing dates

SAS 2019 Season A results indicate that 31.7 % of crops were sown before September 2018(those crops include mostly banana, cassava, taro and rice), 32.4 % of crops were sown September 2018, 23.3.0 % in October 2018 while the rest of crops have been sown after October 2018. For 2019 season B, 30.9 % of the crops have been sown before January 2019, 11.4 % in January 2019, 26.9 % in February 2019, 26.1 % in March 2019 while the rest was sown after 31/3/ 2019. For Season C 2018, 35.1 % of crops were grown in June 2019 and 31.6 % in July 2019.

The main highlights (key summary indicators) are described below.

Summary of Seasonal Agricultural Survey main indicators

SAS main indicators	SAS 2017			SAS 2018			SAS 2019		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
1 Cultivated area for major crops (Ha)									
Maize	210,609	85,130	-	218,179	78,151	-	215,159	73,139	-
Sorghum	29,702	112,694	-	27,151	116,986	-	30,467	131,383	-
Paddy rice	16,922	17,283	-	16,938	16,739	-	14,671	18,225	-
Wheat	3,313	7,448	-	4,490	7,735	-	5,487	7,747	-
Cassava	219,845	164,529	-	194,717	188,485	-	195,135	187,511	-
Sweet potato	87,725	85,200	7,609	87,456	79,983	5,683	97,639	80,919	5,331
Irish potato	38,351	45,923	8,526	50,836	60,644	7,740	49,728	49,244	8,618
Yams & Taro	35,321	22,028	-	11,406	19,287	-	12,695	15,469	-
Banana	237,849	226,472	-	224,053	232,420	-	253,996	236,417	-
Cooking banana	96,571	93,549	-	85,524	90,175		86,707	81,010	
Dessert banana	35,430	32,575	-	30,110	34,153		32,036	37,398	
Banana for beer	105,847	100,348	-	111,213	108,091		135,252	118,009	
Bean	268,095	276,435	3,256	287,218	269,105	885	299,443	282,099	1,128
Pea	9,373	10,298	103	15,121	10,612	228	17,658	6,859	255
Groundnut	25,004	20,451	-	20,474	20,983	-	23,929	19,990	-
Soybean	22,268	30,486	307	24,011	30,431	351	24,593	21,543	559
Vegetables	19,969	19,010	3,525	13,794	12,480	3,017	15,012	14,976	3,744
Fruits	6,551	6,844	-	5,975	6,677	-	8,383	7,454	-
2 Harvested area for major crops (Ha)									
Maize	210,609	85,130	-	218,179	78,151	-	215,159	73,139	-
Sorghum	29,702	112,694	-	27,151	116,986	-	30,467	131,383	-
Paddy rice	16,922	17,283	-	16,938	15,842	-	14,671	18,225	-
Wheat	3,313	7,448	-	4,490	7,735	-	5,487	7,747	-
Cassava	219,845	164,529	-	35,897	56,216	-	36,960	44,667	-
Sweet potato	87,725	85,200	7,609	87,456	79,983	5,683	97,639	80,919	5,331
Irish potato	38,351	45,923	8,526	50,836	60,644	7,740	49,728	49,244	8,618
Yams & Taro	35,321	22,028	-	11,411	19,287	-	12,695	15,469	-
Banana	-	-	-	61,976	63,140	-	82,523	74,733	-
Cooking banana	-	-	-	21,389	19,767		25,340	20,155	
Dessert banana	-	-	-	5,165	7,355		8,342	10,517	
Banana for beer	105,847	100,348	-	35,397	36,018		48,841	44,060	
Bean	268,095	276,435	3,256	287,218	269,105	885	299,443	282,099	1,128
Pea	9,373	10,298	103	15,121	10,612	228	17,658	6,859	255
Groundnut	25,004	20,451	-	20,474	20,983	-	23,929	19,990	-
Soybean	22,268	30,486	307	24,011	30,431	351	24,593	21,543	559
Vegetables	19,969	19,010	3,525	13,649	12,480	3,017	14,801	14,972	3,744
Fruits	6,551	6,844	-	4,263	4,522	-	6,585	5,623	-

	SAS main indicators	SAS 2017			SAS 2018			SAS 2019		
3	**Crop area under permanent crop (%)**									
	Banana				17.3			18.8		
	Coffee				2.4			3.5		
	Tea				2.6			2.5		
	Fruits				0.5			0.6		
	Pasture				8.9			8.3		
		Season A	**Season B**	**Season C**	**Season A**	**Season B**	**Season C**	**Season A**	**Season B**	**Season C**
4	**Production for major crops (MT)**									
	Maize	324,368	85,912	-	332,670	91,534	-	331,090	90,128	-
	Sorghum	41,662	118,310	-	36,581	118,111	-	37,584	122,042	-
	Paddy Rice	55,217	64,715	-	57,934	55,946	-	59,286	72,291	-
	Wheat	3,651	7,224	-	5,950	7,525	-	7,082	8,605	-
	Cassava	451,362	590,481	-	486,440	640,759	-	523,117	658,708	-
	Sweet potato	574,500	483,898	23,966	661,583	498,790	26,358	674,257	546,788	26,539
	Irish potato	378,906	398,934	69,462	439,512	396,064	80,487	468,931	422,266	82,211
	Yams & Taro	129,630	93,131	-	70,653	97,331	-	71,104	100,700	-
	Banana	985,485	753,522	-	952,684	817,013	-	1,020,141	830,491	-
	Cooking banana	415,868	315,481	-	406,044	353,652	-	456,351	364,566	-
	Dessert banana	113,032	111,312	-	112,283	117,057	-	112,937	128,273	-
	Banana for beer	456,585	326,729	-	434,356	346,304	-	450,853	354,930	-
	Beans	224,233	226,131	3,810	251,189	233,540	1,027	252,569	230,744	938
	Peas	6,768	5,600	55	9,001	5,689	137	9,115	6,136	149
	Groundnut	11,873	8,805	-	12,546	9,734	-	9,362	10,200	-
	Soybean	10,686	12,925	192	12,156	10,427	227	13,638	10,588	299
	Vegetables	133,118	155,476	30,305	162,938	145,272	40,417	158,927	155,506	36,072
	Fruits	54,940	16,378	414	35,883	17,711		48,791	29,002	-
5	**Yield for major crops (Kg/ha)**									
	Maize	1,540	1,009	-	1,525	1,171	-	1,647	1,183	-
	Sorghum	1,403	1,050	-	1,347	1,010	-	1,234	954	-
	Paddy Rice	3,263	3,744	-	3,420	3,532	-	4,041	4,008	-
	Wheat	1,102	970	-	1,325	973	-	1,291	1,111	-
	Cassava	2,053	3,589	-	13,540	11,398	-	14,153	14,842	-
	Sweet potato	6,549	5,680	3,149	7,565	6,236	4,638	6,918	6,757	4,979
	Irish potato	9,880	8,687	8,147	8,646	6,531	10,399	9,953	8,688	9,540
	Yams & Taro	3,670	4,228	-	6,194	5,047	-	5,601	6,510	-
	Banana	-	-	-	15,378	12,940		12,362	11,113	
	Cooking banana	-	-	-	19.0	18,970	17,891	18.0		
	Dessert banana	-	-	-	21.7	21,693	15,915	13.5		
	Banana for beer	-	-	-	12.3	12,271	9,615	9.2		
	Beans	836	818	1,170	875	868	1,160	891	841	831
	Peas	722	544	532	595	536	600	516	895	585
	Ground nuts	475	431	-	613	464	-	391	510	-
	Soya beans	480	424	627	506	343	646	555	501	535
	Vegetables	6,666	8,179	8,598	11,938	11,641	-	10,738	10,386	-
	Fruits	8,675	2,393	26,736	8,418	3,916	-	7,409	5,373	-

		SAS 2017			SAS 2018			SAS 2019		
		Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
6	**Share of pure crop in agricultural land**									
	Small Scale Farmers	26.6	26.7	78.9	36	32	78	23.3	34.0	-
	Large Scale Farmers	95.7	89.5	-	95.3	96.6	-	97.6	98.3	-
7	Percentage of plots with improved seeds	-	-	-	-	-	-	11.0	6	13
8	Percentage of plots with organic fertilizer use	-	-	-	-	-	-	52.8	43.8	66.7
9	Percentage of plots with inorganic fertilizers use	-	-	-	-	-	-	26.0	21	43
10	Percentage of plots with pesticides use	-	-	-	-	-	-	18.1	14.7	42.3
11	Percentage of irrigated plots	-	-	-	-	-	-	3.4	3	26
12	Percentage of plots protected against erosion	-	-	-	-	-	-	72.4	71.8	85.9
13	Percentage of farmers who used improved seeds	-	-	-	-	-	-	22.4	11.8	14.6
14	Percentage of farmers who used organic fertilizer	-	-	-	-	-	-	53.3	47	67
15	Percentage of farmers who used inorganic fertilizers	-	-	-	-	-	-	26.1	23.1	42.4
16	Percentage of farmers who used pesticides	-	-	-	-	-	-	17.6	15	42
17	Percentage of farmers who practiced irrigation	-	-	-	-	-	-	3.1	3.5	26.4
18	Percentage of farmers who practiced anti-erosion activities	-	-	-	-	-	-	72.5	74	86
19	Percentage of land area sown with improved seeds	-	-	-	-	-	-	10.9	6	12
20	Percentage of fertilized land with organic fertilizer	-	-	-	-	-	-	57.2	46.5	70.6
21	Percentage of fertilized land with inorganic fertilizer	-	-	-	-	-	-	26.3	21	56
22	Percentage of land with pesticides application	-	-	-	-	-	-	17.1	14.2	58.9
23	Percentage of irrigated agricultural land	-	-	-	-	-	-	2.8	3	21
24	Percentage of land protected against erosion	-	-	-	-	-	-	76.3	76.0	86.6
25	Total land area (,000Ha)	-	-	-	-	-	-	2,377	2,377	
26	Agriculture land (,000Ha)	-	-	-	-	-	-	1,411	1,415	-
27	Percentage of agricultural area	-	-	-	-	-	-	59.4	59.5	-
28	Arable land							1,149	1,139	
29	Physical cultivated land							1,114	1,106.7	
30	Area under permanent crops (,000Ha)	-	-	-	-	-	-	514	496	-
31	Area under permanent pasture (,000Ha)	-	-	-	-	-	-	147	151	-
32	Modern irrigated agricultural land (,000Ha)	-	-	-	-	-	-	18	21	-
33	Area under seasonal crops(,000Ha)	-	-	-	-	-	-	1,041	1,025	-
34	Temporary fallow land(,000Ha)	-	-	-	-	-	-	108	115	-
35	Temporarily meadow and pasture(,000Ha)	-	-	-	-	-	-	8	8	-
36	Agriculture Gross Value Added / Ha at 2014 constant 2014 prices (Rwf/ha)	**2014/2015**			**2015/2016**			**2016/2017**		**2017/2018**
		708,621			736,679			800,313		850,499

Source: NISR, SAS 2017, 2018 and 2019; National accounts 2015,2016,2017and 2018

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Acronyms and abbreviations

%: Percentage
AHS: Agricultural Household Survey
CAPI: Computer Assisted Personal Interviewing
CIP: Crop Intensification Program
Cs Entry: Census and Survey Processing data collection application
CSPro: Census and Survey Processing System
DAP: Diammonium Phosphate
GIS: Geographic Information System
GPS: Global Positioning System
Ha: Hectares
KCL/MOP: Potassium Chloride or Muriate of Potash
Kg: Kilograms
LFS: Labor Force Survey
LSF: Large-Scale Farmer
MINAGRI: Ministry of Agriculture and Animal Resources
MT: Metric Tones
NA: Not applicable
NAEB: National Agriculture Export Board
NGOs: Non- Governmental Organization
NISR: The National Institute of Statistics of Rwanda
NPK: Nitrogen, Phosphorus and Potassium
NST1: National Strategy for Transformation
PSUs: Primary Sampling Units
SAS: Seasonal Agricultural Survey
Sqm: Square meter
SSF: Small Scale Farmer
SSUs: Second Sampling Units
STATA: Software for Statistics and data Science
Survey 123: Electronic instrument or questionnaire for farmer interview data collection
System, suite of data processing tools

1. Introduction

Agriculture remain the major sector of Rwandan economy with around 2.1 million of agricultural households (AHS2017[2]). 55.3 percent (3,855,029 people) of working age population were involved in agriculture activity (LFS 2018[3]). It is considered as one of priority areas sector for future economic growth and economic inclusion in the current National Strategy for Transformation (NST1). To evaluate the performance of agricultural programs agriculture statistics are needed. Therefore, NISR in collaboration with MINAGRI conduct Seasonal Agricultural Survey (SAS) to cover various needs in agricultural economy of Rwanda.

1.1. Objectives of the Survey

The main objective of the Seasonal Agricultural Survey is to provide timely, accurate, reliable and comprehensive agricultural statistics that describe the structure of agriculture in Rwanda mainly in terms of land use, crop area, yield and crop production to monitor current agricultural and food supply conditions and to facilitate evidence-based decision making for the development of the agricultural sector.

2. Survey design

2.1. Sample design

In order to provide the basis for conducting probability surveys based on complete coverage of the farm level, and as a better way of collecting agricultural data and find better precise survey estimates, SAS uses a Multiple-Frame Sampling (MFS) methodology by which, area frame is constructed and survey sample is drawn. Apart from that, a list frame of large-scale farmers (LSF), with at least 10 hectares of agricultural holdings is done to complement the area frame just to cover crops mostly grown by large scale farmers which are not easily covered in area frame. To construct area frame, the process involves the following two steps: land stratification and sampling of segment.

2.1.1. Stratification

The purpose of stratification is to construct a frame by dividing the land of every district into homogenous land use groups or land use strata among which only strata with potential land for agriculture are taken into consideration for allocating the sample to each stratum. This helps to minimize variability within each stratum and improve precision of estimates. It also helps to allocate sample, where strata that are very homogeneous may get only a small sample, while more heterogeneous strata would have a large sample. Using orthophotos imagery from the Rwanda National Land Center (2008) and Satellite images (World View) from Digital Globe (2010-2016), and basing on land cover, and cropping or livestock activity intensity, the stratification ended up with 10 strata for the whole country as shown in the table 1.

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[2] National Institute of Statistics of Rwanda (NISR), Agricultural Household Survey 2017 report, December 2018

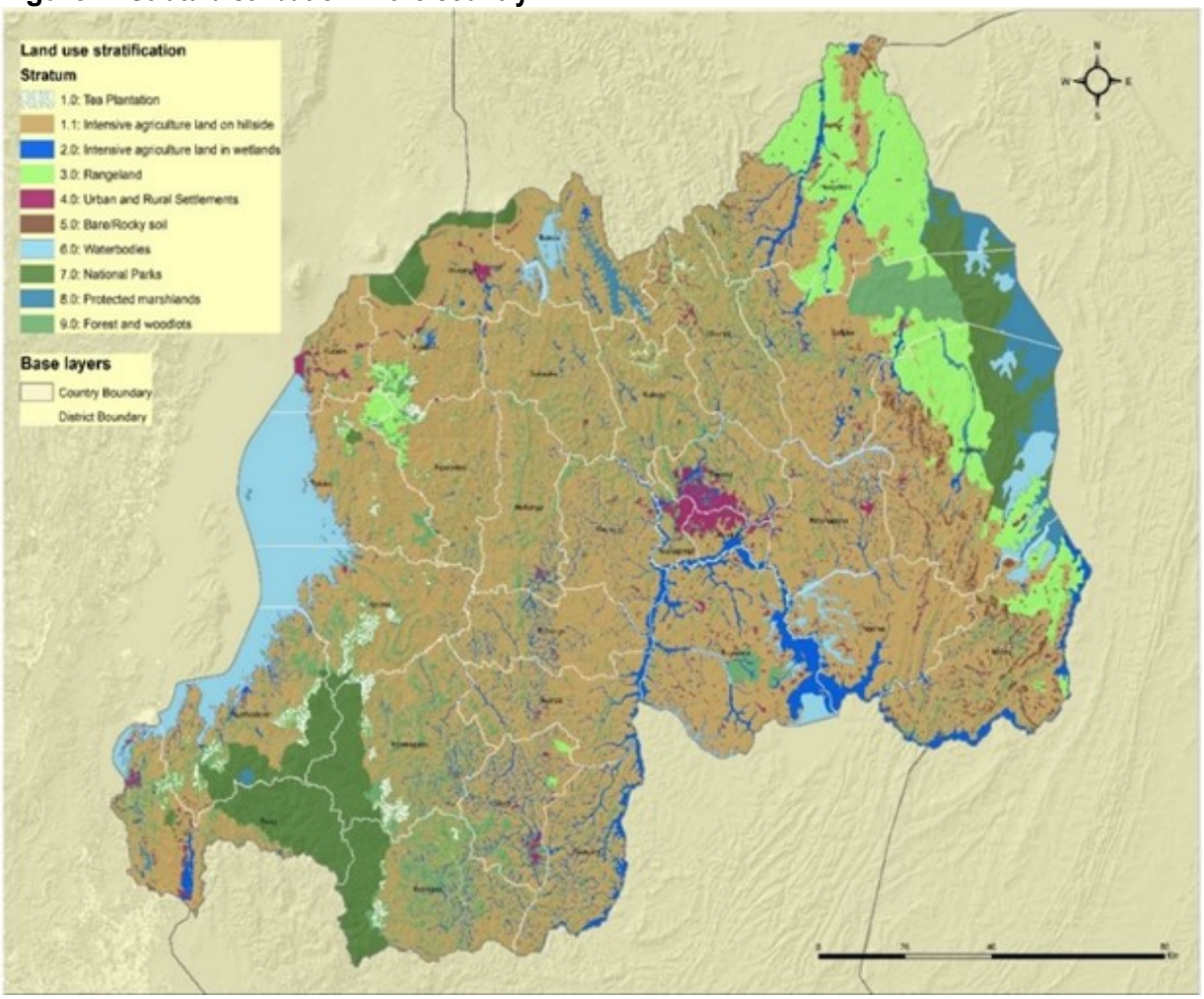
[3] National Institute of Statistics of Rwanda (NISR), Labour Force Survey, Annual report, December 2018

Table 1: List of strata

Stratum Code	Stratum name	Area (Ha)	Percentage share
1.0	Tea plantations	34,262.8	1.4
1.1	Intensive agriculture land on Hillsides	1,448,045.5	57.2
2.0	Intensive agriculture land in marshlands	126,441.3	5.0
3.0	Rangelands area	178,821.6	7.1
4.0	Urban area and rural settlements	56,895.1	2.2
5.0	Non crop land	17,341.3	0.7
6.0	Water bodies	152,304.8	6.0
7.0	National Parks	189,075.1	7.5
8.0	Uncultivated "protected" marshlands	47,224.3	1.9
9.0	Forest and woodlands	278,968.0	11.0

Source: NISR, SAS 2019

Figure 1: Strata distribution in the country



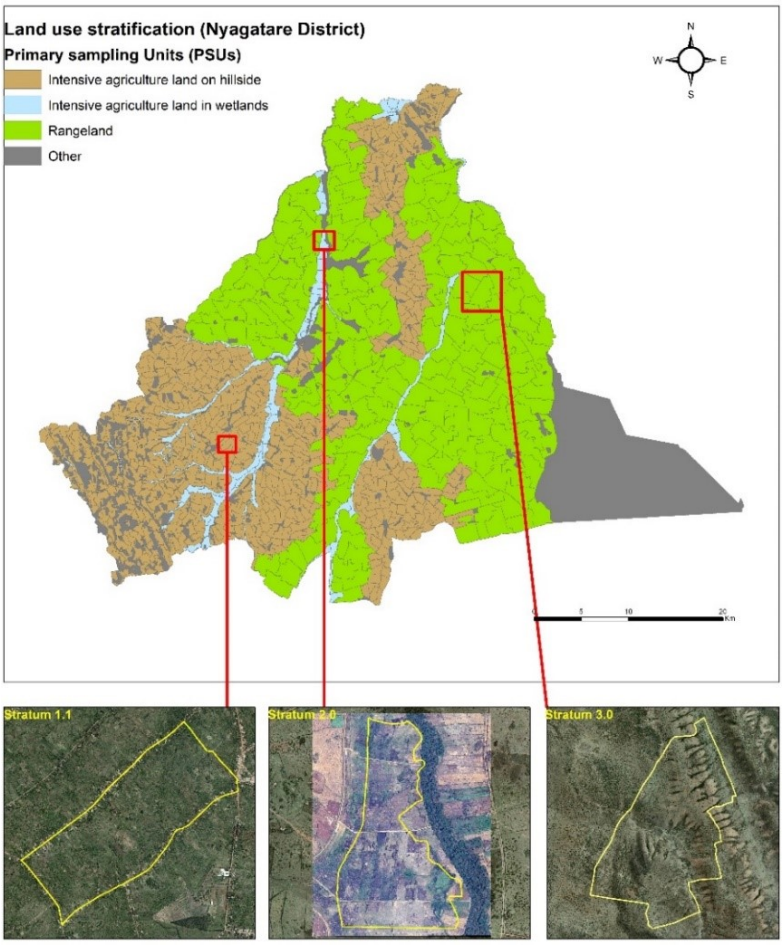
Source: NISR, SAS 2019

2.1.2. Sampling process

Out of 10 strata, only 4 are considered to represent the country land potential for agriculture, and they cover the total area of 1,787,571.2 hectares (ha). Those strata are: 1.0 (tea plantations), 1.1 (intensive agriculture land on hillsides), 2.0 (intensive agriculture land in marshlands) and 3.0 (rangelands). The remainder of land use strata represents all the non-agricultural land in Rwanda. Stratum 1.0, which represents tea plantations, is assumed to be well monitored through administrative records by the National Agriculture Export Board (NAEB), an institution whose main mission is to promote the agriculture export commodities. Thus, SAS is conducted on 3 strata (1.1; 2.0 & 3.0) to cover other major crops.

Within district, the agriculture strata (1.1, 2.0 & 3.0) were divided into larger sampling units called first-step or primary sampling units (PSUs) (as shown in Figure 2). Strata 1.1 and 2.0 were divided into PSUs of around 100 ha while stratum 3.0 was divided into PSUs of around 500 ha. After sample size determination, a sample of PSUs was done by systematic sampling method with probability proportional to size, then a given number of PSUs to be selected for each stratum, was assigned in every district. In 2019, the 2018 SAS sample of 780 segments has been kept the same for SAS 2019 in Season A and B.

Figure 2: Example of 3 strata of Nyagatare District divided into PSUs



Source: NISR, SAS 2019

At first stage, 780 PSUs sampled countrywide were proportionally allocated in different levels of stratification (Hill side, marshland and rangeland strata) for 30 districts of Rwanda, to allow publication of results at district level. Sampled PSUs in each stratum were systematically selected from the frame with probability of selection proportional to the size of the PSU.

Table 2: Number of sampled segments per district

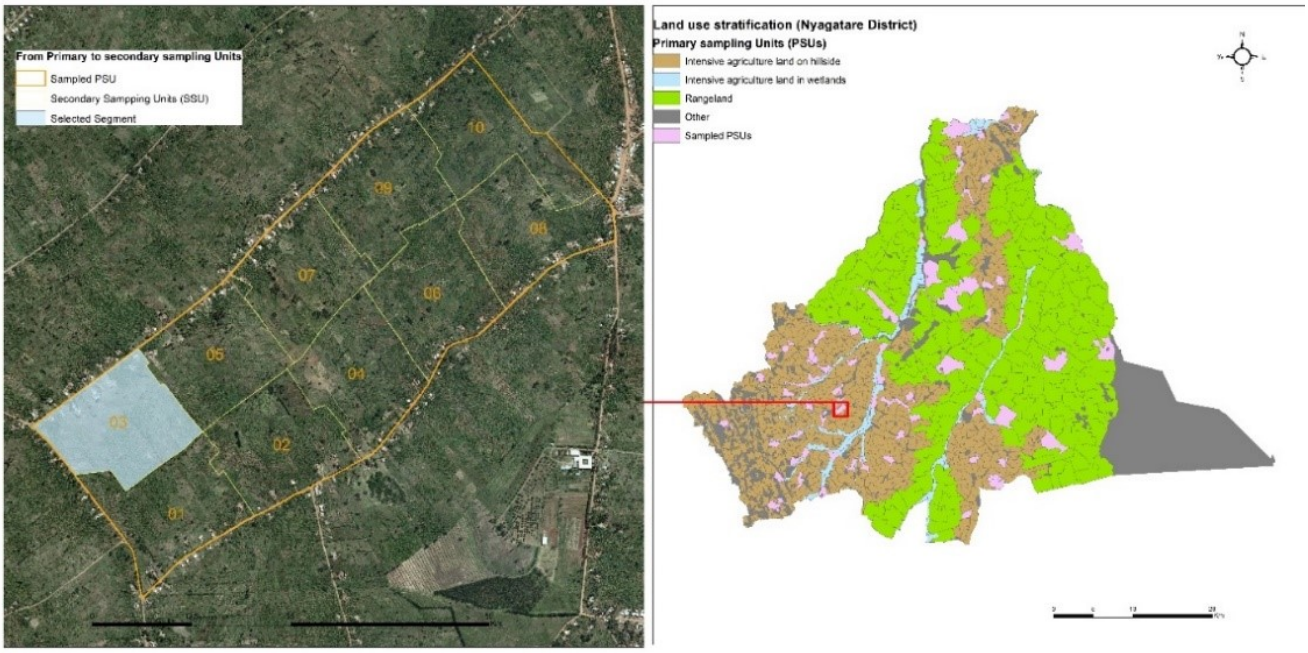
District	Segments (Season A&B)	Total area (in ha)	Share (%)	Segments (Season C)	Total area (in ha)	Share (%)
Nyarugenge	20	201.28	1.82	4	40	1.6
Gasabo	20	198.42	1.80	4	40	1.6
Kicukiro	16	160.43	1.45			
Nyanza	25	248.29	2.25	9	88	3.7
Gisagara	27	270.07	2.45	12	121	5.0
Nyaruguru	20	199.00	1.80	4	40	1.7
Huye	24	321.27	2.91	6	59	2.5
Nyamagabe	20	201.06	1.82	4	40	1.7
Ruhango	20	200.86	1.82	4	40	1.7
Muhanga	20	199.86	1.81	4	39	1.6
Kamonyi	20	203.44	1.84	4	40	1.7
Karongi	20	200.43	1.82	4	40	1.7
Rutsiro	24	395.90	3.59	4	40	1.7
Rubavu	18	263.63	2.39	18	264	11.0
Nyabihu	20	201.73	1.83	20	202	8.4
Ngororero	24	405.60	3.67	4	40	1.7
Rusizi	22	220.78	2.00	6	61	2.5
Nyamasheke	20	201.42	1.82	4	40	1.7
Rulindo	20	200.95	1.82	4	40	1.7
Gakenke	20	198.62	1.80	4	40	1.7
Musanze	20	198.56	1.80	20	199	8.3
Burera	20	198.78	1.80	20	199	8.3
Gicumbi	20	200.77	1.82	4	40	1.7
Rwamagana	24	240.15	2.18	4	40	1.7
Nyagatare	60	1,087.72	9.85	12	120	5.0
Gatsibo	45	1,098.74	9.95	9	94	3.9
Kayonza	53	1,498.21	13.57	4	41	1.7
Kirehe	53	1,173.23	10.63	12	119	4.9
Ngoma	16	160.91	1.46			
Bugesera	49	488.30	4.42	24	240	10.0
Total	**780**	**11,038.4**	**100.0**	**232**	**2,405**	**100.0**

Source: NISR, SAS 2018

At the second stage 780 sampled PSUs were divided into secondary sampling units (SSUs) also called segments. Each segment is estimated to be around 10 ha for strata 1.1 and 2.0 and 50 ha for stratum 3.0 (as shown in Figure 3). For each PSU, only one SSU is selected by random sampling method without replacement. This is why for 2019

SAS season A and B, the same number of 780 SSUs was selected. In addition to this, a list frame of large-scale farmers (LSF), with at least 10 hectares of agricultural holdings, was done to complement the area frame just to cover crops mostly grown by large scale farmers and that cannot be easily covered in area frame

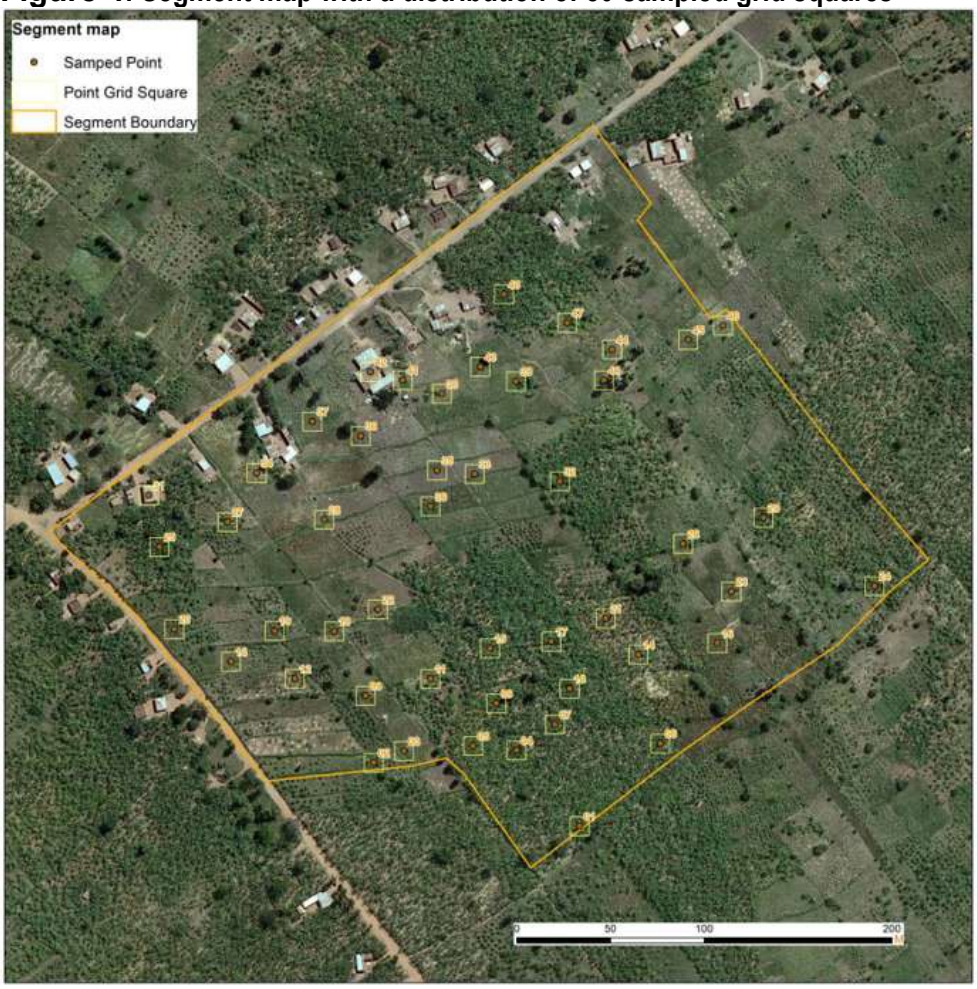
Figure 3: Example of one PSU in stratum 11 of Nyagatare district divided into 10 SSUs



Source: NISR, SAS 2019

At the last sampling stage, in strata 1.1 and 2.0 each segment of an average size of 10 ha (100,000 Square meters) has been divided into around 1,000 grids squares of 100 Sq. meters each, while for stratum 3.0 around 5,000 grids squares of 100 Sq. meters each have been divided. A point was placed at the center of every grid square and named a grid point (A grid point is a geographical location at the center of every grid square). A random sample of 5% of the total grid points were selected in each segment of strata 1.1 and 2.0 whereas a random sample of 2% of total grid points was selected in each segment of stratum 3.0. Grids points are reporting units within a segment, where enumerators go to every grid point, locate and delineate the plots in which the grid falls, and collect records of land use and related information. The recorded information represents the characteristics of the whole segment which are extrapolated to the stratum level and hence the combination of strata within each district provides district area related statistics.

Figure 4: Segment map with a distribution of 50 sampled grid squares



Source: NISR, SAS 2017

2.1.3. Estimation procedures

The SAS is based on a stratified three-stage sample design, with PSUs selected with PPS at the first sampling stage within each land-use stratum. At the second stage one sample segment is selected within each sample PSU, and at the third stage plots are selected based on a sample of grid points. It was shown that the selection of plots based on grid points is equivalent to the selection of plots with probability proportional to size (PPS), with the measures of size based on the physical area of the plot.

Based on the PPS selection of the sample PSUs within each stratum using area as the measure of size, the first stage probability of selection can be expressed as follows:

$$p_{1hi} = \frac{n_h \times A_{hi}}{A_h}$$

where:

p_{1hi} =first stage probability of selection for the i-th sample PSU in stratum (district and land use stratum) h

n_h =number of sample PSUs selected in stratum h

A_{hi} =area of the i-th sample PSU in stratum h

A_h =total area of stratum h

The second stage probability of selection can be expressed as:

$$p_{2hi} = \frac{1}{S_{hi}}$$

Where Shi =total number of segments in the i-th sample PSU of stratum h

The weight of the sample segment is calculated as the inverse of the probabilities of selection for the first two sampling stages, as follows:

$$W_{Shi} = \frac{1}{p_{1hi} \times p_{2hi}}$$

The third stage probability is calculated at the plot level based on the assumption that the plots within each sample segment were implicitly selected by PPS using the area of the plot as the measure of size. Therefore, the third stage probability of selection can be expressed as follows:

$$p_{3hij} = \frac{g_{hi} \times A_{hij}}{A_{hi} \times g_{hij}}$$

where: g_{hi} =number of grid points selected in the sample segment in the i-th sample PSU of stratum h

A_{hij} =area (in ha.) of the j-th sample plot selected in the sample segment in the i-th sample PSU of stratum h

A_{hi} =area (in ha.) of the sample segment in the i-th sample PSU of stratum h

g_{hij} =number of selected grid points in the j-th sample plot of the sample segment in the i-th sample PSU of stratum h (that is, number of "hits" for the sample plot)

The final weight of a sample plot is equal to the weight of the segment times the inverse of the third stage probability of selection:

$$W_{Phij} = W_{Shi} \times \frac{1}{p_{3hij}}$$

where: W_{phij} = weight for the j-th sample plot in the sample segment of the i-th sample PSU in stratum h

2.2. Data Collection design

Data collection is done in two distinct phases: The first phase, known as screening activity, consists of visiting all sampled segments and delineating all plots in which the sampled grids points are fallen and thereafter recording the related information. The second phase consists of visiting the sub-sampled agricultural plots from screened plots in first phase as well as all Large-Scale Farmers having cultivated plots in the season the survey is being conducted. SAS 2019 used 153 fieldworkers and 22 team leaders. All fieldwork staff in 2019 held a degree in agriculture sciences and were trained by NISR headquarter staff before starting data collection. Higher level supervision staff from NISR visited the field teams during each phase of data collection to ensure data quality control.

2.2.1. Time frame

Data collection is done three times a year, following three agricultural seasons:

- Season A starts in September and ends with February of the following year
- Season B starts in March and ends with June of the same year; and
- Season C starts in July and ends in September of the same year.

Season A data collection was done from 02nd December 2018 to 09th February 2019. Season B data was collected from 05th May to 23rd June 2019; while in Season C, field work was done from 8th to 27th September 2019. Data collection was done in 780 segments and 222 large scale farmers holdings for Season A, whereas in Season C data was collected in 232 segments.

2.2.2. Data collection tools and materials

Seasonal agricultural survey uses two main questionnaires:

- **Screening Questionnaire:** Screening questionnaire is a form used to collect information on the sampled plot mainly related to land use, plot area and crop cultivated.
- **Plot Questionnaire:** Plot questionnaire is a form used to collect information on the sampled plot mainly related to crop production, inputs used (seeds, fertilizers, labor …), and agricultural practices.

The computer assisted personal interview (CAPI) data collection methodology was used based on three different software applications: "Collector" which is GIS based and is used to help identify and navigate the enumerator team to the exact GPS point-sample location and for mapping the plot boundary for GIS area determination, "survey 123" which is an electronic instrument or questionnaire for farmer interview data collection, and "CS Entry" which is a CSPro data entry application used on Android tablets and suite of data processing tools.

Each enumerator and team leader had adequate materials composed of enumerator's instruction manual, android tablet, charger, Power banks, pens, notebooks, pencils, calculator, weighing scales, Global Positioning System (GPS), boots, etc. Teams were given vehicles for transport facilitation.

2.2.3. Field data collection procedures

Before proceeding to the field, enumerators and their team leaders have to check if they have required materials for their fieldwork. All field enumeration team members and staff are required to arrive early in the field for both segment and interviews with the LSF. For each segment, enumerators are required to first familiarize themselves with the segment boundaries. They use their tablet GPS to guide them to each of the point-sampled and automatically record the geographical coordinates and the time/date stamp at each point-sample within the segment during the enumeration process to know the actual time of the fieldwork.

- **Screening Activity of the Segment:** After locating and identifying segment boundaries, enumerators team proceeds to let their tablet GPS guide them to locate accurately each of the sampled grid points inside the segment. Arriving at the point, enumerators identify plot boundary with the guide of the farmer and delineate the plot using collector with GPS connected to the tablet. For large scale farmers, complete enumeration of plots with at least 10 hectares is done.

- **Farm Interview:** After screening activity, only subsampled plots are given to enumerators to collect information provided in the plot questionnaire.

2.3. Data processing and analysis

CAPI data collection method allows the enumerators in the field to collect and enter data with their tablets and then synchronize them to the server at headquarter where data are received by NISR staff, checked for consistency at NISR and thereafter transmitted to analysts for tabulation and reporting using STATA and Excel software.

2.4. Concepts, definitions and estimation methods

1. Total land area

Total land area at district level is the district area excluding area under inland water bodies. The definition of inland water bodies generally includes major rivers and lakes.

2. Agricultural area

Agricultural area includes arable land, land under permanent crops and permanent pasture.

3. Arable land

Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted only once), temporary meadows for mowing or pasture, land under market and kitchen gardens and land temporarily fallow (less than five years). The abandoned land resulting from shifting cultivation is not included in this category. Data for arable land are not meant to indicate the amount of land that is potentially cultivable.

4. Permanent crop land

Permanent crops are sown or planted once, and occupy the land for some years and do not need to be replanted after each annual harvest, such as cocoa, coffee and rubber. This category includes flowering shrubs, fruit trees, nut trees and vines, but excludes trees grown for wood or timber. The following crops are considered as permanent crops in SAS: Cooking banana, Dessert banana, Banana for beer, Avocado, Coffee, Sugar cane, Macadamia, Olive, Mango, Apple, Papaya, Orange, Lemon, Guava, Mulberry, Stevia, Jatropha, Palm, and Tea.

5. Permanent pasture land

Land used permanently (five years or more) for herbaceous forage crops, either cultivated or growing wild (wild prairie or grazing land).

6. Irrigated agricultural land

Area equipped for irrigation which is actually irrigated, (sometimes expressed as a percentage of the total land area). Part of the area equipped for irrigation refers to area equipped to provide water to crops and includes areas equipped for full/partial control irrigation, equipped lowland areas, and areas equipped for spate irrigation. Part of the area equipped for irrigation which is actually irrigated refers to physical areas. Irrigated land that is cultivated more than once a year is counted only once.

7. Physical area

Physical area refers to the total area of the plot as physically measured. The physical agricultural area in a district is estimated by aggregating all weighted individual agricultural plots area for that district.

8. Crop area (cultivated area)

Crop area refers to the area occupied by a given crop in a plot considering its density or occupation. In context of Rwanda as well as many African countries, mixed cropping system is a general practice in agriculture. This practice makes it complex to estimate area under crop cultivation. In case of pure stands (for crop completely covering a plot), crop area is equal or less to physical plot area (if a crop is partially covering the plot, the share is estimated then applied to the plot area). In case of mixed crops, the share of each crop in the plot is estimated by enumerator by eye estimation method and applied to the physical area of the plot to obtain area for each specific crop planted in plot. In this context, the crop share is eye estimation of crop density or occupation in a plot (in %)

basing on spacing between plants. Cultivated area at district level is equal to the total weighted crop areas within plots in the whole district.

Examples

- In case of pure stands, crop area will be equal to the physical area if the crop entirely covers the whole plot. Otherwise, the crop area will be less than physical area. For example, a plot of 1 hectare in which maize was grown and completely occupies the whole plot (100 % occupied), it means that cultivated area for maize is 1 hectare. On the other side let us assume that the maize crop occupies 80 % of the total plot area. In that case the area of maize equals 0.8 hectares (1hectare times 0.8).

- In case of mixed cropping system, specifically seasonal crops the crop area is less than physical area. For example, a plot of 1 hectare grown with maize and beans which occupies 60 % and 40 % of total plot area respectively. The maize area will be 0.6 hectare (1hectare times 0.6), and beans area will be 0.4(1hectare times 0.4). It is important to note that sum of shares of seasonal crops do not exceed one hundred percent.

- When seasonal and perennial crops are mixed together in same plot, due to the fact that perennial crops are permanent crops in nature, their shares are treated separately from seasonal crops. The sum of seasonal crops share does not exceed 100 %, while for perennial crops shares are given based on density (spacing between trees) and it may exceed 100 percent. For example, a plot of 1 hectare grown with maize, bean and cassava with 60 %, 40 % and 50% shares respectively. Maize area will be 0.6 hectare (1hectare times 0.6), beans area will be 0.4(1hectare times 0.4), while cassava area will be 0.5 hectare (1hectare times 0.5).

9. Developed area

Developed area is the land covered by crops. Due to mixed cropping (over exploitation of agriculture land or under exploitation in case pure cropping), developed area can be less or greater than the physical area. Basing on the example provided above of the plot in which maize, beans and cassava have been mixed, maize has 0.6, beans has 0.4 while cassava has 0.5 ha. The developed area equals the sum of the crops area equivalent to 1.5 ha.

10. Harvested area

Area harvested is defined as the total number of hectares for all crops that is harvested in a given agriculture season. In case of crops considered as seasonal, the harvested area is assumed to be equal to the cultivated area. For perennial crops a farmer can decide to harvest a portion of land and stores the remaining production in the farm or harvest the whole plot for commercial or other purposes. In this case, the proportion of harvested area is estimated and applied to the plot area to obtain actual harvested area. For example, cassava which occupies 0.5 hectare has 5,000 trees of cassava. In agriculture Season B, if the farmer only harvested 1,250 trees. In this case, the farmer harvested only a quarter (0.125hectares) of the cultivated area.

11. Crop yield

Crop yield, as one of the agriculture indicators, is defined as total reported quantity of harvested crop over the harvested area of that crop.

12. Crop production

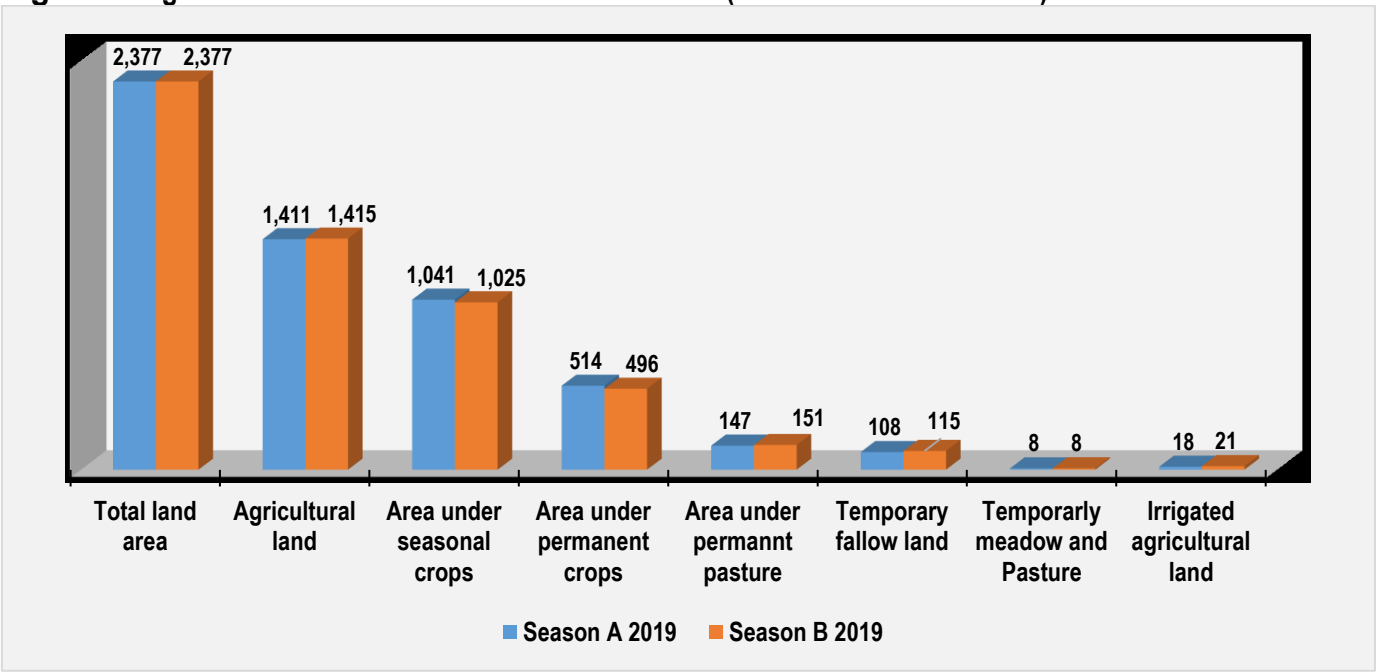
Crop production is the product of crop yield and crop area (harvested). At district level, crop production is estimated by taking crop yield of crop produce times total harvested area in the district.

3. Results of SAS 2019

This section highlights key results of SAS 2019 season A, B and C, related to area (physical land use, cultivated area, and harvested area), crop yield and production, agricultural inputs, agricultural practices and agricultural land status and tenure in Rwanda

3.1. Agricultural land use (1000Ha) in Season A and B 2019

Figure 5: Agricultural land use for Season A and B 2019 (in thousards of hectares)



Source: NISR, SAS 2019

Results show that, in 2019, the agricultural land was estimated at 1.4 million hectares equivalent to around 60% of the total country land. Out of the total agricultural land, 1.04 million hectares was used for Seasonal crops in season A compared to 1.02 in season B; 0.5 million hectares are area under permanent crops, 0.15 million ha under permanent pasture. Only 18 thousand hectares of cultivated land in Season A and 21 hectares in season B 2019 was irrigated with modern irrigation techniques (See district details in table 4 and 5).

3.2. Crop area, yield and production for major crops

Maize:

- In Season A 2019, maize cultivated area was estimated at 215,159 ha, down 1% compared to 2018 season A estimates. Total production was estimated at 331,090 MT, slightly the same as the one for 2018 season A. The average yield of maize was estimated at 1,647 kilograms per hectare (See district details in Table 7,10,13,16 and 18).
- In Season B 2019, maize cultivated area was estimated at 73,139 ha, down 6% compared to 2018 season B estimates. Total production was estimated at 90,128 MT, a decrease of 2% from 2018 season B estimates. The average yield of maize was estimated at 1,183 kilograms per hectare (See district details in Table 8,11,14,17 and 19).

Sweet potato:

- In Season A 2019, sweet potato cultivated area was the estimated a t 97,639 ha and had an increase of 12 percent change compared to 2018 season A area estimates. Sweet potato production was 674,257 MT with an increase of 2 percent compared with 2018 season A production estimates. The average sweet potato yield was estimated at 6,918 kilograms per hectare (See district details in Table 7,10,13,16 and 18).
- In 2019 Season B, sweet potato cultivated area was the estimated at 80,919 ha and had an increase of 1 percent change compared to 2018 season B area estimates. Sweet potato production was 546,788 MT with slight increase of 10 percent compared with 2018 season B production estimates. The average sweet potato yield was estimated at 6,757 kilograms per hectare (See district details in Table 8,11,14,17 and 19).

Irish potatoes:

- In 2019 Season A, Irish potato cultivated area was the estimated at 49,728 ha and had a decrease of 2 percent change compared to 2018 season A estimates. Irish potato production was 468,931 MT with the increase of 7 percent compared with 2018 season A estimates. The average yield of Irish potato was estimated at 9,953 kilograms per hectare (See district details in Table 7,10,13,16 and 18).
- In 2019 Season B, Irish potato cultivated area was the estimated at 49,244 ha and had a decrease of 19 percent change compared to 2018 season B estimates. Irish potato production was 422,266 MT with the increase of 7 percent compared with 2018 season B estimates. The average yield of Irish potato was estimated at 8,688 kilograms per hectare (See district details in Table 8,11,14,17 and 19).

Cassava:

- In Season A 2019, cassava cultivated area was the estimated at 195,135 and remained almost the same as 2018 season B estimates. Cassava production was 523,117 MT with the increase of 8 percent compared with 2018 season A estimates. The average yield of cassava was estimated at 14,153 kilograms per hectare (See district details in Table 7,10,13,16 and 18).
- In Season B 2019, cassava cultivated area was the estimated at 187,511 ha and had 1 % decrease change recorded compared to 2018 season B estimates. Cassava production was 658,708 MT with the increase of 3 percent compared with 2018 season B estimates. The average yield of cassava was estimated at 14,842 kilograms per hectare (See district details in Table 8,11,14,17 and 19).

Paddy rice:

- In Season A 2019, rice cultivated area was estimated at 14,671 ha, and has known and decrease of 13 percent compared to the 2018 season A records. Paddy rice production was 59,286 MT with an increase change of 2 percent from the 2018 season A estimates. The average yield of paddy rice is estimated 4,041 kilograms per hectare (See district details in Table 7,10,13,16 and 18).
- In 2019 Season B, rice cultivated area was estimated at 18,225 ha, and has known an increase of 9 percent compared to the 2018 season B records. Paddy rice production was 72,291 MT with a considerable increase change of 29 percent from the 2018 season B estimates. The average yield of paddy rice is estimated 4,008 kilograms per hectare (See district details in Table 8,11,14,17 and 19).

Banana:

- In Season A 2019, banana cultivated area was estimated at 253,996 ha, and had an increase of 13 percent compared to the 2018 season A records. Banana production was 1,020,141 MT with an increase of 7 percent

change from the 2018 season A estimates. The average yield of banana was estimated at 12,362 kilograms per hectare (See district details in Table 7,10,13,16 and 18).

- In 2019 Season B, banana cultivated area was estimated at 236,417 ha, and had an increase of 2 percent compared to the 2018 season B records. Banana production was 830,491 MT with an increase of 2 percent change from the 2018 season B estimates. The average yield of banana is estimated 11,113 kilograms per hectare (See district details in Table 8,11,14,17 and 19).

Beans:

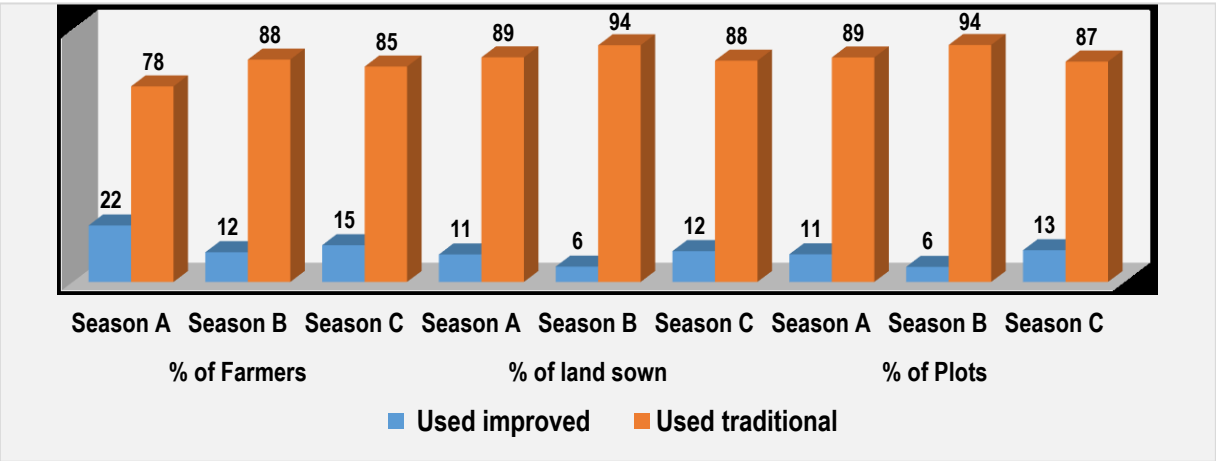
- In 2019 Season A, beans cultivated area was estimated at 299,443 ha, and had an increase of 4 percent from 2018 season A records. Beans production was 252,569 MT, with slight increase of 1 percent change from the 2018 season A estimates. The average yield of beans was estimated at 891 kilograms per hectare (See district details in Table 7,10,13,16 and 18).
- In 2019 Season B, beans cultivated area was estimated at 282,099 ha, and had an increase of 5 percent from 2018 season B records. Beans production was 230,744 MT, down slightly 1 percent change from the 2018 season B estimates. The average yield of beans was estimated at 841 kilograms per hectare (See district details in Table 8,11,14,17 and 19).

3.3. Agricultural inputs

- Findings related to use of agricultural inputs (seeds, fertilizers and pesticides) in 2019, are presented in terms of percentage of farmers who used such agricultural inputs, percentage of land area under inputs application, and percentage of plots inputs use.

3.3.1. Use of seeds

Figure 6: Use of improved and traditional seeds in 2019 (in percentage)

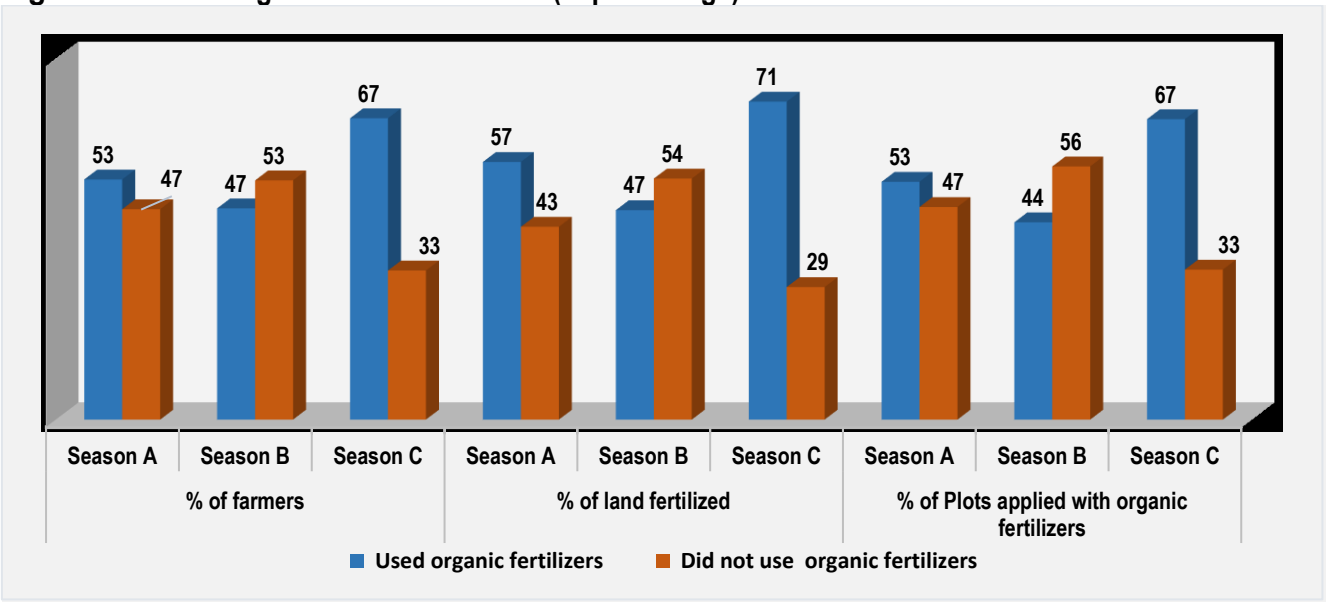


Source: NISR, SAS 2019

Results show that, improved seeds was sown on 11% and 6% of cultivated plots in Season A and B respectively representing 11% and 6% of total cultivated land size in season A and B respectively. In regards to farmers, this represents 22% and 12% of farmers for season A and B respectively. Most of improved seeds came from agro-dealers (40.4% in season A, 34.6% in season B, and 42.6% in season C (See district details in Table 28, 29,30,31,32 and 33).

3.3.2. Use of organic fertilizer

Figure 7 : Use of organic fertilizers in 2019 (in percentage)

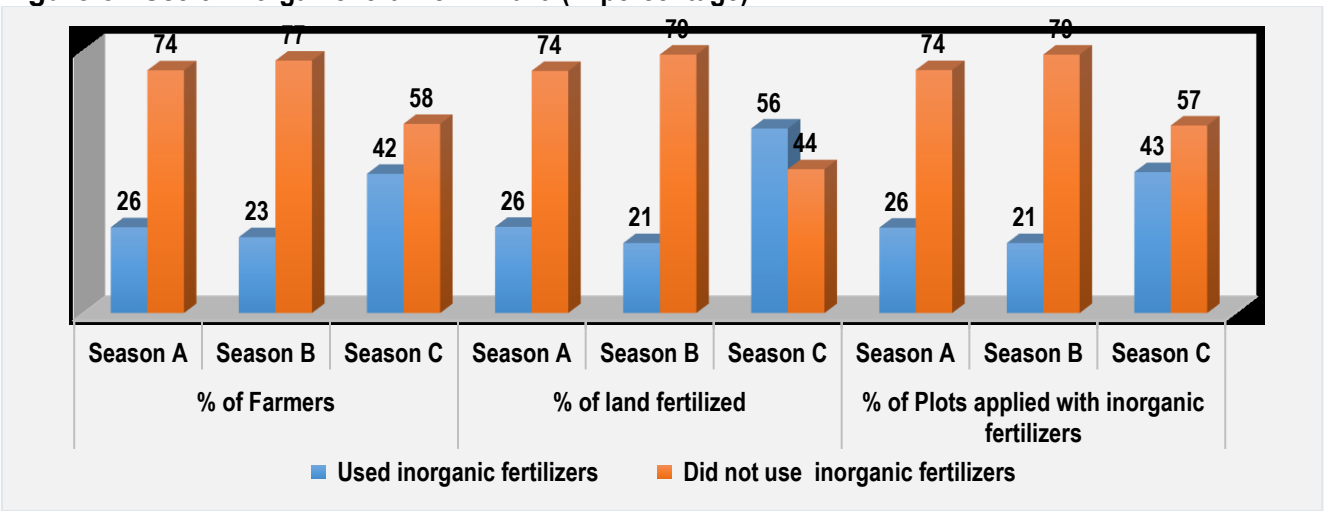


Source: NISR, SAS 2019

Results show that organic fertilizer was applied on 53% and 44% of cultivated plots in Season A and B respectively. This correspond to 57% and 47% of total cultivated area in season A and B respectively. In regards to number of farmers who applied the organic fertilizer, 53% and 47% have applied the organic fertilizer in season A and B respectively.

3.3.3. Inorganic fertilizer

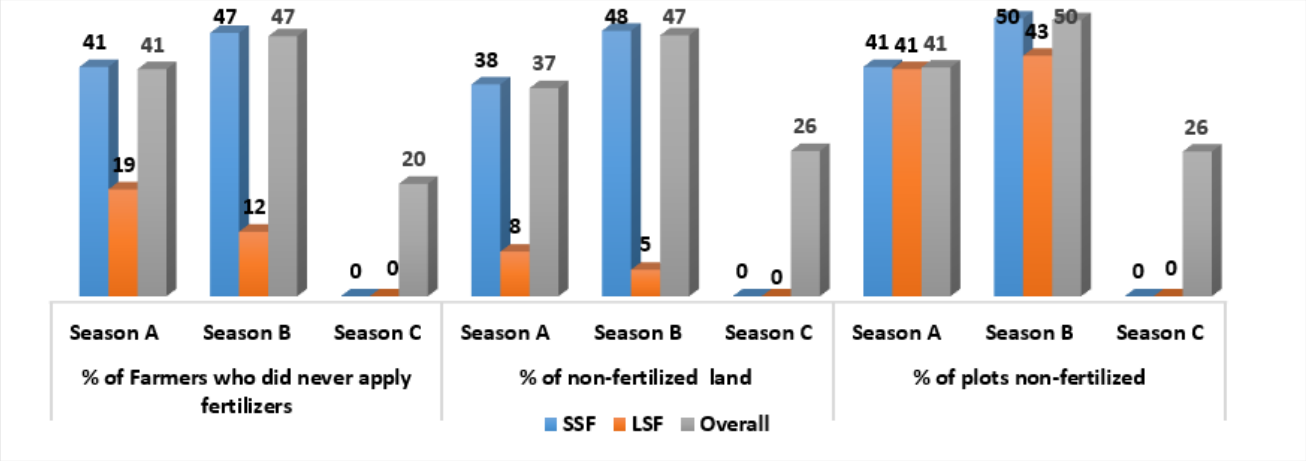
Figure 8 : Use of inorganic fertilizer in 2019 (in percentage)



Source: NISR, SAS 2019

Results show that inorganic fertilizer was applied to 26% and 21% of cultivated plots in Season A and B respectively, corresponding to 26% and 21% of total cultivated area in season A and B respectively and 26% and 23% of farmers in season A and B respectively. DAP was most used in Season A (41%) and B (36%), followed by UREA (36% and 29%) and NPK (18% and 28.5%). In Season C NPK was mostly used (49.2%) followed by DAP (23.1%) and UREA (22.3%).

Figure 9: Level of non-use of fertiliser (organic and inorganic fertilizer) in 2019 (in %)

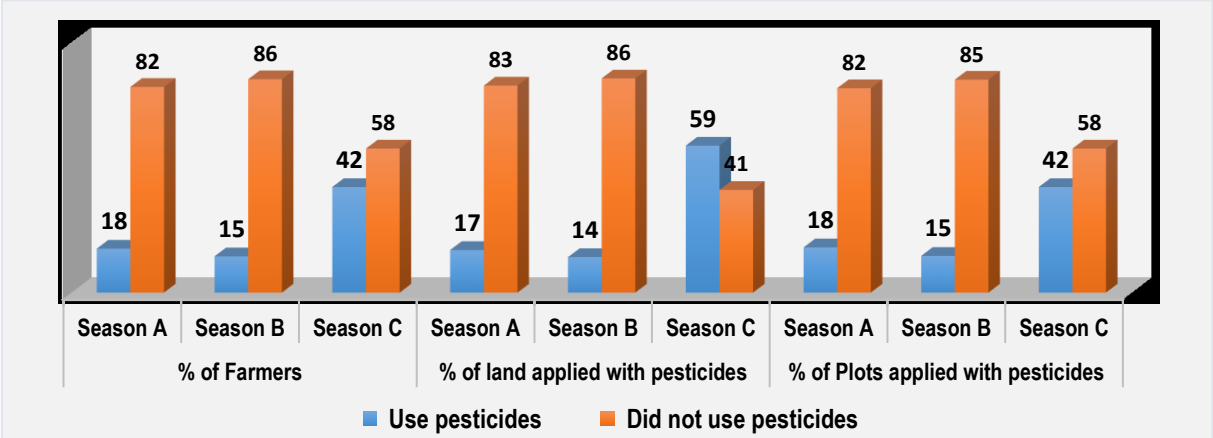


Source: NISR, SAS 2019

The figure above shows that 41% and 47% of famers did not use fertilizer in season A and B respectively. This represent 37% and 47% of cultivated land in season A and B respectively, thus 41% and 50% of cultivated plots in season A and B respectively. This problem was most predominant on small scale farmers and this leads to low productivity.

3.3.4. Use of pesticides

Figure 10 : Use of pesticides in 2019 (in percentage)



Source: NISR, SAS 2019

Results show that pesticide was applied to 18% and 15% of cultivated plots in Season A and B respectively, corresponding to 17% and 14% of cultivated land in season A and B. In regards to number of farmers, pesticides

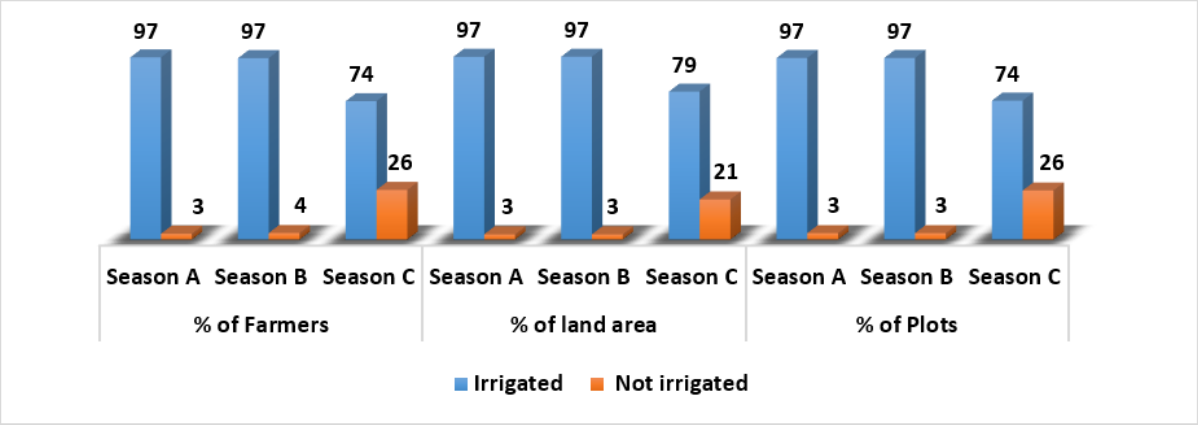
were used by 18% and 15% of farmers in Season A and B respectively. Dithane was most used in Season A (23.9%), B (32.0%) and C (41.7%), followed by Cypermethrin (19.4% in A, 22.3% in B and 22.3% in season C) and Rocket (19.1% in A, 18.7% in B and 18.7% in season C).

3.4. Agricultural Practices

Results related to agricultural practices (irrigation and erosion control) in 2019, are presented in terms of percentage of farmers, land area and plots.

3.4.1. Irrigation practices

Figure 11: Practice of irrigation in 2019

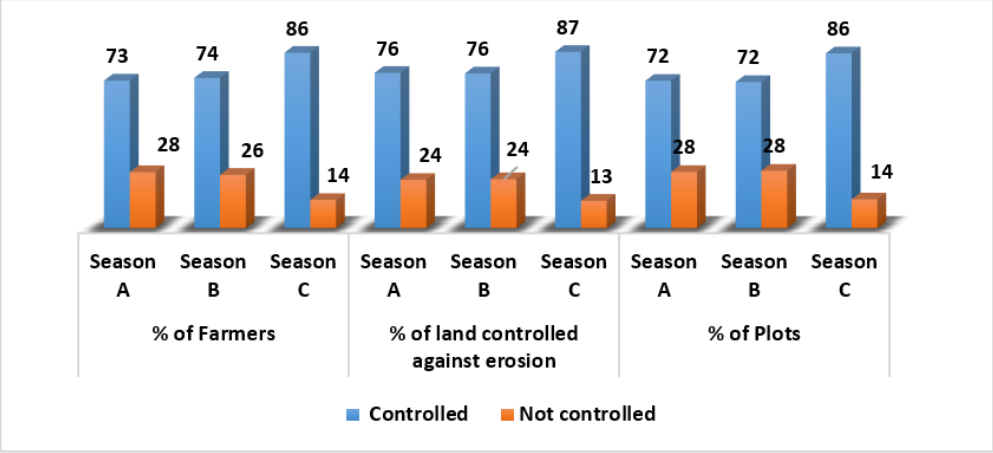


Source: NISR, SAS 2019

Results show that, 3% and 4% of farmers irrigated their land in season A and B respectively, and this correspond to 3% of cultivated area in both seasons and 3% of cultivated plots in both seasons. Traditional irrigation method is still the most used method used in Rwanda with 51% in Season A, 46% in Season B and 95% in Season C. Stream/lake water was the most important source of water used for irrigation of crops (See district details in Table 45,46,47,48,49 and 50).

3.4.2. Erosion control measures

Figure 12 : Practice of anti-erosion control measures in 2019



Source: NISR, SAS 2019

Results show that in 2019 erosion control measures were applied to around 72% of cultivated plots in Season A and B corresponding to around 76% of total cultivated area in both seasons and it was done by 73% and 74% of farmers in season A and B respectively. Results show further that 88% of plots faced low erosion (splash erosion, wind erosion), 10% faced moderate erosion (diffuse overland flow erosion, overland flow erosion), while the rest faced severe erosion (Rill erosion, gully erosion, mass movement/landslides). (See district details in Table 51,52,53,54 and 55).

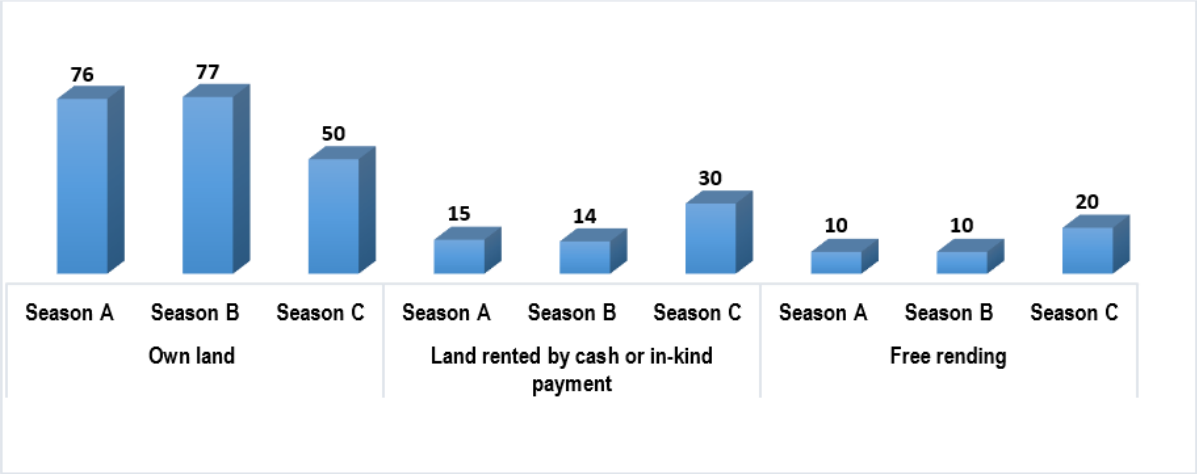
3.5. Sowing dates

SAS 2019 Season A results indicate that 31.7 % of crops were sown before September 2018(those crops include mostly banana, cassava, taro and rice), 32.4 % of crops were sown September 2018, 23.3.0 % in October 2018 while the rest of crops have been sown after October 2018. For 2019 season B, 30.9 % of the crops have been sown before January 2019, 11.4 % in January 2019, 26.9 % in February 2019, 26.1 % in March 2019 while the rest was sown after 31/3/ 2019. For Season C 2019, 35.1 % of crops were grown in June 2019 and 31.6 % in July 2019 (See district details in Table 24 and 25).

3.6. Land status and Tenure

Results from figure 13 show that land ownership was at 76% and 77% in Season A and B respectively, land rented by cash or in-Kind payment was around 15% and 14% in season A and B respectively, while free rending of land was around 10% in both seasons. (See district details in Table 56 and 57).

Figure 13: Agricultural land ownership



Source: NISR, SAS 2019

3.7. Gross Value Added (GVA)

Table 3 shows the Gross Value-Added value of different crops in current prices. It is revealed that in 2018 the gross added value of crops, such as maize, cooking banana, dessert banana, groundnuts and soybean, were increased comparing to the 2018 year.

Table 3: Main crops Gross Value Added in current prices (Value RWF per ha)

Crop name	2015	2016	2017	2018
Sorghum	287,157	290,457	405,456	325,105
Maize	240,241	274,620	275,805	298,617
Wheat	286,658	245,098	296,963	281,592
Paddy rice	2,269,385	2,165,030	2,932,325	2,733,423
Irish potato	1,083,057	1,449,409	1,787,205	1,493,880
Sweet potato	658,185	766,847	936,594	711,444
Cassava	279,090	384,400	849,635	775,041
Beans	343,667	352,404	357,121	312,606
Pea	330,864	545,926	477,748	280,124
Banana for beer	414,587	492,776	837,380	762,591
Cooking banana	735,558	779,767	1,272,422	1,839,108
Dessert banana	720,062	836,628	1,222,897	1,371,102
Groundnuts	191,745	202,714	223,864	252,331
Soybeans	105,788	94,058	101,512	101,768

Source: NISR, SAS 2019

MAIN TABLES

Table 4: Season A 2019_Agricultural land use per district (,000Ha)

District	Total land area	Agricultural land	% of agricultural land	Arable land	Physical cultivated land	Area under seasonal crops	Area under permanent crops	Temporary fallow land	Temporarily midow and pasture	Area under permanent pasture	Modern irrigated agricultural land
Nyarugenge	13.1	6.4	48.9	4.4	5.4	3.8	3.6	0.6	0.4	-	0
Gasabo	42.7	24.1	56.4	23.0	20.4	21.3	10.7	1.7	1.5	0.6	0.2
Kicukiro	16.6	6.4	38.6	5.8	5.8	5.3	2.6	0.5	0.1	0.1	0.1
Nyanza	67.1	46.6	69.4	40.3	37.6	33.9	14.1	6.4	0.2	2.3	0.8
Gisagara	67.3	44.1	65.5	42.4	38.9	37.9	20.2	4.5	0.6	0.1	1.7
Nyaruguru	100.7	28.9	28.7	24.3	20.4	20.3	12.2	4	0.7	0.1	0
Huye	58.1	29.3	50.4	27.4	23.5	22.4	9.9	4.9	0	0.8	0.9
Nyamagabe	109.1	42.7	39.1	34.1	31.0	29.4	16.6	4.7	0.1	0.6	0
Ruhango	62.6	45.5	72.7	42.1	39.9	36.5	14	5.6	0.1	-	0.9
Muhanga	64.4	43.1	66.9	40.6	40.6	38.2	29.1	2.4	0.1	-	0.3
Kamonyi	65.8	48	72.9	44.2	44.6	41.4	24.9	2.9	0.2	0.4	0.2
Karongi	78.9	43.8	55.5	32.4	33.8	29.2	22.9	3.2	0.1	-	-
Rutsiro	66	42.3	64.1	33.5	32.7	29.3	15	4.2	0.1	3.7	-
Rubavu	33.8	21.6	63.9	20.0	16.2	16.1	1.8	3.9	0.2	1	-
Nyabihu	53.6	33.6	62.7	30.5	29.0	28.2	6.3	2.3	0.1	0.4	-
Ngororero	67.5	44	65.2	36.4	37.7	34.2	19.5	2.3	0.2	2.4	-
Rusizi	91.4	37.2	40.7	34.4	34.6	32.9	12.8	1.5	0	-	1.5
Nyamasheke	94.8	38	40.1	26.3	28.8	25	21.2	1.3	0.4	-	0.3
Rulindo	56.7	34	60	31.6	31.8	31	20.1	0.6	0.1	0	0
Gakenke	70.1	45.7	65.2	43.0	44.1	41.7	23	1.3	0.3	-	-
Musanze	50.9	27.6	54.2	25.9	25.0	25.2	2.4	0.8	0.3	1.6	0
Burera	58.4	35.4	60.6	35.1	34.4	34.4	5	0.8	0.1	0.1	-
Gicumbi	82.5	61.1	74.1	56.9	53.9	53	21.7	3.9	0.2	0.6	-
Rwamagana	65.3	46.1	70.6	39.7	40.1	38.2	23.5	1.5	0.9	3.6	0.5
Nyagatare	191.1	151.8	79.4	82.7	79.7	77.6	28.3	5.1	0	67	3.2
Gatsibo	153.6	79.7	51.9	55.8	61.2	54.1	28.3	1.7	0.1	16.6	1.5
Kayonza	179.2	94.1	52.5	58.2	56.0	51.1	23.2	7.1	0.1	31	1.5
Kirehe	114.9	70.3	61.2	57.5	61.7	54.5	33.5	3	0.1	5.5	2.4
Ngoma	80.5	55.7	69.2	49.7	49.6	47.1	26.2	2.6	0	3.5	0.8
Bugesera	120.4	84.2	69.9	70.2	55.4	47.8	21.5	22.4	0.9	5.5	1.3
National	**2377**	**1411**	**59.4**	1,149	1,114	**1,041.0**	**514**	**107.7**	**8.1**	**147**	**18**

Source: NISR, SAS 2019

Table 5: Season B 2019_Agricultural land use per district (,000Ha)

District	Total land area	Agriculture Land	% of agriculture area	Arable land	Physical cultivated land	Area under Seasonal crops	Area under Permanent crops	Temporary fallow land	Temporarily midow and Pasture	Area under Permanent pasture	Irrigated agricultural land
Nyarugenge	13.1	6	46.1	4.2	5.2	3.3	3.3	0.9	-	-	0.1
Gasabo	42.7	23.9	55.9	22.7	19.9	20.4	10	2.3	1.1	0.6	0.3
Kicukiro	16.6	6.3	38.1	5.8	5.7	5.3	2.6	0.6	0	0.1	-
Nyanza	67.1	47	70.1	40.4	37.1	34.1	13.5	6.3	0.3	3.3	0.9
Gisagara	67.3	46.7	69.4	44.1	39.2	36.7	16.2	7.4	0.1	0.1	3.6
Nyaruguru	100.7	28.6	28.4	24.0	21.1	20.6	11.1	3.4	0.5	0.1	0
Huye	58.1	29.7	51.2	28.2	24.9	24.1	8.9	4.1	0	0.7	1.6
Nyamagabe	109.1	42.7	39.2	34.3	31.7	30.3	18	4.1	0.1	0.6	0.1
Ruhango	62.6	45.9	73.3	43.6	41.1	38.9	14.9	4.7	0.1	-	1.2
Muhanga	64.4	43	66.8	39.3	39.8	36.6	27.5	2.7	0.2	0.2	0.1
Kamonyi	65.8	47.9	72.9	43.4	43.5	39.5	24.4	3.9	0.2	0.4	0.2
Karongi	78.9	44.3	56.1	34.6	33.2	30.7	23.2	3.9	0.3	0.1	-
Rutsiro	66	41.9	63.4	31.3	31.2	26	14.5	5.3	0	3.7	-
Rubavu	33.8	18.7	55.5	17.0	15.8	15.8	1.8	1.2	0.4	1	-
Nyabihu	53.6	33.6	62.7	30.3	24.8	24.2	6.5	6.1	0.4	0.4	-
Ngororero	67.5	42.7	63.3	34.5	34.1	29.9	18.1	4.5	0.2	2.5	-
Rusizi	91.4	37.2	40.7	33.7	33.9	31.5	12.4	2.3	0	-	1.5
Nyamasheke	94.8	38.7	40.8	26.3	28.4	24.2	21	2.1	0.6	-	0.4
Rulindo	56.7	34	60	30.9	31.6	30	19.6	0.8	0.1	-	0.2
Gakenke	70.1	45.7	65.2	39.0	44.2	37.7	23.9	1.3	0.2	-	-
Musanze	50.9	27	53.1	24.8	20.3	20.1	2.5	4.6	0.2	1.9	-
Burera	58.4	35.5	60.7	35.3	33.8	33.8	5.1	1.5	0.2	0.1	-
Gicumbi	82.5	61	74	56.3	53.8	52.5	18.8	3.8	0.4	0.6	-
Rwamagana	65.3	46.5	71.1	40.0	40.5	38.6	22.7	1.5	1.3	3.2	0.3
Nyagatare	191.1	151.2	79.1	80.3	81.3	77.8	24.6	2.5	0	67.4	2.7
Gatsibo	153.6	79.6	51.8	56.7	61.2	55.1	29.7	1.7	0.2	16.5	1.8
Kayonza	179.2	94.3	52.6	60.9	60.1	57.5	23.1	3.5	0.1	30.6	1.5
Kirehe	114.9	72.6	63.2	55.7	63.2	54.2	31.6	1.6	0.1	7.8	2.1
Ngoma	80.5	56.2	69.8	47.0	48.1	42.4	24.5	4.7	0	3.5	1.2
Bugesera	120.4	86.3	71.7	74.4	58.3	52.9	21.3	21.4	0.9	5.6	1.8
National	**2,377.10**	**1,414.7**	**59.5**	1,139.0	1,106.8	**1,024.50**	**495.5**	**114.6**	**8.1**	**151**	**21.4**

Source: NISR, SAS 2019

Table 6: Average plot size by cropping system per Season and district in 2019 (in sqm)

District	Pure Plots			Mixed plots			Overall		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	3,177	1,982	36,998	1,498	1,555	1,500	1,968	1,715	18,788
Gasabo	1,814	1,597	694	1,767	1,848	1,837	1,775	1,787	967
Kicukiro	2,217	1,699		2,130	2,188		2,146	2,081	
Nyanza	1,399	1,459	608	1,195	1,154	715	1,261	1,258	658
Gisagara	1,731	1,420	937	1,503	1,424	1,299	1,540	1,423	1,046
Nyaruguru	606	631	452	1,010	963	399	854	833	442
Huye	837	902	457	963	904	766	933	904	576
Nyamagabe	838	804	585	1,190	1,211	873	1,083	1,094	717
Ruhango	910	837	749	1,140	1,126	812	1,045	1,020	769
Muhanga	830	1,024	492	1,315	1,286	649	1,213	1,225	580
Kamonyi	934	849	439	1,436	1,452	1,047	1,294	1,285	729
Karongi	847	703	501	1,116	1,206	734	1,018	1,019	544
Rutsiro	761	956	1,108	898	842	1,034	858	886	1,069
Rubavu	1,118	1,128	1,192	1,076	1,070	1,082	1,100	1,108	1,181
Nyabihu	1,035	1,110	1,098	1,126	1,057	1,159	1,081	1,089	1,114
Ngororero	618	991	1,213	1,069	1,094	902	937	1,054	1,111
Rusizi	1,370	1,322	1,695	1,386	1,385	938	1,383	1,356	1,496
Nyamasheke	839	835	527	975	949	693	929	901	545
Rulindo	571	572	931	1,265	1,330	710	1,147	1,130	854
Gakenke	553	637	403	1,072	1,163	804	940	960	531
Musanze	1,134	1,054	1,165	935	917	957	1,017	983	1,095
Burera	820	772	936	1,005	1,042	1,040	943	936	965
Gicumbi	913	829	1,436	1,361	1,372	1,938	1,219	1,189	1,565
Rwamagana	2,063	2,604	766	2,085	1,982	800	2,082	2,112	779
Nyagatare	3,192	14,672	2,024	3,922	3,738	897	3,813	6,246	1,823
Gatsibo	1,742	3,271	688	2,133	2,127	1,150	2,017	2,482	808
Kayonza	2,912	8,272	2,112	2,485	2,544	1,421	2,590	3,781	1,905
Kirehe	2,973	3,687	1,191	2,889	3,006	1,142	2,911	3,193	1,167
Ngoma	1,332	1,673		1,645	1,698		1,573	1,691	
Bugesera	2,595	3,049	674	2,628	2,684	1,211	2,616	2,786	1,089
National	**1,155**	**1,578**	**963**	**1,465**	**1,501**	**997**	**1,374**	**1,527**	**974**

NISR, SAS, 2019

Table 7: Season A 2019_Cultivated area by crop type per district (ha)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potato	Irish potato	Yarms & Taro	Bananas	Beans	Pea	Groundnut	Soybean	Vegetables	Fruits	Other crops	Total Developed Crop area
Nyarugenge	561	-	-	-	1,036	379	22	33	1,522	1,362	5	15	51	199	24	1,529	6,846
Gasabo	4,379	17	164	-	2,853	2,172	695	177	4,467	7,626	180	533	482	619	239	636	26,669
Kicukiro	1,707	-	-	-	892	271	7	32	1,094	2,031	-	81	73	122	10	60	6,424
Nyanza	3,889	360	359	-	12,027	2,422	482	185	4,748	8,552	341	1,405	1,467	731	145	2,779	40,241
Gisagara	6,286	295	2,085	-	7,923	4,307	552	264	7,484	12,405	123	1,166	2,168	420	31	2,246	48,818
Nyaruguru	2,818	-	7	13	4,855	4,963	1,302	410	2,630	4,138	350	53	875	214	-	1,465	24,851
Huye	2,396	35	895	-	4,356	2,453	379	336	3,389	9,147	429	245	2,225	241	42	723	27,593
Nyamagabe	3,318	-	-	-	5,300	5,024	1,718	255	4,403	8,231	2,049	-	751	200	56	920	32,338
Ruhango	1,743	-	887	-	21,800	1,223	227	168	8,070	10,582	153	850	1,887	487	536	1,111	50,004
Muhanga	1,949	-	151	-	8,540	5,347	183	2,051	18,282	9,484	444	22	3,946	263	3	766	52,122
Kamonyi	5,397	-	205	-	10,865	3,737	348	759	12,318	12,365	65	889	1,734	591	279	1,275	50,993
Karongi	5,101	3	12	-	7,386	5,448	786	755	10,808	5,597	557	30	463	162	149	1,167	38,544
Rutsiro	10,059	48	-	66	2,216	3,132	3,616	863	6,353	5,136	678	-	853	497	577	3,608	37,848
Rubavu	4,258	116	-	220	10	498	5,332	95	621	2,647	384	-	-	1,067	28	795	16,214
Nyabihu	3,818	366	-	536	235	3,478	7,584	82	1,527	6,007	2,116	-	70	892	75	3,056	29,884
Ngororero	5,330	260	31	264	5,006	6,968	1,632	1,251	12,581	7,779	475	-	834	122	695	832	44,210
Rusizi	9,444	60	1,472	-	18,399	1,636	131	948	3,830	9,654	75	80	149	235	486	2,615	49,251
Nyamasheke	5,687	-	327	11	11,070	3,108	38	861	4,436	5,749	50	573	1,006	340	229	4,131	38,000
Rulindo	6,602	-	16	3	5,710	4,458	781	118	9,868	13,543	741	243	863	540	71	662	44,354
Gakenke	9,564	-	-	-	4,327	7,499	1,831	1,190	14,765	10,223	748	223	360	288	496	1,189	53,244
Musanze	6,955	1,586	-	3,253	425	1,994	4,082	176	1,296	2,475	293	-	19	1,036	169	1,457	25,487
Burera	9,631	2,410	-	767	292	4,278	4,440	81	2,808	9,020	1,749	-	-	563	509	380	37,041
Gicumbi	5,570	606	-	54	2,807	7,696	5,252	287	8,007	21,143	2,775	538	84	856	178	684	56,714
Rwamagana	7,802	-	339	-	7,913	1,447	1,596	423	13,839	13,869	422	1,637	383	1,583	1,224	2,868	56,277
Nyagatare	26,456	15,726	2,373	-	10,309	2,961	823	51	13,271	20,589	808	5,942	1,291	413	116	872	102,785
Gatsibo	16,705	3,225	1,410	300	2,174	2,268	1,510	23	18,322	21,237	408	2,480	587	941	53	2,148	73,903
Kayonza	8,360	1,914	872	-	9,325	2,627	1,970	244	12,202	15,399	576	1,275	382	370	122	832	57,222
Kirehe	17,027	345	839	-	10,065	682	1,288	65	20,084	20,017	220	1,157	468	95	-	1,308	73,797
Ngoma	16,496	273	956	-	9,713	1,796	999	170	18,091	12,850	440	1,474	398	239	886	968	66,401
Bugesera	5,850	2,824	1,271	-	7,304	3,370	122	343	12,881	10,585	-	3,019	724	687	957	321	51,178
Total	**215,159**	**30,467**	**14,671**	**5,487**	**195,135**	**97,639**	**49,728**	**12,695**	**253,996**	**299,443**	**17,658**	**23,929**	**24,593**	**15,012**	**8,383**	**43,405**	**1,319,256**

Source: NISR, SAS 2019

Table 8: Season B 2019_Cultivated area by crop type per District (ha)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potato	Irish potato	Yarm & Taro	Banana	Beans	Pea	Groundnut	Soybean	Vegetables	Fruits	Other crops	Total developed Crop area
Nyarugenge	129	572	-	-	1,046	73	11	25	1,452	1,056	-	50	48	184	28	1,043	5,717
Gasabo	910	5,545	243	-	3,187	880	658	128	3,540	4,617	53	133	183	505	150	485	22,205
Kicukiro	341	1,301	-	-	808	424	60	12	1,134	1,401	-	60	110	221	15	115	6,010
Nyanza	1,638	5,409	812	-	11,585	2,244	314	449	4,037	9,559	168	896	1,058	731	91	2,786	42,104
Gisagara	1,913	4,397	3,528	-	6,701	1,911	233	157	5,241	12,774	42	403	1,675	430	15	1,732	41,685
Nyaruguru	508	2,809	-	354	4,629	3,710	1,238	284	2,427	3,364	107	25	571	208	-	1,138	21,823
Huye	461	6,500	1,401	-	4,639	2,250	306	497	2,953	5,756	38	140	1,715	230	22	518	27,455
Nyamagabe	402	4,025	-	913	4,998	6,373	2,455	265	4,258	5,446	1,032	-	602	320	26	845	32,154
Ruhango	1,013	2,134	1,823	-	21,806	2,801	263	396	7,025	9,786	15	2,006	1,641	257	468	1,232	52,800
Muhanga	325	164	148	-	9,088	5,534	127	1,806	16,911	9,232	41	42	2,921	476	86	697	47,774
Kamonyi	1,932	3,709	180	-	11,039	3,039	691	1,197	12,371	10,244	16	690	1,606	746	329	1,243	49,187
Karongi	563	2,659	-	308	7,883	4,857	633	904	10,181	6,780	287	73	867	253	280	1,038	37,931
Rutsiro	1,937	18	-	476	2,319	3,008	3,972	1,149	6,544	4,878	457	-	1,145	496	479	3,515	30,476
Rubavu	1,233	716	-	16	4	581	6,154	176	568	2,898	279	-	-	1,279	72	1,199	15,459
Nyabihu	3,335	-	-	1,350	257	2,772	7,112	177	1,687	1,978	337	-	13	213	71	3,042	22,622
Ngororero	1,723	-	-	1,256	4,980	6,456	1,943	1,397	10,259	3,028	238	-	684	252	438	965	33,773
Rusizi	1,074	61	1,539	-	17,037	1,747	36	624	3,899	7,022	2	24	280	510	471	2,272	36,632
Nyamasheke	459	6	523	18	10,261	2,970	66	933	3,799	4,247	37	643	1,809	262	252	4,326	31,187
Rulindo	1,095	3,985	17	386	5,459	2,946	1,306	116	8,470	10,228	449	183	345	281	58	624	36,017
Gakenke	1,440	486	-	329	3,606	6,087	1,356	1,144	15,941	11,403	135	-	92	294	411	1,272	44,143
Musanze	2,570	-	-	446	373	1,193	4,359	192	1,393	5,058	415	-	3	745	292	1,812	19,052
Burera	2,434	4,784	-	1,335	196	3,124	4,918	250	2,361	10,800	1,480	-	26	705	401	204	33,174
Gicumbi	1,461	17,159	-	208	1,890	5,378	3,523	194	6,569	12,623	461	209	71	597	121	612	51,319
Rwamagana	3,288	8,471	368	-	5,264	949	1,450	818	12,224	8,377	23	311	108	1,665	696	2,418	47,425
Nyagatare	19,524	10,170	2,052	16	9,291	1,834	1,069	177	11,727	30,970	90	4,053	1,274	1,395	116	803	94,585
Gatsibo	7,220	9,059	1,365	336	2,168	1,006	1,961	338	17,657	17,209	48	4,738	910	408	-	3,481	68,057
Kayonza	5,416	15,622	953	-	11,882	1,682	2,072	326	12,614	15,428	522	1,094	164	166	183	825	69,201
Kirehe	3,087	11,684	821	-	11,661	1,373	435	897	19,039	18,144	38	958	1,017	118	-	977	70,473
Ngoma	1,616	3,685	1,136	-	7,125	1,496	242	205	17,383	19,110	49	230	322	615	838	1,079	55,501
Bugesera	4,093	6,255	1,316	-	6,327	2,223	280	235	12,754	18,685	-	3,032	281	410	1,049	255	58,115
National	**73,139**	**131,383**	**18,225**	**7,747**	**187,511**	**80,919**	**49,244**	**15,469**	**236,417**	**282,099**	**6,859**	**19,990**	**21,543**	**14,976**	**7,454**	**42,554**	**1,204,057**

Source: NISR, SAS 2019

Table 9: Season C 2019_Cultivated area by crop type per District (ha)

District	Sweet potato	Irish potato	Beans	Pea	Soybean	Vegetables and Fruits	Developed land
Nyarugenge	10	-	16	-	1	24	50
Gasabo	37	-	2	-	-	59	99
Nyanza	128	-	52	22	12	231	446
Gisagara	335	-	292	-	169	302	1,098
Nyaruguru	838	6	94	-	-	161	1,099
Huye	287	20	28	-	-	140	475
Nyamagabe	513	104	34	61	-	151	863
Ruhango	303	11	11	-	-	267	591
Muhanga	169	-	14	2	83	-	268
Kamonyi	222	30	74	2	-	727	1,055
Karongi	29	1	-	-	-	33	64
Rutsiro	7	164	6	11	-	23	211
Rubavu	218	658	-	-	-	58	933
Nyabihu	-	3,276	27	158	-	271	3,733
Ngororero	38	1	1	-	19	1	60
Rusizi	41	48	13	-	-	32	135
Nyamasheke	-	-	-	-	-	24	24
Rulindo	30	102	-	-	-	88	221
Gakenke	48	9	-	-	-	61	118
Musanze	477	2,487	167	-	-	341	3,471
Burera	1,159	1,203	18	-	-	162	2,542
Gicumbi	-	442	1	-	-	7	449
Rwamagana	23	-	9	-	1	115	148
Nyagatare	25	-	0	-	-	121	146
Gatsibo	84	31	34	-	70	156	375
Kayonza	-	3	-	-	-	49	52
Kirehe	26	9	15	-	-	72	122
Bugesera	285	13	220	-	204	66	788
National	**5,331**	**8,618**	**1,128**	**255**	**559**	**3,744**	**19,635**

Source: NISR, SAS 2019

Table 10: Season A 2019_Harvested area by crop type per district (ha)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potato	Irish potato	Yarms & Taro	Bananas	Beans	Pea	Groundnut	Soybean	vegetables	Fruits	Folder crops	Total Developed crop area
Nyarugenge	561	-	-	-	50	379	22	33	652	1,362	5	15	51	199	13	109	3,720
Gasabo	4,379	17	164	-	582	2,172	695	177	1,145	7,626	180	533	482	618	116	1,415	20,546
Kicukiro	1,707	-	-	-	40	271	7	32	330	2,031	-	81	73	122	3	44	4,743
Nyanza	3,889	360	359	-	3,541	2,422	482	185	807	8,552	341	1,405	1,467	731	6	15	25,532
Gisagara	6,286	295	2,085	-	1,028	4,307	552	264	2,486	12,405	123	1,166	2,168	420	9	859	34,947
Nyaruguru	2,818	-	7	13	693	4,963	1,302	410	616	4,138	350	53	875	214	-	247	16,813
Huye	2,396	35	895	-	499	2,453	379	336	904	9,147	429	245	2,225	241	42	16	20,530
Nyamagabe	3,318	-	-	-	551	5,024	1,718	255	1,627	8,231	2,049	-	751	200	50	70	23,843
Ruhango	1,743	-	887	-	4,659	1,223	227	168	2,390	10,582	153	850	1,887	487	489	102	26,026
Muhanga	1,949	-	151	-	1,229	5,347	183	2,051	7,198	9,484	444	22	3,946	263	3	102	33,069
Kamonyi	5,397	-	205	-	2,642	3,737	348	759	3,814	12,365	65	889	1,734	591	279	167	32,991
Karongi	5,101	3	12	-	1,150	5,448	786	755	3,678	5,597	557	30	463	162	142	122	24,332
Rutsiro	10,059	48	-	66	84	3,132	3,616	863	1,919	5,136	678	-	853	497	558	111	28,961
Rubavu	4,258	116	-	220	-	498	5,332	95	377	2,647	384	-	-	1,067	21	143	15,804
Nyabihu	3,818	366	-	536	19	3,478	7,584	82	316	6,007	2,116	-	70	892	75	41	27,732
Ngororero	5,330	260	31	264	865	6,968	1,632	1,251	5,302	7,779	475	-	834	122	514	83	31,795
Rusizi	9,444	60	1,472	-	2,586	1,636	131	948	726	9,654	75	80	149	235	260	37	27,522
Nyamasheke	5,687	-	327	11	1,982	3,108	38	861	714	5,749	50	573	1,006	340	193	141	21,271
Rulindo	6,602	-	16	3	747	4,458	781	118	2,906	13,543	741	243	863	540	3	120	31,851
Gakenke	9,564	-	-	-	759	7,499	1,831	1,190	5,440	10,223	748	223	360	288	496	253	39,516
Musanze	6,955	1,586	-	3,253	53	1,994	4,082	176	243	2,475	293	-	19	1,036	153	243	23,855
Burera	9,631	2,410	-	767	26	4,278	4,440	81	434	9,020	1,749	-	-	563	141	99	33,997
Gicumbi	5,570	606	-	54	452	7,696	5,252	287	2,118	21,143	2,775	538	84	856	158	109	47,718
Rwamagana	7,802	-	339	-	1,997	1,447	1,596	423	5,213	13,869	422	1,637	383	1,379	1,315	810	39,189
Nyagatare	26,456	15,726	2,373	-	1,241	2,961	823	51	4,336	20,589	808	5,942	1,291	408	91	21	83,981
Gatsibo	16,705	3,225	1,410	300	805	2,268	1,510	23	6,730	21,237	408	2,480	587	941	53	58	58,810
Kayonza	8,360	1,914	872	-	3,268	2,627	1,970	244	3,320	15,399	576	1,275	382	368	21	137	41,427
Kirehe	17,027	345	839	-	1,812	682	1,288	65	4,929	20,017	220	1,157	468	95	-	52	49,081
Ngoma	16,496	273	956	-	2,001	1,796	999	170	5,583	12,850	440	1,474	398	239	794	3	45,144
Bugesera	5,850	2,824	1,271	-	1,600	3,370	122	343	6,274	10,585	-	3,019	724	686	587	688	38,036
National	**215,159**	**30,467**	**14,671**	**5,487**	**36,960**	**97,639**	**49,728**	**12,695**	**82,523**	**299,443**	**17,658**	**23,929**	**24,593**	**14,801**	**6,585**	**6,419**	**952,780**

Source: NISR, SAS 2019

Table 11: Season B 2019_Harvested area by crop type per district (ha)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potato	Irish potato	Yarm & Taro	Bananas	Beans	Pea	Groundnut	Soybean	vegetables	Fruits	Other crops	Total Developed Crop area
Nyarugenge	129	572	-	-	177	73	11	25	685	1,056	-	50	48	184	24	80	3,115
Gasabo	910	5,545	243	-	321	880	658	128	976	4,617	53	133	183	505	57	409	16,591
Kicukiro	341	1,301	-	-	83	424	60	12	369	1,401	-	60	110	221	2	65	4,458
Nyanza	1,638	5,409	812	-	1,523	2,244	314	449	1,000	9,559	168	896	1,058	731	73	2,664	28,796
Gisagara	1,913	4,397	3,528	-	2,708	1,911	233	157	1,464	12,774	42	403	1,675	430	15	1,098	33,053
Nyaruguru	508	2,809	-	354	1,267	3,710	1,238	284	443	3,364	107	25	571	208	-	467	15,805
Huye	461	6,500	1,401	-	883	2,250	306	497	789	5,756	38	140	1,715	230	13	446	21,439
Nyamagabe	402	4,025	-	913	1,067	6,373	2,455	265	1,319	5,446	1,032	-	602	320	26	349	24,788
Ruhango	1,013	2,134	1,823	-	6,403	2,801	263	396	1,958	9,786	15	2,006	1,641	257	429	932	31,990
Muhanga	325	164	148	-	2,555	5,534	127	1,806	6,766	9,232	41	42	2,921	476	86	680	31,080
Kamonyi	1,932	3,709	180	-	1,080	3,039	691	1,197	4,311	10,244	16	690	1,606	746	300	1,107	31,005
Karongi	563	2,659	-	308	1,782	4,857	633	904	5,007	6,780	287	73	867	253	56	384	25,581
Rutsiro	1,937	18	-	476	900	3,008	3,972	1,149	2,090	4,878	457	-	1,145	496	479	2,756	23,843
Rubavu	1,233	716	-	16	-	581	6,154	176	183	2,898	279	-	-	1,279	52	1,001	14,852
Nyabihu	3,335	-	-	1,350	15	2,772	7,112	177	366	1,978	337	-	13	213	71	2,383	20,393
Ngororero	1,723	-	-	1,256	210	6,456	1,943	1,397	3,541	3,028	238	-	684	252	410	645	21,938
Rusizi	1,074	61	1,539	-	7,755	1,747	36	624	1,140	7,022	2	24	280	510	421	1,431	23,701
Nyamasheke	459	6	523	18	3,828	2,970	66	933	1,018	4,247	37	643	1,809	262	173	2,443	20,011
Rulindo	1,095	3,985	17	386	1,095	2,946	1,306	116	2,442	10,228	449	183	345	281	46	470	25,459
Gakenke	1,440	486	-	329	1,012	6,087	1,356	1,144	5,772	11,403	135	-	92	294	402	1,100	31,181
Musanze	2,570	-	-	446	26	1,193	4,359	192	349	5,058	415	-	3	745	289	1,798	17,636
Burera	2,434	4,784	-	1,335	28	3,124	4,918	250	519	10,800	1,480	-	26	705	364	204	31,106
Gicumbi	1,461	17,159	-	208	417	5,378	3,523	194	1,665	12,623	461	209	71	597	121	496	44,825
Rwamagana	3,288	8,471	368	-	1,469	949	1,450	818	3,511	8,377	23	311	108	1,665	693	1,936	34,426
Nyagatare	19,524	10,170	2,052	16	1,490	1,834	1,069	177	3,971	30,970	90	4,053	1,274	1,394	92	337	78,538
Gatsibo	7,220	9,059	1,365	336	680	1,006	1,961	338	5,138	17,209	48	4,738	910	408	-	3,338	53,907
Kayonza	5,416	15,622	953	-	2,452	1,682	2,072	326	2,783	15,428	522	1,094	164	163	110	761	49,800
Kirehe	3,087	11,684	821	-	1,817	1,373	435	897	3,764	18,144	38	958	1,017	118	-	784	45,161
Ngoma	1,616	3,685	1,136	-	1,299	1,496	242	205	5,025	19,110	49	230	322	615	756	349	36,505
Bugesera	4,093	6,255	1,316	-	323	2,223	280	235	6,369	18,685	-	3,032	281	410	62	82	44,565
National	**73,139**	**131,383**	**18,225**	**7,747**	**44,667**	**80,919**	**49,244**	**15,469**	**74,733**	**282,099**	**6,859**	**19,990**	**21,543**	**14,972**	**5,623**	**30,995**	**885,548**

Source: NISR, SAS 2019

Table 12: Season C 2019_Harvested area by crop type per district (ha)

District	Sweet potato	Irish potato	Beans	Pea	Soybean	Vegetables and Fruits	Developed land
Nyarugenge	10	-	16	-	1	24	50
Gasabo	37	-	2	-	-	59	99
Nyanza	128	-	52	22	12	231	446
Gisagara	335	-	292	-	169	302	1,098
Nyaruguru	838	6	94	-	-	161	1,099
Huye	287	20	28	-	-	140	475
Nyamagabe	513	104	34	61	-	151	863
Ruhango	303	11	11	-	-	267	591
Muhanga	169	-	14	2	83	-	268
Kamonyi	222	30	74	2	-	727	1,055
Karongi	29	1	-	-	-	33	64
Rutsiro	7	164	6	11	-	23	211
Rubavu	218	658	-	-	-	58	933
Nyabihu	-	3,276	27	158	-	271	3,733
Ngororero	38	1	1	-	19	1	60
Rusizi	41	48	13	-	-	32	135
Nyamasheke	-	-	-	-	-	24	24
Rulindo	30	102	-	-	-	88	221
Gakenke	48	9	-	-	-	61	118
Musanze	477	2,487	167	-	-	341	3,471
Burera	1,159	1,203	18	-	-	162	2,542
Gicumbi	-	442	1	-	-	7	449
Rwamagana	23	-	9	-	1	115	148
Nyagatare	25	-	0	-	-	121	146
Gatsibo	84	31	34	-	70	156	375
Kayonza	-	3	-	-	-	49	52
Kirehe	26	9	15	-	-	72	122
Bugesera	285	13	220	-	204	66	788
National	**5,331**	**8,618**	**1,128**	**255**	**559**	**3,744**	**19,635**

Source: NISR, SAS 2019

Table 13: Season A 2019_Average yield by crop type per district (Kg/Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Banana	Beans	Peas	Ground nuts	Soya beans	Vegetables	Fruits
Nyarugenge	733	-	-	-	11,229	5,462	2,142	2,590	10,501	802	82	285	268	6,970	5,477
Gasabo	676	-	3,305	-	12,948	5,611	4,212	4,149	15,942	718	470	627	1,541	8,166	1,716
Kicukiro	1,524	-	-	-	16,162	10,184	1,774	9,892	13,360	685	-	574	721	10,821	3,110
Nyanza	2,077	699	3,142	-	19,440	8,582	2,575	6,916	10,425	770	262	400	283	7,701	7,193
Gisagara	2,073	557	3,781	-	12,839	5,635	3,646	5,032	8,499	701	438	342	256	10,429	8,281
Nyaruguru	932	-	-	706	10,693	7,472	5,371	6,096	11,644	890	539	254	501	10,957	-
Huye	1,656	332	3,232	-	16,274	6,525	2,729	3,841	10,512	710	436	385	374	9,406	-
Nyamagabe	1,044	-	-	-	11,060	7,884	7,417	7,149	8,538	752	394	-	418	8,898	2,885
Ruhango	813	-	4,310	-	15,994	5,874	2,774	6,664	9,253	704	285	494	269	9,908	8,254
Muhanga	1,132	-	3,938	-	16,568	5,696	2,825	4,407	8,661	580	407	429	337	9,734	8,235
Kamonyi	1,815	-	3,175	-	19,479	5,061	3,136	10,186	10,128	703	346	367	1,349	11,577	8,137
Karongi	1,202	750	-	-	10,081	6,080	3,435	6,019	9,357	677	439	679	454	9,488	848
Rutsiro	1,076	696	-	211	9,961	7,305	8,440	9,130	12,589	861	364	-	348	7,445	1,978
Rubavu	1,676	1,328	-	1,964	-	6,328	12,685	6,960	20,729	1,097	364	-	-	18,290	6,197
Nyabihu	1,238	909	-	601	11,413	6,658	16,075	10,655	11,788	1,045	497	-	807	17,707	2,514
Ngororero	1,074	1,298	-	369	11,078	5,173	5,375	6,709	8,457	709	569	-	292	9,513	1,633
Rusizi	1,124	810	5,167	-	10,067	3,503	2,320	2,544	9,956	917	483	646	584	9,305	5,779
Nyamasheke	895	-	4,480	181	11,953	5,532	3,374	4,678	13,698	773	809	140	413	10,226	2,474
Rulindo	1,382	-	2,243	1,293	10,388	7,093	6,745	6,358	10,400	883	428	437	304	8,510	1,213
Gakenke	1,267	-	-	-	12,472	9,634	6,847	5,469	12,494	951	744	1,063	474	12,050	11,669
Musanze	1,327	2,142	-	1,531	7,990	7,716	12,147	6,179	9,285	1,166	773	-	519	7,806	3,198
Burera	1,239	2,269	-	1,331	14,231	8,834	11,160	-	9,903	1,419	713	-	-	8,888	10,590
Gicumbi	2,146	533	-	404	13,433	8,911	9,618	5,917	14,422	999	622	475	277	10,703	915
Rwamagana	1,742	-	4,277	-	14,038	5,179	4,994	3,325	14,095	791	951	360	255	11,044	9,940
Nyagatare	1,513	1,191	4,202	-	13,618	4,681	5,467	2,798	11,767	723	344	357	865	10,650	4,285
Gatsibo	2,642	1,227	4,341	590	10,402	7,849	5,645	3,923	17,292	878	558	365	758	11,317	789
Kayonza	2,217	1,055	3,694	-	12,617	7,704	5,363	7,882	15,662	854	441	491	1,974	11,962	13,251
Kirehe	1,568	523	4,634	-	14,138	4,644	2,347	7,508	18,164	1,036	426	297	1,604	7,628	-
Ngoma	1,484	743	4,165	-	11,158	5,026	5,313	5,775	15,431	1,067	220	432	525	12,130	13,351
Bugesera	1,444	699	3,173	-	16,146	7,259	2,965	-	11,426	427	-	390	1,314	6,702	8,947
National	**1,539**	**1,234**	**4,041**	**1,291**	**14,153**	**6,906**	**9,430**	**5,601**	**12,362**	**843**	**516**	**391**	**555**	**10,738**	**7,409**

Source: NISR, SAS 2019

Table 14: Season B 2019_Average yield by crop type per district (Kg/Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Banana	Bean	Peas	Ground nuts	Soya beans	Vegetables	Fruits
Nyarugenge	1,047	731	-	-	10,730	6,397	1,242	7,230	8,520	622	-	410	664	7,996	14,262
Gasabo	1,292	1,067	4,193	-	11,995	5,513	3,031	1,194	12,526	692	525	382	362	8,526	4,337
Kicukiro	1,265	1,171	-	-	13,243	8,385	5,682	5,052	12,894	977	-	514	847	14,680	8,998
Nyanza	1,337	914	3,599	-	18,154	7,797	2,234	3,616	8,706	792	568	482	339	11,981	5,611
Gisagara	1,040	671	3,650	-	16,445	6,002	2,232	3,368	9,574	700	341	396	489	7,812	1,915
Nyaruguru	1,459	903	-	654	14,750	7,666	4,876	11,180	8,808	850	636	416	457	11,785	-
Huye	1,343	831	2,695	-	20,925	7,804	3,629	4,097	8,418	765	1,466	491	389	11,397	13,479
Nyamagabe	1,258	690	-	1,058	12,693	6,381	8,110	7,897	5,634	706	594	-	350	13,211	959
Ruhango	1,027	956	3,482	-	18,056	4,306	4,029	7,255	7,532	829	1,182	718	409	7,711	4,186
Muhanga	801	850	4,133	-	17,035	6,658	3,604	5,962	7,589	634	1,041	231	374	7,123	21,694
Kamonyi	660	988	3,031	-	17,181	5,642	2,137	7,454	8,885	679	659	443	500	7,554	881
Karongi	1,299	620	-	790	13,499	8,346	3,789	8,482	8,884	787	833	426	478	10,615	1,307
Rutsiro	1,520	1,249	-	348	14,934	6,635	4,777	6,529	14,945	821	563	-	539	12,148	4,140
Rubavu	2,027	1,783	-	472	-	6,167	12,806	6,111	16,470	1,137	1,497	-	-	22,110	3,163
Nyabihu	1,389	-	-	1,446	9,224	4,768	12,824	6,084	8,890	969	566	-	1,002	12,214	1,880
Ngororero	1,251	-	-	857	9,825	5,976	3,318	6,928	8,017	755	1,007	-	370	9,555	3,792
Rusizi	1,386	603	5,167	-	8,281	6,998	8,082	7,193	13,098	807	2,202	2,073	661	10,118	4,825
Nyamasheke	1,102	1,976	3,547	284	11,491	7,846	2,983	6,331	12,306	934	1,516	415	539	10,426	2,275
Rulindo	1,095	931	4,500	845	13,885	6,921	5,154	7,276	10,809	836	512	724	564	12,395	2,280
Gakenke	1,282	1,187	-	1,707	17,221	10,809	5,597	8,400	11,267	1,003	537	-	946	13,529	2,315
Musanze	1,936	-	-	1,271	11,814	10,524	12,482	10,116	9,222	1,495	1,368	-	801	10,915	5,114
Burera	1,556	1,434	-	1,471	10,583	5,630	12,282	8,613	13,495	1,247	1,437	-	682	8,290	3,570
Gicumbi	1,290	1,096	-	680	19,530	7,246	8,479	6,526	12,062	928	892	719	551	7,158	9,284
Rwamagana	1,142	952	2,984	-	16,085	4,362	4,317	5,236	14,669	770	348	511	489	10,227	1,803
Nyagatare	1,187	763	4,175	424	20,239	3,290	4,227	2,927	14,266	854	218	568	622	5,874	5,932
Gatsibo	1,402	1,234	4,287	1,165	15,861	8,841	4,788	7,093	13,056	819	616	529	666	7,567	-
Kayonza	1,022	939	3,713	-	15,342	3,869	3,849	5,696	14,968	727	472	408	516	5,529	16,557
Kirehe	1,023	718	4,529	-	17,706	4,101	2,692	4,078	16,293	712	637	383	846	11,950	-
Ngoma	1,012	801	4,813	-	16,227	6,824	5,032	3,261	14,779	779	1,005	464	586	7,723	2,191
Bugesera	913	602	4,609	-	20,233	3,660	2,744	7,201	7,934	629	-	380	459	7,434	25,801
National	**1,232**	**929**	**3,967**	**1,111**	**14,747**	**6,757**	**8,575**	**6,510**	**11,113**	**818**	**895**	**510**	**492**	**10,386**	**4,147**

Source: NISR, SAS 2019

Table 15: Season C 2019_Average yield by crop type per district (Kg/Ha)

District	Sweet potatoes	Irish potatoes	Beans	Bush bean	Climbing bean	Peas	Soya beans	Vegetables
Nyarugenge	4,342	-	751	751	-	-	848	6,889
Gasabo	2,976	-	851	851	-	-	-	10,240
Nyanza	4,407	-	536	536	-	243	556	16,142
Gisagara	5,077	-	695	700	635	-	427	8,123
Nyaruguru	5,757	5,619	789	789	-	-	-	8,489
Huye	5,495	4,410	1,077	984	1,205	-	-	9,826
Nyamagabe	5,473	9,988	619	619	-	519	-	9,996
Ruhango	3,804	1,673	747	747	-	-	-	8,863
Muhanga	5,054	-	707	707	-	763	672	-
Kamonyi	4,115	2,276	345	345	-	661	-	7,986
Karongi	4,058	2,667	-	-	-	-	-	10,451
Rutsiro	5,256	6,928	517	-	517	712	-	8,281
Rubavu	5,105	11,547	-	-	-	-	-	22,138
Nyabihu	-	8,457	1,239	-	1,239	647	-	6,791
Ngororero	4,835	3,969	1,062	1,062	-	-	775	11,565
Rusizi	5,514	4,752	1,046	1,046	-	-	-	9,319
Nyamasheke	-	-	-	-	-	-	-	12,850
Rulindo	4,748	4,886	-	-	-	-	-	8,663
Gakenke	6,130	9,046	-	-	-	-	-	7,532
Musanze	4,717	10,261	936	529	1,088	-	-	8,646
Burera	4,482	10,846	2,028	-	2,028	-	-	9,813
Gicumbi	-	11,064	648	648	-	-	-	12,661
Rwamagana	3,501	-	995	995	-	-	661	16,995
Nyagatare	1,581	-	-	-	-	-	-	8,824
Gatsibo	6,264	5,706	693	693	-	-	551	9,658
Kayonza	-	3,650	-	-	-	-	-	10,188
Kirehe	4,163	4,980	604	604	-	-	-	11,808
Bugesera	5,907	1,684	1,082	1,082	-	-	537	10,148
National	**4,979**	**9,540**	**831**	**764**	**1,137**	**585**	**535**	**9,634**

Source: NISR, SAS 2019

Table 16: Season A 2019_Average yield (MT/Ha) for CIP crops by farmer type per district

District	Yield for Large Scale Farmers											Yield for Small Scale Farmers										
	Maize	Paddy rice	Wheat	Bush bean	Climbing bean	Irish potato	Soybean	Cassava	Cooking banana	Dessert banana	Banana for beer	Maize	Paddy rice	Wheat	Bush bean	Climbing bean	Irish potato	Soybean	Cassava	Cooking banana	Dessert banana	Banana for beer
Nyarugenge	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	0.8	0.9	2.2	0.3	11.6	18.4	14.9	8.6
Gasabo	0.9	3.3	-	1.3	-	-	1.6	-	23.2	-	-	0.7	3.2	-	0.6	1.2	4.5	0.4	13.1	19.0	15.0	10.0
Kicukiro	2.3	-	-	1.0	-	-	-	-	21.5	15.8	-	1.1	-	-	0.7	0.9	1.8	0.8	16.1	19.8	15.3	9.2
Nyanza	2.1	3.1	-	0.8	-	-	-	-	27.9	8.6	13.3	1.1	3.6	-	0.7	0.8	2.9	0.3	18.6	11.0	10.0	9.3
Gisagara	2.1	3.8	-	-	-	-	-	-	-	13.0	8.0	0.9	2.4	-	0.7	1.0	3.6	0.3	12.8	10.6	14.3	7.3
Nyaruguru	0.9	-	-	-	-	6.8	-	-	-	-	-	1.0	-	0.7	0.6	1.0	2.0	0.5	10.9	14.6	16.7	9.7
Huye	1.7	3.2	-	-	-	-	0.5	-	12.8	-	-	0.5	2.7	-	0.6	0.8	3.2	0.3	17.4	12.1	12.0	8.7
Nyamagabe	1.3	-	-	-	0.8	7.7	-	-	-	-	-	0.9	-	-	0.6	0.8	5.5	0.4	11.1	12.5	12.1	8.5
Ruhango	-	4.3	-	0.8	-	-	0.4	-	12.6	29.8	-	0.6	2.9		0.5	0.7	2.7	0.3	15.8	7.4	10.6	9.0
Muhanga	1.1	3.9	-	-	-	-	-	-	-	-	-	0.5	2.0	-	0.5	0.7	2.6	0.3	15.9	22.0	13.1	7.8
Kamonyi	1.8	3.2	-	-	-	-	1.4	-	-	-	-	1.0	-	-	0.7	0.9	3.0	0.4	19.5	18.2	13.4	9.1
Karongi	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	0.5	0.7	3.4	0.4	9.4	16.5	12.0	9.1
Rutsiro	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.2	0.6	0.9	7.7	0.5	10.3	21.3	16.0	10.3
Rubavu	1.6	-	-	0.3	-	12.0	-	-	22.2	-	-	1.8	-	2.0	0.4	1.1	12.6	-	-	21.0	-	10.7
Nyabihu	-	-	-	-	-	-	-	-	-	-	-	0.8	-	0.6	0.5	1.1	15.9	0.6	11.4	22.6	13.4	7.8
Ngororero	-	-	-	-	-	-	-	-	-	-	-	1.0	-	0.4	0.6	0.7	4.9	0.3	10.9	15.8	10.5	7.6
Rusizi	1.5	5.2	-	1.2	-	-	-	-	32.8	-	8.5	1.0	3.6	-	0.6	0.9	2.2	0.6	10.1	17.5	10.4	8.0
Nyamasheke	-	4.5	-	-	-	-	-	-	-	-	-	0.9	1.8	0.2	0.5	0.9	2.8	0.4	11.2	13.1	11.7	13.7
Rulindo	2.3	2.2	1.3	-	2.3	7.4	-	-	35.1	23.4	1.2	1.0	-	-	0.7	0.9	2.8	0.3	10.4	18.0	13.8	8.5
Gakenke	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	0.6	1.1	6.8	0.4	12.3	24.5	13.2	9.7
Musanze	-	-	1.5	-	-	10.9	-	-	-	-	-	1.3	-	1.6	0.9	1.1	12.2	0.5	8.0	15.4	12.4	6.0
Burera	-	-	-	-	-	-	-	-	-	-	-	1.2	-	1.4	0.8	1.5	11.7	-	13.8	13.3	9.9	7.5
Gicumbi	4.2	-	-	-	-	-	-	-	-	-	-	0.9	-	0.4	0.9	1.1	9.7	0.3	12.8	17.1	13.7	12.0
Rwamagana	2.0	4.3	-	1.0	-	6.1	-	17.1	13.6	14.7	32.6	0.7	3.1	-	0.6	1.1	3.9	0.3	12.3	17.7	14.7	8.3
Nyagatare	1.6	4.2		1.0		7.9	0.9	4.3	7.6	9.2	4.0	1.1	3.5	-	0.7	0.8	2.9	0.5	14.4	18.7	14.0	7.9
Gatsibo	2.8	4.3	-	1.0	1.2	6.6	0.8	-	27.4	26.4	28.4	1.3	-	0.6	0.9	0.8	4.7	0.5	9.6	18.8	15.3	10.9
Kayonza	2.8	3.7	-	1.0	-	6.0	2.1	10.8	16.8	19.0	11.1	0.6	1.9		0.5	1.2	1.9	0.3	13.9	17.6	9.8	11.1
Kirehe	-	-	-	-	-	-	-	-	-	-	-	0.7	3.6	-	0.4	0.7	2.7	0.7	14.7	21.2	10.8	11.5
Ngoma	-	-	-	-	-	-	-	-	-	-	-	0.8	1.3	-	0.6	0.9	2.7	0.7	11.1	17.0	6.1	10.4
Bugesera	1.5	3.2	-	0.4	-	-	1.4	17.8	26.9	15.5	17.1	1.0	-	-	0.5	0.0	2.9	0.9	11.1	15.4	18.0	7.9
National	**1.9**	**4.0**	**1.5**	**0.9**	**1.6**	**7.3**	**1.4**	**14.2**	**17.7**	**15.7**	**12.6**	**1.0**	**2.7**	**1.4**	**0.6**	**1.0**	**8.9**	**0.4**	**13.9**	**18.2**	**13.3**	**8.9**

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Table 17: Season B 2019_Average yield (MT/Ha) for CIP crops by farmer type per district

District	Yield for Large Scale Farmers											Yield for Small Scale Farmers										
	Maize	Paddy rice	Wheat	Bush bean	Climbing bean	Irish potato	Soybean	Cassava	Cooking banana	Dessert banana	Banana for beer	Maize	Paddy rice	Wheat	Bush bean	Climbing bean	Irish potato	Soybean	Cassava	Cooking banana	Dessert banana	Banana for beer
Nyarugenge												1.0			0.6	0.9	1.2	0.7	10.7	18.6	7.7	6.9
Gasabo	2.5	4.4										1.2	2.0		0.7	0.6	3.0	0.4	12.0	17.0	11.4	7.9
Kicukiro												1.2			1.0	1.1	5.7	0.8	13.2	19.4	14.8	8.5
Nyanza	2.5	4.1										1.3	2.6		0.8	0.7	2.1	0.3	18.2	10.4	7.6	8.6
Gisagara	2.5	4.1										0.9	2.7		0.7	0.8	2.2	0.5	16.4	14.7	9.3	8.8
Nyaruguru						25.0						1.5		0.7	0.5	1.0	4.3	0.5	14.7	14.0	7.5	7.5
Huye	2.5	3.2					1.5					1.2	1.9		0.7	0.8	3.6	0.4	20.9	10.3	10.4	7.1
Nyamagabe			2.8			17.7						1.3		1.0	0.5	0.8	8.1	0.4	12.7	9.4	12.6	5.1
Ruhango	2.5	4.1										1.0	3.0		0.8	0.9	4.0	0.4	18.1	17.8	12.6	6.8
Muhanga		4.3										0.8	3.4		0.6	0.7	3.6	0.4	17.0	13.8	9.4	7.1
Kamonyi	2.0	3.0										0.6			0.7	0.8	2.1	0.5	17.2	17.7	10.6	7.8
Karongi												1.3		0.8	0.7	0.8	3.8	0.5	13.5	16.5	12.1	8.5
Rutsiro												1.5		0.3	0.7	0.8	4.8	0.5	14.9	25.6	18.2	10.0
Rubavu									9.6			2.0		0.5	0.6	1.2	12.8			21.0		9.2
Nyabihu												1.4		1.4	0.5	1.0	12.8	1.0	9.2	15.3	8.6	7.0
Ngororero												1.3		0.9	0.7	0.8	3.3	0.4	9.8	17.4	11.4	7.5
Rusizi		5.3										1.4	3.9		0.8	0.9	8.1	0.7	8.3	17.4	22.2	8.8
Nyamasheke		4.1										1.1	2.7	0.3	0.7	1.0	3.0	0.5	11.5	20.7	14.5	10.7
Rulindo		4.5	2.7									1.1		0.8	0.6	1.1	5.1	0.6	13.9	19.9	12.1	8.0
Gakenke												1.3		1.7	0.6	1.0	5.6	0.9	17.2	22.4	12.6	8.7
Musanze												1.9		1.3	1.2	1.5	12.5		11.8	15.4	7.3	8.5
Burera												1.6		1.5	0.9	1.3	12.3	0.7	10.6	21.0	11.9	7.7
Gicumbi	0.7											1.3		0.7	0.7	1.0	8.5	0.6	19.5	21.2	10.3	8.9
Rwamagana	2.3	3.0										1.1	2.7		0.8	1.6	4.3	0.5	16.1	17.9	9.5	7.8
Nyagatare	2.5	4.3		1.4			0.9		10.1			1.2	2.5	0.3	0.9	0.8	4.2	0.6	20.2	18.6	12.2	8.1
Gatsibo	2.4	4.3		1.1			0.9					1.4		1.2	0.8	0.7	4.8	0.6	15.9	17.3	11.1	9.1
Kayonza	1.8	3.7		1.3		23.0		17.2				1.0			0.7	1.3	3.7	0.5	15.3	17.0	13.2	8.6
Kirehe	2.5	4.6		1.6			1.4					0.6	2.4		0.6	0.8	2.7	0.4	17.7	21.0		7.9
Ngoma		4.8										1.0	4.8		0.8	1.0	5.0	0.6	16.2	16.8	11.9	10.2
Bugesera	0.9	4.6		0.9			0.7	25.0				0.9	3.9		0.6	0.7	2.7	0.4	19.9	14.3	12.3	5.9
National	**2.2**	**4.3**	**2.7**	**1.3**		**18.4**	**1.2**	**17.3**	**19.5**			**1.2**	**2.9**	**1.1**	**0.7**	**1.0**	**8.6**	**0.5**	**15.7**	**17.8**	**12.0**	**8.2**

Source: NISR, SAS 2019

Table 18: Season A 2019_Crop production by crop type per district (MT)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potato	Irish potato	Yarms & Taro	Bananas	Beans	Groundnut	Soybean	Vegetables	Fruits	Other crops	National
Nyarugenge	411	-	-	-	557	2,068	46	84	6,847	1,093	4	14	1,387	73	1,102	13,685
Gasabo	2,959	-	541	-	7,531	12,185	2,928	736	18,247	5,478	334	742	5,050	200	449	57,380
Kicukiro	2,602	-	-	-	654	2,757	13	313	4,403	1,391	46	52	1,323	9	12	13,578
Nyanza	8,080	251	1,129	-	68,844	20,786	1,242	1,279	8,411	6,584	562	416	5,628	43	2,198	125,453
Gisagara	13,031	164	7,886	-	13,199	24,268	2,011	1,328	21,126	8,693	399	555	4,377	77	685	97,799
Nyaruguru	2,628	-	-	9	7,406	37,084	6,993	2,500	7,176	3,682	13	438	2,347	-	16	70,293
Huye	3,968	12	2,891	-	8,126	16,004	1,034	1,291	9,500	6,493	94	831	2,270	-	6	52,520
Nyamagabe	3,463	-	-	-	6,094	39,608	12,746	1,821	13,888	6,187	-	313	1,781	144	-	86,044
Ruhango	1,418	-	3,822	-	74,523	7,182	629	1,118	22,115	7,450	420	507	4,822	4,039	0	128,043
Muhanga	2,205	-	596	-	20,361	30,457	518	9,039	62,340	5,500	9	1,331	2,563	21	8,594	143,535
Kamonyi	9,795	-	649	-	51,468	18,913	1,090	7,736	38,624	8,686	326	2,339	6,838	2,271	-	148,735
Karongi	6,131	2	-	-	11,596	33,123	2,698	4,544	34,415	3,790	20	210	1,539	120	1,125	99,312
Rutsiro	10,828	33	-	14	837	22,880	30,522	7,881	24,156	4,423	-	297	3,697	1,104	10,437	117,109
Rubavu	7,139	154	-	433	-	3,149	67,633	660	7,805	2,903	-	-	19,516	129	7,184	116,706
Nyabihu	4,726	333	-	322	220	23,154	121,915	871	3,721	6,281	-	56	15,788	189	885	178,461
Ngororero	5,727	337	-	98	9,580	36,044	8,771	8,393	44,839	5,512	-	244	1,157	838	54	121,594
Rusizi	10,617	48	7,605	-	26,030	5,730	305	2,410	7,231	8,853	52	87	2,185	1,503	15	72,673
Nyamasheke	5,089	-	1,465	2	23,693	17,195	127	4,029	9,778	4,445	80	415	3,480	477	2,231	72,506
Rulindo	9,124	-	37	4	7,760	31,625	5,271	748	30,222	11,955	106	263	4,598	3	106	101,820
Gakenke	12,120	-	-	-	9,463	72,243	12,537	6,507	67,965	9,723	237	171	3,476	5,784	2,313	202,537
Musanze	9,232	3,398	-	4,980	420	15,389	49,588	1,087	2,256	2,885	-	10	8,089	490	599	98,423
Burera	11,933	5,466	-	1,021	369	37,797	49,555	-	4,298	12,804	-	-	5,000	1,494	10,423	140,160
Gicumbi	11,955	323	-	22	6,078	68,577	50,510	1,696	30,545	21,115	256	23	9,163	145	-	200,405
Rwamagana	13,590	-	1,449	-	28,038	7,494	7,972	1,408	73,479	10,972	588	98	15,232	13,073	1,007	174,398
Nyagatare	40,036	18,730	9,971	-	16,896	13,858	4,501	143	51,021	14,894	2,124	1,117	4,347	388	3,232	181,257
Gatsibo	44,129	3,958	6,123	177	8,371	17,801	8,523	89	116,372	18,655	906	445	10,645	42	1,493	237,729
Kayonza	18,533	2,018	3,221	-	41,233	20,235	10,563	1,923	51,989	13,144	626	754	4,406	276	436	169,358
Kirehe	26,693	180	3,887	-	25,613	3,165	3,022	485	89,520	20,744	344	751	725	-	8	175,139
Ngoma	24,484	203	3,982	-	22,325	9,024	5,307	984	86,160	13,712	636	209	2,899	10,602	105	180,632
Bugesera	8,448	1,973	4,033	-	25,833	24,464	361	-	71,692	4,522	1,178	950	4,600	5,256	4	153,314
National	**331,090**	**37,584**	**59,286**	**7,082**	**523,117**	**674,257**	**468,931**	**71,104**	**1,020,141**	**252,569**	**9,362**	**13,638**	**158,927**	**48,791**	**54,721**	**3,730,600**

Source: NISR, SAS 2019

Table 19: Season B 2019_Crop production by crop type per district (MT)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Bananas	Beans	Ground nuts	Soya beans	Vegetables	Fruits	Other crops	National
Nyarugenge	135	418	-	-	1,904	467	14	183	5,838	656	20	32	1,469	341	4,445	15,922
Gasabo	1,175	5,915	1,019	-	3,855	4,852	1,994	153	12,220	3,197	51	66	4,309	247	586	53,187
Kicukiro	432	1,523	-	-	1,104	3,552	339	59	4,751	1,368	31	93	3,246	22	1,433	18,184
Nyanza	2,190	4,946	2,923	-	27,657	17,497	701	1,623	8,702	7,571	432	358	8,759	410	5,001	92,989
Gisagara	1,990	2,951	12,878	-	44,533	11,466	520	530	14,020	8,945	160	819	3,359	28	1,033	105,483
Nyaruguru	741	2,537	-	232	18,687	28,443	6,038	3,171	3,900	2,860	10	261	2,454	-	425	78,921
Huye	619	5,403	3,776	-	18,471	17,561	1,109	2,037	6,640	4,403	69	668	2,619	178	682	64,352
Nyamagabe	506	2,776	-	966	13,546	40,662	19,910	2,096	7,429	3,846	-	211	4,229	25	167	98,984
Ruhango	1,040	2,041	6,348	-	115,618	12,061	1,061	2,875	14,746	8,110	1,440	670	1,980	1,795	8,086	179,616
Muhanga	260	139	612	-	43,530	36,843	458	10,766	51,348	5,857	10	1,092	3,393	1,860	6,135	165,590
Kamonyi	1,274	3,664	544	-	18,555	17,147	1,477	8,920	38,307	6,951	306	804	5,633	265	1,492	107,644
Karongi	731	1,648	-	244	24,059	40,540	2,397	7,671	44,482	5,334	31	414	2,689	73	621	131,752
Rutsiro	2,945	23	-	166	13,435	19,959	18,975	7,499	31,233	4,003	-	618	6,030	1,981	10,512	117,962
Rubavu	2,499	1,276	-	7	-	3,580	78,815	1,075	3,008	3,295	-	-	28,278	165	7,860	132,949
Nyabihu	4,634	-	-	1,951	138	13,218	91,211	1,075	3,254	1,918	-	13	2,607	133	827	122,009
Ngororero	2,156	-	-	1,076	2,064	38,577	6,446	9,678	28,391	2,284	-	253	2,407	1,557	1,593	97,361
Rusizi	1,489	36	7,952	-	64,224	12,222	292	4,487	14,931	5,668	49	185	5,158	2,033	2,909	122,774
Nyamasheke	506	12	1,855	5	43,988	23,304	198	5,906	12,522	3,965	267	974	2,736	394	5,257	113,486
Rulindo	1,199	3,710	77	326	15,207	20,391	6,734	847	26,402	8,553	133	195	3,488	105	838	89,759
Gakenke	1,846	577	-	561	17,431	65,789	7,588	9,609	65,036	11,440	-	87	3,984	930	5,192	191,310
Musanze	4,974	-	-	567	313	12,552	54,414	1,939	3,214	7,560	-	3	8,136	1,475	1,809	100,972
Burera	3,786	6,862	-	1,963	297	17,589	60,405	2,153	7,004	13,471	-	18	5,846	1,299	6,565	131,396
Gicumbi	1,885	18,804	-	142	8,137	38,966	29,867	1,268	20,088	11,715	150	39	4,276	1,124	381	141,562
Rwamagana	3,755	8,065	1,097	-	23,632	4,139	6,261	4,284	51,498	6,447	159	53	17,029	1,250	2,236	140,663
Nyagatare	23,171	7,764	8,567	7	30,148	6,033	4,518	519	56,655	26,454	2,303	792	8,192	545	5,289	181,150
Gatsibo	10,122	11,179	5,853	391	10,783	8,891	9,392	2,399	67,087	14,087	2,508	607	3,089	-	4,282	152,365
Kayonza	5,535	14,669	3,537	-	37,615	6,508	7,974	1,856	41,651	11,211	446	85	904	1,828	2,441	137,241
Kirehe	3,159	8,386	3,718	-	32,166	5,632	1,170	3,659	61,329	12,927	367	861	1,413	-	567	135,838
Ngoma	1,635	2,950	5,469	-	21,079	10,206	1,219	667	74,270	14,889	107	189	4,750	1,657	169	139,735
Bugesera	3,738	3,765	6,066	-	6,530	8,138	768	1,695	50,534	11,760	1,153	129	3,047	1,595	151	115,983
National	**90,128**	**122,042**	**72,291**	**8,605**	**658,708**	**546,788**	**422,266**	**100,700**	**830,491**	**230,744**	**10,200**	**10,588**	**155,506**	**23,315**	**88,985**	**3,477,142**

Source: NISR, SAS 2019

Table 20: Season C 2019_Crop production by crop type and district (MT)

District	Tubers and Roots	Sweet potatoes	Irish potatoes	Legumes and Pulses	Beans	Peas	Soya beans	Vegetables and Fruits	National
Nyarugenge	43	43	-	13	12	-	1	164	220
Gasabo	111	111	-	2	2	-	-	606	719
Nyanza	564	564	-	40	28	5	7	3,734	4,337
Gisagara	1,699	1,699	-	275	203	-	72	2,457	4,432
Nyaruguru	4,857	4,824	33	74	74	-	-	1,368	6,299
Huye	1,665	1,578	87	30	30	-	-	1,375	3,070
Nyamagabe	3,845	2,806	1,039	53	21	31	-	1,509	5,407
Ruhango	1,170	1,151	19	8	8	-	-	2,362	3,540
Muhanga	853	853	-	67	10	1	56	-	921
Kamonyi	980	911	69	27	26	1	-	5,803	6,810
Karongi	122	119	3	-	-	-	-	347	469
Rutsiro	1,174	38	1,135	10	3	7	-	194	1,378
Rubavu	8,704	1,112	7,592	-	-	-	-	1,287	9,991
Nyabihu	27,707	-	27,707	136	34	102	-	1,843	29,687
Ngororero	186	183	3	16	1	-	15	14	216
Rusizi	454	226	228	14	14	-	-	302	770
Nyamasheke	-	-	-	-	-	-	-	311	311
Rulindo	644	143	501	-	-	-	-	762	1,406
Gakenke	375	292	84	-	-	-	-	461	836
Musanze	27,770	2,248	25,522	156	156	-	-	2,945	30,871
Burera	18,242	5,194	13,049	36	36	-	-	1,590	19,869
Gicumbi	4,886	-	4,886	0	0	-	-	85	4,971
Rwamagana	81	81	-	10	9	-	1	1,953	2,044
Nyagatare	39	39	-	-	-	-	-	1,067	1,106
Gatsibo	708	529	179	62	23	-	38	1,511	2,280
Kayonza	11	-	11	-	-	-	-	503	514
Kirehe	153	109	44	9	9	-	-	850	1,012
Bugesera	1,706	1,685	21	348	238	-	110	669	2,724
National	**108,750**	**26,539**	**82,211**	**1,386**	**938**	**149**	**299**	**36,072**	**146,209**

Source: NISR, SAS 2019

Table 21: Season A 2019_Share of crop production use by use type per crop type (percentages)

Crops	Sold	Auto consumption	Wages for hired labor	Farm rent	Offered as gift	Barter trade/Exchanged	Seeds	Fodder purposes	Stored	Damaged/Post harvesting losses	Other usage	Total Produce
Cereals												
Maize	79.6	17.8	0.1	0.1	0.4	0	1.6	0	0.2	0.2	0	100
Sorghum	66.4	6.5	21.7	1.4	2	0	1.1	-	0.7	0	0.1	100
Paddy rice	89.1	8.5	0	0	0	0	0.7	-	0	1.2	0.5	100
Wheat	93.4	5	0.1	-	0.6	0	1	0	0	0	-	100
Other cereals	17.4	75.6	0.4	0.3	3	0.1	2.6	-	0.7	-	-	100
Tubers and Roots												
Sweet potato	38.2	51.5	1.6	0.2	3.4	0	0	2.9	-	1.9	0.4	100
Irish potato	60	7.7	0.2	0	1.9	0	30	-	-	0.1	0	100
Yam & Taro	49.6	37.9	1.7	0.3	4.5	0.2	4.8	-	-	0.6	0.4	100
Cassava	51.5	42.6	1.9	1	2.3	0	0	0.1	-	0.2	0.4	100
Legumes and Pulses												
Bush bean	63.3	23.6	8.3	0.4	0.8	0	3.1	-	0.5	0	0.1	100
Small red bean	13.1	66.8	-	-	7.6	-	12.5	-	-	-	-	100
Climbing bean	28.6	48.8	1.5	0.4	6.8	0.1	11.6	-	2.2	0	0.1	100
Pea	20.6	64.4	0.1	0.3	2.8	0	11.6	-	0	0	0	100
Groundnut	20.8	61.7	0.2	0.4	2.2	0	14.4	-	0.4	-	0	100
Soybean	90.9	8.7	0	0	0.1	0	0.3	-	0	-	0	100
Banana												
Cooking banana	63	34.4	0.9	0.1	1.3	0	-	0	-	0.1	0.2	100
Dessert banana	77.1	20.2	0.1	-	2.2	-	-	0	-	0.3	0.2	100
Banana for beer	83	11.7	0.1	0	4.6	0	-	0	-	0.3	0.3	100
Vegetables and fruits												
Vegetables	92.5	6.2	0.1	0	0.4	-	0.3	0	-	0.4	0	100
Fruits	82.8	13.5	0.7	-	1.3	-	0	-	-	1.7	0.1	100
Fodder crops	0.4	1.1	0.1	-	0	0	0	90.4	7.9	-	0.1	100
Other crops	93.8	2	-	-	0.4	-	0	0.2	-	0.4	3.2	100

Source: NISR, SAS 2019

Table 22: Season B 2019_Share of crop production use by use type per crop type (percentages)

Crops	Sold	Auto consumption	Wages for hired labor	Farm rent	Offered as gift	Barter trade/Exchanged	Seeds	Fodder purposes	Stored	Damaged/Post harvesting losses	Other usage	Total Produce
Cereals												
Maize	88.9	9.7	0.1	0.1	0.4	-	0.1	0.5	0.1	-	-	100
Sorghum	61.4	12.5	16.9	1.2	2.9	-	4.2	-	0.6	-	0.3	100
Paddy rice	88.8	9.5	-	-	-	-	0.8	-	-	0.9	-	100
Wheat	77.9	8.9	1.3	-	3.7	0.1	6.1	1.3	0.6	-	-	100
Other cereals	96.1	3.5	-	-	0.1	-	0.2	-	-	-	-	100
Tubers and Roots												
Sweet potato	30	57.7	3	0.7	4.5	0.1	-	3.6	-	0.1	0.3	100
Irish potato	69.3	13.8	0.4	0.1	1.6	-	14.4	-	-	0.3	0.2	100
Yam & Taro	28.8	61.2	4.3	0.3	3	-	1.9	-	0.1	-	0.4	100
Cassava	69.7	25.8	0.9	0.6	2.2	-	-	0.2	-	0.4	0.2	100
Legumes and Pulses												
Bush bean	53.3	24.4	13.3	0.7	1.7	0	5.7	-	0.7	0.1	0.2	100
Small red bean	-	69	-	20.7	5.2	-	5.2	-	-	-	-	100
Climbing bean	28.8	48	1.1	0.4	7.5	0.1	12.6	-	1.4	0.1	0.1	100
Pea	25.9	63	0.1	-	2.2	-	7.5	-	0.3	-	1	100
Groundnut	45.3	37.3	1.1	1.3	2.7	-	11.6	-	0.5	-	0.2	100
Soybean	77.4	21.6	-	-	0.1	-	0.4	-	-	0.1	0.3	100
Banana												
Cooking banana	58.8	35.8	1.5	0.1	2.6	-	-	-	-	0.9	0.3	100
Dessert banana	80.5	15.9	0	0.1	2.9	-	-	-	-	0.3	0.2	100
Banana for beer	78.2	13.9	0.1	0.1	6	-	-	-	-	1	0.8	100
Vegetables and fruits												
Vegetables	97.2	0.4	-	-	2.2	-	-	-	-	0.1	-	100
Fruits	98	1.5	-	-	0.3	-	-	-	-	-	-	100
Fodder crops	0.4	44.5	0.1	-	0.2	-	-	53.8	0.9	0.1	-	100
Other crops	89.9	3.7	-	-	0.3	-	1.1	-	-	0.1	4.9	100

Source: NISR, SAS 2019

Table 23: Season C 2019_Share of crop production use by use type per crop type (percentages)

Crops	Sold	Auto consumption	Wages for hired labor	Farm rent	Offered as gift	Barter trade/Exchanged	Seeds	Fodder purposes	Stored	Damaged/Post harvesting losses	Other usage	Total produce
Legumes and Pulses												
Bush bean	40.6	39.3	0.8	0.1	3.4	0.1	14.5	-	1.2	-	-	100.0
Climbing bean	32.4	54.0	-	-	4.4	-	9.2	-	-	-	-	100.0
Pea	74.6	22.2	-	0.2	1.5	-	1.4	-	-	-	-	100.0
Tubers and Roots												
Irish potato	75.5	12.1	1.5	0.1	2.1	0.0	8.3	0.1	-	0.2	0.0	100.0
Sweet potato	37.4	48.5	2.4	0.3	5.5	0.0	-	5.8	-	0.1	0.0	100.0
Vegetables												
Tomato	68.6	23.6	0.0	0.1	3.0	0.0	0.5	0.8	-	3.2	0.0	100.0
Cabbage	66.8	25.9	2.8	0.3	3.6	0.0	-	0.0	-	0.4	0.2	100.0
Onion	67.6	31.9	-	-	0.3	-	-	-	-	0.2	-	100.0
Carrot	88.0	7.8	-	-	2.8	-	-	0.3	-	1.1	-	100.0
Eggplant	80.5	15.3	-	-	3.8	-	0.1	-	-	-	0.3	100.0
Soybean	62.2	24.6	0.5	0.3	3.6	0.1	8.4	-	0.1	-	0.2	100.0
Sweet pepper	81.8	6.4	-	-	4.1	-	2.1	-	-	5.7	-	100.0
Amaranth	59.8	37.7	-	-	2.5	-	-	-	-	-	-	100.0
Sugar beet	64.8	33.6	-	-	1.5	-	-	-	-	0.0	-	100.0
Garlic	85.5	0.0	-	-	0.0	-	14.4	-	-	-	-	100.0
French bean	77.7	15.3	-	-	4.4	-	2.6	-	-	-	-	100.0
Cucumber	98.0	2.0	-	-	-	-	-	-	-	-	-	100.0
Other annual crop	100.0	-	-	-	-	-	-	-	-	-	-	100.0

Source: NISR, SAS 2019

Table 24: Percentage of crops by sowing date per season and crop type in 2019 (in percentage)

Crops	Season A 2019							Season B 2019									Season C 2019					
	Before 01/09	Between 01-15/09	Between 16-30/09	Between 01-15/10	Between 16-31/10	After 31/10	Total	Before 31/12	Between 01-15/01	Between 16- 31/01	Between 01- 15/02	Between 16- 28/02	Between 01-15/03	Between 16-31/03	After 31/03	Total	Before 30/04	Between 01-31/05	Between 01-30/06	Between 01- 31/07	After 31/07	Total
Fruits	92.0	2.5	1.7	1.7	1.7	0.4	100	94.4	0.5	0.5	0.9	-	0.9	0.5	2.4	100	-	-	-	-	-	-
Vegetables	13.8	18.6	12.3	19.8	11.6	23.9	100	6.5	5.2	8.2	13.7	10.7	19	11.4	25.3	100	6.1	26.1	32.2	30.6	5.0	
Other crops	89.9	2.0	0.5	2.0	3.1	2.5	100	88.4	0.1	-	0.7	1	3.5	3.5	2.7	100	-	-	-	-	-	-
Fodder crops	88.8	4.3	1.8	3.6	0.7	0.7	100	82.1	2.2	0.9	3.9	1.3	4.8	1.8	3.1	100	-	-	-	-	-	-
Other cereals	3.6	17.4	21.7	41.3	10.9	5.1	100	3	4	2	19	31	36	4	1	100	-	-	-	-	-	-
Maize	9.5	23.5	22.0	29.3	11.2	4.4	100	0.6	2.7	3.5	16.8	32	33.9	8.7	1.8	100	-	-	-	-	-	-
Paddy rice	67.6	10.4	5.8	8.7	3.3	4.2	100	6	18.1	16.9	24.1	17.3	10.8	2.4	4.4	100	-	-	-	-	-	-
Sorghum	19.4	39.5	27.5	11.1	1.9	0.6	100	4.6	44.3	25.9	16.9	6.6	1.4	0.3	-	100	-	-	-	-	-	-
Wheat	12.7	13.5	25.4	20.6	13.5	14.3	100	-	1.5	1	3.1	5.6	19.4	33.7	35.7	100	-	-	-	-	-	-
Bush bean	1.5	15.9	22.9	40.5	15.5	3.8	100	0.2	0.6	1.1	16	29.5	38.6	11.7	2.2	100	1.5	5.1	29.9	44.5	19.0	100
Climbing bean	8.8	37.6	26.8	18.5	6.7	1.6	100	0.2	0.7	1.3	17.4	24.9	37.9	14.5	3.1	100	2.9	5.7	48.6	40.0	2.9	100
Pea	7.5	28.7	23.5	21.1	9.5	9.7	100	-	2.6	1.3	5.6	15.9	30.8	23.6	20.3	100	2.0	11.8	54.9	25.5	5.9	100
Irish potato	13.4	23.3	20.8	20.0	7.6	15.0	100	0.8	4.7	3.5	11.3	13.8	26	17.5	22.5	100	4.2	29.4	34.8	27.8	3.9	100
Sweet potato	21.1	12.2	7.8	13.7	10.7	34.5	100	7.7	15.5	9	15.3	10.1	14.2	8.8	19.5	100	7.3	21.1	37.4	29.7	4.6	100
Soybean	1.0	17.9	20.1	36.8	15.8	8.4	100	0.2	0.9	4	25.7	30.5	23.3	12.3	3.2	100	1.7	2.6	42.6	41.7	11.3	100
Groundnut	4.8	21.6	26.2	34.0	10.6	2.8	385	-	1	2.2	19.3	35.9	34.5	6.5	0.7	100	-	-	-	-	-	-
Small red bean	8.7	21.7	13.0	30.4	21.7	4.4	100	-	20	-	-	-	80	-	-	100	-	-	-	-	-	-
Taro	56.6	13.1	9.0	7.8	6.3	7.3	100	69.6	10.4	4.2	7.3	1.8	2.4	1.3	2.9	100	-	-	-	-	-	-
Yams	33.3	66.7	-	-	-	-	100	100	-	-	-	-	-	-	-	100	-	-	-	-	-	-
Cassava	99.6	0.1	0.2	0.1	-	0.1	100	99.8	-	0.1	-	0.1	0.1	-	-	100	-	-	-	-	-	-
Cooking banana	100.0	0.1	-	-	-	-	100	100	-	-	-	-	-	-	-	100	-	-	-	-	-	-
Dessert banana	99.8	0.1	-	0.1	-	-	100	99.8	0.1	-	-	0.1	-	-	0.1	100	-	-	-	-	-	-
Banana for beer	99.7	-	0.0	0.1	-	0.1	100	99.9	0.1	-	-	-	-	-	0	100	-	-	-	-	-	-
National	**31.7**	**16.6**	**15.8**	**20.8**	**8.5**	**6.7**	**100**	**30.9**	**6.7**	**4.7**	**11.5**	**15.4**	**18.9**	**7.2**	**4.7**	**100**	**5.2**	**20.9**	**36.1**	**31.6**	**6.2**	**100**

Source: NISR, SAS 2019

Table 25: Percentage of crops by sowing dates per season and district in 2019

District	Season A						Season B								Season C					
	Before 01/09	Between 01-	Between 16-	Between 01-	Between 16-	After 31/10	Before 31/12	Between 01-	Between 16-	Between 01-	Between 16-	Between 01-	Between 16-	After 31/03	Before 30/04	Between 01-	Between 01-	Between 01-	After 31/07	Total
Nyarugenge	32.7	2.1	11.3	37.2	9.1	7.6	39.4	2.8	7.5	12.1	17.4	14.2	4.5	1.6	0.0	13.3	26.7	53.3	6.7	100
Gasabo	26.7	11.3	23.8	26.7	5.9	5.5	31.2	12.9	4.5	8.3	21.4	13.9	3.9	3.5	8.0	44.0	28.0	20.0	0.0	100
Kicukiro	33.5	8.4	7.9	43.9	4.3	2.1	32.0	13.0	4.8	6.7	13.0	19.2	10.0	0.7	-	-	-	-	-	-
Nyanza	28.0	7.6	8.9	28.9	14.0	12.6	27.4	10.1	5.7	23.5	12.8	10.9	3.8	5.5	5.3	8.0	32.0	45.3	9.3	100
Gisagara	24.2	5.5	8.3	33.6	19.0	9.4	31.8	5.7	5.4	12.1	18.9	14.7	8.1	3.0	3.9	12.3	26.0	39.6	18.2	100
Nyaruguru	31.9	6.6	9.6	25.1	12.8	14.1	35.1	9.0	5.8	11.6	8.1	13.7	8.4	7.9	6.0	25.3	34.9	22.9	10.8	100
Huye	26.9	6.1	11.8	33.7	12.6	8.9	30.6	11.8	11.2	20.2	12.2	8.9	2.5	2.3	15.7	15.7	21.4	35.7	11.4	100
Nyamagabe	29.4	14.0	18.0	15.1	9.8	13.7	26.3	8.6	7.7	12.3	13.1	11.6	10.0	10.0	0.0	5.2	37.1	52.6	5.2	100
Ruhango	36.7	8.7	12.5	22.0	14.2	6.0	32.8	6.6	6.7	23.6	19.0	6.2	2.1	2.5	16.0	16.0	26.0	40.0	2.0	100
Muhanga	39.6	11.1	14.5	21.0	6.9	6.9	43.5	7.9	6.5	25.2	7.9	4.4	1.2	3.0	9.5	17.9	42.1	27.4	3.2	100
Kamonyi	28.9	4.8	8.0	25.4	26.8	6.1	31.7	7.7	3.0	16.1	24.6	10.5	3.4	2.6	8.9	30.4	35.7	17.9	7.1	100
Karongi	37.3	15.4	16.6	14.3	10.3	6.1	34.5	5.5	6.8	13.9	17.3	11.6	4.7	5.5	3.7	44.4	33.3	18.5	0.0	100
Rutsiro	42.1	24.9	15.6	8.1	3.0	6.3	35.3	2.7	2.7	11.3	15.0	14.9	8.9	8.7	9.6	18.3	54.8	15.4	1.9	100
Rubavu	57.9	18.3	9.1	5.5	4.3	5.0	12.8	4.9	2.7	9.9	15.7	17.3	17.3	19.0	10.0	16.7	23.3	46.7	3.3	100
Nyabihu	28.1	24.4	21.8	8.5	5.6	11.7	15.1	6.5	5.4	12.8	15.4	25.4	11.9	7.2	3.7	24.4	40.2	29.3	2.4	100
Ngororero	34.2	25.7	12.4	12.3	4.5	11.0	34.9	2.3	3.1	11.8	17.6	14.4	4.6	10.9	0.0	16.4	41.8	38.2	3.6	100
Rusizi	25.5	16.5	21.8	22.4	9.0	4.8	53.1	0.7	0.9	7.8	17.1	12.7	4.8	2.6	0.0	15.2	15.2	33.3	36.4	100
Nyamasheke	25.5	22.4	20.9	18.2	8.1	4.9	44.7	1.8	2.7	14.0	18.3	10.3	4.1	3.8	0.0	25.0	50.0	25.0	0.0	100
Rulindo	32.1	36.8	17.7	7.1	2.2	4.2	33.7	7.2	5.5	5.3	14.2	17.9	8.7	7.1	6.3	34.4	28.1	25.0	6.3	100
Gakenke	39.2	28.5	15.7	8.3	3.5	4.9	43.6	3.3	2.1	3.0	9.1	21.8	7.1	9.8	7.0	37.2	37.2	16.3	2.3	100
Musanze	37.7	29.4	13.5	7.2	3.6	8.7	14.2	5.3	3.0	6.1	6.8	27.8	22.7	13.7	0.8	12.9	40.3	43.6	2.4	100
Burera	23.9	39.7	10.2	7.9	4.5	13.9	13.5	12.9	5.0	12.5	9.3	22.1	14.7	9.5	0.0	28.9	51.9	19.2	0.0	100
Gicumbi	23.6	32.7	18.4	13.6	3.7	8.1	20.3	11.2	6.4	11.2	9.8	26.8	6.5	7.5	8.1	66.1	22.6	3.2	0.0	100
Rwamagana	39.4	6.8	13.9	31.1	6.4	2.4	42.1	5.2	6.6	10.6	14.3	15.2	3.4	2.2	6.7	20.0	20.0	50.0	3.3	100
Nyagatare	21.5	33.3	26.8	13.3	2.5	2.7	16.9	1.8	2.5	8.1	28.3	34.1	5.9	2.1	0.0	13.3	73.3	13.3	0.0	100
Gatsibo	27.1	12.9	23.3	25.3	7.6	3.8	32.1	3.3	2.6	11.1	17.4	22.6	8.2	2.3	5.1	37.3	28.8	27.1	1.7	100
Kayonza	31.9	8.1	20.4	30.9	5.7	3.0	24.4	9.3	4.5	7.0	8.0	33.1	10.4	2.8	9.1	18.2	63.6	9.1	0.0	100
Kirehe	35.8	2.7	7.9	26.1	19.4	8.1	38.8	10.1	4.5	10.5	17.3	15.4	2.4	0.8	9.1	31.8	31.8	27.3	0.0	100
Ngoma	37.8	9.0	11.4	25.6	12.2	4.0	42.3	4.7	1.3	6.1	14.7	22.5	6.2	1.7	-	-	-	-	-	-
Bugesera	39.6	7.1	9.3	24.1	11.7	8.2	27.2	5.6	4.3	7.3	11.6	25.3	15.4	2.9	0.0	7.3	42.7	40.9	9.1	100
National	**31.7**	**16.6**	**15.8**	**20.8**	**8.5**	**6.7**	**30.9**	**6.6**	**4.6**	**11.4**	**15.4**	**18.9**	**7.2**	**4.7**	**5.2**	**20.9**	**36.1**	**31.6**	**6.2**	**100**

Source: NISR, SAS 2019

Table 26: Percentage of plots with number of crops per plot and district in 2019

District	1 Crop			2 Crops			3 Crops			4 Crops			5 Crops or more			Average number of crops per plot		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	27.5	37.4	48.7	25.3	28.6	30.7	28.4	20.6	20.6	14.7	9.9	-	4.1	3.6	-	2.4	2.1	1.7
Gasabo	14.7	24.1	76.1	25.8	30.9	15.3	24.6	23.6	8.6	19.0	12.1	-	15.9	9.3	-	2.9	2.5	1.3
Kicukiro	18.3	21.8	-	25.7	35.6	-	31.9	22.0	-	13.4	12.7	-	10.8	7.8	-	2.7	2.5	-
Nyanza	32.5	32.5	52.9	28.1	31.0	31.6	25.2	18.8	12.6	8.1	10.7	2.4	6.0	7.0	0.5	2.3	2.3	1.7
Gisagara	16.0	26	70.0	20.3	23.1	20.8	22.2	25.8	8.0	22.9	18.4	0.6	18.6	6.6	0.6	3.1	2.6	1.4
Nyaruguru	35.1	38.9	81.5	23.1	29.0	14.7	17.8	17.0	3.8	13.8	7.5	-	10.3	7.6	-	2.3	2.2	1.2
Huye	23.9	25.9	61.3	25.5	34.2	26.5	23.4	22.1	9.4	15.1	11.4	1.3	12.1	6.4	1.4	2.7	2.4	1.5
Nyamagabe	29.5	28.5	54.2	27.3	32.2	27.5	20.2	17.4	14.9	11.3	14.1	2.5	11.8	7.8	0.8	2.5	2.4	1.7
Ruhango	40.9	36.6	69.1	27.5	25.4	23.0	21.3	20.3	6.8	7.1	10.5	1.1	3.2	7.2	-	2.0	2.3	1.4
Muhanga	20.5	23.4	44.0	25.3	29.9	29.3	24.5	22.0	22.8	17.4	17.3	3.9	12.3	7.4	-	2.7	2.6	1.9
Kamonyi	27.3	27.5	52.3	31.5	26.2	32.8	23.8	22.6	8.3	12.0	15.8	5.3	5.3	7.9	1.3	2.4	2.5	1.7
Karongi	35.8	37.1	81.5	25.4	33.1	16.7	18.8	15.2	1.8	12.3	9.9	-	7.7	4.7	-	2.3	2.1	1.2
Rutsiro	29.1	38.2	47.2	30.2	36.8	50.1	19.4	16.4	1.7	13.2	6.4	0.9	8.0	2.2	-	2.4	2.0	1.6
Rubavu	56.7	65.5	89.2	26.2	25.2	9.0	15.8	7.2	1.8	1.3	2.1	-	-	-	-	1.6	1.5	1.1
Nyabihu	49.3	59.2	74.5	29.7	27.6	19.2	15.2	9.3	5.9	5.1	2.7	0.4	0.6	1.2	-	1.8	1.6	1.3
Ngororero	28.3	38.6	67.1	32.8	30.5	27.7	22.8	17.5	5.2	11.3	9.3	-	4.8	4.1	-	2.3	2.1	1.4
Rusizi	19.2	45.4	73.8	17.8	32.7	9.8	35.5	14.3	11.2	19.3	6.1	5.3	8.2	1.5	-	3.8	1.9	1.5
Nyamasheke	33.3	42.2	89.0	25.8	27.8	10.3	22.1	20.6	0.7	12.7	6.6	-	6.1	2.8	-	2.3	2.0	1.1
Rulindo	16.9	26.4	65.1	31.5	27.6	29.9	23.7	22.4	-	15.0	12.3	2.5	12.9	11.3	2.5	2.8	2.5	1.5
Gakenke	24.5	38.7	68.1	28.8	29.3	21.3	27.3	19.5	8.8	12.1	8.6	1.0	7.3	4.0	0.8	2.5	2.1	1.4
Musanze	40.6	48.1	66.6	41.7	35.7	24.2	9.8	10.1	8.6	5.5	5.2	0.3	2.4	0.9	0.3	1.9	1.8	1.4
Burera	32.6	39.3	71.9	37.3	36.1	19.5	20.2	16.4	6.7	7.6	5.4	1.8	2.4	2.7	-	2.1	2.0	1.4
Gicumbi	31.3	33.5	74.4	28.0	33.9	24.8	22.1	20.5	-	11.3	7.3	0.8	7.4	4.8	-	2.3	2.2	1.3
Rwamagana	15.3	20.5	60.5	17.7	24.5	35.4	26.3	22.3	-	20.2	18.9	4.1	20.4	13.8	-	3.1	2.8	1.5
Nyagatare	15.0	17.9	82.1	21.6	27.1	15.0	28.8	28.9	2.9	17.9	14.4	-	16.7	11.6	-	3.0	2.7	1.2
Gatsibo	29.4	29.9	73.9	35.8	31.0	22.7	20.0	22.5	1.9	10.6	12.6	1.1	4.2	4.0	0.4	2.2	2.3	1.3
Kayonza	24.1	20.5	70.1	25.3	30.3	27.7	22.5	23.5	2.2	16.3	14.5	-	11.8	11.3	-	2.7	2.7	1.3
Kirehe	25.9	27.2	51.7	24.1	31.6	31.4	25.4	21.2	13.3	15.8	13.3	3.6	8.7	6.7	-	2.6	2.4	1.7
Ngoma	23.0	28.7	-	27.5	31.5	-	25.9	24.5		16.5	12.1	-	7.1	3.3	-	2.6	2.3	-
Bugesera	34.7	27.7	22.7	31.8	31.7	40.9	19.6	25.5	24.8	9.3	11.3	9.0	4.6	3.8	2.5	2.2	2.3	2.3
National	**28.9**	**33.8**	**69.3**	**28.1**	**30.4**	**21.7**	**22.4**	**19.6**	**7.4**	**12.6**	**10.5**	**1.3**	**8.0**	**5.6**	**0.3**	**2.4**	**2.2**	**1.4**

Source: NISR, SAS 2019

Table 27: Cultivated area by cropping system, per season and district (%) in 2019

District	Pure			Mixed		
	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	45.2	43.2	95.9	54.8	56.8	4.1
Gasabo	17.6	19.7	54.6	82.4	80.3	45.4
Kicukiro	19.5	16.9		80.5	83.1	
Nyanza	36.3	34.1	48.9	63.7	65.9	51.1
Gisagara	18.1	25.9	62.7	81.9	74.1	37.3
Nyaruguru	27.4	29.2	83.3	72.6	70.8	16.7
Huye	21.4	23.8	48.6	78.6	76.2	51.4
Nyamagabe	23.4	19.5	44.3	76.6	80.5	55.7
Ruhango	36.0	30	67.4	64.0	70	32.6
Muhanga	14.5	19.2	37.3	85.5	80.8	62.7
Kamonyi	20.4	17.5	31.5	79.6	82.5	68.5
Karongi	30.4	25.5	75.1	69.6	74.5	24.9
Rutsiro	26.1	34.5	49.0	73.9	65.5	51.0
Rubavu	58.2	65.2	90.1	41.8	34.8	9.9
Nyabihu	47.3	59.7	73.5	52.7	40.3	26.5
Ngororero	19.3	31.7	73.3	80.7	68.3	26.7
Rusizi	19.2	44.3	83.5	80.8	55.7	16.5
Nyamasheke	30.5	39.1	86.0	69.5	60.9	14.0
Rulindo	8.4	13.3	71.0	91.6	86.7	29.0
Gakenke	14.9	25.7	51.7	85.1	74.3	48.3
Musanze	45.9	47.5	70.8	54.1	52.5	29.2
Burera	29.1	32.3	69.7	70.9	67.7	30.3
Gicumbi	23.7	22.6	68.3	76.3	77.4	31.7
Rwamagana	16.6	20.1	59.4	83.4	79.9	40.6
Nyagatare	12.6	15.6	91.2	87.4	84.4	8.8
Gatsibo	25.6	24.9	62.9	74.4	75.1	37.1
Kayonza	27.6	20.4	77.7	72.4	79.6	22.3
Kirehe	26.9	23.3	52.8	73.1	76.7	47.2
Ngoma	19.5	24		80.5	76	
Bugesera	35.1	23.9	14.0	64.9	76.1	86.0
National	**24.9**	**26.6**	**68.6**	**75.1**	**73.4**	**31.4**

Source: NISR, SAS 2019

Table 28: Season A 2019_ Use of seeds by farmer type per district (in percentage)

District	Percentage of Plots						Percentage of Farmers						Percentage of land area					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved
Nyarugenge	92.1	7.9	92.1	7.9	-	-	84.5	15.5	84.5	15.5	-	-	92.8	7.2	92.8	7.2	-	-
Gasabo	87.7	12.3	92.5	7.5	48.9	51.2	79.8	20.2	82.1	17.9	8.3	91.7	92.9	7.1	93.8	6.2	28.1	71.9
Kicukiro	91.5	8.5	93.9	6.1	28.0	72.0	83.5	16.5	84.9	15.1	-	100.0	85.4	14.6	85.8	14.2	25.1	74.9
Nyanza	90.4	9.6	91.6	8.4	36.8	63.2	80.5	19.6	81.8	18.2	14.3	85.7	89.5	10.5	91.1	8.9	15.2	84.8
Gisagara	84.5	15.5	86.0	14.1	12.5	87.5	64.8	35.2	66.8	33.2	11.1	88.9	81.3	18.7	86.2	13.8	6.0	94.0
Nyaruguru	89.0	11.0	89.3	10.7	-	100.0	75.7	24.3	76.4	23.6	-	100.0	88.9	11.1	89.1	10.9	-	100.0
Huye	91.8	8.2	93.4	6.6	51.5	48.5	80.7	19.3	83.0	17.0	36.8	63.2	91.8	8.2	93.8	6.2	49.3	50.7
Nyamagabe	93.6	6.4	94.2	5.8	30.0	70.0	84.1	15.9	84.3	15.7	-	100.0	94.9	5.1	95.0	5.0	12.6	87.4
Ruhango	95.5	4.5	96.2	3.8	70.0	30.0	90.7	9.3	91.9	8.1	44.4	55.6	95.8	4.2	97.9	2.1	19.3	80.7
Muhanga	94.9	5.1	96.6	3.4	-	100.0	89.9	10.1	91.0	9.1	-	100.0	96.9	3.1	97.8	2.2	-	100.0
Kamonyi	91.0	9.0	93.8	6.2	-	100.0	85.5	14.5	87.2	12.8	-	100.0	92.4	7.6	93.3	6.7	-	100.0
Karongi	88.9	11.1	89.2	10.8	-	100.0	73.6	26.4	73.8	26.2	-	100.0	91.6	8.4	91.7	8.3	-	100.0
Rutsiro	88.8	11.3	88.8	11.3	-	-	76.3	23.7	76.3	23.7	-	-	89.1	10.9	89.1	10.9	-	-
Rubavu	74.9	25.1	75.4	24.6	45.5	54.6	58.2	41.8	58.6	41.4	-	100.0	64.4	35.6	64.5	35.5	26.0	74.0
Nyabihu	85.7	14.3	85.7	14.3	-	-	71.4	28.6	71.4	28.6	-	-	88.3	11.7	88.3	11.7	-	-
Ngororero	87.5	12.5	87.5	12.5	-	-	74.4	25.7	74.4	25.7	-	-	91.6	8.4	91.6	8.4	-	-
Rusizi	87.9	12.1	88.6	11.4	50.0	50.0	72.7	27.3	73.7	26.3	-	100.0	83.6	16.4	88.1	11.9	1.3	98.7
Nyamasheke	93.6	6.4	93.9	6.1	50.0	50.0	86.3	13.7	86.6	13.4	60.0	40.0	94.2	5.8	94.8	5.2	55.9	44.1
Rulindo	85.3	14.7	85.6	14.4	71.4	28.6	61.8	38.2	62.0	38.0	50.0	50.0	89.9	10.1	90.0	10.0	45.3	54.7
Gakenke	84.3	15.8	84.3	15.8	-	-	62.4	37.6	62.4	37.6	-	-	86.3	13.7	86.3	13.7	-	-
Musanze	83.4	16.6	83.7	16.3	40.0	60.0	71.5	28.5	71.7	28.3	-	100.0	74.5	25.5	74.5	25.5	10.4	89.6
Burera	88.8	11.2	88.8	11.2	-	-	78.7	21.4	78.7	21.4	-	-	86.4	13.6	86.4	13.6	-	-
Gicumbi	91.1	8.9	91.2	8.8	50.0	50.0	79.9	20.1	80.0	20.0	-	100.0	94.0	6.0	94.0	6.0	29.4	70.6
Rwamagana	86.8	13.2	90.9	9.1	62.4	37.6	70.3	29.7	73.9	26.1	9.1	90.9	91.2	8.8	92.2	7.8	19.9	80.1
Nyagatare	94.0	6.1	95.7	4.3	46.8	53.2	85.1	14.9	87.0	13.0	9.5	90.5	90.7	9.3	93.6	6.4	2.6	97.4
Gatsibo	88.5	11.5	90.1	9.9	41.5	58.5	75.4	24.6	76.9	23.2	6.7	93.3	86.9	13.1	88.9	11.1	20.6	79.4
Kayonza	91.4	8.6	96.5	3.5	51.0	49.0	88.5	11.5	90.3	9.7	6.7	93.3	95.3	4.7	97.4	2.6	28.5	71.5
Kirehe	94.6	5.4	95.0	5.0	35.7	64.3	86.6	13.5	87.1	12.9	44.4	55.6	91.7	8.3	93.4	6.6	36.9	63.1
Ngoma	83.5	16.5	85.9	14.1	48.3	51.7	62.5	37.5	63.9	36.1	25.0	75.0	79.0	21.0	79.5	20.5	46.2	53.8
Bugesera	77.4	22.6	94.2	5.9	26.4	73.6	80.0	20.1	87.0	13.0	5.9	94.1	87.5	12.5	92.1	7.9	8.1	91.9
National	**89.0**	**11.0**	**90.9**	**9.1**	**43.7**	**56.4**	**77.6**	**22.4**	**78.7**	**21.3**	**15.4**	**84.6**	**89.1**	**10.9**	**90.5**	**9.5**	**17.6**	**82.4**

Source: NISR, SAS 2019

Table 29: Season B 2019_Use of seeds by farmer type per district (in percentage)

District	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved	Traditional	Improved
Nyarugenge	93.3	6.7	93.3	6.7	-	-	89.6	10.4	89.6	10.4	-	-	93	7	93	7	-	-
Gasabo	93.9	6.1	95.5	4.5	63.6	36.4	87.5	12.5	90.2	9.8	-	100	95	5	96.6	3.3	20.8	79.2
Kicukiro	97.8	2.2	97.9	2.1	50	50	94.2	5.8	94.6	5.4	-	100	97.5	2.5	97.6	2.4	52.9	47.1
Nyanza	91.7	8.3	92.9	7.1	29.4	70.6	82.2	17.8	83.8	16.3	-	100	93.5	6.5	95	4.9	2.5	97.5
Gisagara	95.1	4.9	96.5	3.5	11.8	88.2	89.4	10.6	92	8	13.3	86.7	91	9	96.4	3.4	5.2	94.8
Nyaruguru	93.5	6.5	93.6	6.4	-	100	86.6	13.4	86.8	13.2	-	100	94.1	5.9	94.3	5.7	-	100
Huye	93.9	6.1	95.4	4.7	44	56	86	14	89.1	10.9	16.7	83.3	93.7	6.3	96.3	3.6	22	78
Nyamagabe	95.2	4.8	95.5	4.5	25	75	87.4	12.6	87.6	12.4	-	100	96.2	3.8	96.3	3.7	2.7	97.3
Ruhango	94	6.1	95.5	4.5	51.5	48.5	90.3	9.7	91.4	8.6	40	60	94.6	5.4	96.5	3.4	15	85
Muhanga	98.4	1.6	98.5	1.5	50	50	96	4	96.2	3.8	50	50	98.4	1.6	98.5	1.5	45.7	54.3
Kamonyi	96	4	96.5	3.6	-	100	90.4	9.7	91.3	8.7	-	100	96.9	3.1	97.4	2.6	-	100
Karongi	94.9	5.1	95	5	-	100	88.2	11.8	88.5	11.5	-	100	97.6	2.4	97.7	2.3	-	100
Rutsiro	92.9	7.1	92.9	7.1	-	-	85.4	14.6	85.4	14.6	-	-	92.5	7.5	92.5	7.5	-	-
Rubavu	83.7	16.3	83.6	16.4	100	-	77.3	22.7	77.2	22.8	100	-	80.2	19.8	80.2	19.8	100	-
Nyabihu	84.2	15.8	84.2	15.8	-	-	73.9	26.1	73.9	26.1	-	-	83.2	16.8	83.2	16.8	-	-
Ngororero	92.8	7.2	92.8	7.2	-	-	86.1	13.9	86.1	13.9	-	-	91.2	8.8	91.2	8.8	-	-
Rusizi	95.2	4.8	96.1	3.9	65.2	34.8	91.3	8.7	92.5	7.5	16.7	83.3	91.4	8.6	96.6	3.2	5	95
Nyamasheke	96.8	3.2	97	3	50	50	93.6	6.4	94.4	5.6	40	60	96.8	3.2	97.6	2.4	32.7	67.3
Rulindo	95.8	4.2	96.1	4	66.7	33.3	91.3	8.7	91.6	8.4	50	50	97.2	2.8	97.3	2.7	45.9	54.1
Gakenke	96.9	3.2	96.9	3.2	-	-	91.9	8.1	91.9	8.1	-	-	96.2	3.8	96.2	3.8	-	-
Musanze	94.2	5.9	94.1	5.9	100	-	91.4	8.7	91.3	8.7	100	-	90.9	9.1	90.9	9.1	100	-
Burera	97.8	2.2	97.8	2.2	-	-	95.7	4.4	95.7	4.4	-	-	96.5	3.5	96.5	3.5	-	-
Gicumbi	96.7	3.3	96.8	3.2	50	50	92.8	7.2	93	7	-	100	96.5	3.5	96.5	3.5	14	86
Rwamagana	91.8	8.2	93.3	6.7	78.2	21.8	81.4	18.6	84	16	33.3	66.7	91	9	92	7.9	26	74
Nyagatare	93.2	6.8	94.7	5.4	58.6	41.4	83.4	16.6	85	15	21.7	78.3	90.3	9.7	92.4	7.4	12.3	87.7
Gatsibo	93.4	6.6	94.8	5.3	52.5	47.5	85	15	86.4	13.6	14.3	85.7	92.3	7.7	94.7	5.2	4.1	95.9
Kayonza	93.7	6.3	96.2	3.8	72.4	27.6	89.1	11	90.5	9.5	20	80	95.3	4.7	97.4	2.5	14.2	85.8
Kirehe	98.2	1.9	98.7	1.3	41.2	58.8	96	4	96.9	3.1	30	70	96.9	3.1	99.3	0.7	31.1	68.9
Ngoma	93.6	6.4	97.9	2.2	30	70	93	7	95	5	30	70	97.3	2.7	98.2	1.7	44.7	55.3
Bugesera	84	16	92.9	7.1	39.2	60.8	77	23	83.5	16.5	11.4	88.6	91.8	8.2	94.5	5.3	28.6	71.4
National	**94.0**	**6.0**	**95.2**	**4.8**	**57.2**	**42.8**	**88.2**	**11.8**	**89.4**	**10.6**	**20.4**	**79.6**	**93.9**	**6.1**	**95.3**	**4.6**	**17.1**	**82.9**

Source: NISR, SAS 2019

Table 30: Season C 2019_Use of seeds types per district (in percentage)

District	Percentage of plots		Percentage of farmers		Percentage of land size	
	Traditional	Improved	Traditional	Improved	Traditional	Improved
Nyarugenge	86.7	13.3	80.0	20.0	72.3	27.7
Gasabo	92.0	8.0	91.3	8.7	96.1	3.9
Nyanza	84.0	16.0	81.8	18.2	83.4	16.6
Gisagara	90.9	9.2	85.6	14.4	89.9	10.1
Nyaruguru	85.5	14.5	84.5	15.5	87.6	12.4
Huye	92.9	7.1	89.6	10.4	89.7	10.3
Nyamagabe	87.6	12.4	84.7	15.3	86.3	13.7
Ruhango	86.0	14.0	81.6	18.4	79.9	20.1
Muhanga	100.0	-	100.0	-	100.0	-
Kamonyi	69.6	30.4	61.3	38.7	56.8	43.2
Karongi	81.5	18.5	84.6	15.4	83.2	16.8
Rutsiro	92.2	7.8	87.1	12.9	93.7	6.3
Rubavu	76.7	23.3	75.9	24.1	71.8	28.2
Nyabihu	90.2	9.8	88.4	11.6	92.4	7.6
Ngororero	100.0	-	100.0	-	100.0	-
Rusizi	93.9	6.1	92.0	8.0	92.9	7.1
Nyamasheke	50.0	50.0	33.3	66.7	41.9	58.1
Rulindo	46.9	53.1	40.0	60.0	68.8	31.2
Gakenke	86.1	14.0	82.9	17.1	86.9	13.1
Musanze	87.0	13.0	85.3	14.7	96.0	4.0
Burera	98.1	1.9	97.8	2.2	99.8	0.2
Gicumbi	90.2	9.8	89.5	10.5	85.6	14.4
Rwamagana	66.7	33.3	66.7	33.3	63.5	36.5
Nyagatare	60.0	40.0	58.3	41.7	43.3	56.7
Gatsibo	62.7	37.3	61.5	38.5	49.7	50.3
Kayonza	54.6	45.5	28.6	71.4	48.5	51.5
Kirehe	85.7	14.3	78.6	21.4	88.7	11.3
Bugesera	99.1	0.9	98.8	1.2	98.3	1.7
National	**87.4**	**12.6**	**85.4**	**14.6**	**87.8**	**12.2**

Source: NISR, SAS 2019

Table 31: Percentage of plots by type of seed per season and crop type in 2019

	Traditional seeds			Improved seeds		
Crop type	**Season A**	**Season B**	**Season C**	**Season A**	**Season B**	**Season C**
Fruits	92.1	68.1	-	48.5	31.9	-
Vegetables	87.7	57.7	51.2	52.6	42.3	48.8
Other crops	91.5	74.0	-	23.6	26.1	-
Other tubers		33.3	-		66.7	-
Fodder crops	90.4	88.2	-	16.6	11.8	-
Other cereals	84.5	99.0	-	1.5	1.0	-
Maize	89.0	75.5	-	34.9	24.5	-
Paddy rice	91.8	65.6	-	40.9	34.4	-
Sorghum	93.6	100.0	-	-	-	-
Wheat	95.5	87.1	-	30.2	12.9	-
Bush bean	94.9	99.0	99.3	1.0	1.0	0.7
Climbing bean	91.0	99.7	100.0	0.3	0.4	-
Pea	88.9	100.0	100.0	-	-	-
Irish potato	88.8	98.2	94.5	1.9	1.8	5.5
Sweet potato	75.0	99.7	99.7	0.4	0.3	0.4
Soybean	85.7	96.1	99.1	4.3	3.9	0.9
Groundnut	87.5	99.9	-	0.3	0.1	-
Small red bean	87.9	100.0	-	-	-	-
Taro	93.6	100.0	-	-	-	-
Yams	85.3	100.0	-	-	-	-
Cassava	84.3	99.2	-	1.5	0.8	-
Cooking banana	83.4	99.6	-	2.0	0.5	-
Dessert banana	88.8	96.9	-	2.6	3.2	-
Banana for beer	91.1	99.6	-	0.9	0.4	-
National	**86.8**	**94.0**	**87.4**	**11.0**	**6.0**	**12.6**

Source: NISR, SAS 2019

Table 32: Percentage of seeds by source of improved seeds per district in 2019

District	Government			Recognized seed multipliers			Agro dealers			NGOs			Market			Agriculture cooperatives			Other Source		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	40.4	43.2	-	1.8	6.8	50.0	33.3	31.8	-	1.8	4.6	-	21.1	9.1	50.0	1.8	2.3	-	-	2.3	-
Gasabo	10.9	35.9	-	22.5	15.1	-	25.2	28.3	-	7.5	1.9	-	28.6	13.2	100.0	2.0	5.7	-	3.4	-	-
Kicukiro	12.1	14.3		22.4	-		36.2	57.1		1.7	-		25.9	28.6		-	-		1.7	-	
Nyanza	13.6	13.3	-	6.2	9.3	8.3	24.7	38.7	33.3	45.7	29.3	-	7.4	2.7	58.3	1.2	5.3	-	1.2	1.3	-
Gisagara	10.9	23.5	-	12.0	21.6	-	22.9	15.7	71.4	46.9	29.4	-	1.6	7.8	28.6	5.2	2.0	-	0.5	-	-
Nyaruguru	10.3	44.2	-	1.5	14.0	8.3	2.9	11.6	-	80.9	25.6	-	1.5	2.3	91.7	1.5	2.3	-	1.5	-	-
Huye	9.6	22.2	-	28.8	25.9	20.0	30.1	14.8	40.0	21.9	16.7	-	4.1	5.6	40.0	5.5	14.8	-	-	-	-
Nyamagabe	4.8	23.9	8.3	11.3	10.9	16.7	21.0	15.2	41.7	45.2	26.1	-	17.7	17.4	33.3	-	6.5	-	-	-	-
Ruhango	11.8	34.5	-	14.7	19.0	14.3	70.6	36.2	14.3	-	3.5	-	2.9	-	71.4	-	6.9	-	-	-	-
Muhanga	43.1	55.6		12.1	5.6		27.6	22.2		-	5.6		10.3	11.1		5.2	-		1.7	-	
Kamonyi	17.6	38.9	-	14.9	-	11.8	54.1	38.9	58.8	8.1	-	-	5.4	16.7	29.4	-	5.6	-	-	-	-
Karongi	7.6	7.9	-	3.3	15.8	20.0	22.8	34.2	80.0	64.1	26.3	-	1.1	15.8	-	-	-	-	1.1	-	-
Rutsiro	1.0	24.5	-	4.0	24.5	-	38.6	28.3	12.5	41.6	13.2	-	13.9	7.6	87.5	-	1.9	-	1.0	-	-
Rubavu	6.0	12.6	-	8.3	10.5	42.9	63.1	43.2	28.6	0.6	-	14.3	22.0	33.7	14.3	-	-	-	-	-	-
Nyabihu	3.4	4.5	-	4.3	4.5	12.5	80.3	80.9	50.0	2.6	-	-	8.6	10.1	37.5	0.9	-	-	-	-	-
Ngororero	6.7	10.9		5.7	6.5		58.1	50.0		26.7	30.4		1.9	-		1.0	2.2		-	-	
Rusizi	9.3	24.3	-	7.6	8.1	-	4.2	21.6	50.0	76.3	27.0	-	1.7	10.8	50.0	0.9	8.1	-	385.0	-	-
Nyamasheke	21.2	64	-	26.9	4.0	-	40.4	4.0	50.0	7.7	4.0	-	3.9	8.0	50.0	-	16.0	-	-	-	-
Rulindo	19.6	20	-	2.7	13.3	-	65.2	42.2	82.4	0.5	11.1	-	4.4	11.1	11.8	6.0	2.2	5.9	1.6	-	-
Gakenke	0.6	40	-	12.3	3.3	-	58.5	40.0	50.0	8.2	-	-	7.6	10.0	50.0	12.9	6.7	-	-	-	-
Musanze	9.8	12.5	6.3	8.4	-	31.3	72.7	67.5	43.8	-	-	-	9.1	20.0	12.5	-	-	6.3	-	-	-
Burera	6.4	-	-	4.8	9.5	-	81.6	61.9	50.0	-	-	-	7.2	28.6	-	-	-	-	-	-	50.0
Gicumbi	8.9	18.2	-	5.0	21.2	66.7	75.3	27.3	33.3	-	-	-	10.9	27.3	-	-	6.1	-	-	-	-
Rwamagana	15.8	28.4	-	9.8	12.8	-	38.0	26.5	70.0	10.9	11.8	-	15.8	18.6	30.0	8.7	1.0	-	1.1	1.0	-
Nyagatare	14.0	18.2	16.7	5.1	9.4	-	45.9	37.1	33.3	11.5	22.9	-	14.7	7.7	16.7	8.3	4.7	-	0.6	-	33.3
Gatsibo	10.4	10.9	-	13.6	17.2	4.6	24.0	34.4	31.8	49.8	32.0	-	1.4	1.6	54.6	0.9	3.9	-	-	-	9.1
Kayonza	11.4	17.9	-	24.7	22.4	-	10.8	27.6	20.0	5.7	20.9	-	37.3	9.0	80.0	10.1	1.5	-	-	0.8	-
Kirehe	17.0	50	-	15.0	21.9	-	28.0	9.4	-	2.0	3.1	-	12.0	6.3	100.0	26.0	9.4	-	-	-	-
Ngoma	29.6	11.8		11.2	17.7		30.9	17.7		11.8	49.0		13.8	2.0		2.0	2.0		0.7	-	
Bugesera	26.7	16.3	-	24.2	30.6	-	23.3	38.1	-	8.1	3.1	-	13.6	6.3	100.0	4.2	3.8	-	-	1.9	-
National	**13.2**	**21.3**	**1.4**	**11.6**	**14.7**	**11.5**	**40.4**	**34.6**	**42.6**	**19.0**	**15.0**	**0.5**	**11.3**	**10.3**	**40.7**	**4.0**	**3.7**	**1.0**	**0.5**	**0.4**	**2.4**

NISR, SAS, 2019

Table 33: Source of improved seeds by season per crop type in 2019 (in percentage)

Crop	Government			Recognized seed multipliers			Agro-dealers			NGOs			Market			Agriculture cooperatives			Other source		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Fruits	22.6	16.2	-	46.1	61.8		7.8	11.8		6.1	-	-	15.7	8.8		1.7	1.5		-	-	
Vegetables	2.0	2.5	1.1	6.7	6.6	4.9	35.9	45.9	45.1	4.1	10.7	-	48.7	31.8	45.7	0.8	1.3	0.5	1.8	1.3	2.7
Other crops	34.8	87.9	-	30.4	5.0	-	4.4	-	-	13.0	0.5	-	6.5	0.5	-	6.5	6.0	-	4.4	-	-
Fodder crops	52.2	50.0	-	13.0	-	-	13.0	-	-	13.0	-	-	2.2	-	-	4.4	-	-	2.2	50.0	-
Other cereals	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-
Maize	11.3	12.1	-	6.8	7.2	-	48.3	46.5	-	24.3	24.4	-	5.3	7.9	-	3.9	2.0	-	0.2	-	-
Paddy rice	4.1	1.2	-	60.8	69.9	-	-	4.8	-	1.0	1.2	-	-	-	-	34.0	22.9	-	-	-	-
Sorghum	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	10.5	12.0	-	10.5	16.0	-	79.0	64.0	-	-	-	-	-	-	-	-	8.0	-	-	-	-
Bush bean	17.5	20.0	-	7.0	16.0	100.0	21.1	26.0	-	49.1	32.0	-	3.5	4.0	-	-	2.0	-	1.8	-	-
Climbing bean	16.7	22.2	-	-	11.1	-	33.3	22.2		33.3	22.2	-	16.7	11.1	-	-	11.1		-	-	-
Irish potato	16.7	34.4	4.8	66.7	59.4	57.1	2.8	6.3	28.6	2.8	-	4.8	2.8	-	-	5.6	-	4.8	2.8	-	-
Sweet potato	66.7	40.0	-	11.1	60.0	100.0	-	-	-	11.1	-	-	11.1	-	-	-	-	-	-	-	-
Soybean	59.0	25.0	-	12.8	-	-	18.0	50.0	-	5.1	5.0	-	5.1	7.5	100.0	-	12.5	-	-	-	-
Groundnut	-	-	-	50.0	100.0	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cassava	65.4	58.8	-	19.2	35.3	-	-	-	-	7.7	-	-	3.9	5.9	-	3.9	-	-	-	-	-
Cooking banana	65.9	-	-	22.0	88.9	-	2.4	-	-	7.3	11.1	-	2.4	-	-	-	-	-	-	-	-
Dessert banana	35.7	43.2	-	57.1	37.8	-	-	2.7	-	-	-	-	3.6	8.1	-	-	5.4	-	385.0	2.7	-
Banana for beer	40.0		-	60.0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
National	13.2	21.3	1.4	11.6	14.7	11.5	40.4	34.6	42.6	19.0	15.0	0.5	11.3	10.3	40.7	4.0	3.7	1.0	0.5	0.4	2.4

Source: NISR, SAS 2019

Table 34: Season A 2019_Use of organic fertilizer by farmer type per district (in percentage)

	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
District	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	30.4	69.6	30.4	69.6	-	-	30	70	30	70	-	-	32.3	67.7	32.3	67.7	-	-
Gasabo	46.6	53.4	47.6	52.4	42.6	57.4	47.5	52.5	46.9	53.1	66.7	33.3	56.2	43.8	56.0	44.0	68.6	31.4
Kicukiro	45.6	54.4	43.9	56.1	72.2	27.8	42.6	57.4	42	58	75	25	57.8	42.2	57.7	42.3	84.0	16.0
Nyanza	47.4	52.6	46.7	53.3	64.7	35.3	47.8	52.2	47.3	52.7	71.4	28.6	42.1	57.9	41.5	58.5	65.6	34.4
Gisagara	51.9	48.1	50.7	49.3	76	24	51	49	50.4	49.6	66.7	33.3	58.2	41.8	59.1	40.9	50.3	49.7
Nyaruguru	76.8	23.2	76.6	23.4	100	0	75.3	24.7	75.1	24.9	100	0	85.5	14.5	85.5	14.5	100.0	-
Huye	58.3	41.7	58.1	41.9	61.3	38.7	58.2	41.8	57.4	42.6	73.7	26.3	59.6	40.4	59.5	40.5	61.2	38.8
Nyamagabe	76.3	23.7	76	24	100	0	77.4	22.6	77.3	22.7	100	0	78.3	21.7	78.3	21.7	100.0	-
Ruhango	45	55	45.4	54.6	35.3	64.7	45.6	54.4	45.7	54.3	44.4	55.6	47.4	52.6	48.3	51.7	17.5	82.5
Muhanga	68.6	31.4	67.4	32.6	100	0	67.3	32.7	66.9	33.1	100	0	72.0	28.0	71.7	28.3	100.0	-
Kamonyi	58.4	41.6	59.1	40.9	45.8	54.2	59.6	40.4	59.6	40.4	57.1	42.9	60.5	39.5	60.5	39.5	57.6	42.4
Karongi	57.8	42.2	57.5	42.5	100	0	59.6	40.4	59.5	40.5	100	0	59.1	40.9	59.1	40.9	100.0	-
Rutsiro	63.9	36.1	63.9	36.1	-	-	63.5	36.5	63.5	36.5	-	-	72.2	27.8	72.2	27.8		
Rubavu	28.2	71.8	26.6	73.4	90	10	25.5	74.5	25.1	74.9	100	0	27.5	72.5	27.5	72.5	67.1	32.9
Nyabihu	62.6	37.4	62.6	37.4	-	-	60.2	39.8	60.2	39.8	-	-	65.1	34.9	65.1	34.9	-	-
Ngororero	74.7	25.3	74.7	25.3	-	-	75.1	24.9	75.1	24.9	-	-	75.0	25.0	75.0	25.0	-	-
Rusizi	56.8	43.2	57.8	42.2	10	90	56.9	43.1	57.5	42.5	16.7	83.3	59.0	41.0	61.0	39.0	24.1	75.9
Nyamasheke	63.6	36.4	63.1	36.9	100	0	62.8	37.2	62.3	37.7	100	0	67.2	32.8	66.7	33.3	100.0	-
Rulindo	79.3	20.7	81.4	18.6	33.3	66.7	81.3	18.7	82	18	33.3	66.7	82.5	17.5	82.8	17.2	8.2	91.8
Gakenke	85	15	85	15	-	-	-	15.4	84.6	15.4	-	-	89.0	11.0	89.0	11.0		
Musanze	57	43	57	43	60	40	57	43	57.1	42.9	0	100	58.7	41.3	58.6	41.4	89.8	10.2
Burera	71.5	28.5	71.5	28.5	-	-	72.1	27.9	72.1	27.9	-	-	69.4	30.6	69.4	30.6	-	-
Gicumbi	76.7	23.3	76.6	23.4	100	0	78.6	21.4	78.5	21.5	100	0	81.1	18.9	81.1	18.9	100.0	-
Rwamagana	46.7	53.3	50.9	49.1	33.8	66.2	48.4	51.6	49.6	50.4	27.3	72.7	59.5	40.5	60.3	39.7	12.0	88.0
Nyagatare	28.8	71.2	28.7	71.3	29.5	70.5	28.2	71.8	28.3	71.7	23.8	76.2	32.5	67.5	33.7	66.3	4.5	95.5
Gatsibo	39.6	60.4	39.4	60.6	44.7	55.3	41.4	58.6	41.1	58.9	60	40	44.1	55.9	45.1	54.9	17.8	82.2
Kayonza	25.9	74.1	27.3	72.7	17.8	82.2	26.5	73.5	26.8	73.2	13.3	86.7	31.6	68.4	32.5	67.5	2.4	97.6
Kirehe	42.9	57.1	43.1	56.9	30.8	69.2	44.1	55.9	44.4	55.6	22.2	77.8	55.2	44.8	54.8	45.2	63.3	36.7
Ngoma	51.6	48.4	53.2	46.8	35.1	64.9	51.5	48.5	52.8	47.2	16.7	83.3	53.0	47.0	54.0	46.0	2.2	97.8
Bugesera	26.8	73.2	23.7	76.3	33.5	66.5	22.4	77.6	23.4	76.6	11.8	88.2	26.2	73.8	27.2	72.8	7.9	92.1
National	52.8	47.2	53.6	46.4	39.6	60.4	53.3	46.7	53.5	46.5	42.7	57.3	57.2	42.8	57.8	42.2	31.8	68.2

Source: NISR, SAS 2019

Table 35: Season B 2019_Use of organic fertilizer by farmer type per district (in percentage)

District	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	28.4	71.6	28.4	71.6			30.7	69.3	30.7	69.3	-	-	28.8	71.2	28.8	71.2		
Gasabo	38.8	61.2	38.3	61.7	43.6	56.4	41.4	58.6	40.5	59.5	70.0	30.0	46.1	53.9	46.4	53.6	33.4	66.6
Kicukiro	29.3	70.8	29.1	70.9	50	50	31.7	68.3	31.4	68.6	100.0	-	33	67	32.9	67.1	59.5	40.5
Nyanza	42	58	41.5	58.5	56.3	43.8	46.2	53.8	45.7	54.3	71.4	28.6	40.2	59.8	39.6	60.4	71.4	28.6
Gisagara	29.7	70.3	29.2	70.8	44.4	55.6	30.8	69.2	30.5	69.5	40.0	60.0	32.3	67.7	32.7	67.3	27.3	72.7
Nyaruguru	60.3	39.7	60.2	39.8	100	-	63.6	36.4	63.5	36.5	100.0	-	67.3	32.7	67.2	32.8	100	-
Huye	40.2	59.8	40.2	59.8	40.7	59.3	43.1	56.9	43.0	57.0	44.4	55.6	42	58	42	58	41.7	58.3
Nyamagabe	68.3	31.7	68.3	31.7	75	25	73.1	26.9	73.0	27.0	100.0	-	72.8	27.2	72.7	27.3	97.2	2.8
Ruhango	33.5	66.5	32.5	67.5	56.5	43.5	36.9	63.1	36.6	63.4	50.0	50.0	33.8	66.2	32.8	67.2	75.8	24.2
Muhanga	65.7	34.3	65.6	34.4	100	-	67.5	32.5	67.3	32.7	100.0	-	69.3	30.7	69.2	30.8	100	-
Kamonyi	59.7	40.3	59.5	40.5	75	25	63.0	37.0	62.9	37.1	75.0	25.0	63.7	36.3	63.7	36.3	62.1	37.9
Karongi	53.8	46.2	53.7	46.3	100	-	57.6	42.4	57.5	42.5	100.0	-	58.9	41.1	58.8	41.2	100	-
Rutsiro	59.5	40.5	59.5	40.5	-	-	64.7	35.3	64.7	35.3	-	-	64.8	35.2	64.8	35.2	-	-
Rubavu	24.9	75.1	24.7	75.3	50	50	25.9	74.2	25.6	74.4	100.0	-	29.1	70.9	29.1	70.9	91.3	8.7
Nyabihu	59.4	40.6	59.4	40.6	-	-	60.8	39.2	60.8	39.2	-	-	61.4	38.6	61.4	38.6	-	-
Ngororero	68.5	31.5	68.5	31.5	-	-	72.5	27.5	72.5	27.5	-	-	70.6	29.4	70.6	29.4	-	-
Rusizi	45.6	54.4	45.6	54.4	45.5	54.6	47.4	52.7	47.9	52.2	16.7	83.3	43.1	56.9	45.5	54.5	1.2	98.8
Nyamasheke	57.9	42.1	58.2	41.9	40	60	63.3	36.7	63.6	36.4	40.0	60.0	57.5	42.5	58.1	41.9	20.4	79.6
Rulindo	72.8	27.2	73.5	26.5	33.3	66.7	76.2	23.8	76.2	23.8	75.0	25.0	76.7	23.3	76.8	23.2	17.1	82.9
Gakenke	83.1	16.9	83.1	16.9	-	-	84.0	16.1	84.0	16.1	-	-	84.1	15.9	84.1	15.9	-	-
Musanze	58	42	58.5	41.5	-	100	59.4	40.6	59.5	40.5	-	100.0	60.8	39.2	60.8	39.2	-	100
Burera	60.9	39.1	60.9	39.1	-	-	64.0	36.0	64.0	36.0	-	-	59.4	40.6	59.4	40.6	-	-
Gicumbi	63.9	36.1	64	36	50	50	68.2	31.8	68.1	31.9	100.0	-	68.5	31.5	68.5	31.5	86	14
Rwamagana	34.5	65.5	33.2	66.8	41.1	59	39.6	60.5	37.5	62.5	76.2	23.8	40.1	59.9	40.3	59.7	23.6	76.4
Nyagatare	24.9	75.1	24.3	75.7	34.4	65.6	25.8	74.2	25.8	74.2	26.1	73.9	24.8	75.2	25.6	74.4	1.8	98.2
Gatsibo	30.7	69.3	31.3	68.7	19.5	80.5	35.8	64.2	36.0	64.0	28.6	71.4	34.3	65.7	35.2	64.8	5.1	94.9
Kayonza	21.8	78.2	22	78	20.5	79.5	24.2	75.8	24.3	75.8	20.0	80.0	25.4	74.6	26	74	3.2	96.8
Kirehe	23.1	76.9	22.9	77.2	37.5	62.5	25.5	74.5	25.5	74.5	30.0	70.0	25.6	74.4	24.5	75.5	56.9	43.1
Ngoma	21.1	78.9	18.5	81.5	51.6	48.4	19.5	80.6	19.8	80.3	10.0	90.0	23	77	23.4	76.6	0.8	99.2
Bugesera	26	74	26.9	73.1	22.9	77.1	30.2	69.8	29.8	70.2	34.3	65.7	27.7	72.3	28.5	71.5	7.3	92.7
National	**43.8**	**56.2**	**44.2**	**55.8**	**50**	**50**	**46.9**	**53.1**	**47.0**	**53.0**	**43.1**	**56.9**	**46.5**	**53.5**	**46.9**	**53.1**	**23.5**	**76.5**

Source: NISR, SAS 2019

Table 36: Season C 2019_Use of organic fertilizer per district

District	Percentage of plots		Percentage of farmers		Percentage of land si	
	Yes	No	Yes	No	Yes	No
Nyarugenge	70	30	70	30	70.1	29.9
Gasabo	73.9	26.1	73.9	26.1	86.2	13.8
Nyanza	68.1	31.9	69.7	30.3	80.0	20.0
Gisagara	36.2	63.8	39.2	60.8	39.0	61.0
Nyaruguru	94.5	5.5	94.4	5.6	94.4	5.6
Huye	69.4	30.6	68.8	31.3	62.4	37.6
Nyamagabe	81.6	18.4	80.6	19.4	86.0	14.0
Ruhango	66.7	33.3	71.1	28.9	67.0	33.0
Muhanga	80	20	79.4	20.6	85.4	14.6
Kamonyi	81.3	18.8	80.6	19.4	92.4	7.6
Karongi	38.5	61.5	38.5	61.5	34.3	65.7
Rutsiro	63	37	64.5	35.5	76.4	23.6
Rubavu	33.3	66.7	31	69	19.5	80.5
Nyabihu	70.1	29.9	69.6	30.4	75.6	24.4
Ngororero	80.9	19.1	80.9	19.1	88.7	11.3
Rusizi	80.8	19.2	80	20	85.8	14.2
Nyamasheke	100	0	100	0	100.0	0.0
Rulindo	100	0	100	0	100.0	0.0
Gakenke	97.2	2.8	97.1	2.9	98.0	2.0
Musanze	75.2	24.8	75	25	83.9	16.1
Burera	71.9	28.1	70	30	73.5	26.5
Gicumbi	100	0	100	0	100.0	0.0
Rwamagana	59.1	40.9	57.1	42.9	73.4	26.6
Nyagatare	0	100	0	100	0.0	100.0
Gatsibo	63.6	36.4	64.1	35.9	57.8	42.2
Kayonza	85.7	14.3	85.7	14.3	91.7	8.3
Kirehe	53.3	46.7	50	50	83.2	16.8
Bugesera	4.7	95.3	3.7	96.3	4.4	95.6
National	**66.7**	**33.3**	**66.9**	**33.1**	**70.6**	**29.4**

Source: NISR, SAS 2019

Table 37: Season A2019_Use of inorganic fertilizer by farmer type per district

District	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	6.8	93.2	6.8	93.2			6.3	93.7	6.3	93.7	-	-	7.0	93.0	7.0	93.0	-	-
Gasabo	10.9	89.1	10.9	89.1	10.9	89.1	11.8	88.2	11.1	88.9	33.3	66.7	14.2	85.8	13.4	86.6	61.0	39.0
Kicukiro	19.3	80.7	16.4	83.6	66.7	33.3	19	81	18.5	81.5	50	50	25.1	74.9	25.0	75.0	47.5	52.5
Nyanza	18.1	81.9	16.6	83.4	58.8	41.2	18.2	81.8	16.8	83.2	85.7	14.3	17.2	82.8	15.2	84.8	98.1	1.9
Gisagara	36.2	63.8	34.1	65.9	80	20	35.8	64.2	33.6	66.4	94.4	5.6	35.3	64.7	28.0	72.0	99.9	0.1
Nyaruguru	46.1	53.9	45.8	54.2	100	0	42.7	57.3	42.2	57.8	100	0	53.8	46.2	53.7	46.3	100.0	-
Huye	21.9	78.1	17.9	82.1	74.2	25.8	22.2	77.8	18.4	81.6	94.7	5.3	20.4	79.6	16.4	83.6	98.8	1.2
Nyamagabe	35.6	64.4	34.7	65.3	100	0	36.3	63.7	36.1	63.9	100	0	45.1	54.9	45.0	55.0	100.0	-
Ruhango	7.1	92.9	5.4	94.6	47.1	52.9	8.2	91.8	6.2	93.8	88.9	11.1	5.0	95.0	2.2	97.8	95.9	4.1
Muhanga	11	89	7.4	92.6	100	0	8	92	6.9	93.1	100	0	7.9	92.1	6.9	93.1	100.0	-
Kamonyi	9.1	90.9	6.4	93.6	54.2	45.8	7.9	92.1	6.7	93.3	71.4	28.6	7.1	92.9	6.3	93.7	89.2	10.8
Karongi	32.6	67.4	32.1	67.9	100	0	34	66	33.8	66.2	100	0	31.2	68.8	31.1	68.9	100.0	-
Rutsiro	34.2	65.8	34.2	65.8		-	35.1	64.9	35.1	64.9	-	-	32.7	67.3	32.7	67.3	-	-
Rubavu	44.7	55.3	44.5	55.5	50	50	42	58	42	58	50	50	55.1	44.9	55.1	44.9	48.6	51.4
Nyabihu	46	54	46	54	-	-	45.4	54.6	45.4	54.6	-	-	45.2	54.8	45.2	54.8	-	-
Ngororero	30.4	69.6	30.4	69.6	-	-	30.6	69.4	30.6	69.4	-	-	26.8	73.2	26.8	73.2	-	-
Rusizi	54.1	45.9	53.5	46.5	80	20	53.9	46.1	53.5	46.5	83.3	16.7	51.8	48.2	49.9	50.1	87.7	12.3
Nyamasheke	46.4	53.6	45.7	54.3	100	0	47	53	46.3	53.7	100	0	45.4	54.6	44.6	55.4	100.0	-
Rulindo	31.7	68.3	29.9	70.1	70.8	29.2	32.4	67.6	32.2	67.8	50	50	24.3	75.7	24.1	75.9	89.7	10.3
Gakenke	46.1	53.9	46.1	53.9	-	-	46.9	53.1	46.9	53.1	-	-	45.8	54.2	45.8	54.2	-	-
Musanze	34.9	65.1	35	65	20	80	35.2	64.8	35.3	64.7	0	100	45.3	54.7	45.4	54.6	9.2	90.8
Burera	29.5	70.5	29.5	70.5	-	-	29.7	70.3	29.7	70.3	-	-	23.2	76.8	23.2	76.8	-	-
Gicumbi	23.8	76.2	23.7	76.3	50	50	23.6	76.4	23.6	76.4	0	100	22.4	77.6	22.4	77.6	71.6	28.4
Rwamagana	28.9	71.1	31.1	68.9	22.1	77.9	32.9	67.1	32.5	67.5	40.9	59.1	32.4	67.6	31.8	68.2	69.0	31.0
Nyagatare	15.7	84.3	12.6	87.4	63.9	36.1	13.8	86.2	12.1	87.9	81	19	18.8	81.2	15.5	84.5	98.8	1.2
Gatsibo	19.3	80.7	17.9	82.1	44.7	55.3	19.5	80.5	18.3	81.7	73.3	26.7	23.4	76.6	20.6	79.4	98.5	1.5
Kayonza	10.2	89.8	7.8	92.2	24	76	9.4	90.6	8.1	91.9	66.7	33.3	9.2	90.8	7.3	92.7	71.8	28.2
Kirehe	14.7	85.3	13.3	86.7	100	0	14.8	85.2	13.8	86.2	100	0	19.5	80.5	16.0	84.0	100.0	-
Ngoma	31.6	68.4	31.5	68.5	32.4	67.6	34.1	65.9	32.3	67.7	83.3	16.7	36.5	63.5	35.3	64.7	95.4	4.6
Bugesera	18.8	81.2	13.4	86.6	30.4	69.6	17.7	82.3	14.4	85.6	52.9	47.1	13.7	86.3	11.1	88.9	63.3	36.7
National	**26**	**74**	**25.1**	**74.9**	**39.4**	**60.6**	**26.1**	**73.9**	**25.3**	**74.7**	**71.4**	**28.6**	**26.3**	**73.7**	**24.8**	**75.2**	**90.6**	**9.4**

Source: NISR, SAS 2019

Table 38: Season B2019_Use of inorganic fertilizer by farmer type per district (in percentage)

District	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	6.9	93.1	6.9	93.1			7.4	92.6	7.4	92.6			6.3	93.7	6.3	93.7		
Gasabo	11	89.1	9.2	90.8	28.2	71.8	12.2	87.8	10.4	89.6	70.0	30.0	10.9	89.1	9.6	90.4	71.1	28.9
Kicukiro	13.6	86.4	13.7	86.3	-	100	14.8	85.2	14.9	85.1	-	100.0	13.5	86.5	13.6	86.4	-	100
Nyanza	14.8	85.2	13.6	86.5	50	50	17.8	82.2	16.3	83.8	100.0	-	13.9	86.1	12.3	87.7	98.1	1.9
Gisagara	19.1	80.9	16	84	100	-	19.5	80.5	16.7	83.3	100.0	-	19.2	80.8	12.1	87.9	100	-
Nyaruguru	38.9	61.1	38.8	61.3	100	-	41.0	59.0	40.8	59.2	100.0	-	49	51	48.9	51.1	100	-
Huye	17.9	82.1	15	85	66.7	33.3	20.3	79.7	16.7	83.3	100.0	-	18.7	81.3	15.2	84.8	98.6	1.4
Nyamagabe	35.1	64.9	34.7	65.3	75	25	38.5	61.5	38.3	61.7	100.0	-	39.2	60.8	39.2	60.8	97.2	2.8
Ruhango	10.2	89.8	8.9	91.1	39.1	60.9	11.5	88.5	9.7	90.3	90.0	10.0	6.7	93.3	4.4	95.6	98.7	1.3
Muhanga	6.6	93.4	6.2	93.8	100	-	7.4	92.6	6.9	93.1	100.0	-	6.7	93.3	6.3	93.7	100	-
Kamonyi	7.3	92.7	6.4	93.6	100	-	8.0	92.0	7.1	93.0	100.0	-	6.4	93.6	5.9	94.1	100	-
Karongi	23.2	76.8	23	77	100	-	26.8	73.3	26.5	73.5	100.0	-	26.2	73.8	26.1	73.9	100	-
Rutsiro	32.5	67.5	32.5	67.5			34.7	65.3	34.7	65.3			33.2	66.8	33.2	66.8		
Rubavu	54.9	45.1	55.4	44.6	-	100	56.0	44.0	56.1	43.9	-	100.0	55.6	44.4	55.6	44.4	-	100
Nyabihu	52.6	47.4	52.6	47.4			53.7	46.3	53.7	46.3			57	43	57	43		
Ngororero	30.2	69.8	30.2	69.8			33.2	66.8	33.2	66.8			36.5	63.5	36.5	63.5		
Rusizi	32.2	67.9	31.8	68.2	45.5	54.6	33.6	66.4	32.8	67.2	83.3	16.7	31.2	68.8	27.3	72.7	98.7	1.3
Nyamasheke	41.6	58.4	40.9	59.1	100	-	46.8	53.2	46.0	54.0	100.0	-	38	62	37	63	100	-
Rulindo	22.8	77.2	21.7	78.3	88.9	11.1	24.7	75.3	24.0	76.0	100.0	-	17.6	82.4	17.4	82.6	91.4	8.6
Gakenke	37.5	62.6	37.5	62.6			40.5	59.5	40.5	59.5			36.5	63.5	36.5	63.5		
Musanze	34.5	65.5	33.9	66.1	100	-	34.4	65.6	34.2	65.8	100.0	-	40.5	59.5	40.5	59.5	100	-
Burera	25.1	74.9	25.1	74.9			26.7	73.3	26.7	73.3			25.3	74.7	25.3	74.7		
Gicumbi	17	83	16.8	83.2	50	50	18.8	81.2	18.6	81.4	100.0	-	17.8	82.2	17.8	82.2	86	14
Rwamagana	23.2	76.9	22.9	77.1	24.2	75.8	25.9	74.1	23.9	76.1	61.9	38.1	27.9	72.1	27.1	72.9	75	25
Nyagatare	18.3	81.8	16	84	53.1	46.9	18.9	81.1	17.5	82.5	73.9	26.1	20.9	79.1	18.6	81.4	92.6	7.4
Gatsibo	13.3	86.7	12	88	41.5	58.5	15.6	84.4	14.3	85.7	78.6	21.4	21	79	18.6	81.4	97.3	2.7
Kayonza	9.3	90.7	8.2	91.8	16.4	83.6	10.6	89.5	9.1	90.9	80.0	20.0	11.7	88.3	9.7	90.3	86.4	13.6
Kirehe	11.3	88.7	10.1	89.9	75	25	12.3	87.7	11.3	88.8	90.0	10.0	8.4	91.6	5.2	94.8	98.9	1.1
Ngoma	10.9	89.1	5.5	94.5	74.2	25.8	8.8	91.2	6.3	93.7	90.0	10.0	8.3	91.7	6.5	93.5	96.3	3.7
Bugesera	12.8	87.2	8.3	91.7	28.8	71.2	14.2	85.8	9.1	90.9	65.7	34.3	10	90	7.3	92.7	79.5	20.5
National	**21.3**	**78.7**	**20.5**	**79.5**	**39.6**	**60.4**	**23.1**	**76.9**	**22.1**	**77.9**	**81.0**	**19.0**	**21.3**	**78.7**	**19.9**	**80.1**	**93.5**	**6.5**

Source: NISR, SAS 2019

Table 39: Season C 2019_Use of inorganic fertilizer per district (in percentage)

District	Percentage of plots		Percentage of farmers		Percentage of land size	
	Yes	No	Yes	No	Yes	No
Nyarugenge	10	90	10	90	23.6	76.4
Gasabo	65.2	34.8	65.2	34.8	64.3	35.7
Nyanza	27.5	72.5	28.8	71.2	36.5	63.5
Gisagara	20	80	21.6	78.4	23.3	76.7
Nyaruguru	15.1	84.9	15.5	84.5	10.1	89.9
Huye	32.7	67.3	33.3	66.7	24.8	75.2
Nyamagabe	27.6	72.4	27.8	72.2	43.4	56.6
Ruhango	33.3	66.7	34.2	65.8	41.5	58.5
Muhanga	10	90	10.3	89.7	13.1	86.9
Kamonyi	25	75	22.6	77.4	37.5	62.5
Karongi	15.4	84.6	15.4	84.6	8.4	91.6
Rutsiro	76.7	23.3	74.2	25.8	91.5	8.5
Rubavu	76.7	23.3	75.9	24.1	65.2	34.8
Nyabihu	79.2	20.8	79.7	20.3	81.0	19.0
Ngororero	2.1	97.9	2.1	97.9	0.8	99.2
Rusizi	50	50	52	48	58.6	41.4
Nyamasheke	100	0	100	0	100.0	-
Rulindo	70	30	70	30	89.1	10.9
Gakenke	44.4	55.6	45.7	54.3	53.0	47.0
Musanze	66.9	33.1	66.4	33.6	83.1	16.9
Burera	54.2	45.8	51.1	48.9	45.4	54.6
Gicumbi	90	10	89.5	10.5	97.0	3.0
Rwamagana	72.7	27.3	71.4	28.6	75.5	24.5
Nyagatare	30.8	69.2	33.3	66.7	48.9	51.1
Gatsibo	45.5	54.5	43.6	56.4	36.4	63.6
Kayonza	42.9	57.1	42.9	57.1	48.6	51.4
Kirehe	13.3	86.7	14.3	85.7	4.7	95.3
Bugesera	27.1	72.9	27.2	72.8	30.4	69.6
National	**42.9**	**57.1**	**42.4**	**57.6**	**56.2**	**43.8**

Source: NISR, SAS 2019

Table 40: Percentage of plots by type of inorganic fertilizer, per season and district (in percentage)

District	NPK 17-17-17			NPK 20-10-10			NPK 25-5-5			Urea			Liquid urea			DAP			KCL/MOP			Others		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	7.4	3.3	-	-	-	-	-	-	-	66.7	66.7	-	3.7	3.3	100.0	18.5	13.3	-	-	-	-	3.7	13.3	-
Gasabo	25.9	21.1	32.1	-	-	-	-	-	-	49.4	42.1	39.3	4.9	-	3.6	17.3	31.6	25.0	-	-	-	2.5	5.3	-
Kicukiro	17.6	20.7		-	-		-	-		35.3	37.9		-	-		42.4	39.7		-	-	-	4.7	1.7	
Nyanza	15.7	23.5	6.7	-	1.0	-	0.7	-	-	41.8	40.2	40.0	-	-	13.3	41.0	31.4	36.7	-	-	-	0.7	3.9	3.3
Gisagara	11.7	35.6	32.1	-	1.3	-	-	-	-	42.1	36.9	25.0	-	-	-	42.4	18.8	42.9	-	-	-	3.8	7.4	-
Nyaruguru	8.4	18.4	11.8	2.0	1.1	-	-	0.6	-	32.7	21.8	35.3	-	-	-	56.9	57.5	52.9	-	-	-	-	0.6	-
Huye	27.8	28.0	28.6	-	0.8	9.5	-	3.2	-	41.7	36.8	38.1	-	-	-	26.4	20.8	23.8	-	-	-	4.2	10.4	-
Nyamagabe	17.4	19.8	34.5	-	0.4	-	-	-	-	32.2	30.8	37.9	-	-	-	50.4	48.5	27.6	-	-	-	-	0.4	-
Ruhango	29.8	34.1	8.7	-	1.2	-	2.1	-	4.3	31.9	48.8	56.5	2.1	-	17.4	27.7	9.8	13.0	-	-	-	6.4	6.1	-
Muhanga	7.4	15.9	-	-	11.4	-	1.1	-	-	35.1	38.6	14.3	-	-	-	24.5	27.3	85.7	1.1	-	-	30.9	6.8	-
Kamonyi	7.5	15.6	-	-	-	-	-	11.1	-	55.2	48.9	66.7	-	-	-	35.8	20.0	33.3	-	-	-	1.5	4.4	-
Karongi	4.6	12.3	25.0	0.5	2.8	-	-	0.9	-	42.2	20.8	25.0	1.4	-	-	51.4	63.2	50.0	-	-	-	-	-	-
Rutsiro	11.2	22.6	73.5	0.8	3.0	-	0.8	-	-	32.8	28.6	10.3	-	-	-	53.1	40.2	8.8	-	-	-	1.2	5.5	7.4
Rubavu	59.1	57.7	63.6	-	-	-	-	-	-	13.0	13.2	18.2	2.0	2.5	3.0	15.8	15.0	12.1	-	-	-	10.1	11.6	3.0
Nyabihu	53.1	50.2	76.4	-	-	-	-	0.8	-	25.0	21.4	9.7	1.5	1.6	1.4	385.0	25.1	11.1	-	-	-	0.8	0.8	1.4
Ngororero	15.3	26.2	-	-	1.4	-	-	0.7	-	34.2	22.8	-	-	0.7	-	50.5	48.3	100.0	-	-	-	-	-	-
Rusizi	8.9	33.2	60.0	0.2	6.4	-	-	-	-	38.0	22.5	13.3	-	-	-	50.9	38.0	26.7	-	-	-	1.9	-	-
Nyamasheke	11.4	15.0	60.0	0.9	8.2	-	-	1.0	-	32.8	15.5	40.0	-	-	-	54.2	59.9	-	-	-	-	0.6	0.5	-
Rulindo	9.4	38.5	28.6	0.3	-	-	0.7	2.1	-	47.7	24.5	33.3	0.3	-	-	39.4	31.5	33.3	1.0	0.7	-	1.0	2.8	4.8
Gakenke	5.1	14.1	30.0	0.3	2.4	-	-	-	-	43.3	24.1	15.0	-	-	-	51.4	59.4	55.0	-	-	-	-	-	-
Musanze	34.6	51.3	58.3	-	-	-	-	-	-	31.9	24.1	10.0	0.4	-	-	31.1	23.6	24.2	-	-	-	1.9	1.0	7.5
Burera	36.3	61.5	83.1	-	-	-	-	-	-	21.5	16.7	6.8	-	-	-	35.0	19.9	1.7	-	-	-	7.2	1.9	8.5
Gicumbi	29.3	44.3	74.6	-	0.9	-	-	-	-	38.3	31.1	11.1	-	-	-	32.3	22.6	14.3	-	-	-	-	0.9	-
Rwamagana	25.4	25.1	20.6	0.7	8.0	-	-	-	-	37.1	26.7	35.3	0.7	1.1	-	33.9	34.2	38.2	-	-	-	2.1	4.8	5.9
Nyagatare	11.8	10.0	16.7	-	-	-	-	-	-	41.1	44.7	66.7	-	0.6	-	39.6	42.6	16.7	0.7	0.3	-	6.8	1.8	-
Gatsibo	9.4	13.6	30.8	2.2	9.5	-	-	0.6	-	43.3	38.5	34.6	0.4	-	3.8	42.6	33.1	26.9	0.4	-	-	1.8	4.7	3.8
Kayonza	19.7	28.7	33.3	-	0.8	-	0.8	-	-	27.0	32.6	66.7	2.5	-	-	33.6	30.2	-	-	3.1	-	16.4	4.7	-
Kirehe	4.5	14.5	-	1.9	14.5	-	-	-	-	26.0	29.9	-	-	0.9	33.3	64.9	38.5	66.7	0.6	0.9	-	1.9	0.9	-
Ngoma	4.5	16.9	-	-	1.7	-	-	-	-	42.1	44.1	-	-	3.4	-	52.5	18.6	-	-	-	-	0.9	15.3	-
Bugesera	22.9	17.0	30.8	-	-	-	-	-	-	39.1	31.0	38.5	0.5	-	-	31.8	40.0	30.8	-	-	-	5.7	12.0	-
National	**18.2**	**28.5**	**49.2**	**0.4**	**2.5**	**0.3**	**0.1**	**0.4**	**0.1**	**36.2**	**28.7**	**22.3**	**0.4**	**0.5**	**1.8**	**41.4**	**35.6**	**23.1**	**0.1**	**0.2**	**-**	**3.1**	**3.6**	**3.3**

Source: NISR, SAS 2019

Table 41: Use of fertilizer per districts and farmer types (percentages)

District	SSF												LSF								Overall											
	Organic only			Inorganic only			Both			None			Organic only		Inorganic only		Both		None		Organic only			Inorganic only			Both			None		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	26.5	25.4	60.0	1.2	2.9	-	5.8	3.4	10.0	66.5	68.3	29.9	-	-	-	-	-	-	-	-	26.5	25.4	60.0	1.2	2.9	-	5.8	3.4	10.0	66.5	68.3	29.9
Gasabo	44.3	38.1	13.0	1.8	1.3	4.3	11.7	8.3	60.9	42.2	52.3	11.1	12.8	20.3	5.2	58.1	55.8	13.0	26.2	8.5	43.8	37.7	13.0	1.8	2.5	4.3	12.4	8.4	60.9	42.0	51.4	11.1
Kicukiro	39.1	25.2		6.3	5.8	-	18.6	7.7	-	36.0	61.3	-	37.0	59.5	0.4	-	47.1	-	15.5	40.5	39.0	25.3	-	6.3	5.8	-	18.8	7.7	-	35.9	61.2	-
Nyanza	27.4	32.9	42.4	1.1	5.6	1.5	14.1	6.7	27.3	57.4	54.8	19.9	0.9	0.4	33.4	27.2	64.7	70.9	1.1	1.5	26.8	32.3	42.4	1.9	6.0	1.5	15.3	7.9	27.3	56.0	53.8	19.9
Gisagara	34.0	26.2	20.6	2.9	5.6	3.1	25.1	6.5	18.6	38.0	61.6	58.7	0.1	-	49.7	72.7	50.2	27.3	-	-	30.5	24.1	20.6	7.7	11.0	3.1	27.7	8.2	18.6	34.1	56.7	58.7
Nyaruguru	31.8	21.7	78.9	0.1	3.4	-	53.6	45.5	15.5	14.5	29.4	5.6	-	-	-	-	100	100	-	-	31.8	21.7	78.9	0.1	3.4	-	53.7	45.6	15.5	14.5	29.3	5.6
Huye	45.3	31.7	35.4	2.3	4.9	-	14.1	10.3	33.3	38.3	53.2	37.6	0.8	1.0	38.4	57.9	60.4	40.7	0.4	0.4	43.2	30.4	35.4	4.0	7.1	-	16.4	11.6	33.3	36.4	50.9	37.6
Nyamagabe	33.5	37.6	56.9	0.3	4.0	2.8	44.7	35.2	23.6	21.4	23.3	12.2	-	-	-	-	100	97.2	-	2.8	33.5	37.5	56.9	0.3	4.0	2.8	44.8	35.3	23.6	21.4	23.2	12.2
Ruhango	46.5	30.6	36.8	0.4	2.2	-	1.8	2.2	34.2	51.3	65.0	31.4	0.1	0.5	78.4	23.4	17.5	75.3	4.1	0.9	45.1	29.9	36.8	2.7	2.7	-	2.3	4.0	34.2	49.9	63.4	31.4
Muhanga	64.8	63.5	69.1	-	0.6	-	6.9	5.7	10.3	28.3	30.1	14.6	-	-	-	-	100	100	-	-	64.0	63.3	69.1	-	0.6	-	7.9	6.0	10.3	28.0	30.0	14.6
Kamonyi	55.1	59.0	58.1	0.8	1.2	-	5.5	4.7	22.6	38.7	35.1	7.6	4.6	-	36.2	37.9	53.0	62.1	6.3	-	54.5	58.7	58.1	1.2	1.4	-	6.0	5.0	22.6	38.3	34.9	7.6
Karongi	31.3	36.0	34.6	3.3	3.3	11.5	27.8	22.8	3.8	37.6	37.9	61.6	-	-	-	-	100.0	100.0	-	-	31.3	35.9	34.6	3.3	3.2	11.5	27.8	23.0	3.8	37.6	37.9	61.6
Rutsiro	41.0	34.7	6.5	1.5	3.1	16.1	31.2	30.1	58.1	26.2	32.1	5.8	-	-	-	-	-	-	-	-	41.0	34.7	6.5	1.5	3.1	16.1	31.2	30.1	58.1	26.2	32.1	5.8
Rubavu	9.8	5.9	3.4	37.5	32.4	48.3	17.6	23.2	27.6	35.1	38.5	32.0	18.5	91.3	-	-	48.6	-	32.9	8.7	9.8	6.0	3.4	37.4	32.4	48.3	17.7	23.1	27.6	35.1	38.5	32.0
Nyabihu	29.0	17.1	13.0	9.2	12.7	21.7	36.1	44.3	56.5	25.7	25.9	5.7	-	-	-	-	-	-	-	-	29.0	17.1	13.0	9.2	12.7	21.7	36.1	44.3	56.5	25.7	25.9	5.7
Ngororero	48.7	35.5	80.9	0.5	1.4	2.1	26.2	35.1	-	24.5	28.0	10.5	-	-	-	-	-	-	-	-	48.7	35.5	80.9	0.5	1.4	2.1	26.2	35.1	-	24.5	28.0	10.5
Rusizi	21.2	26.6	40.0	10.1	8.4	12.0	39.8	18.9	40.0	29.0	46.1	4.5	-	1.2	63.6	98.7	24.1	-	12.3	0.0	20.1	25.2	40.0	12.9	13.4	12.0	39.0	17.9	40.0	28.1	43.6	4.5
Nyamasheke	23.2	25.5	-	1.2	4.3	-	43.4	32.7	100.0	32.2	37.5	-	-	-	-	79.6	100	20.4	-	-	22.9	25.1	-	1.2	5.5	-	44.3	32.5	100	31.7	36.9	-
Rulindo	59.1	60.0	30.0	0.5	0.5	-	23.7	16.9	70.0	16.8	22.7	-	0.5	-	82.0	74.3	7.7	17.1	9.8	8.6	58.9	59.8	30.0	0.7	0.7	-	23.6	16.9	70.0	16.7	22.6	-
Gakenke	43.6	48.9	54.3	0.4	1.2	-	45.3	35.2	42.9	10.6	14.6	2.0	-	-	-	-	-	-	-	-	43.6	48.9	54.3	0.4	1.2	-	45.3	35.2	42.9	10.6	14.6	2.0
Musanze	22.4	24.9	11.2	9.1	4.5	1.7	36.2	35.9	63.8	32.3	34.6	13.8	80.6	-	-	100.0	9.2	-	10.2	-	22.4	24.9	11.2	9.1	4.5	1.7	36.2	35.9	63.8	32.2	34.6	13.8
Burera	48.9	41.3	24.4	2.7	7.3	5.6	20.5	18.1	45.6	27.9	33.3	21.1	-	-	-	-	-	-	-	-	48.9	41.3	24.4	2.7	7.3	5.6	20.5	18.1	45.6	27.9	33.3	21.1
Gicumbi	59.8	53.7	10.5	1.1	3.0	-	21.3	14.8	89.5	17.8	28.5	-	28.4	-	-	-	71.6	86.0	-	14.0	59.8	53.7	10.5	1.1	3.0	-	21.3	14.8	89.5	17.7	28.5	-
Rwamagana	34.8	24.1	4.8	6.3	10.9	19.0	25.5	16.2	52.4	33.4	48.8	18.8	8.4	13.6	65.4	65.0	3.6	10.0	22.6	11.4	34.4	23.9	4.8	7.3	11.7	19.0	25.1	16.1	52.4	33.2	48.2	18.8
Nyagatare	24.9	19.4	-	6.7	12.4	33.3	8.8	6.2	-	59.6	62.0	51.1	0.7	0.3	94.9	91.1	3.9	1.5	0.6	7.1	23.9	18.8	-	10.2	14.9	33.3	8.6	6.0	-	57.3	60.3	51.1
Gatsibo	28.4	24.2	28.2	4.0	7.7	7.7	16.6	10.9	35.9	51.0	57.1	36.4	0.6	-	81.4	92.2	17.2	5.1	0.9	2.7	27.4	23.5	28.2	6.7	10.3	7.7	16.6	10.7	35.9	49.2	55.5	36.4
Kayonza	28.4	20.9	42.9	3.2	4.5	-	4.1	5.2	42.9	64.3	69.5	8.3	1.4	1.4	70.9	84.6	1.0	1.8	26.8	12.1	27.6	20.3	42.9	5.2	6.6	-	4.0	5.1	42.9	63.3	67.9	8.3
Kirehe	42.4	22.5	35.7	3.6	3.3	-	12.4	2.0	14.3	41.6	72.2	16.8	-	0.1	36.7	42.2	63.3	56.7	-	1.0	40.7	21.8	35.7	5.0	4.6	-	14.5	3.8	14.3	39.9	69.8	16.8
Ngoma	27.2	19.9		8.5	3.0	-	26.7	3.6	-	37.5	73.6	-	1.0	0.0	94.2	95.5	1.2	0.8	3.6	3.6	26.7	19.5	-	10.2	4.8	-	26.2	3.5	-	36.8	72.2	-
Bugesera	24.4	26.3	-	8.4	5.2	23.5	2.7	2.1	3.7	64.5	66.4	69.6	3.4	4.3	58.8	76.5	4.5	3.0	33.3	16.2	23.4	25.5	-	10.8	7.8	23.5	2.8	2.2	3.7	62.9	64.5	69.6
National	**37.2**	**32.4**	**31.9**	**4.2**	**5.4**	**7.0**	**20.6**	**14.5**	**35.0**	**38.1**	**47.7**	**20.2**	**1.4**	**1.7**	**60.2**	**71.7**	**30.4**	**21.8**	**8.0**	**4.8**	**36.4**	**31.8**	**31.9**	**5.4**	**6.7**	**7.0**	**20.8**	**14.7**	**35.0**	**37.4**	**46.9**	**20.2**

Source : NISR, SAS 2019

Table 42: Percentage of plots by farmer type and type of fertilizer, per season and district

District	SSF												LSF								Overall											
	Organic only			Inorganic only			Both			None			Organic only		Inorganic only		Both		None		Organic only			Inorganic only			Both			None		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	25.4	23.5	60.0	1.7	2.0	-	5.1	4.9	10.0	67.9	69.6	30.0	-	-	-	-	-	-	-	-	25.4	23.5	60.0	1.7	2.0	-	5.1	4.9	10.0	67.9	69.6	30.0
Gasabo	38.5	31.2	13.0	1.9	2.1	4.3	9.0	7.1	60.9	50.6	59.6	21.7	32.7	28.2	1.0	12.8	9.9	15.4	56.4	43.6	37.4	31.0	13.0	1.7	3.1	4.3	9.2	7.9	60.9	51.7	58.1	21.7
Kicukiro	33.8	20.5		6.3	5.1	-	10.1	8.6	-	49.8	65.8	-	11.1	50.0	5.6	-	61.1	-	22.2	50.0	32.5	20.7		6.2	5.1	-	13.1	8.5	-	48.2	65.6	-
Nyanza	32.7	32.7	42.0	2.5	4.7	1.4	14.1	8.8	26.1	50.8	53.8	30.4	29.4	31.3	23.5	25.0	35.3	25.0	11.8	18.8	32.5	32.6	42.0	3.3	5.4	1.4	14.8	9.4	26.1	49.3	52.6	30.4
Gisagara	25.2	22.1	19.0	8.6	9.0	2.9	25.6	7.1	17.1	40.7	61.9	61.0	20.0	-	24.0	55.6	56.0	44.4	-	-	25.0	21.3	19.0	9.3	10.6	2.9	26.9	8.4	17.1	38.9	59.6	61.0
Nyaruguru	31.2	24.9	79.5	0.3	3.5	-	45.4	35.2	15.1	23.1	36.3	5.5	-	-	-	-	100.0	100.0	-	-	31.0	24.9	79.5	0.3	3.5	-	45.8	35.4	15.1	22.9	36.2	5.5
Huye	42.9	29.5	36.7	2.7	4.2	-	15.1	10.7	32.7	39.2	55.6	30.6	6.5	14.8	19.4	40.7	54.8	25.9	19.4	18.5	40.3	28.6	36.7	3.9	6.3	-	18.0	11.6	32.7	37.8	53.5	30.6
Nyamagabe	41.7	35.6	56.6	0.5	2.1	2.6	34.3	32.6	25.0	23.5	29.7	15.8	-	-	-	-	100.0	75.0	-	25.0	41.1	35.3	56.6	0.5	2.0	2.6	35.2	33.0	25.0	23.2	29.6	15.8
Ruhango	41.0	28.7	35.7	1.0	5.1	2.4	4.4	3.7	31.0	53.6	62.4	31.0	11.8	39.1	23.5	21.7	23.5	17.4	41.2	21.7	39.8	29.2	35.7	1.9	5.8	2.4	5.2	4.3	31.0	53.1	60.6	31.0
Muhanga	60.0	60.4	70.0	-	1.0	-	7.4	5.2	10.0	32.6	33.4	20.0	-	-	-	-	100.0	100.0	-	-	57.6	60.1	70.0	-	1.0	-	11.0	5.6	10.0	31.4	33.3	20.0
Kamonyi	53.4	54.5	56.3	0.7	1.4	-	5.7	5.1	25.0	40.1	39.1	18.8	16.7	-	25.0	25.0	29.2	75.0	29.2	-	51.4	54.0	56.3	2.1	1.6	-	7.0	5.7	25.0	39.5	38.7	18.8
Karongi	29.9	33.1	34.6	4.5	2.4	11.5	27.6	20.6	3.8	38.1	43.9	50.0	-	-	-	-	100.0	100.0	-	-	29.6	33.0	34.6	4.4	2.4	11.5	28.1	20.8	3.8	37.8	43.8	50.0
Rutsiro	37.0	31.5	5.5	7.3	4.5	19.2	26.9	28.0	57.5	28.8	36.0	17.8	-	-	-	-	-	-	-	-	37.0	31.5	5.5	7.3	4.5	19.2	26.9	28.0	57.5	28.8	36.0	17.8
Rubavu	12.4	8.6	3.3	30.3	39.3	46.7	14.2	16.1	30.0	43.0	36.0	20.0	40.0	50.0	-	-	50.0	-	10.0	50.0	13.1	9.0	3.3	29.6	38.9	46.7	15.0	16.0	30.0	42.2	36.2	20.0
Nyabihu	29.1	21.5	13.0	12.6	14.7	22.1	33.5	38.0	57.1	24.9	25.9	7.8	-	-	-	-	-	-	-	-	29.1	21.5	13.0	12.6	14.7	22.1	33.5	38.0	57.1	24.9	25.9	7.8
Ngororero	45.6	39.4	80.9	1.3	1.1	2.1	29.1	29.1	-	23.9	30.5	17.0	-	-	-	-	-	-	-	-	45.6	39.4	80.9	1.3	1.1	2.1	29.1	29.1	-	23.9	30.5	17.0
Rusizi	18.1	24.5	42.3	13.9	10.7	11.5	39.7	21.1	38.5	28.4	43.7	7.7	-	45.5	70.0	45.5	10.0	-	20.0	9.1	17.7	25.1	42.3	15.0	11.6	11.5	39.0	20.6	38.5	28.2	42.8	7.7
Nyamasheke	22.2	22.9	-	4.8	5.6	-	40.9	35.3	100	32.1	36.3	-	-	-	-	60.0	100.0	40.0	-	-	21.9	22.6	-	4.8	6.3	-	41.6	35.3	100.0	31.7	35.8	-
Rulindo	52.1	52.6	30.0	0.6	0.8	-	29.4	20.9	70.0	18.0	25.7	-	8.3	-	45.8	55.6	25.0	33.3	20.8	11.1	50.2	51.7	30.0	2.5	1.7	-	29.2	21.1	70.0	18.1	25.5	-
Gakenke	39.3	46.7	52.8	0.4	1.0	-	45.7	36.5	44.4	14.7	15.9	2.8	-	-	-	-	-	-	-	-	39.3	46.7	52.8	0.4	1.0	-	45.7	36.5	44.4	14.7	15.9	2.8
Musanze	27.2	29.5	10.7	5.3	4.9	2.5	29.8	29.0	64.5	37.7	36.6	22.3	40.0	-	-	100	20.0	-	40.0	-	27.4	29.2	10.7	5.2	5.8	2.5	29.7	28.8	64.5	37.8	36.3	22.3
Burera	44.5	40.6	22.9	2.5	4.8	5.2	27.0	20.3	49.0	26.0	34.3	22.9	-	-	-	-	-	-	-	-	44.5	40.6	22.9	2.5	4.8	5.2	27.0	20.3	49.0	26.0	34.3	22.9
Gicumbi	54.8	49.1	10.0	1.9	2.0	-	21.8	14.9	90.0	21.5	34.1	-	50.0	-	-	-	50.0	50.0	-	50.0	54.8	48.9	10.0	1.9	2.0	-	22.0	15.0	90.0	21.4	34.1	-
Rwamagana	31.7	20.5	4.5	11.9	10.3	18.2	19.2	12.7	54.5	37.2	56.6	22.7	21.4	25.3	9.7	8.4	12.4	15.8	56.6	50.5	29.2	21.3	4.5	11.4	9.9	18.2	17.5	13.2	54.5	41.9	55.5	22.7
Nyagatare	23.2	19.8	-	7.0	11.5	30.8	5.5	4.5	-	64.2	64.2	69.2	19.7	14.1	54.1	32.8	9.8	20.3	16.4	32.8	22.9	19.5	-	9.9	12.8	30.8	5.8	5.4	-	61.3	62.3	69.2
Gatsibo	24.8	23.9	27.3	3.4	4.6	9.1	14.6	7.4	36.4	57.3	64.2	27.3	21.3	-	21.3	22.0	23.4	19.5	34.0	58.5	24.6	22.8	27.3	4.3	5.4	9.1	15.0	8.0	36.4	56.1	63.9	27.3
Kayonza	24.0	17.5	42.9	4.4	3.7	-	3.3	4.5	42.9	68.2	74.2	14.3	12.4	19.7	18.6	15.6	5.4	0.8	63.6	63.9	22.2	17.8	42.9	6.6	5.3	-	3.6	4.0	42.9	67.5	72.9	14.3
Kirehe	33.0	19.4	40.0	3.2	6.6	-	10.0	3.5	13.3	53.7	70.5	46.7	-	6.3	69.2	43.8	30.8	31.3	-	18.8	32.5	19.1	40.0	4.3	7.3	-	10.4	4.0	13.3	52.9	69.6	46.7
Ngoma	28.8	15.7		7.1	2.8	-	24.3	2.8	-	39.7	78.8	-	32.4	3.2	29.7	25.8	2.7	48.4	35.1	22.6	29.2	14.7		9.2	4.6	-	22.4	6.3	-	39.3	74.4	-
Bugesera	21.0	24.3	-	10.7	5.7	22.4	2.7	2.6	4.7	65.6	67.4	72.9	23.0	14.4	19.9	20.3	10.5	8.5	46.6	56.8	21.6	22.1	-	13.6	8.9	22.4	5.2	3.9	4.7	59.6	65.1	72.9
National	**33.7**	**29.7**	**31.1**	**5.2**	**5.9**	**7.3**	**19.9**	**14.5**	**35.6**	**41.2**	**49.9**	**26.0**	**19.8**	**17.1**	**19.6**	**22.6**	**19.8**	**17.0**	**40.8**	**43.2**	**32.9**	**29.1**	**31.1**	**6.0**	**6.6**	**7.3**	**19.9**	**14.6**	**35.6**	**41.1**	**49.6**	**26.0**

Source : NISR, SAS 2019

Table 43:Percentage of Farmers by farmer type and type of fertilizer, per season and district

District	SSF												LSF								Overall											
	Organic only			Inorganic only			Both			None			Organic only		Inorganic only		Both		None		Organic only			Inorganic only			Both			None		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	25.2	25.9	46.5	1.6	1.9	-	4.7	4.9	23.6	68.5	67.3	29.9	-	-	-	-	-	-	-	-	25.2	25.9	46.5	1.6	1.9	-	4.7	4.9	23.6	68.5	67.3	29.9
Gasabo	37.1	33.4	24.6	1.4	1.8	2.7	9.8	7.1	61.6	51.8	57.7	11.1	41.7	50.0	8.3	20.0	25.0	20.0	25.0	10.0	37.3	33.9	24.6	1.6	2.4	2.7	10.2	7.4	61.6	50.9	56.3	11.1
Kicukiro	31.1	22.3	-	7.6	5.0	-	10.9	9.1	-	50.4	63.6	-	25.0	100.0	-	-	50.0	-	25.0	-	31.0	22.6	-	7.4	4.9	-	11.6	9.1	-	50.0	63.4	-
Nyanza	33.3	35.5	43.6	2.8	5.2	0.1	14.0	10.2	36.4	49.9	49.0	19.9	-	14.3	14.3	28.6	71.4	57.1	14.3	-	32.7	35.1	43.6	3.1	5.7	0.1	15.1	11.1	36.4	49.2	48.1	19.9
Gisagara	25.4	23.2	18.0	8.6	8.3	2.4	25.0	7.3	21.0	41.0	61.2	58.7	5.6	-	33.3	60.0	61.1	40.0	-	-	24.7	22.4	18.0	9.5	10.0	2.4	26.3	8.4	21.0	39.5	59.2	58.7
Nyaruguru	32.9	26.6	84.3	-	2.0	-	42.2	36.8	10.1	24.9	34.5	5.6	-	-	-	-	100.0	100.0	-	-	32.6	26.6	84.3	-	2.0	-	42.7	37.0	10.1	24.7	34.4	5.6
Huye	41.8	31.6	37.5	2.8	4.8	-	15.6	11.4	24.8	39.8	52.2	37.6	5.3	5.6	26.3	55.6	68.4	38.9	-	-	39.9	30.5	37.5	4.0	7.0	-	18.3	12.6	24.8	37.8	49.9	37.6
Nyamagabe	41.5	37.7	44.4	0.3	2.5	1.7	35.9	35.3	41.6	22.4	24.5	12.2	-	-	-	-	100.0	100.0	-	-	41.3	37.6	44.4	0.3	2.5	1.7	36.0	35.4	41.6	22.3	24.5	12.2
Ruhango	40.6	32.4	27.1	1.1	5.3	1.6	5.0	4.2	39.9	53.2	58.1	31.4	-	10.0	44.4	50.0	44.4	40.0	11.1	-	39.6	31.9	27.1	2.2	6.3	1.6	6.0	5.0	39.9	52.2	56.8	31.4
Muhanga	60.0	62.8	72.3	-	1.0	-	6.9	4.5	13.1	33.1	31.7	14.6	-	-	-	-	100.0	100.0	-	-	59.3	62.5	72.3	-	1.0	-	8.0	5.0	13.1	32.7	31.6	14.6
Kamonyi	53.2	57.2	54.9	0.3	0.8	-	6.4	5.7	37.5	40.1	36.3	7.6	14.3	-	28.6	25.0	42.9	75.0	14.3	-	52.5	56.6	54.9	0.8	1.1	-	7.1	6.4	37.5	39.6	35.9	7.6
Karongi	30.2	34.5	30.0	4.6	2.9	4.1	29.3	23.0	4.3	36.0	39.6	61.6	-	-	-	-	100.0	100.0	-	-	30.1	34.4	30.0	4.6	2.9	4.1	29.5	23.2	4.3	35.9	39.5	61.6
Rutsiro	36.5	35.3	2.7	8.1	4.8	17.8	26.9	29.4	73.7	28.4	30.5	5.8	-	-	-	-	-	-	-	-	36.5	35.3	2.7	8.1	4.8	17.8	26.9	29.4	73.7	28.4	30.5	5.8
Rubavu	13.3	9.1	2.8	30.1	37.9	48.5	11.9	16.5	16.7	44.8	36.5	32.0	50.0	100.0	-	-	50.0	-	-	-	13.5	9.4	2.8	29.9	37.8	48.5	12.1	16.5	16.7	44.5	36.4	32.0
Nyabihu	28.3	22.0	13.2	13.5	13.9	18.6	31.9	38.9	62.4	26.3	25.2	5.7	-	-	-	-	-	-	-	-	28.3	22.0	13.2	13.5	13.9	18.6	31.9	38.9	62.4	26.3	25.2	5.7
Ngororero	45.5	42.7	88.7	1.0	0.9	0.8	29.6	29.7	-	23.8	26.6	10.5	-	-	-	-	-	-	-	-	45.5	42.7	88.7	1.0	0.9	0.8	29.6	29.7	-	23.8	26.6	10.5
Rusizi	17.8	26.1	36.9	13.8	9.9	9.8	39.7	21.8	48.8	28.6	42.2	4.5	-	16.7	66.7	83.3	16.7	-	16.7	-	17.6	25.9	36.9	14.6	11.1	9.8	39.4	21.4	48.8	28.5	41.5	4.5
Nyamasheke	21.1	24.6	-	5.1	5.6	-	41.2	39.0	100.0	32.6	30.8	-	-	-	-	60.0	100.0	40.0	-	-	20.8	24.3	-	5.0	6.4	-	42.0	39.0	100.0	32.2	30.3	-
Rulindo	50.4	53.7	10.9	0.7	0.9	-	31.5	22.5	89.1	17.4	22.9	-	16.7	-	33.3	25.0	16.7	75.0	33.3	-	50.0	53.3	10.9	1.1	1.1	-	31.3	22.9	89.1	17.6	22.7	-
Gakenke	38.1	46.3	45.0	0.5	1.2	-	46.5	37.7	53.0	15.0	14.9	2.0	-	-	-	-	-	-	-	-	38.1	46.3	45.0	0.5	1.2	-	46.5	37.7	53.0	15.0	14.9	2.0
Musanze	27.3	30.4	3.1	5.5	4.6	2.3	29.8	29.2	80.8	37.4	35.9	13.8	-	-	-	100.0	-	-	100.0	-	27.2	30.3	3.1	5.5	4.8	2.3	29.7	29.1	80.8	37.6	35.8	13.8
Burera	45.1	42.2	33.5	2.7	5.0	5.4	27.0	21.7	40.0	25.2	31.1	21.1	-	-	-	-	-	-	-	-	45.1	42.2	33.5	2.7	5.0	5.4	27.0	21.7	40.0	25.2	31.1	21.1
Gicumbi	56.6	51.9	3.0	1.7	1.6	-	21.9	16.3	97.0	19.7	30.2	-	100.0	-	-	-	-	100.0	-	-	56.7	51.7	3.0	1.7	1.6	-	21.9	16.5	97.0	19.7	30.2	-
Rwamagana	30.3	23.9	5.7	13.2	6.9	7.8	19.3	13.6	67.7	37.2	55.6	18.8	18.2	47.6	31.8	23.8	9.1	28.6	40.9	-	29.7	25.2	5.7	14.2	7.8	7.8	18.7	14.4	67.7	37.4	52.6	18.8
Nyagatare	23.1	20.8	-	6.9	11.0	48.9	5.2	5.0	-	64.8	63.2	51.1	9.5	4.3	66.7	47.8	14.3	21.7	9.5	26.1	22.8	20.4	-	8.4	11.9	48.9	5.5	5.5	-	63.4	62.2	51.1
Gatsibo	25.9	27.3	27.2	3.1	4.8	5.8	15.2	8.7	30.6	55.8	59.2	36.4	13.3	-	26.7	42.9	46.7	28.6	13.3	28.6	25.6	26.8	27.2	3.6	5.5	5.8	15.9	9.1	30.6	54.9	58.6	36.4
Kayonza	23.6	19.2	43.1	4.9	3.5	-	3.2	5.0	48.6	68.3	72.2	8.3	-	13.3	53.3	60.0	13.3	6.7	33.3	20.0	23.1	19.1	43.1	6.0	4.7	-	3.4	5.1	48.6	67.5	71.2	8.3
Kirehe	33.9	21.5	78.5	3.3	6.5	-	10.5	3.9	4.7	52.3	68.0	16.8	-	10.0	77.8	70.0	22.2	20.0	-	-	33.5	21.4	78.5	4.2	7.4	-	10.6	4.1	4.7	51.7	67.1	16.8
Ngoma	27.2	16.6	-	6.6	2.8	-	25.6	3.1	-	40.5	77.4	-	8.3	-	75.0	70.0	8.3	10.0	8.3	20.0	26.5	16.1	-	9.1	4.9	-	25.0	3.3	-	39.3	75.7	-
Bugesera	20.8	26.7	-	11.8	4.8	26.0	2.5	3.1	4.4	64.8	65.3	69.6	2.9	20.0	44.1	40.0	8.8	14.3	44.1	25.7	19.3	26.1	-	14.7	8.0	26.0	3.1	4.1	4.4	63.0	61.8	69.6
National	**33.6**	**31.6**	**23.6**	**5.4**	**5.7**	**9.3**	**19.9**	**15.4**	**46.9**	**41.2**	**47.3**	**20.2**	**9.4**	**14.8**	**38.0**	**45.4**	**33.3**	**28.2**	**19.2**	**11.6**	33.1	**31.3**	**23.6**	**5.9**	**6.4**	**9.3**	**20.1**	**15.6**	**46.9**	**40.8**	**46.7**	**20.2**

Table 44: Season A 2019_Use of pesticides by farmer type per district

District	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	11.5	88.5	11.5	88.5	-	-	11.4	88.6	11.4	88.6	-	-	11.0	89.0	11.0	89.0	-	-
Gasabo	10.5	89.5	8.1	91.9	20.8	79.2	9.4	90.6	8.7	91.3	33.3	66.7	10.2	89.8	9.5	90.5	50.9	49.1
Kicukiro	13.1	86.9	10.8	89.2	50	50	11.2	88.8	10.9	89.1	25	75	20.9	79.1	20.9	79.1	32.4	67.6
Nyanza	16.2	83.8	15	85	47.1	52.9	16.5	83.5	15.1	84.9	85.7	14.3	16.1	83.9	14.1	85.9	95.5	4.5
Gisagara	28.9	71.1	26.7	73.3	76	24	28.3	71.7	26.1	73.9	88.9	11.1	29.6	70.4	21.9	78.1	97.8	2.2
Nyaruguru	18.5	81.5	18	82	100	0	18.4	81.6	17.7	82.3	100	0	24.2	75.8	24.1	75.9	100.0	-
Huye	13.6	86.4	8.9	91.1	74.2	25.8	13.8	86.2	9.5	90.5	94.7	5.3	13.6	86.4	9.3	90.7	98.8	1.2
Nyamagabe	18.4	81.6	17.5	82.5	83.3	16.7	19	81	18.8	81.2	100	0	23.1	76.9	23.0	77.0	86.1	13.9
Ruhango	8.5	91.5	7.2	92.8	41.2	58.8	9.3	90.7	7.8	92.2	66.7	33.3	8.4	91.6	6.0	94.0	85.7	14.3
Muhanga	10.7	89.3	7	93	100	0	7.1	92.9	6	94	100	0	6.6	93.4	5.5	94.5	100.0	-
Kamonyi	10.5	89.5	7.1	92.9	66.7	33.3	9	91	7.5	92.5	85.7	14.3	8.5	91.5	7.6	92.4	92.3	7.7
Karongi	13.6	86.4	13.7	86.3	0	100	14	86	14	86	0	100	11.1	88.9	11.1	88.9	-	100.0
Rutsiro	23.7	76.3	23.7	76.3	-	-	23.7	76.3	23.7	76.3	-	-	25.2	74.8	25.2	74.8	-	-
Rubavu	51	49	51	49	50	50	48.1	51.9	48.1	51.9	50	50	60.8	39.2	60.8	39.2	48.6	51.4
Nyabihu	45.4	54.6	45.4	54.6	-	-	44.9	55.1	44.9	55.1	-	-	44.6	55.4	44.6	55.4	-	-
Ngororero	15.2	84.8	15.2	84.8	-	-	14.9	85.1	14.9	85.1	-	-	11.8	88.2	11.8	88.2	-	-
Rusizi	12.5	87.5	11.5	88.5	60	40	11.8	88.2	11	89	66.7	33.3	10.2	89.8	7.8	92.2	53.8	46.2
Nyamasheke	7.6	92.4	6.6	93.4	83.3	16.7	7.4	92.6	6.4	93.6	80	20	7.4	92.6	6.2	93.8	88.7	11.3
Rulindo	29.9	70.1	28.6	71.4	58.3	41.7	29.8	70.2	29.6	70.4	50	50	24.1	75.9	23.9	76.1	86.3	13.7
Gakenke	25	75	25	75	-	-	25.2	74.8	25.2	74.8	-	-	23.9	76.1	23.9	76.1	-	-
Musanze	32.2	67.8	32.3	67.7	20	80	32.1	67.9	32.1	67.9	0	100	38.4	61.6	38.5	61.5	9.2	90.8
Burera	32.6	67.4	32.6	67.4			33.4	66.6	33.4	66.6	-	-	31.9	68.1	31.9	68.1	-	-
Gicumbi	20.5	79.5	20.3	79.7	50	50	21.2	78.8	21.3	78.7	0	100	21.1	78.9	21.1	78.9	71.6	28.4
Rwamagana	24	76	21.8	78.2	31	69	23.2	76.8	21.6	78.4	50	50	21.1	78.9	20.2	79.8	74.7	25.3
Nyagatare	10.9	89.1	6.9	93.1	72.1	27.9	8.2	91.8	6.2	93.8	90.5	9.5	10.4	89.6	6.8	93.2	97.0	3.0
Gatsibo	11.1	88.9	9.5	90.5	40.4	59.6	10.8	89.2	9.5	90.5	73.3	26.7	10.1	89.9	7.0	93.0	95.6	4.4
Kayonza	6.1	93.9	2.9	97.1	24	76	4.3	95.7	3.2	96.8	53.3	46.7	4.5	95.5	2.5	97.5	70.5	29.5
Kirehe	7.2	92.8	5.7	94.3	100	0	7	93	5.8	94.2	100	0	11.0	89.0	7.1	92.9	100.0	-
Ngoma	13	87	10.8	89.2	35.1	64.9	12.8	87.2	10.1	89.9	83.3	16.7	14.3	85.7	12.7	87.3	94.5	5.5
Bugesera	18.8	81.2	11.7	88.3	34	66	16.2	83.8	12.7	87.3	52.9	47.1	12.4	87.6	9.7	90.3	64.1	35.9
National	**18.1**	**81.9**	**16.6**	**83.4**	**41.5**	**58.5**	**17.6**	**82.4**	**16.6**	**83.4**	**69.7**	**30.3**	**17.1**	**82.9**	**15.4**	**84.6**	**86.6**	**13.4**

Source: NISR, SAS 2019

Table 45: Season B 2019_ Use of pesticides by farmer type per district

District	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	9.7	90.3	9.7	90.3			9.4	90.6	9.4	90.6			8.3	91.7	8.3	91.7		
Gasabo	8.8	91.2	6.3	93.7	33.3	66.7	7.1	92.9	5.8	94.2	50	50	9.6	90.4	8.3	91.7	71.2	28.8
Kicukiro	8.2	91.8	8.2	91.8	-	100	8.2	91.8	8.3	91.7	-	100	13.2	86.8	13.3	86.7	-	100
Nyanza	11.2	88.8	9	91	75	25	11.4	88.7	9.9	90.1	85.7	14.3	9.1	90.9	7.4	92.6	98.5	1.5
Gisagara	11.9	88.2	9.2	90.8	83.3	16.7	12	88	9.4	90.6	86.7	13.3	12.9	87.1	5.5	94.5	97.2	2.8
Nyaruguru	13.8	86.2	13.6	86.5	100	-	14.4	85.6	14.1	85.9	100	-	16.9	83.1	16.7	83.3	100	-
Huye	7.8	92.2	4.9	95.1	55.6	44.4	8.5	91.5	5.3	94.7	77.8	22.2	7	93	3.8	96.2	80.3	19.7
Nyamagabe	18.3	81.7	17.8	82.2	75	25	19	81	18.7	81.3	100	-	23	77	22.9	77.1	97.2	2.8
Ruhango	5.5	94.5	3.2	96.9	56.5	43.5	5.4	94.6	3.5	96.5	90	10	4.8	95.2	2.5	97.5	95.7	4.3
Muhanga	6.6	93.4	6.2	93.8	100	-	6.2	93.8	5.7	94.3	100	-	5.9	94.1	5.6	94.4	100	-
Kamonyi	6.6	93.4	5.8	94.3	100	-	7	93	6	94	100	-	6.5	93.5	6	94	100	-
Karongi	7.7	92.4	7.7	92.3	-	100	8	92	8	92	-	100	8.8	91.2	8.8	91.2	-	100
Rutsiro	21.7	78.4	21.7	78.4			21.3	78.7	21.3	78.7			25.6	74.4	25.6	74.4		
Rubavu	59.6	40.4	60.2	39.8	-	100	58.8	41.2	59	41	-	100	62.5	37.5	62.5	37.5	-	100
Nyabihu	49	51.1	49	51.1			49.6	50.5	49.6	50.5			52.1	47.9	52.1	47.9		
Ngororero	17.5	82.5	17.5	82.5			17.1	82.9	17.1	82.9			24.2	75.8	24.2	75.8		
Rusizi	13.5	86.5	13.1	86.9	27.3	72.7	14.3	85.7	13.7	86.3	50	50	11.3	88.7	9.2	90.8	48.1	51.9
Nyamasheke	8.9	91.1	8	92	80	20	8.4	91.6	7.3	92.7	80	20	7.4	92.6	6.1	93.9	88.6	11.4
Rulindo	17.4	82.6	16.5	83.5	66.7	33.3	16.8	83.2	16.5	83.5	50	50	14.6	85.4	14.4	85.6	70.7	29.3
Gakenke	17.3	82.8	17.3	82.8			16.7	83.3	16.7	83.3			17.4	82.6	17.4	82.6		
Musanze	50.4	49.6	50	50	100	-	49	51	48.9	51.1	100	-	54.9	45.1	54.9	45.1	100	-
Burera	30.4	69.7	30.4	69.7			30.2	69.8	30.2	69.8			33.3	66.7	33.3	66.7		
Gicumbi	18	82.1	17.8	82.2	50	50	18.1	81.9	17.9	82.1	100	-	19.4	80.6	19.4	80.6	86	14
Rwamagana	16.8	83.2	14	86	30.5	69.5	13.9	86.2	12	88	47.6	52.4	15.7	84.3	14.7	85.3	76.1	23.9
Nyagatare	10.5	89.5	7.4	92.6	57.8	42.2	9	91	7.4	92.6	69.6	30.4	10.2	89.8	7.5	92.5	92.9	7.1
Gatsibo	5.9	94.1	5.2	94.8	22	78.1	5.8	94.2	5.2	94.8	35.7	64.3	9.6	90.4	7.2	92.8	84.8	15.2
Kayonza	6.1	93.9	4.4	95.7	18	82	5.5	94.5	4.1	95.9	73.3	26.7	7.7	92.3	5.6	94.4	83.5	16.5
Kirehe	2.9	97.2	1.5	98.5	75	25	2.5	97.5	1.5	98.5	80	20	3.6	96.4	0.2	99.8	99	1
Ngoma	7.6	92.4	1.9	98.1	74.2	25.8	4.6	95.4	2.2	97.8	80	20	4.5	95.5	2.7	97.3	95.6	4.4
Bugesera	9.1	90.9	3.6	96.4	28.8	71.2	7.2	92.8	3.1	96.9	48.6	51.4	5.4	94.6	2.8	97.2	74.5	25.5
National	**14.7**	**85.4**	**13.5**	**86.5**	**39.8**	**60.2**	**14.5**	**85.5**	**13.6**	**86.4**	**65.3**	**34.7**	**14.2**	**85.8**	**12.8**	**87.2**	**85.9**	**14.1**

Source: NISR, SAS 2019

Table 46: Season C 2019_Use of pesticides per district

District	Percentage of plots		Percentage of farmers		Percentage of land size	
	Yes	No	Yes	No	Yes	No
Nyarugenge	60	40	60	40	63.7	36.3
Gasabo	60.9	39.1	60.9	39.1	61.6	38.4
Nyanza	39.1	60.9	39.1	60.9	46.1	53.9
Gisagara	45.7	54.3	45.7	54.3	56.4	43.6
Nyaruguru	8.2	91.8	8.2	91.8	5.3	94.7
Huye	26.5	73.5	26.5	73.5	23.7	76.3
Nyamagabe	10.5	89.5	10.5	89.5	18.5	81.5
Ruhango	31	69	31	69	26.9	73.1
Muhanga	2.9	97.1	2.9	97.1	2.6	97.4
Kamonyi	56.3	43.8	56.3	43.8	74.7	25.3
Karongi	19.2	80.8	19.2	80.8	15.5	84.5
Rutsiro	69.9	30.1	69.9	30.1	87.6	12.4
Rubavu	80	20	80	20	68.0	32.0
Nyabihu	76.6	23.4	76.6	23.4	80.6	19.4
Ngororero	0	100	0	100	-	100.0
Rusizi	15.4	84.6	15.4	84.6	15.4	84.6
Nyamasheke	66.7	33.3	66.7	33.3	81.9	18.1
Rulindo	45	55	45	55	70.3	29.7
Gakenke	38.9	61.1	38.9	61.1	50.1	49.9
Musanze	81	19	81	19	88.4	11.6
Burera	53.1	46.9	53.1	46.9	52.4	47.6
Gicumbi	46.7	53.3	46.7	53.3	60.5	39.5
Rwamagana	86.4	13.6	86.4	13.6	81.7	18.3
Nyagatare	38.5	61.5	38.5	61.5	54.7	45.3
Gatsibo	40.9	59.1	40.9	59.1	29.6	70.4
Kayonza	71.4	28.6	71.4	28.6	65.3	34.7
Kirehe	20	80	20	80	16.8	83.2
Bugesera	24.7	75.3	24.7	75.3	28.4	71.6
National	**42.3**	**57.7**	**42.3**	**57.7**	**58.9**	**41.1**

Source: NISR, SAS 2019

Table 47: Percentage of plots by type of pesticides, per season and district in 2019

District	Dithane			Ridomil			Dimethoate			Cypermethrin			Dursiban			Rocket			Beam			Others		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	43.5	38	45.5	1.2	-	0	0	1.4	0	3.5		9.1	0	-	0	24.7	35.2	18.2	0	-	0	27.1	21.1	27.3
Gasabo	33	23.1	33.3	4.4	-	3.7	0	-	0	12.1	15.4	11.1	0	-	0	38.5	44.2	37	1.1	5.8	0	11	11.5	14.8
Kicukiro	12.5	27.5		1.6	-	-	0	-		18.8	5		0	-		45.3	42.5	-	0	-	-	21.9	25	-
Nyanza	8.2	11.1	35.4	0	1.4	6.3	0	-	0	17.6	11.1	0	0	-	0	67.1	56.9	56.3	4.7	5.6	0	2.4	13.9	2.1
Gisagara	7.2	8.6	16.4	0	-	0	0	-	1.6	14.9	30.9	42.6	0	-	1.6	65.6	37	26.2	6.2	13.6	0	6.2	9.9	11.5
Nyaruguru	10.3	44.2	0	3.4	3.8	0	0	-	0	19	13.5	50	0	-	0	55.2	30.8	50	0	-	0	12.1	7.7	0
Huye	11.4	15	42.1	1.1	1.7	0	0	-	0	27.3	25	5.3	0	-	0	36.4	28.3	42.1	12.5	20	0	11.4	10	10.5
Nyamagabe	39.6	41.4	37.5	1	2	0	0	-	0	27.1	34.3	12.5	4.2	-	0	28.1	18.2	50	0	-	0	0	4	0
Ruhango	16.3	8.3	28.6	2	-	4.8	2	5.6	0	22.4	22.2	9.5	0	-	0	49	41.7	52.4	8.2	13.9	0	0	8.3	4.8
Muhanga	17.9	26.7	0	4.5	6.7	0	0	-	0	16.4	26.7	100	0	-	0	53.7	26.7	0	3	4.4	0	4.5	8.9	0
Kamonyi	13.3	30.6	37.8	5	4.1	2.7	0	2	0	6.7	14.3	13.5	0	-	0	68.3	38.8	32.4	3.3	4.1	0	3.3	6.1	13.5
Karongi	15	35.5	0	1.7	-	0	5	-	0	43.3	48.4	50	0	-	0	35	12.9	12.5	0	-	0	0	3.2	37.5
Rutsiro	26.5	50.8	54.7	10.2	9.8	12.8	0	1.5	0	21.8	19.7	24.4	0.7	-	0	34.7	8.3	2.3	0	-	0	6.1	9.8	5.8
Rubavu	38.4	36.7	40.7	23.1	27.7	10.2	2.7	0.8	11.9	28.8	32.5	27.1	0	-	0	6.7	1.4	0	0	-	0	0.2	0.8	10.2
Nyabihu	38.3	35.5	56.3	19.7	25.3	14.6	8	4.1	9.7	18.1	27.3	13.6	0	-	0	385	6.6	1.9	0	-	0	1.9	1.1	3.9
Ngororero	21.1	42	-	10.5	17.3	-	0	-	-	11.8	6.2	-	0	-		55.3	29.6	-	0	1.2		1.3	3.7	-
Rusizi	8	15.5	33.3	1.1	1	11.1	5.7	7.8	0	13.8	18.4	0	0	-	0	47.1	37.9	22.2	1.1	-	0	23	19.4	33.3
Nyamasheke	10.5	12.8	0	8.8	2.1	0	7	2.1	0	17.5	51.1	0	0	-	0	28.1	23.4	100	1.8	4.3	0	26.3	4.3	0
Rulindo	15.6	37.8	38.5	0.6	14.8	7.7	2.2	-	0	7.8	11.1	15.4	0	0.7	0	71.7	32.6	38.5	0	-	0	2.2	3	0
Gakenke	10.6	21.4	20	2.1	9.2	6.7	0	-	0	19.9	38.8	20	0	-	0	66	30.6	53.3	0	-	0	1.4	-	0
Musanze	41.5	35.9	48.8	6.9	18.7	6.2	4.9	9.9	1.2	20.3	12	28.4	0.4	-	0	22	20.1	12.3	0	-	0.6	4.1	3.5	2.5
Burera	34.4	43.6	46.2	7.2	22.3	5.7	14.3	2.6	3.8	21.9	25.9	26.4	0	0.7	0.9	21.1	4.6	3.8	0.4	-	4.7	0.7	0.3	8.5
Gicumbi	33.1	71.3	78.1	0.8	1	9.4	0	1	0	23.6	8.9	6.3	0	-	0	41.7	14.9	6.3	0	-	0	0.8	2	0
Rwamagana	18.6	25.6	32.5	1.4	4.5	0	0.9	2.8	5	21.9	15.9	20	1.4	0.6	0	29.8	23.3	15	8.8	2.3	0	17.2	25	27.5
Nyagatare	7.7	23.2	41.7	1.5	2.8	0	1.5	1.9	0	13.8	14.7	8.3	0	-	0	31.1	20.9	33.3	3.6	3.3	0	40.8	33.2	16.7
Gatsibo	17.6	16.2	34.5	3.7	1.4	0	0.7	4.1	0	9.6	17.6	20.7	0	-	0	59.6	43.2	27.6	3.7	5.4	0	5.1	12.2	17.2
Kayonza	21.1	16.2	50	4.4	9.5	0	0	-	0	21.1	14.3	0	0	-	0	28.9	25.7	50	8.9	3.8	0	15.6	30.5	0
Kirehe	6.8	8.6	40	2.7	2.9	0	1.4	2.9	20	20.5	31.4	40	0	-	0	61.6	34.3	0	5.5	11.4	0	1.4	8.6	0
Ngoma	4.6	7.7	-	0	-	-	0	-	-	20	41	-	0	-		58.5	25.6	-	10.8	15.4		6.2	10.3	-
Bugesera	9.4	6.8	8.3	5.8	1.4	0	0.6	-	2.8	19.3	20.5	19.4	0	-	0	40.9	28.8	47.2	4.7	15.1	0	19.3	27.4	22.2
National	**23.9**	**32**	**41.7**	**7.3**	**13.2**	**6.2**	**2.9**	**2.4**	**2.9**	**19.4**	**22.3**	**21.1**	**0.2**	**0.1**	**0.2**	**36**	**19.1**	**18.7**	**2.3**	**2.2**	**0.6**	**8**	**8.6**	**8.6**

Source: NISR, SAS 2019

Table 48: Season A 2019_ Irrigation practice by farmer type and district

District	Percentage of Plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	2.3	97.8	2.3	97.7	-	-	1.9	98.1	1.9	98.1	-	-	2.8	97.2	2.8	97.2	-	-
Gasabo	4.0	96.1	2.3	97.7	10.9	89.1	3.1	96.9	2.4	97.6	25.0	75.0	2.9	97.1	2.1	97.9	52.0	48.0
Kicukiro	5.3	94.8	5.2	94.8	5.6	94.4	5.8	94.2	5.9	94.1	-	100.0	9.7	90.3	9.7	90.3	0.3	99.7
Nyanza	8.7	91.3	7.3	92.7	47.1	52.9	8.7	91.3	8.0	92.0	42.9	57.1	4.6	95.4	3.5	96.5	50.2	49.8
Gisagara	11.1	89.0	9.5	90.5	44.0	56.0	11.3	88.7	9.7	90.3	55.6	44.4	6.8	93.2	2.4	97.6	45.6	54.4
Nyaruguru	0.7	99.3	0.7	99.3	-	100.0	0.4	99.6	0.4	99.6	-	100.0	0.3	99.7	0.4	99.6	-	100.0
Huye	10.8	89.2	6.9	93.1	61.3	38.7	11.4	88.6	7.5	92.5	84.2	15.8	6.8	93.2	2.5	97.5	90.8	9.2
Nyamagabe	1.6	98.4	1.6	98.4	-	100.0	1.7	98.3	1.7	98.3	-	100.0	0.4	99.6	0.4	99.6	-	100.0
Ruhango	3.3	96.7	2.0	98.0	35.3	64.7	3.8	96.2	2.2	97.8	66.7	33.3	5.4	94.6	2.6	97.4	93.6	6.4
Muhanga	2.0	98.0	1.2	98.8	20.0	80.0	2.1	97.9	1.2	98.8	80.0	20.0	2.4	97.6	1.5	98.5	80.6	19.4
Kamonyi	2.1	97.9	1.5	98.5	12.5	87.5	2.5	97.5	1.7	98.3	42.9	57.1	2.1	97.9	1.5	98.5	62.2	37.8
Karongi	2.7	97.3	2.7	97.3	-	100.0	2.7	97.3	2.7	97.3	-	100.0	0.6	99.4	0.6	99.4	-	100.0
Rutsiro	-	100.0	-	100.0	-	-	-	100.0	-	100.0	-	-	-	100.0	-	100.0	-	-
Rubavu	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0
Nyabihu	-	100.0	-	100.0	-	-	-	100.0	-	100.0	-	-	-	100.0	-	100.0	-	-
Ngororero	0.5	99.6	0.4	99.6	-	-	0.3	99.7	0.3	99.7	-	-	1.2	98.8	1.2	98.8	-	-
Rusizi	3.3	96.7	2.6	97.4	40.0	60.0	3.2	96.8	2.3	97.7	66.7	33.3	5.2	94.8	0.7	99.3	86.6	13.4
Nyamasheke	4.8	95.2	4.0	96.0	66.7	33.3	5.0	95.0	4.0	96.0	80.0	20.0	2.9	97.1	1.5	98.5	94.5	5.5
Rulindo	3.1	96.9	3.0	97.0	4.2	95.8	3.0	97.0	2.8	97.2	16.7	83.3	1.3	98.7	1.2	98.8	50.0	50.0
Gakenke	1.5	98.5	1.5	98.5			1.8	98.2	1.8	98.2	-	-	0.3	99.7	0.3	99.7	-	-
Musanze	0.4	99.6	0.4	99.6	-	100.0	0.4	99.6	0.4	99.6	-	100.0	0.0	100.0	0.0	100.0	-	100.0
Burera	-	100.0	-	100.0	-	-	-	100.0	-	100.0	-	-	-	100.0	-	100.0	-	-
Gicumbi	1.7	98.3	1.7	98.3	-	100.0	1.7	98.3	1.7	98.3	-	100.0	0.7	99.3	0.7	99.3	-	100.0
Rwamagana	9.5	90.5	7.9	92.1	14.5	85.5	9.7	90.3	8.2	91.8	36.4	63.6	5.6	94.4	4.7	95.3	58.6	41.4
Nyagatare	3.4	96.6	0.6	99.4	45.9	54.1	1.7	98.3	0.5	99.5	52.4	47.6	4.2	95.8	0.6	99.4	92.2	7.8
Gatsibo	1.8	98.2	1.2	98.8	12.8	87.2	1.8	98.2	1.3	98.7	26.7	73.3	3.3	96.7	0.7	99.3	71.0	29.0
Kayonza	3.4	96.6	1.2	98.8	15.5	84.5	2.2	97.8	1.4	98.6	40.0	60.0	3.3	96.7	1.2	98.8	73.8	26.2
Kirehe	2.8	97.2	1.4	98.6	92.3	7.7	2.7	97.3	1.6	98.4	88.9	11.1	4.4	95.6	0.4	99.6	99.2	0.8
Ngoma	2.4	97.6	0.8	99.2	18.9	81.1	3.0	97.0	0.9	99.1	58.3	41.7	2.0	98.0	0.5	99.5	77.1	22.9
Bugesera	8.0	92.0	2.2	97.8	20.4	79.6	5.1	94.9	2.3	97.7	35.3	64.7	3.9	96.1	1.4	98.6	53.0	47.0
National	**3.4**	**96.6**	**2.3**	**97.7**	**21.7**	**78.3**	**3.1**	**96.9**	**2.3**	**97.7**	**47.0**	**53.0**	**2.8**	**97.2**	**1.2**	**98.8**	**72.4**	**27.6**

Source: NISR, SAS 2019

Table 49: Season B 2019_ Irrigation practice by farmer type per district

District	Percentage of plots						Percentage of farmers						Percentage of land					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	3.4	96.6	3.4	96.6	-	-	3.6	96.4	3.6	96.4	-	--	3.3	96.7	3.3	96.7	-	-
Gasabo	2.9	97.1	1.8	98.2	12.8	87.2	3.6	96.4	2.2	97.9	50.0	50.0	2.8	97.2	1.6	98.4	61.7	38.3
Kicukiro	4.8	95.2	4.8	95.2	-	100	5.4	94.7	5.4	94.6	-	100.0	4.7	95.3	4.7	95.3	-	100.0
Nyanza	10	90	8.6	91.4	50	50	11.6	88.4	10.2	89.8	85.7	14.3	5.7	94.3	4.1	95.9	94.3	5.7
Gisagara	10.2	89.8	8.3	91.7	61.1	38.9	10.9	89.1	8.7	91.3	73.3	26.7	9.8	90.2	3.0	97.0	87.7	12.3
Nyaruguru	1.1	98.9	0.8	99.2	100	-	1.3	98.7	1.0	99.0	100.0	-	0.9	99.1	0.7	99.3	100.0	-
Huye	8.6	91.4	5.1	94.9	66.7	33.3	9.7	90.3	5.8	94.2	94.4	5.6	7.7	92.3	3.9	96.1	94.5	5.5
Nyamagabe	3.9	96.2	3.9	96.1	-	100	4.7	95.3	4.7	95.3	-	100.0	0.9	99.1	1.0	99.0	-	100.0
Ruhango	7.9	92.1	6.9	93.1	30.4	69.6	8.6	91.4	7.2	92.8	70.0	30.0	4.2	95.8	1.9	98.1	92.8	7.2
Muhanga	0.8	99.2	0.4	99.6	100	-	1.0	99.1	0.5	99.5	100.0	-	0.4	99.6	0.1	99.9	100.0	-
Kamonyi	2.7	97.3	2.3	97.7	50	50	3.2	96.8	2.7	97.3	50.0	50.0	2.4	97.6	2.0	98.0	80.9	19.1
Karongi	0.8	99.2	0.8	99.2	-	100	1.0	99.0	1.0	99.0	-	100.0	0.7	99.3	0.7	99.3	-	100.0
Rutsiro	0.9	99.1	0.9	99.1	-	-	1.1	98.9	1.1	98.9	-	-	0.6	99.4	0.6	99.4	-	-
Rubavu	-	100	-	100	-	100	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0
Nyabihu	0.3	99.7	0.3	99.7	-	-	0.3	99.7	0.3	99.7	-	-	0.2	99.8	0.2	99.8	-	-
Ngororero	-	100	-	100	-	-	-	100.0	-	100.0	-	-	-	100.0	-	100.0	-	-
Rusizi	4.7	95.3	3.6	96.4	45.5	54.6	5.3	94.7	4.0	96.0	83.3	16.7	6.6	93.4	1.2	98.8	98.7	1.3
Nyamasheke	2.6	97.4	1.7	98.3	80	20	3.2	96.8	2.1	98.0	80.0	20.0	2.5	97.5	1.0	99.0	91.0	9.0
Rulindo	4.3	95.7	3.8	96.2	33.3	66.7	4.8	95.2	4.4	95.6	50.0	50.0	1.4	98.6	1.2	98.8	62.2	37.8
Gakenke	1.6	98.4	1.6	98.4	-	-	1.9	98.1	1.9	98.1	-	-	0.1	99.9	0.1	99.9	-	-
Musanze	0.2	99.8	0.2	99.8	-	100	0.2	99.8	0.2	99.8	-	100.0	0.0	100.0	0.0	100.0	-	100.0
Burera	0.2	99.8	0.2	99.8	-	-	0.2	99.8	0.2	99.8	-	-	0.0	100.0	0.0	100.0	-	-
Gicumbi	0.4	99.6	0.4	99.6	-	100	0.5	99.5	0.5	99.5	-	100.0	0.2	99.8	0.2	99.8	-	100.0
Rwamagana	7.8	92.2	6.3	93.7	14.7	85.3	8.6	91.4	6.4	93.6	47.6	52.4	5.1	94.9	4.4	95.6	50.6	49.4
Nyagatare	2.7	97.3	0.6	99.4	34.4	65.6	2.0	98.0	0.7	99.3	52.2	47.8	3.7	96.3	0.9	99.1	90.4	9.6
Gatsibo	2	98	0.8	99.2	26.8	73.2	2.0	98.0	1.0	99.0	50.0	50.0	3.0	97.0	0.3	99.7	90.0	10.0
Kayonza	2.9	97.2	0.6	99.4	18	82	2.0	98.0	0.5	99.5	73.3	26.7	3.0	97.0	0.7	99.3	87.1	12.9
Kirehe	2.4	97.6	1.2	98.8	68.8	31.3	2.5	97.5	1.4	98.6	90.0	10.0	3.5	96.5	0.2	99.8	98.9	1.1
Ngoma	3.6	96.5	1.7	98.4	25.8	74.2	4.3	95.7	1.9	98.1	80.0	20.0	2.6	97.4	0.8	99.2	94.9	5.1
Bugesera	6.7	93.3	1.7	98.3	24.6	75.4	5.2	94.8	1.4	98.6	42.9	57.1	3.2	96.8	0.7	99.3	68.5	31.5
National	**3.4**	**96.6**	**2.3**	**97.7**	**27.8**	**72.2**	**3.5**	**96.5**	**2.5**	**97.5**	**62.0**	**38.0**	**2.8**	**97.2**	**1.1**	**98.9**	**87.0**	**13.0**

Source: NISR, SAS 2019

Table 50: Season C 2019_ irrigation practice per district

	Percentage of plots		Percentage of farmers		Percentage of land size	
District	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Nyarugenge	60.0	40.0	60.0	40.0	44.5	55.5
Gasabo	56.5	43.5	56.5	43.5	75.5	24.5
Nyanza	52.2	47.8	51.5	48.5	55.2	44.8
Gisagara	30.5	69.5	32.0	68.0	30.4	69.6
Nyaruguru	11.0	89.0	11.3	88.7	8.8	91.2
Huye	44.9	55.1	45.8	54.2	45.1	54.9
Nyamagabe	15.8	84.2	15.3	84.7	16.3	83.7
Ruhango	35.7	64.3	39.5	60.5	39.8	60.2
Muhanga	5.7	94.3	5.9	94.1	6.1	93.9
Kamonyi	62.5	37.5	61.3	38.7	85.9	14.1
Karongi	26.9	73.1	26.9	73.1	27.6	72.4
Rutsiro	6.8	93.2	8.1	91.9	21.8	78.2
Rubavu	3.3	96.7	3.4	96.6	1.2	98.8
Nyabihu	1.3	98.7	1.4	98.6	0.7	99.3
Ngororero	0.0	100.0	0.0	100.0	0.0	100.0
Rusizi	26.9	73.1	28.0	72.0	20.4	79.6
Nyamasheke	100.0	0.0	100.0	0.0	100.0	-
Rulindo	75.0	25.0	75.0	25.0	90.5	9.5
Gakenke	50.0	50.0	48.6	51.4	59.5	40.5
Musanze	8.3	91.7	8.6	91.4	3.3	96.7
Burera	3.1	96.9	3.3	96.7	15.5	84.5
Gicumbi	73.3	26.7	73.7	26.3	77.4	22.6
Rwamagana	81.8	18.2	81.0	19.0	83.4	16.6
Nyagatare	23.1	76.9	25.0	75.0	25.1	74.9
Gatsibo	54.5	45.5	53.8	46.2	38.9	61.1
Kayonza	100.0	0.0	100.0	0.0	100.0	-
Kirehe	60.0	40.0	57.1	42.9	83.7	16.3
Bugesera	10.6	89.4	8.6	91.4	11.7	88.3
National	**26.1**	**73.9**	**26.4**	**73.6**	**21.3**	**78.7**

Source: NISR, SAS 2019

Table 51: Percentage of plots by irrigation type, per season and district in 2019

District	Types of irrigation used												
	Surface irrigation			Flood irrigation		Drip irrigation		Sprinkler irrigation			Traditional techniques		
	Season A	Season B	Season C	Season A	Season B	Season A	Season B	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	12.5	38.9	0	-	0	-	5.6	-	0	0	87.5	55.6	100
Gasabo	4.8	0	19	14.3	26.7	-	6.7	-	0	0	81	66.7	81
Kicukiro	25	0		-	0	-	0	6.3	0		68.8	100	
Nyanza	7.5	3.9	0	20	35.5	-	0	2.5	0	0	70	60.5	100
Gisagara	4.8	3.6	17.1	46.8	85.5	-	0	-	0	0	48.4	10.9	82.9
Nyaruguru	-	50	0	50	0	-	0	-	0	0	50	50	100
Huye	6.4	4.3	0	61.7	69.6	-	0	-	0	0	31.9	26.1	100
Nyamagabe	28.6	28.6	0	-	0	-	0	-	0	0	71.4	71.4	100
Ruhango	21.4	14.3	0	42.9	54.8	-	0	-	0	0	35.7	31	100
Muhanga	10	0	0	20	75	-	0	-	0	0	70	25	100
Kamonyi	-	0	0	22.2	13.3	-	0	-	0	3	77.8	86.7	97
Karongi	-	0	30	-	0	-	0	-	0	0	100	100	70
Rutsiro	-	0	50	-	0	-	0	-	0	0	-	100	50
Rubavu	-		0	-	-	-	-	-	-	0	-	-	100
Nyabihu	-	0	0	-	0	-	0	-	-	0	-	100	100
Ngororero	-	-	-	-	-	-	-	-	-	-	-	-	-
Rusizi	-	9.5	0	75	57.1	-	0	-	-	0	-	33.3	100
Nyamasheke	40.9	23.1	0	18.2	30.8	-	0	-	0	0	-	46.2	100
Rulindo	-	32.1	31.8	-	3.6	-	7.1	5.9	7.1	0	-	50	68.2
Gakenke	-	0	5.7	-	0	-	0	-	0	0	100	100	94.3
Musanze	100	0	0	-	0	-	0	-	0	0	-	100	100
Burera		0	0	-	0	-	0	-	0	0		100	100
Gicumbi	-	0	0	-	0	-	0	-	0	0	100	100	100
Rwamagana	-	1.9	0	-	7.4	3.5	3.7	-	0	0	64.9	87	100
Nyagatare	2.9	24.2	0	-	21.2	26.5	9.1	-	30.3	0	14.7	15.2	100
Gatsibo	18.8	0	3.3	25	15.8	-	15.8	-	36.8	0	56.3	31.6	96.7
Kayonza	27.6	10.7	0	17.2	17.9	-	0	24.1	50	0	31	21.4	100
Kirehe	13	18.2	0	21.7	18.2	-	0	26.1	18.2	0	39.1	45.5	100
Ngoma	20	35.7	-	50	57.1	-	7.1	-	0	-	30	0	-
Bugesera	2.1	2.7	-	18.8	32.4	27.1	21.6	29.2	24.3	-	22.9	18.9	-
National	**9.3**	**10.6**	-	**27.4**	**32.2**	**4.4**	**3.4**	**7.96**	**7.5**	-	**50.9**	**46.3**	-

Source: NISR, SAS 2019

Table 52: Percentage of irrigated plots by crop type, irrigation type per season in 2019

Crop name	Surface irrigation			Flood irrigation		Drip irrigation		Sprinkler irrigation			Tradition techniques		
	Season A	Season B	Season C	Season A	Season B	Season A	Season B	Season A	Season B	Season C	Season A	Season B	Season C
Fruits	-	5.9		-	-	20.0	41.2	13.3	47.1		66.7	5.9	-
Vegetables	7.9	9.3	6.3	0.4	-	6.8	2.1	8.9	4.6	0.3	76.1	84.0	93.5
Other crops	-	-		20.0	-	10.0	27.3	25.0	27.3		45.0	45.5	-
Other cereals		-			-		-		100.0			-	-
Maize	12.9	15.0		-	-	-	10.0	10.0	35.0		77.1	40.0	-
Paddy rice	9.6	8.5		86.9	88.8	-	-	-	-		3.5	2.7	-
Sorghum		-			-		-		100.0			-	-
Bush bean	7.7	37.5	3.8	-	-	-	-	23.1	37.5	-	69.2	25.0	96.2
Climbing bean	-	-	-	-	-	-	50.0	-	-	-	100.0	50.0	100.0
Pea		-	-		-		-		-	-		100.0	100.0
Irish potato	-	19.2	1.2	-	-	-	7.7	-	11.5	-	100.0	61.5	98.8
Sweet potato	15.4	40.0	8.7	-	-	-	-	-	-	-	84.6	60.0	91.3
Soybean	-	45.5	-	-	-	-	-	75.0	54.5	-	25.0	-	100.0
Groundnut	-	-	-	-		-		-		-	100.0	-	-
Cassava	-	--		-		-		-		-	100.0	-	-
Taro	25.0	50.0	-	-	-	-	-	-	-	-	75.0	50.0	-
Cooking banana	33.3	-	-	-	-	-	-	66.7	100.0	-	-	-	-
Dessert banana		-	-	-	-	-	-	-	-	-		100.0	-
National	**8.5**	**10.6**	**5.3**	**27.4**	**32.2**	**3.7**	**3.4**	**7.3**	**7.5**	**0.2**	**53.0**	**46.3**	**94.5**

Source: NISR, SAS 2019

Table 53: Percentage of plots by source of water used for irrigation, per season and district in 2019

District	Rainwater			Water treatment			Underground			Lake / streams			Water catchment			Other sources	
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B
Nyarugenge	12.5	-	-	-	16.7	-	62.5	33.3	-	25.0	38.9	100.0	-	11.1	-	-	-
Gasabo	-	20.0	-	9.5	-	-	47.6	46.7	9.5	23.8	26.7	76.2	19.1	-	14.3	-	6.7
Kicukiro	-	-	-	6.3	-	-	12.5	5.3	-	81.3	94.7	-	-	-	-	-	-
Nyanza	-	-	-	-	-	-	20.0	22.4	49.3	72.5	69.7	47.8	7.5	7.9	3.0	-	-
Gisagara	-	-	-	1.6	-	-	17.7	30.9	51.4	61.3	56.4	48.6	17.7	12.7	-	1.6	-
Nyaruguru	-	-	-	-	-	-	50.0	33.3	33.3	50.0	66.7	66.7	-	-	-	-	-
Huye	-	-	-	2.1	-	-	59.6	56.5	85.2	25.5	30.4	14.8	12.8	13.0	-	-	-
Nyamagabe	14.3	4.8	-	-	-	-	71.4	66.7	90.5	14.3	28.6	9.5	-	-	-	-	-
Ruhango	-	-	-	7.1	-	-	14.3	76.2	24.0	71.4	21.4	76.0	7.1	2.4	-	-	-
Muhanga	-	-	-	-	-	-	50.0	50.0	80.0	30.0	-	20.0	20.0	50.0	-	-	-
Kamonyi	-	-	-	-	-	-	44.4	20.0	21.2	44.4	80.0	78.8	11.1	-	-	-	-
Karongi	-	-	-	-	-	-	54.6	-	40.0	45.5	100.0	60.0	-	-	-	-	-
Rutsiro	-	-	-	-	-	-	-	60.0	-	-	40.0	100.0	-	-	-	-	-
Rubavu	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-
Nyabihu	-	-	-	-	-	-	-	100.0	100.0	-	-	-	-	-	-	-	-
Ngororero	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-
Rusizi	-	4.8	-	-	-	-	18.8	9.5	-	75.0	85.7	100.0	6.3	-	-	-	-
Nyamasheke	-	-	-	4.6	-	-	13.6	-	-	81.8	100.0	100.0	-	-	-	385.0	-
Rulindo	-	-	-	-	-	-	82.4	17.9	-	11.8	50.0	90.9	5.9	32.1	9.1	-	-
Gakenke	-	-	-	-	-	-	50.0	14.3	5.7	50.0	85.7	94.3	-	-	-	-	-
Musanze	-	-	-	-	-	-	-	-	-	100.0	100.0	100.0	-	-	-	-	-
Burera	-	-	-	-	-	-	-	100.0	80.0	-	-	20.0	-	-	-	-	-
Gicumbi	-	-	-	-	66.7	-	33.3	-	-	66.7	33.3	100.0	-	-	-	-	-
Rwamagana	3.5	7.4	-	10.5	14.8	-	21.1	27.8	38.1	54.4	40.7	61.9	10.5	7.4	-	-	1.9
Nyagatare	-	-	-	2.9	6.1	-	8.8	6.1	-	38.2	48.5	66.7	50.0	39.4	33.3	-	-
Gatsibo	-	-	-	12.5	-	-	12.5	42.1	16.7	31.3	42.1	83.3	43.8	15.8	-	-	-
Kayonza	3.5	-	14.3	-	-	-	6.9	10.7	-	62.1	85.7	85.7	27.6	3.6	-	-	-
Kirehe	-	-	-	-	-	-	30.4	13.6	90.9	60.9	86.4	9.1	8.7	-	-	-	-
Ngoma	-	-	-	10.0	-	-	20.0	-	-	50.0	100.0	-	20.0	-	-	-	-
Bugesera	-	-	-	-	-	-	10.4	-	-	83.3	-	100.0	6.3	-	-	-	-
National	**0.9**	**1.5**	**0.2**	**3.2**	**2.6**	**0.2**	**27.6**	**28.5**	**30.4**	**54.3**	**57.6**	**67.5**	**13.9**	**9.6**	**1.6**	**0.2**	**0.3**

Source: NISR, SAS 2019

Table 54: Season A 2019_Practice of erosion control measures by farmer type per district (in percentage)

District	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	47.0	53.0	47.0	53.0	-	-	47.3	52.7	47.3	52.7	-	-	59.5	40.5	59.5	40.5	-	-
Gasabo	72.8	27.2	73.5	26.5	69.3	69.3	72.4	27.6	72.6	27.4	66.7	33.3	81.0	19.0	80.9	19.1	82.9	17.1
Kicukiro	67.9	32.1	67.6	32.4	72.2	72.2	66.9	33.1	66.8	33.2	75.0	25.0	80.6	19.4	80.6	19.4	75.9	24.1
Nyanza	83.6	16.4	83.2	16.8	94.1	94.1	84.4	15.6	84.3	15.7	85.7	14.3	81.1	18.9	81.6	18.4	61.4	38.6
Gisagara	74.5	25.5	73.3	26.7	100.0	100.0	74.9	25.1	73.9	26.1	100.0	0.0	82.6	17.4	80.6	19.4	100.0	-
Nyaruguru	95.3	4.7	95.3	4.7	100.0	100.0	95.0	5.0	94.9	5.1	100.0	0.0	97.1	2.9	97.1	2.9	100.0	-
Huye	86.2	13.8	85.4	14.6	96.8	96.8	84.9	15.1	84.1	15.9	100.0	0.0	89.0	11.0	88.4	11.6	99.9	0.1
Nyamagabe	90.3	9.7	90.2	9.8	100.0	100.0	91.1	8.9	91.0	9.0	100.0	0.0	91.8	8.2	91.8	8.2	100.0	-
Ruhango	82.7	17.3	82.0	18.0	100.0	100.0	82.0	18.0	81.5	18.5	100.0	0.0	84.4	15.6	83.9	16.1	100.0	-
Muhanga	87.8	12.2	87.9	12.1	85.0	85.0	88.2	11.8	88.3	11.7	80.0	20.0	88.3	11.7	88.2	11.8	91.0	9.0
Kamonyi	84.2	15.8	85.0	15.0	75.0	75.0	85.2	14.8	85.2	14.8	85.7	14.3	87.8	12.2	87.7	12.3	94.4	5.6
Karongi	81.7	18.3	81.6	18.4	100.0	100.0	80.5	19.5	80.5	19.5	100.0	0.0	86.3	13.7	86.3	13.7	100.0	-
Rutsiro	85.4	14.6	85.4	14.6	-	-	84.2	15.8	84.2	15.8	-	-	91.1	8.9	91.1	8.9	-	-
Rubavu	88.4	11.7	89.8	10.2	30.0	-	88.7	11.3	89.0	11.0	50.0	50.0	89.6	10.4	89.7	10.3	41.6	58.4
Nyabihu	86.4	13.6	86.4	13.6	-	-	86.5	13.5	86.5	13.5	-	-	92.9	7.1	92.9	7.1	-	-
Ngororero	85.9	14.1	85.9	14.1	-	-	85.9	14.1	85.9	14.1	-	-	89.8	10.2	89.8	10.2	-	-
Rusizi	55.5	44.5	55.7	44.3	50.0	50.0	54.6	45.4	54.2	45.8	83.3	16.7	62.0	38.0	60.0	40.0	98.9	1.1
Nyamasheke	65.7	34.3	65.3	34.7	100.0	100.0	65.2	34.8	64.7	35.3	100.0	0.0	63.9	36.1	63.4	36.6	100.0	-
Rulindo	92.6	7.4	92.4	7.6	95.8	95.8	92.9	7.1	92.8	7.2	100.0	0.0	95.7	4.3	95.7	4.3	99.2	0.8
Gakenke	98.7	1.3	98.7	1.3	-	-	98.9	1.1	98.9	1.1	-	-	99.4	0.6	99.4	0.6	-	-
Musanze	83.6	16.4	83.5	16.5	100.0	-	83.1	16.9	83.1	16.9	100.0	0.0	84.5	15.5	84.5	15.5	100.0	-
Burera	90.8	9.2	90.8	9.2	-	-	90.3	9.7	90.3	9.7	-	-	92.6	7.4	92.6	7.4	-	-
Gicumbi	95.7	4.3	95.7	4.3	100.0	-	95.2	4.8	95.2	4.8	100.0	0.0	95.9	4.1	95.9	4.1	100.0	-
Rwamagana	71.3	28.7	75.3	24.7	58.6	58.6	76.1	23.9	75.7	24.3	81.8	18.2	76.5	23.5	76.4	23.6	78.7	21.3
Nyagatare	44.2	55.8	42.9	57.1	63.9	63.9	42.5	57.5	41.7	58.3	76.2	23.8	45.6	54.4	44.2	55.8	79.6	20.4
Gatsibo	61.2	38.8	60.6	39.4	72.3	72.3	61.8	38.2	61.2	38.8	86.7	13.3	72.0	28.0	71.0	29.0	99.1	0.9
Kayonza	40.9	59.1	41.3	58.7	38.8	38.8	41.5	58.5	40.8	59.2	73.3	26.7	48.3	51.7	47.6	52.4	71.3	28.7
Kirehe	51.3	48.7	51.2	48.8	53.8	53.8	49.7	50.3	49.4	50.6	77.8	22.2	63.5	36.5	64.0	36.0	51.2	48.8
Ngoma	71.1	28.9	69.0	31.0	91.9	91.9	69.8	30.2	69.3	30.7	83.3	16.7	75.5	24.5	75.4	24.6	77.9	22.1
Bugesera	34.4	65.6	28.8	71.2	46.6	46.6	29.0	71.0	26.8	73.2	52.9	47.1	34.0	66.0	32.7	67.3	57.4	42.6
National	**72.4**	**27.6**	**73.0**	**27.0**	**63.5**	**63.5**	**72.5**	**27.5**	**72.4**	**27.6**	**80.8**	**19.2**	**76.3**	**23.7**	**76.2**	**23.8**	**82.1**	**17.9**

Source: NISR, SAS 2019

Table 55: Season B 2019_Practice of erosion control measures by farmer type per district (in percentage)

District	Percentage of plots						Percentage of farmers						Percentage of land size					
	Overall		SSF		LSF		Overall		SSF		LSF		Overall		SSF		LSF	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nyarugenge	65.3	34.7	65.3	34.7	-	--	67.3	32.7	67.3	32.7	-	-	69.6	30.4	69.6	30.4		
Gasabo	57.1	42.9	58.3	41.7	46.2	53.9	62.2	37.8	61.0	39.0	100	-	64.4	35.6	64.2	35.8	74.8	25.2
Kicukiro	52.7	47.3	52.7	47.3	50	50	57.2	42.8	57.0	43.0	100	-	65.3	34.7	65.3	34.7	59.5	40.5
Nyanza	82.7	17.3	82.4	17.6	93.8	6.3	84.3	15.7	84.3	15.7	85.7	14.3	84.3	15.7	84.2	15.8	89.3	10.7
Gisagara	71.3	28.7	70.4	29.6	94.4	5.6	72.3	27.7	71.3	28.7	100	-	79.3	20.7	77.5	22.5	100	0
Nyaruguru	88.4	11.6	88.4	11.7	100	-	88.5	11.5	88.5	11.5	100	-	91.8	8.2	91.8	8.2	100	-
Huye	87.6	12.4	86.8	13.2	100	-	87.9	12.1	87.3	12.7	100	-	88.3	11.7	87.8	12.2	100	-
Nyamagabe	93.7	6.3	93.6	6.4	100	-	94.5	5.5	94.5	5.5	100	-	94.6	5.4	94.6	5.4	100	-
Ruhango	85.5	14.5	85	15	95.7	4.4	86.2	13.8	85.9	14.1	100	-	87.2	12.8	86.9	13.1	100	0
Muhanga	90.2	9.8	90.1	9.9	100	-	90.3	9.7	90.2	9.8	100	-	94.7	5.3	94.7	5.3	100	-
Kamonyi	78.4	21.6	78.6	21.4	50	50	79.9	20.1	80.2	19.8	50.0	50.0	85.2	14.8	85.2	14.8	80.9	19.1
Karongi	82.3	17.7	82.3	17.7	100	-	85.0	15.0	85.0	15.0	100	-	87.2	12.8	87.1	12.9	100	-
Rutsiro	76.2	23.8	76.2	23.8	-	-	77.3	22.7	77.3	22.7		-	85.2	14.8	85.2	14.8		-
Rubavu	89.8	10.2	90.4	9.6	25	75	90.3	9.7	90.3	9.7	100	-	92.2	7.8	92.3	7.7	4	96
Nyabihu	90.8	9.2	90.8	9.2	-	-	90.5	9.5	90.5	9.5		-	95.2	4.8	95.2	4.8		-
Ngororero	93.8	6.2	93.8	6.2	-	-	93.7	6.3	93.7	6.3		-	93.9	6.1	93.9	6.1		-
Rusizi	78	22	77.4	22.6	100	-	76.5	23.5	76.1	23.9	100	-	82	18	80.9	19.1	100	-
Nyamasheke	70.4	29.6	70.1	29.9	100	-	73.4	26.6	73.0	27.0	100	-	73.1	26.9	72.6	27.4	100	-
Rulindo	94.7	5.3	94.8	5.2	88.9	11.1	95.0	5.0	94.9	5.1	100	-	97	3	97	3	91.4	8.6
Gakenke	96.7	3.3	96.7	3.3	-	-	96.7	3.3	96.7	3.3			95.7	4.3	95.7	4.3		-
Musanze	89.4	10.6	89.3	10.7	100	-	88.9	11.1	88.9	11.1	100	-	91.7	8.3	91.7	8.3	100	-
Burera	91.4	8.6	91.4	8.6	-	-	91.7	8.3	91.7	8.3		-	91.8	8.2	91.8	8.2		-
Gicumbi	95.1	4.9	95.1	5	100	-	95.6	4.4	95.6	4.4	100	-	97	3	97	3	100	-
Rwamagana	73.1	26.9	78.2	21.8	48.4	51.6	79.6	20.4	78.7	21.3	95.2	4.8	85.2	14.8	85.2	14.8	83.9	16.1
Nyagatare	40.2	59.8	38.9	61.1	60.9	39.1	40.7	59.4	39.3	60.7	91.3	8.7	41	59	39.1	60.9	98	2
Gatsibo	55.2	44.8	54.2	45.8	75.6	24.4	57.4	42.6	56.5	43.5	100	-	66.8	33.2	65.8	34.2	99.1	0.9
Kayonza	40.2	59.9	42.8	57.2	22.1	77.9	45.4	54.6	44.8	55.2	73.3	26.7	46.9	53.1	46.2	53.8	70.7	29.3
Kirehe	51.3	48.8	51.3	48.7	50	50	52.3	47.7	52.2	47.8	60.0	40.0	63.3	36.7	64.1	35.9	41.3	58.7
Ngoma	67.3	32.7	70.3	29.8	32.3	67.7	71.7	28.3	71.5	28.5	80.0	20.0	75.2	24.8	74.8	25.2	96.2	3.8
Bugesera	29.6	70.5	28.3	71.7	33.9	66.1	33.1	66.9	30.1	69.9	62.9	37.1	32.8	67.2	31.7	68.3	60.7	39.3
National	**71.8**	**28.2**	**72.6**	**27.4**	**51.9**	**48.1**	**73.8**	**26.2**	**73.6**	**26.4**	**86.6**	**13.4**	**76**	**24**	**75.8**	**24.2**	**85.3**	**14.7**

Source: NISR, SAS 2019

Table 56: Season C 2019_Practice of erosion control measures by district (in percentage)

District	Percentage of plots		Percentage of Farmers		Percentage of land size	
	Yes	No	Yes	No	Yes	No
Nyarugenge	100	0	100.0	-	100.0	-
Gasabo	100	0	100.0	-	100.0	-
Nyanza	98.6	1.4	98.5	1.5	98.7	1.3
Gisagara	90.5	9.5	89.7	10.3	93.0	7.0
Nyaruguru	56.2	43.8	57.7	42.3	50.9	49.1
Huye	85.7	14.3	85.4	14.6	80.7	19.3
Nyamagabe	98.7	1.3	100.0	-	96.4	3.6
Ruhango	100	0	100.0	-	100.0	-
Muhanga	95.7	4.3	95.6	4.4	96.5	3.5
Kamonyi	93.8	6.3	93.5	6.5	97.2	2.8
Karongi	80.8	19.2	80.8	19.2	91.4	8.6
Rutsiro	83.6	16.4	82.3	17.7	92.6	7.4
Rubavu	100	0	100.0	-	100.0	-
Nyabihu	83.1	16.9	88.4	11.6	86.0	14.0
Ngororero	93.6	6.4	93.6	6.4	92.1	7.9
Rusizi	84.6	15.4	84.0	16.0	81.0	19.0
Nyamasheke	0	100	-	100.0	-	100.0
Rulindo	100	0	100.0	-	100.0	-
Gakenke	100	0	100.0	-	100.0	-
Musanze	98.3	1.7	98.3	1.7	96.9	3.1
Burera	92.7	7.3	94.4	5.6	93.1	6.9
Gicumbi	98.3	1.7	98.2	1.8	99.5	0.5
Rwamagana	59.1	40.9	57.1	42.9	70.7	29.3
Nyagatare	84.6	15.4	83.3	16.7	56.0	44.0
Gatsibo	95.5	4.5	94.9	5.1	96.8	3.2
Kayonza	71.4	28.6	71.4	28.6	71.0	29.0
Kirehe	66.7	33.3	64.3	35.7	88.6	11.4
Bugesera	24.7	75.3	24.7	75.3	18.4	81.6
National	85.9	14.1	86.2	13.8	86.6	13.4

Source: NISR, SAS 2019

Table 57: Percentage of plots by type of anti-erosion activities, per season and district in 2019

District	Ditches			Trees/Windbreak/ shelterbelt			Bench terraces			Progressive terraces			Cover plants			Water drainage			Mulching			Beds/ridges			Water channels			others		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	26.2	20.9	0.0	5.8	12.5	0.0	-	11.6	0.0	3.6	0.9	0.0	38.2	40.7	7.7	2.2	0.6	0.0	19.1	11.3	23.1	4.9	1.5	23.1	0.0	0.0	46.2	-	-	
Gasabo	7.7	3.6	0.0	0.5	1.5	0.0	2.2	31.3	0.0	21.7	5.4	0.0	47.0	51.5	5.3	14.2	1.8	2.6	3.4	1.5	31.6	3.2	3.3	0.0	0.0	0.0	60.5	-	-	
Kicukiro	2.5	0.9		7.4	5.3	-	-	31.0	-	35.8	0.9	--	47.8	51.8	-	2.5	0.9	-	3.7	9.3	-	0.3	-	-	0.0	0.0	-	-	-	
Nyanza	15.1	0.9	0.0	2.6	0.7	0.0	1.5	16.2	0.0	-	1.1	0.0	50.9	51.2	5.4	10.4	12.5	0.0	1.1	2.0	8.9	18.5	15.3	30.4	0.0	0.0	55.4	-	-	
Gisagara	11.7	12.4	0.0	0.5	0.8	0.0	4.8	14.1	0.0	10.2	5.1	0.0	32.7	36.3	0.0	26.4	20.7	8.9	1.2	0.8	1.8	12.6	9.7	61.6	0.0	0.0	27.7	-	-	
Nyaruguru	19.4	12.4	0.0	3.2	2.7	2.1	1.7	21.8	0.0	19.4	1.9	0.0	48.7	47.4	18.8	4.2	13.0	8.3	1.5	0.2	2.1	1.9	0.6	4.2	0.0	0.0	64.6	-	-	
Huye	8.7	4.7	0.0	5.0	3.8	0.0	0.6	24.2	0.0	23.8	0.9	0.0	45.3	49.1	2.0	12.6	10.9	10.0	1.3	2.2	4.0	2.8	4.1	10.0	0.0	0.0	74.0	-	-	
Nyamagabe	5.9	5.3	0.0	0.5	1.0	0.9	9.0	16.6	0.0	9.9	7.3	0.0	56.1	54.0	16.0	3.4	12.1	0.0	1.4	1.6	1.9	13.8	2.2	13.2	0.0	0.0	67.9	-	-	
Ruhango	9.2	5.6	4.6	2.0	0.2	1.5	0.3	0.2	0.0	1.5	-	0.0	67.1	69.7	20.0	8.0	18.7	0.0	1.3	1.6	9.2	10.7	4.0	24.6	0.0	0.0	40.0	-	-	
Muhanga	1.9	6.1	0.0	1.7	0.4	0.0	6.9	2.8	0.0	5.9	5.3	0.0	64.0	70.1	17.5	10.8	7.4	0.0	1.0	4.6	0.0	6.2	3.3	2.5	0.0	0.0	80.0	1.6	0.2	
Kamonyi	29.0	12.1	0.0	0.8	0.2	0.0	0.2	19.3	0.0	1.0	0.2	0.0	57.2	58.1	16.3	7.1	3.7	0.0	1.7	1.8	12.2	3.1	4.7	18.4	0.0	0.0	53.1	-	-	
Karongi	12.3	6.7	0.0	4.7	7.6	0.0	4.5	1.9	3.6	4.7	5.3	3.6	60.1	67.3	32.1	11.2	11.2	3.6	1.9	-	3.6	0.4	-	14.3	0.0	0.0	39.3	-	-	
Rutsiro	8.2	2.1	0.0	11.5	11.0	1.0	15.4	2.8	0.0	3.5	16.6	0.0	46.2	59.9	11.0	9.0	3.2	4.0	3.0	4.5	1.0	3.3	-	28.0	0.0	0.0	55.0	-	-	
Rubavu	0.2	0.9	0.0	10.1	11.8	6.1	2.4	14.4	6.1	16.3	2.4	6.1	15.4	15.0	6.1	-	0.2	0.0	0.2	-	0.0	55.5	55.3	75.8	0.0	0.0	0.0	-	-	
Nyabihu	1.7	0.2	0.0	1.5	2.4	2.2	9.6	3.5	26.1	1.3	10.9	7.6	52.3	50.8	41.3	4.4	4.7	0.0	0.6	1.1	2.2	28.8	26.4	14.1	0.0	0.0	6.5	-	-	
Ngororero	7.0	3.7	0.0	1.3	1.2	0.0	10.5	1.2	0.0	0.4	10.3	0.0	66.1	73.6	14.3	9.1	3.2	8.2	2.5	3.2	0.0	3.2	3.7	67.3	0.0	0.0	10.2	-	-	
Rusizi	2.8	10.7	0.0	11.2	9.2	4.0	0.3	5.8	0.0	26.9	-	0.0	48.0	61.9	0.0	6.9	6.1	0.0	2.5	5.3	12.0	1.5	1.0	8.0	0.0	0.0	76.0	-	-	
Nyamasheke	3.0	2.7	-	5.8	5.9	-	12.6	5.3	-	3.3	9.4	-	57.8	61.0	-	10.7	5.9	-	5.5	8.0	-	1.4	1.9	-	0.0	0.0	-	-	-	
Rulindo	11.3	2.3	0.0	1.5	2.6	6.5	7.5	13.0	3.2	13.0	5.4	0.0	51.8	57.8	19.4	8.7	16.1	16.1	1.3	2.8	0.0	5.0	-	6.5	0.0	0.0	48.4	-	-	
Gakenke	2.0	3.6	0.0	4.3	5.9	0.0	3.3	10.5	0.0	5.1	4.0	0.0	73.1	58.2	44.8	6.8	8.9	6.9	4.6	7.3	5.2	0.7	1.6	1.7	0.0	0.0	41.4	-	-	
Musanze	0.6	1.6	0.0	2.2	1.2	0.7	7.9	0.6	0.0	0.6	7.1	0.0	26.9	30.3	9.7	4.2	3.1	9.0	0.2	-	3.5	57.5	55.9	69.4	0.0	0.0	7.6	-	0.2	
Burera	0.1	6.0	0.9	4.4	1.4	1.7	6.5	12.1	0.9	14.0	6.2	5.2	42.9	49.6	26.1	2.5	2.3	0.0	0.1	-	0.9	29.5	21.7	53.9	0.0	0.0	10.4	-	0.7	
Gicumbi	0.3	0.2	0.0	0.8	0.6	0.0	8.9	32.1	0.0	19.3	8.0	1.4	59.4	54.9	18.3	9.3	2.4	0.0	1.6	1.7	0.0	0.4	-	0.0	0.0	0.0	80.3	-	-	
Rwamagana	26.0	4.0	0.0	3.3	5.4	0.0	4.7	2.7	0.0	6.2	7.1	0.0	43.9	61.1	0.0	10.0	5.6	12.5	3.8	10.8	18.8	2.0	3.1	0.0	0.0	0.0	68.8	0.2	0.2	
Nyagatare	11.7	7.7	0.0	0.5	0.9	0.0	1.5	25.5	0.0	18.2	1.0	0.0	58.5	52.8	13.3	4.0	3.6	53.3	3.3	7.2	0.0	2.3	1.2	26.7	0.0	0.0	6.7	-	-	
Gatsibo	6.4	4.1	0.0	1.6	1.1	1.9	0.5	1.1	0.0	0.5	-	3.8	67.6	71.6	9.4	3.3	2.6	0.0	6.5	7.2	9.4	13.7	12.3	1.9	0.0	0.0	73.6	-	-	
Kayonza	27.9	18.4	0.0	0.5	0.4	0.0	7.9	7.7	0.0	-	8.6	0.0	46.4	48.7	0.0	4.4	7.7	60.0	7.4	5.9	0.0	5.4	2.4	0.0	0.0	0.0	40.0	-	0.2	
Kirehe	19.6	26.1	0.0	6.0	1.3	0.0	-	-	0.0	0.7	0.5	0.0	54.8	55.6	8.3	1.6	1.5	0.0	15.4	12.5	16.7	1.9	2.5	0.0	0.0	0.0	75.0	-	-	
Ngoma	26.1	7.1	-	1.1	1.6	-	0.5	2.3	-	5.6	-	-	55.1	68.2	--	2.7	4.5	-	8.5	14.9	-	0.5	1.3	-	0.0	0.0	-	-	-	
Bugesera	27.7	15.0	0.0	0.9	1.2	0.0	-	13.9	0.0	-	-	0.0	47.7	52.0	0.0	7.7	8.1	0.0	4.6	5.2	23.8	11.4	4.6	66.7	0.0	0.0	9.5	-	-	
National	10.0	6.6	0.3	3.3	3.1	1.0	4.8	11.9	1.9	9.3	4.6	1.2	51.5	54.4	15.2	7.5	7.0	4.2	3.2	4.1	4.9	10.4	8.2	28.7	0.0	0.0	42.6	0.1	0.1	

Source: NISR, SAS 2019

Table 58: Percentage of plots by degree of erosion, per season and district in 2019

District	Severe (Rill erosion, Gully erosion, Mass movement/Landslides)			Moderate (Diffuse overland flow erosion, overland flow erosion)			Low (splash erosion, wind erosion)		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	1.97	0.3	0	14.65	25.5	0	83.38	74.2	100
Gasabo	0.38	3.8	4.3	1.13	5.2	21.7	98.5	91	73.9
Kicukiro	0.33	0	-	0	0	-	99.67	100	-
Nyanza	0.22	0.4	0	2.4	1.5	0	97.38	98.1	100
Gisagara	0.71	2	1	22.28	12	7.6	77.01	85.9	91.4
Nyaruguru	0	2.7	0	38.72	45.9	12.3	61.28	51.4	87.7
Huye	0.46	0.2	0	22.81	22.7	0	76.73	77.1	100
Nyamagabe	1.15	0.5	5.3	22.07	30.1	46.1	76.78	69.5	48.7
Ruhango	0.24	0.8	0	3.32	4.9	9.5	96.45	94.4	90.5
Muhanga	1.18	0.4	2.9	17.36	3.8	20	81.46	95.8	77.1
Kamonyi	2.56	0	0	1.4	8	3.1	96.05	92	96.9
Karongi	1.23	0.8	0	13.09	4.2	19.2	85.68	95	80.8
Rutsiro	0.43	0	0	10.32	6.8	35.6	89.25	93.2	64.4
Rubavu	0.24	0	0	6.31	7.2	16.7	93.45	92.8	83.3
Nyabihu	0.21	2.9	0	11.09	16	29.9	88.7	81.2	70.1
Ngororero	5.37	1.3	0	22.6	20.8	2.1	72.04	77.9	97.9
Rusizi	0.21	0.5	0	7.31	10.4	0	92.48	89.1	100
Nyamasheke	0	0	0	1.08	2.9	0	98.92	97.1	100
Rulindo	0.54	0.6	0	5.8	4.5	0	93.66	94.9	100
Gakenke	0	0.8	0	5.08	2.9	0	94.92	96.3	100
Musanze	0.39	0.2	0.8	20.04	8	4.1	79.58	91.8	95
Burera	2.13	0.7	4.2	8.35	2.8	0	89.53	96.5	95.8
Gicumbi	3.19	1.4	0	24.95	24.3	8.3	71.86	74.4	91.7
Rwamagana	1.17	0	36.4	7.18	1.1	4.5	91.65	98.9	59.1
Nyagatare	2.91	2.4	0	4.71	8.9	0	92.38	88.7	100
Gatsibo	12.95	14.7	0	4.06	2.6	0	82.99	82.7	100
Kayonza	0.24	0	0	10.82	9.5	0	88.94	90.5	100
Kirehe	0	0.7	0	3.42	22.1	0	96.58	77.2	100
Ngoma	0.24	0	-	6.75	9.6		93.01	90.4	
Bugesera	0.17	0	0	2.83	1.1	0	97	98.9	100
National	**1.69**	**1.6**	**1.6**	**9.93**	**10.4**	**10.9**	**88.38**	**88**	**87.6**

Source: NISR, SAS 2019

Table 59: Percentage of plots by land ownership category, per season and district in 2019

District	Owned			Free lending			Rented by cash or in-kind payment		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	78.3	76.8	70.0	12.1	13.5	20.0	9.6	9.7	10.0
Gasabo	75.4	74.5	26.1	17.1	19.0	52.2	7.5	6.4	21.7
Kicukiro	75.7	71.1		17.1	20.1		7.2	8.8	
Nyanza	62.2	63.2	39.1	15.9	17.3	37.7	21.8	19.5	23.2
Gisagara	60.1	63.1	54.3	12.7	11.8	20.0	27.3	25.1	25.7
Nyaruguru	71.0	70.3	57.5	21.2	20.3	17.8	7.7	9.5	24.7
Huye	63.1	60.4	57.1	9.2	10.7	8.2	27.7	28.8	34.7
Nyamagabe	76.6	77.6	80.3	6.2	9.0	5.3	17.2	13.3	14.5
Ruhango	76.3	70.1	64.3	8.3	12.1	23.8	15.4	17.9	11.9
Muhanga	79.9	83.4	47.1	8.3	7.6	21.4	11.8	9.0	31.4
Kamonyi	77.9	78.8	59.4	10.0	9.1	21.9	12.1	12.1	18.8
Karongi	77.0	79.9	46.2	10.9	6.6	11.5	12.1	13.5	42.3
Rutsiro	72.0	78.8	-	5.2	5.4	1.4	22.8	15.8	98.6
Rubavu	77.4	76.1	63.3	4.9	5.0	3.3	17.7	19.0	33.3
Nyabihu	83.5	79.8	75.3	4.8	6.5	9.1	11.7	13.6	15.6
Ngororero	86.4	88.1	42.6	5.6	4.6	6.4	8.1	7.3	51.1
Rusizi	80.2	80.9	69.2	7.5	6.6	7.7	12.3	12.5	23.1
Nyamasheke	73.3	74.8	66.7	6.1	5.3	-	20.6	20.0	33.3
Rulindo	73.9	76.2	65.0	10.9	9.2	15.0	15.2	14.5	20.0
Gakenke	91.2	91.6	88.9	4.9	6.1	5.6	4.0	2.4	5.6
Musanze	75.3	77.2	70.2	7.7	8.8	14.0	17.0	13.9	15.7
Burera	74.5	80.4	32.3	3.9	3.4	1.0	21.6	16.2	66.7
Gicumbi	83.7	86.4	33.3	6.4	7.5	13.3	9.9	6.1	53.3
Rwamagana	79.8	79.2	50.0	9.4	10.5	22.7	10.9	10.3	27.3
Nyagatare	78.1	77.2	30.8	5.7	5.7	46.2	16.2	17.1	23.1
Gatsibo	71.2	75.0	36.4	12.6	11.3	40.9	16.1	13.7	22.7
Kayonza	76.0	76.6	42.9	9.2	9.0	14.3	14.8	14.4	42.9
Kirehe	78.8	78.5	46.7	7.6	7.5	33.3	13.7	14.0	20.0
Ngoma	75.7	77.7		9.4	6.9		14.9	15.5	
Bugesera	67.4	72.5	14.1	22.1	16.0	84.7	10.5	11.5	1.2
National	**75.8**	**76.6**	**49.6**	**9.5**	**9.5**	**19.9**	**14.7**	**14.0**	**30.4**

Source: NISR, SAS 2019

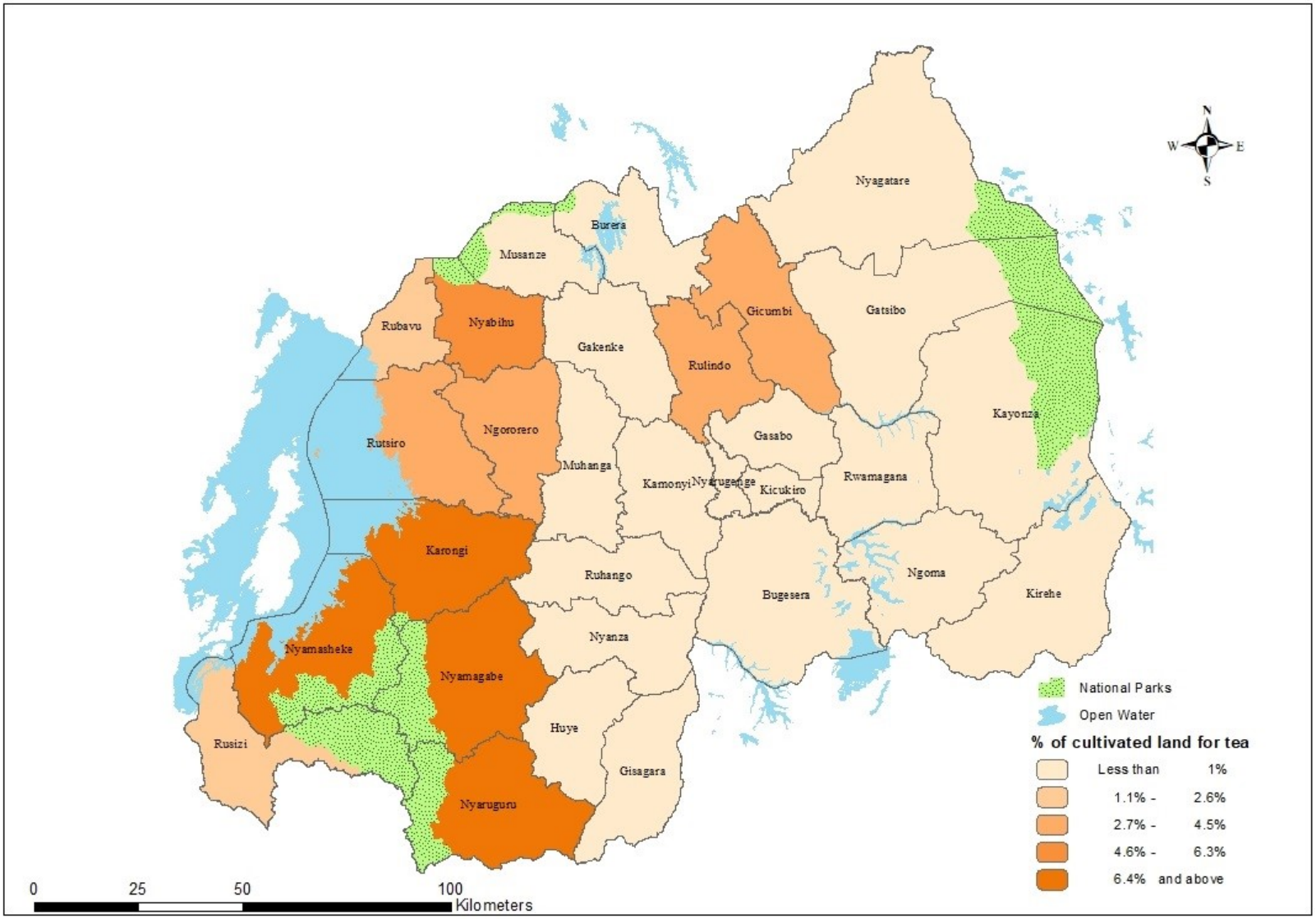
Table 60: Percentage of owned plots by land source and district

District	Heritage			Gift			Exchange			Bought		
	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	48.2	49.6	85.7	11.5	8.2	14.3	0.4	0.4	-	39.9	41.8	-
Gasabo	47.6	52.7	33.3	-	0.3	33.3	0.3	0.3	-	52.1	46.6	33.3
Kicukiro	53.7	54.5		3.9	4.3		0.4	0.5		42.0	40.7	-
Nyanza	70.5	60.2	55.6	2.5	6.3	14.8	0.4	-	-	26.7	33.6	29.6
Gisagara	59.6	52.5	31.6	4.5	6.1	24.6	0.9	1.9	-	35.0	39.5	43.9
Nyaruguru	70.1	70.0	78.6	1.4	1.9	4.8	-	1.2	-	28.4	26.9	16.7
Huye	62.8	61.3	75.0	5.5	7.3	-	0.7	-	-	31.0	31.4	25.0
Nyamagabe	44.4	58.0	62.3	16.5	2.9	3.3	-	0.3	-	39.0	38.8	34.4
Ruhango	67.1	52.7	48.1	3.4	14.2	18.5	-	0.3	-	29.5	32.8	33.3
Muhanga	69.9	73.6	57.6	0.5	0.7	27.3	-	-	-	29.6	25.7	15.2
Kamonyi	69.0	68.5	47.4	8.1	5.2	5.3	0.6	0.3	-	22.4	26.0	47.4
Karongi	51.9	57.8	41.7	18.9	12.2	8.3	0.6	1.0	-	28.5	29.0	50.0
Rutsiro	39.1	48.1	-	26.6	17.6		0.9	0.6		33.4	33.7	-
Rubavu	25.7	31.5	36.8	24.5	21.0	10.5	0.3	0.7	-	49.5	46.9	52.6
Nyabihu	31.8	28.5	37.9	21.3	23.6	10.3	0.3	-	-	46.6	47.9	51.7
Ngororero	42.0	66.7	50.0	20.5	2.1	5.0	-	0.3	-	37.6	30.9	45.0
Rusizi	27.9	44.7	61.1	30.5	21.9	27.8	0.8	-	-	40.9	33.3	11.1
Nyamasheke	55.3	41.8	100.0	8.3	25.1	-	-	-	-	36.4	33.1	-
Rulindo	54.4	58.9	23.1	12.8	7.7	23.1	0.3	-	7.7	32.6	33.4	46.2
Gakenke	57.3	57.6	28.1	0.6	-	3.1	0.6	0.4	-	41.4	42.0	68.8
Musanze	43.0	20.9	22.4	15.9	33.8	30.6	1.3	1.4	-	39.9	43.8	47.1
Burera	25.7	24.8	41.9	20.7	25.5	19.4	2.0	1.2	-	51.7	48.6	38.7
Gicumbi	69.5	63.5	45.0	2.0	1.4	20.0	0.5	0.7	5.0	28.0	34.5	30.0
Rwamagana	36.6	38.2	-	5.2	9.4	36.4	0.2	-	9.1	58.0	52.4	54.5
Nyagatare	14.8	18.0	-	22.7	24.4	25.0	0.4	-	-	62.1	57.6	75.0
Gatsibo	31.4	26.9	37.5	17.9	22.4	31.3	0.9	0.9	-	49.8	49.8	31.3
Kayonza	29.4	30.3	33.3	18.9	14.4	-	0.3	0.4	-	51.4	54.9	66.7
Kirehe	34.0	31.1	42.9	27.6	27.4	-	0.2	0.6	-	38.3	40.9	57.1
Ngoma	59.2	53.3	-	9.2	16.0	-	2.2	1.3	-	29.3	29.4	-
Bugesera	27.2	17.7	50.0	25.2	33.6	8.3	0.5	0.5	-	47.2	48.2	41.7
National	44.2	44.1	44.8	14.0	14.4	15.8	0.5	0.5	0.4	41.2	40.9	39.0

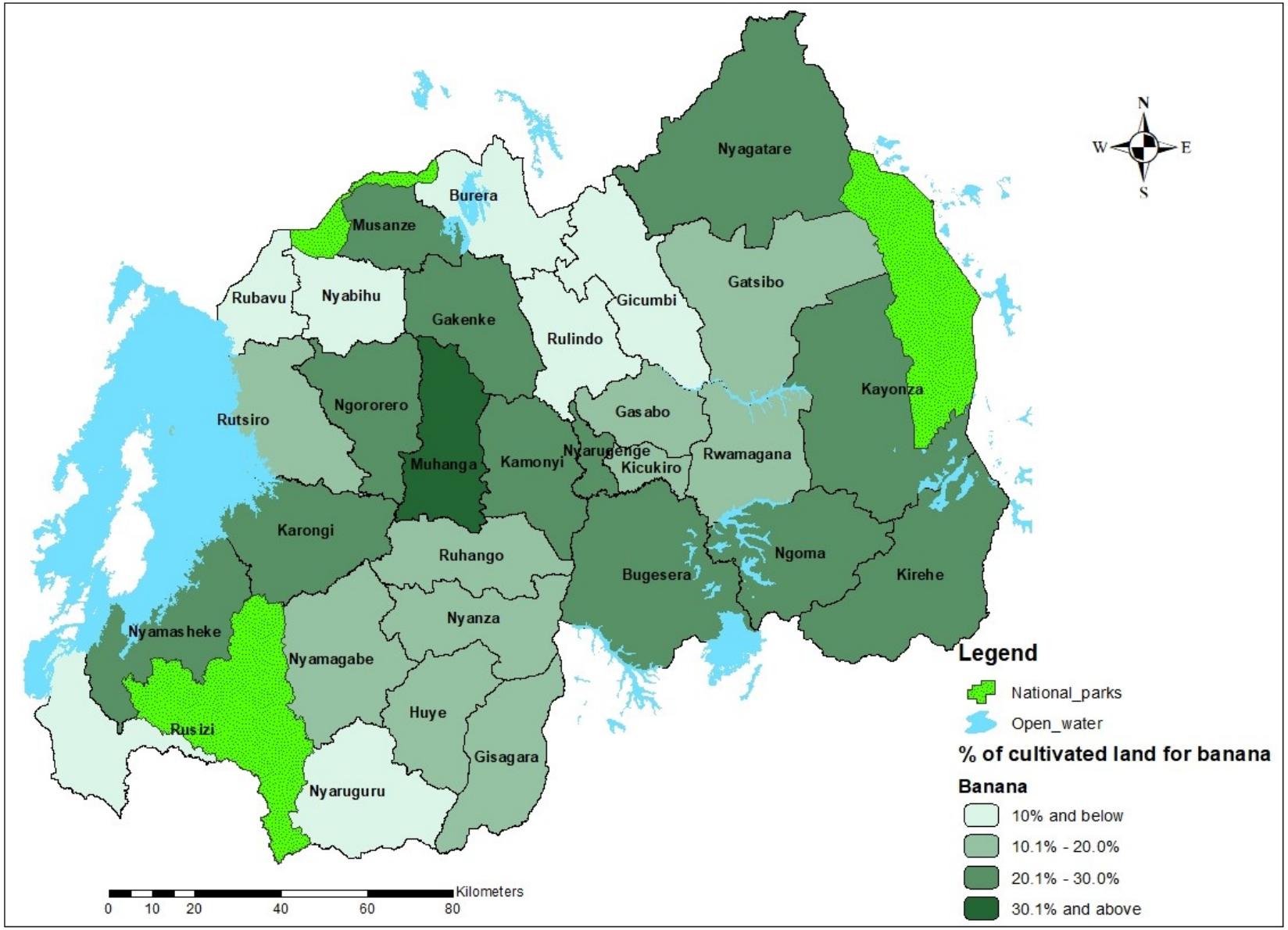
Source: NISR, SAS 2019

APPENDIX

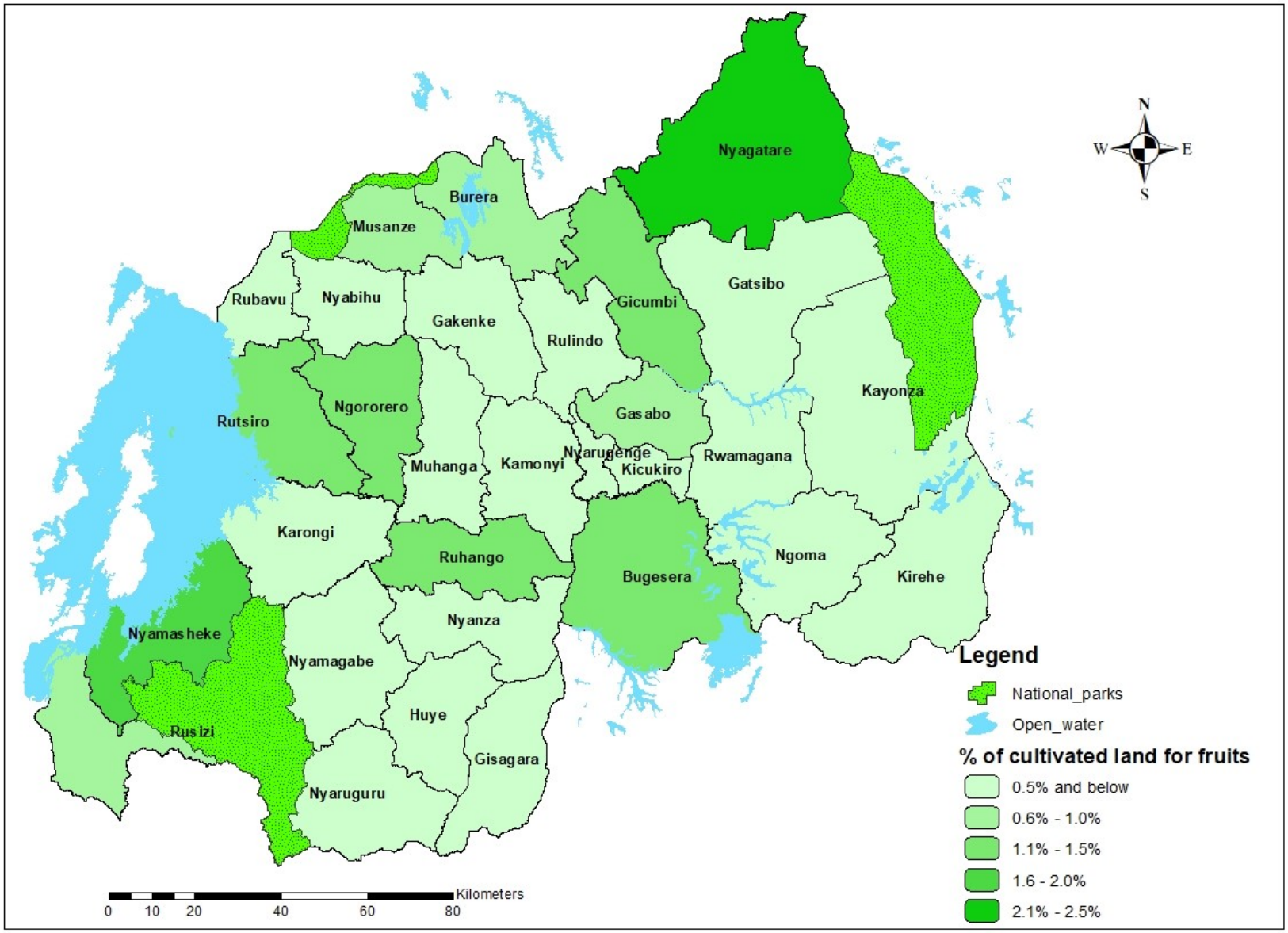
Appendix 1 : Percentage of area under permanent crop (tea) in 2019 Agricultural year



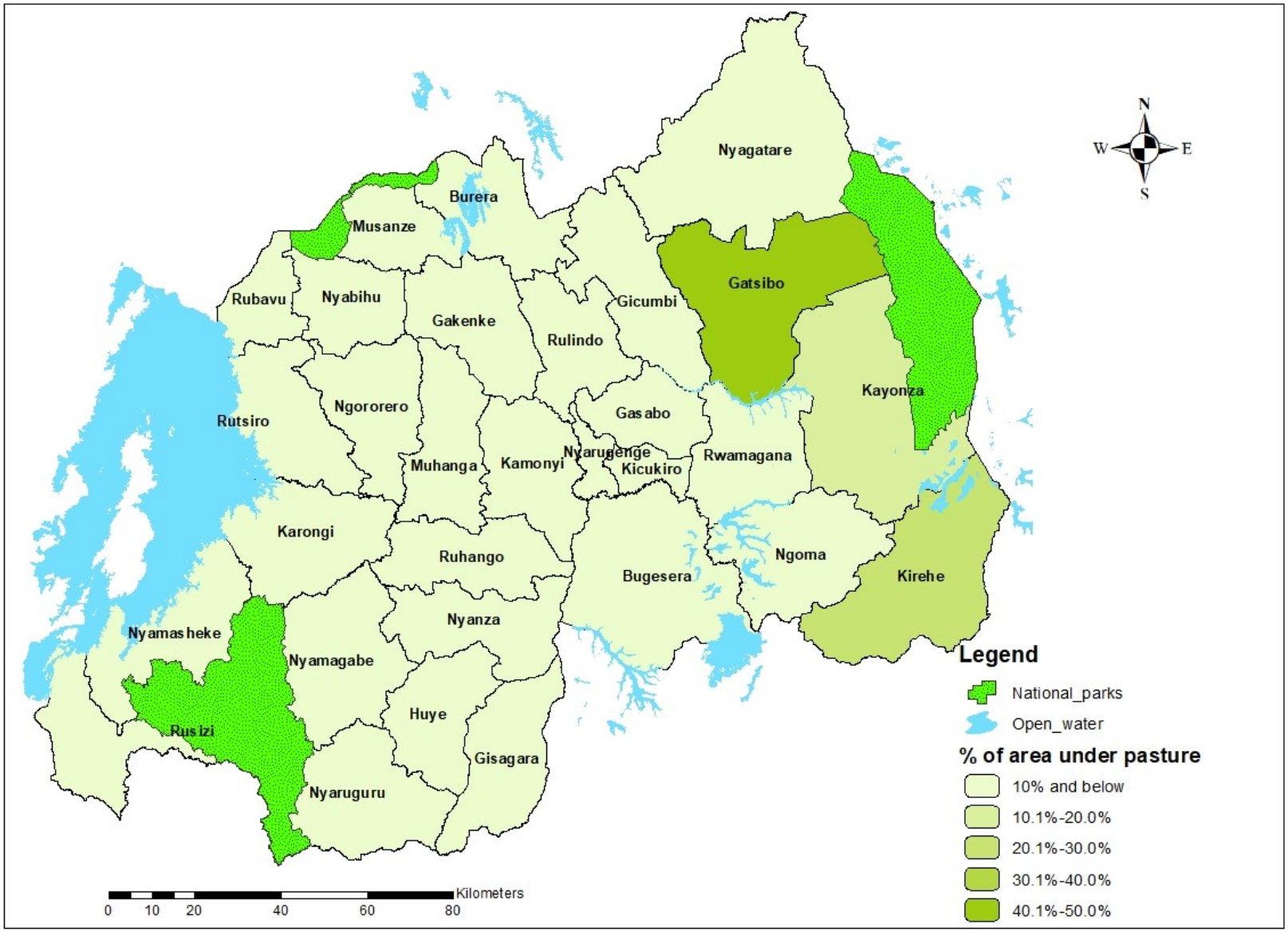
Appendix 2: Percentage of area under permanent crop (Banana) in 2019 Agricultural year



Appendix 3: Percentage of area under cultivation of permanent crop (Fruits) in 2019 Agricultural year



Appendix 4: Percentage of area under pasture in 2019 agricultural year



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