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SEASONAL AGRICULTURAL SURVEY 2021

ANNUAL REPORT

December 2021

SEASONAL AGRICULTURAL

SURVEY

2021

ANNUAL REPORT

Seasonal Agricultural Survey (SAS) 2021 annual report was produced by the National Institute of Statistics of Rwanda (NISR).

Seasonal Agricultural Survey 2021 report is obtained at NISR website: www.statistics.gov.rw

Additional information not available in the report may be obtained from the NISR Office in the Economic Statistics Unit

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FOREWORD

Since 2012, the National Institute of Statistics of Rwanda (NISR), in partnership with the Ministry of Agriculture and Animal Resources (MINAGRI), National Agriculture Export Board (NAEB), and the Rwanda Agricultural Board (RAB), has been conducting the annual agricultural survey. The study aims at estimating the national crop production, cultivated and harvested area, crop yield, agricultural inputs, and practices crucial for monitoring progress on agriculture programs and policies in Rwanda.

This published report reflects the importance of the Seasonal Agricultural Survey (SAS) information for use as a tool to assist in addressing key agricultural issues and information needs that will inform policymakers and other stakeholders and allow more effective identification of priority intervention needs.

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

I am grateful to NISR staff and other partners who worked tirelessly to ensure the 2021 Seasonal agricultural survey was successfully implemented.

Yusuf MURANGWA
Director General, NISR

EXECUTIVE SUMMARY

In the agricultural year 2020/2021, the National Institute of Statistics of Rwanda (NISR) conducted the Seasonal Agriculture Survey (SAS) covering three usual agricultural seasons. The main agricultural seasons in Rwanda 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 shortest agricultural season with vegetables and sweet potato predominantly grown in swamps and Irish potato mostly grown in the volcanic agro-ecological zone. This report, therefore, consolidates the findings of all seasons and hence, highlights the findings mainly related to:

1. Land use:
    - Agricultural land: this indicates land potential for agriculture, including land currently being used for farming as well as land that can be brought back into cultivation (fallow or pastureland).
    - Arable land: land able to be grown and produce crops for food and feeds supply purposesThis area excludes land under permanent crops[1] and permanent pasture.
    - Physical crop cultivated area: area occupied by crops. In other words, it can be called cropland;
    - Pastureland: 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 a,nd 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

Results of SAS 2021 estimate the total country land area is estimated at 2.377 million of hectares for which 1.43 million hectares (60% of total country land) is used for agriculture. Out of the total agricultural land, 1.1 million hectares was used for Seasonal crops in season A, nearly 0.6 million hectares are area under permanent crops, while 0.131 million ha under permanent pasture.

[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…).

Likewise, season B estimate the total country land at 2.377 million hectares of which 1.395 million hectares (59% of total country land) are used for agriculture. Out of the total agricultural land, 1 million hectares was used for seasonal crops in season B, nearly 0.6 million hectares are area under permanent crops, while 0.148 million hectares were used for permanent pasture.

Crop area and production

The overall crop area for the year 2020/2021 has remained unchanged compared to the previous year.

Use of inputs

In 2021, SAS results show that 37.1 percent of farmers used improved seed in season A compared to 17.2 percent in season B and 23.8 percent in season C. In regards to fertilisers, 67 percent of farmers applied organic fertilisers in season A compared to 56.3 percent in season B and around 74 percent in season C, while 40.9 percent applied inorganic fertilizers in season A against 32.7 percent in season B and 68.3 percent in season C. Moreover, 22.4 percent of farmers used pesticides during pest control activities in their farms in season A against 17.9 percent in season B and 65.6 percent in season C.

Agricultural practices

The findings show that nearly 90% of interviewed farmers protected the cultivated land against erosion throughout the year, with 9.2 percent, 8.3 percent, and 59.1 percent of farmers practiced irrigation in seasons A, B, and C respectively, while about 33% of interviewed farmers practiced agroforestry. Table 0 enclosed the main indicators covered during the SAS 2021 are summarized hereunder in table 0

Table 0. Summary of Seasonal Agricultural Survey main indicators

SAS main indicators	SAS 2019			SAS 2020			SAS 2021		
	Season			Season			Season		
	A	B	C	A	B	C	A	B	C
Cultivated area for major crops (Ha)									
Maize	215,159	73,139	-	221,521	72,918	-	236,642	80,570	-
Sorghum	30,467	131,383	-	33,295	136,124	-	33,636	133,033	-
Paddy rice	14,671	18,225	-	14,507	15,077	-	15,374	16,302	-
Wheat	5,487	7,747	-	4,187	8,122	-	4,418	8,749	-
Cassava	195,135	187,511	-	190,447	192,156	-	200,313	147,320	-
Sweet potato	97,639	80,919	5,331	89,427	84,545	5,583	99,496	87,762	5,226
Irish potato	49,728	49,244	8,618	51,516	43,950	9,028	52,196	51,595	9,667
Yams & Taro	12,695	15,469	-	18,058	14,565	-	17,119	15,088	-
Banana	253,996	236,417	-	272,500	207,635	-	280,779	202,807	-
Cooking banana	-	-	-	106,409	62,054	-	108,451	71,262	-
Dessert banana	-	-	-	39,688	30,911	-	41,394	37,668	-
Banana for beer	-	-	-	126,402	114,670	-	130,934	93,877	-
Bean	299,443	282,099	1,128	362,199	278,213	2,681	389,149	301,658	3,748
Pea	17,658	6,859	255	10,530	6,229	502	11,116	7,521	542
Groundnut	23,929	19,990	-	14,609	21,292	-	15,978	21,534	-
Soybean	24,593	21,543	559	24,677	22,974	837	27,493	25,574	741
Vegetables	15,012	14,976	-	18,246	15,939	5,912	20,181	15,574	5,061
Fruits	8,383	7,454	-	7,256	7,824	-	11,206	8,371	-
Harvested area for major crops (Ha)									
Maize	215,159	73,139	-	221,521	72,918	-	236,642	80,570	-
Sorghum	30,467	131,383	-	33,295	136,124	-	33,636	133,033	-
Paddy rice	14,671	18,225	-	14,507	15,077	-	15,374	16,302	-
Wheat	5,487	7,747	-	4,187	8,122	-	4,418	8,749	-
Cassava	36,960	44,667	-	41,160	46,509	-	42,284	47,837	-
Sweet potato	97,639	80,919	5,331	89,427	84,545	5,583	99,496	87,762	5,226
Irish potato	49,728	49,244	8,618	51,516	43,950	9,028	52,196	51,595	9,667
Yams & Taro	12,695	15,469	-	14,450	14,565	-	15,612	15,017	-
Banana	82,523	74,733	-	99,876	79,107	-	105,474	82,137	-
Cooking banana	-	-	-	35,735	22,089	-	38,916	24,193	-
Dessert banana	-	-	-	14,980	11,337	-	15,345	12,174	-
Banana for beer	-	-	-	49,161	45,681	-	51,213	45,770	-
Beans	299,443	282,099	1,128	362,199	283,104	2,681	389,149	301,584	3,748
Pea	17,658	6,859	255	10,530	6,229	502	11,116	7,521	542
Groundnut	23,929	19,990	-	14,609	21,292	-	15,978	21,534	-
Soybean	24,593	21,543	559	24,677	22,974	837	27,493	25,574	741
Vegetables	14,801	14,972	-	18,246	15,945	5,912	20,181	15,574	5,061
Fruits	6,585	5,623	-	4,778	4,978	-	4,599	4,429	-
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				

Table 0. Summary of Seasonal Agricultural Survey main indicators(cont'd)

SAS main indicators	2019 Season A	2019 Season B	2019 Season C	2020 Season A	2020 Season B	2020 Season C	2021 Season A	2021 Season B	2021 Season C
Production for major crops (MT)									
Maize	331,090	90,128	-	353,999	94,634	-	378,641	104,041	-
Sorghum	37,584	122,042	-	42,231	128,258	-	44,039	134,331	-
Paddy Rice	59,286	72,291	-	52,225	64,279	-	63,950	67,808	-
Wheat	7,082	8,605	-	4,138	8,673	-	4,500	9,184	-
Cassava	523,117	658,708	-	578,545	701,037	-	601,291	718,584	-
Sweet potato	674,257	546,788	26,539	635,007	611,425	29,182	667,346	632,614	28,790
Irish potato	468,931	422,266	82,211	427,471	352,441	78,609	463,562	393,371	81,348
Yams & Taro	71,104	100,700	-	85,414	102,628	-	93,819	107,037	-
Banana	1,020,141	830,491	-	1,100,082	931,991	-	1,152,365	991,501	-
Cooking banana	-	-	-	502,972	410,259	-	529,788	439,405	-
Dessert banana	-	-	-	120,868	138,090	-	124,546	142,487	-
Banana for beer	-	-	-	476,241	383,641	-	498,031	409,609	-
Bean	252,569	230,744	938	226,570	209,383	2,780	258,851	229,559	3,566
Pea	-	-	149	7,933	5,668	352	8,617	6,549	469
Groundnut	9,362	10,200	-	5,762	10,542	-	6,313	10,763	-
Soybean	13,638	10,588	299	12,284	10,955	516	14,237	12,194	426
Vegetables	158,927	155,506	-	160,114	166,272	52,492	159,669	172,936	56,979
Fruits	48,791	23,315	-	23,542	24,830	-	25,275	25,340	-
Yield for major crops (Kg/ha)									
Maize	1,539	1,232	-	1,598	1,298	-	1,600	1,291	-
Sorghum	1,234	929	-	1,268	942.2	-	1,309	1,010	-
Paddy Rice	4,041	3,967	-	3,600	4,264	-	4,160	4,159	-
Wheat	1,291	1,111	-	988	1,068	-	1,018	1,050	-
Cassava	14,153	14,747	-	14,056	15,073	-	14,220	15,021	-
Sweet potato	6,906	6,757	4,979	7,101	7,232	-	6,707	7,208	-
Irish potato	9,430	8,575	9,540	8,298	8,019	-	8,881	7,624	-
Yams & Taro	5,601	6,510	-	5,911	7,046	-	6,009	7,128	-
Banana	12362	11113	-	10,861	11,781	-	10,926	12,071	-
Cooking banana	-	-	-	13,794	18,573	-	13,614	18,163	-
Dessert banana	-	-	-	7,927	12,180	-	8,116	11,704	-
Banana for beer	-	-	-	9,606	8,398	-	9,725	8,949	-
Beans	843	818	831	626	740	1036.9	665	761	952
Pea	516	895	585	753	910	-	775	871	-
Groundnut	1,539	1,232	-	1,598	1,298	-	1,600	1,291	-
Soybean	1,234	929	-	1,268	942.2	-	1,309	1,010	-
Vegetables	4,041	3,967	-	3,600	4,264	-	4,160	4,159	-
Fruits	1,291	1,111	-	988	1,068	-	1,018	1,050	-

Table 0. Summary of Seasonal Agricultural Survey main indicators(contd')

	SAS 2019			SAS 2020			SAS 2021		
	Season			Season			Season		
	A	B	C	A	B	C	A	B	C
Share of pure crop in agricultural land									
Small Scale Farmers	-	-	-	28.3	32.3	-	26.7	30.9	30.9
Large Scale Farmers	-	-	-	96.6	93.5	-	96.0	93.8	-
Agricultural inputs									
Percentage of plots with improved seeds	11.0	6.0	12.6	27.8	11.2	16.7	28.7	11.9	18.8
Percentage of plots with organic fertilizer use	52.8	43.8	66.7	61.9	52.4	67.0	66.3	55.3	71.5
Percentage of plots with inorganic fertilizers use	26.0	21.3	42.9	28.0	20.7	50.9	32.8	26.2	55.8
Percentage of plots with pesticides use	18.1	14.7	42.3	16.0	11.2	54.4	16.0	13.0	56.2
Percentage of farmers who used improved seeds	22.4	11.8	14.6	35.2	15.6	30.6	37.1	17.2	23.8
Percentage of farmers who used organic fertilizer	53.3	46.9	66.9	63.6	51.7	76.1	67.0	56.3	73.8
Percentage of farmers who used inorganic fertilizers	26.1	23.1	42.4	33.8	25.8	67.5	40.9	32.7	68.3
Percentage of farmers who used pesticides	17.6	14.5	42.3	21.2	15.3	64.1	22.4	17.9	65.6
Percentage of land area sown with improved seeds	10.9	6.1	12.2	34.3	15.2	20.5	27.6	15.2	19.4
Percentage of fertilized land with organic fertilizer	57.2	46.5	70.6	59.9	48.7	66.1	64.1	52.7	68.6
Percentage of fertilized land with inorganic fertilizer	26.3	21.3	56.2	32.1	24.0	64.4	38.9	31.5	71.1
Percentage of land with pesticides application	17.1	14.2	58.9	19.6	14.1	67.4	20.2	16.8	71.6
Agricultural practices									
Percentage of farmers who practiced irrigation	3.1	3.5	26.4	6.5	11.8	66.9	9.2	8.3	59.1
Percentage of farmers who practiced anti-erosion activities	72.5	73.8	86.2	88.9	88.0	94.6	91.0	90.8	94.9
Agricultural area									
Total land area (,000Ha)	2377.0	2377.1	-	2377.1	2377.1	-	2,377.1	2,377.1	-
Agriculture land (,000Ha)	1411.0	1414.7	-	1394.9	1394.9	-	1,436.6	1,339.8	-
Percentage of agricultural area	59.4	59.5	-	58.7	58.7	-	60.4	56.4	-
Area under permanent crops (,000Ha)	514.0	495.5	-	554.1	591.5	-	592.4	545.3	-
Area under permanent pasture (,000Ha)	147.0	151.0	-	147.9	140.7	-	131.6	132.1	-
Modern irrigated agricultural land (,000Ha)	18.0	21.4	-	19.0	21.7	0.9	24.4	23.9	1.6
Area under seasonal crops(,000Ha)	1041.0	1024.5	-	1042.1	1068.5	-	1,111.8	989.3	-
Temporary fallow land(,000Ha)	107.7	114.6	-	104.5	129.4	-	96.1	113.4	-
Temporarily meadow and pasture(,000Ha)	8.1	8.1	-	10.6	13.8	-	10.0	9.4	-

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Acronyms and Abbreviations

%: Percentage
AHS: Agricultural Household Survey
CAPI: Computer Assisted Personal Interviewing
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
LSF: Large-Scale Farmer
MINAGRI: Ministry of Agriculture and Animal Resources
MFS: Multiple-Frame Sampling
MT: Metric Tones
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
PSTA: Strategic Plan for Agriculture Transformation
RAB: Rwanda Agriculture Board
SAS: Seasonal Agricultural Survey
Sqm: Square meter
SSF: Small Scale Farmer
SSUs: Second Sampling Units
STATA: Software for Statistics and data Science
SAS: Seasonal Agricultural Survey

I. INTRODUCTION

Agriculture continues to be one of the most important pillars of economic growth for Rwanda, and a much emphasis for agriculture transformation has been underpinned under the new national development strategy. In recognition of its potential in economic development, food security and poverty reduction, the government has set an ambitious agricultural agenda under the new strategy for transformation of agriculture (PSTA 4) aiming at transformation of Rwandan agriculture from a sector characterised by low productivity to a sector using knowledge to increase productivity and investing in value addition and commercialization.

Quality agriculture statistics are useful in evaluating the performance of national agricultural programs and hence, imperative for evidence-based decision making. While the use of statistics in decision-making processes continues to grow, the demand for agriculture data is also increasing. In this regard, the National Institute of Statistics of Rwanda (NISR) in collaboration with the Ministry of Agriculture and Animal Resource (MINAGRI) conducts the Seasonal Agricultural Survey (SAS) to gather various agriculture information mainly related to potential agricultural land use; crop area, yield and production; agricultural inputs, agricultural practices as well as other agricultural items.

The survey data are supplemented by administrative records on tea and coffee from the National Agriculture Export Board (NAEB). These data are collected through routine activities during monitoring of coffee and tea production. Other agriculture related information including total of quantity of agricultural inputs used, total agricultural exports, crop varieties grown, crop intensification program among others is obtained from MINAGRI working closely with Rwanda Agriculture Board (RAB), district agronomists, and other partners working in the agriculture sector.

The NISR has steered the Seasonal Agriculture Survey covered three main agricultural seasons A, B and C. Season A (September to February of the following year), season B (March to June) while season C is a shorter season mainly for vegetables and sweet potato grown in swamps and Irish potato grown in the volcanic agro-ecological zone sector.

1.1. Objective of the Survey

The main objective of SAS 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.

Therefore, this report presents thoroughly the findings of 2021 Seasonal Agricultural Survey in relation to:

1. Land use:
    - Agricultural land: this includes land under farming and land that can be taken back into cultivation (fallow or pastureland). Agricultural land indicates the potential land for agriculture.
    - Arable land: land able to be grown and produce crops for food and feeds supply purpose. This area of land excludes land under permanent crops and permanent pasture.
    - Physical crop cultivated area: this is the area of land occupied by crops.
    - Pastureland: area under natural grasses reserved for livestock or occupied by fodder crops;
    - Fallow land: cultivable land free for cultivation in a temporal period (less than 5 years);
2. Crop land: Cultivated land devoted to any grown crop
3. Crop production: Quantity of harvested crop produce used for food/livestock (kilograms or tons)
4. Crop yield: It is a measurement of the quantity of crop harvested per unit of land area (kg per hectare). It is used to determine the efficiency of food production at a certain period.
5. Use of inputs (this assesses the level of use of improved seeds, fertilizers, pesticides and other soil remedies)
6. Agricultural practices (practices of irrigation and erosion control measures) and others.

II. SURVEY DESIGN

2.1.Sample frame design

The SAS uses a Multiple-Frame Sampling (MFS) methodology providing the basis for conducting probability surveys. This approach is mainly based on complete coverage of the area and enables to avail agricultural data with precise survey estimates. The methodology encompasses two sample frames:

- the area frame from which the main survey sample is drawn; and
- a list frame of large-scale farmers (LSF) to complement the area frame, with the aim to cover crops mostly grown by large scale farmers which are not easily covered in the area frame. The large-scale farmer should have at least 10 hectares of agricultural holdings to be included.

The process of area frame construction is a three-pronged process involving the following steps: land cover classification, land stratification and sampling of segment.

2.1.1. Land classification

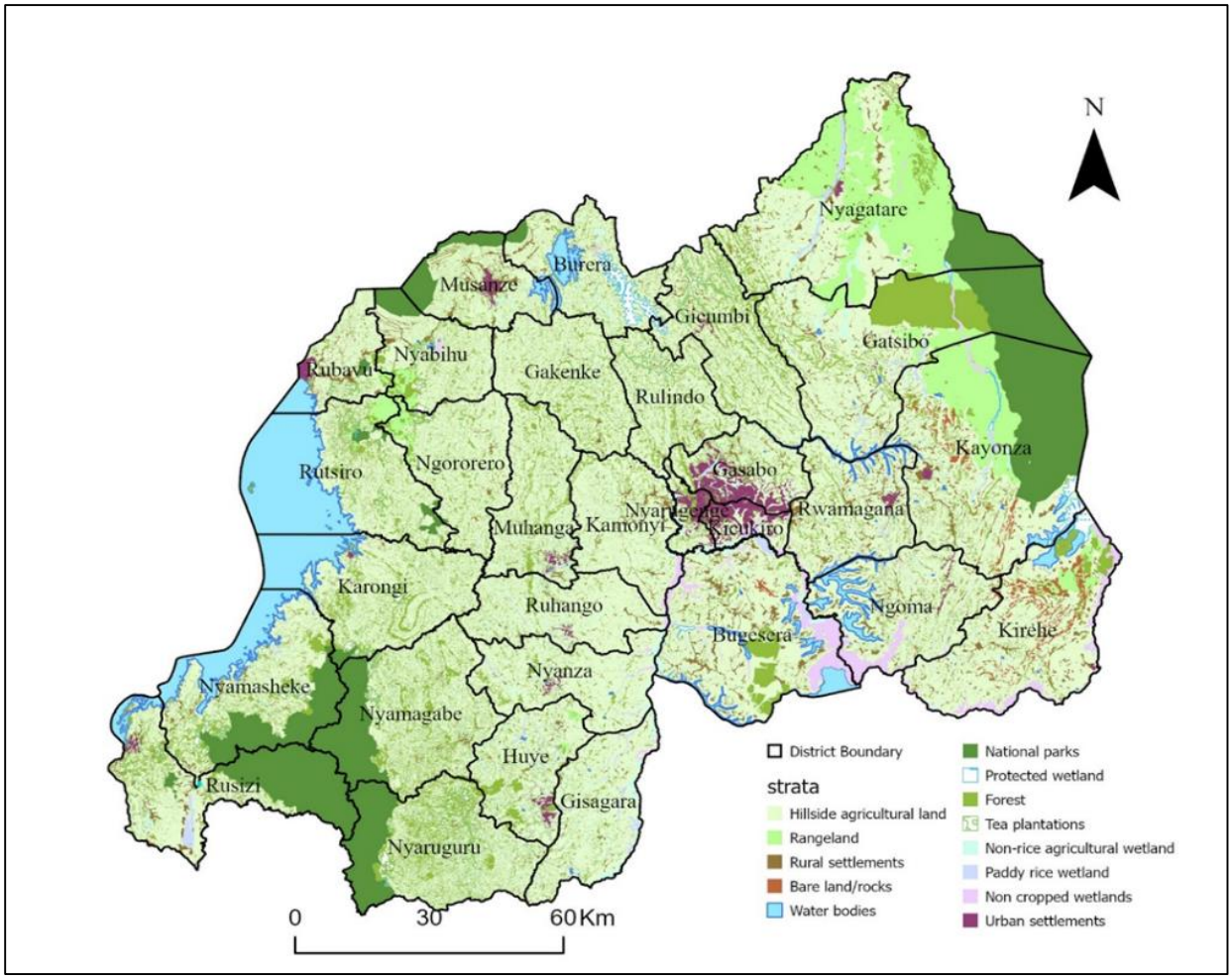
Land classification was done using Rwanda land cover map combining different geographical layers available in the country, plus a photo interpretation of a series (2010 to 2019) of high-resolution satellite images from Worldview. As a result, the Rwanda land cover map has been divided into 13 land cover classes (as shown in Table 1).

Table 1: List of Rwanda land cover classes

Code	Land cover class name	Area (Ha)	Percentage share
1.0	Consolidated tea plantations	17,821	0.7
1.1	Hillside agricultural land	1,343,933	53.1
2.1	Non-rice agricultural wetland	55,807	2.2
2.2	Paddy rice wetland	21,848	0.9
2.3	Non cropped wetlands	37,743	1.5
3.0	Rangeland	144,490	5.7
4.1	Urban settlements	31,612	1.2
4.2	Rural settlements	78,928	3.1
5.0	Bare land/rocks	15,404	0.6
6.0	Water bodies	135,295	5.3
7.0	National parks	241,455	9.5
8.0	Protected wetland	12,201	0.5
9.0	Forest plantations	395,001	15.6

Source: NISR, SAS, 2021

Map 1: Rwanda land classification map



Source: NISR, SAS 2021

Among 13 land cover classes, some of them are related to agricultural activities. The next step of building the area sample frame was to group land cover classes into strata in order to identify agricultural strata to be considered in sample frame.

2.1.2. Stratification

Out of 13 land cover classes, 5 are considered for the agricultural survey frame. These classes are tea plantation, hillside agricultural land, non-rice agricultural land, paddy rice agricultural wetland, and rural settlement (potential for agricultural production of kitchen gardens crops, fruit trees, and livestock). The remaining land cover classes are considered as excluded from the frame of potential land for agriculture. The sampling frame is made of a set of square clusters(segments) of 9 hectares each covering the whole country. By overlapping the clusters layer with land cover classes layer, each cluster was assigned a dominant land cover class as a stratum definition, basing on a defined threshold as follow:

Table 2. List of strata

Stratum	Stratum name	Definition
1.0	Dominant hill crop land stratum	Clusters with Hillside agricultural land cover class greater or equal to 60 percent of the total area of the cluster
2.0	Dominant Wetland crops stratum	Clusters with non-rice wetland land cover class greater than 25 percent of total area of the cluster
3.0	Dominant rangeland	Clusters with rangeland land cover class greater or equal to 60 percent of the total area of the cluster
4.0	Mixed stratum	The rest of other possible combinations
9.0	Excluded stratum	All clusters with excluded land cover classes greater or equal to 50 percent of the total area of the cluster

Source: NISR, SAS, 2021

In addition, tea plantation class data which are recorded by the National Agriculture Export Board and large-scale farms which are completely enumerated during the Seasonal Agricultural Survey, were not considered in the agricultural strata taken in sample frame. This means that only dominant hill crop land stratum, dominant wetland crops stratum, dominant rangeland stratum and mixed stratum were considered as area frame from which a sample segment was selected.

Table 3. Population size per district by stratum (number of segments)

	Dominant hill crop land	Dominant wetland crops	Dominant rangeland	Mixed stratum	Excluded stratum	Total
Nyarugenge	515	238	-	114	605	1,472
Gasabo	2,111	296	-	405	1,959	4,771
Kicukiro	517	148	-	90	1,099	1,854
Nyanza	5,847	522	-	418	678	7,465
Gisagara	5,485	684	-	520	858	7,547
Nyaruguru	3,783	388	-	1,290	5,757	11,218
Huye	3,869	369	-	837	1,375	6,450
Nyamagabe	5,577	226	-	1,194	5,134	12,131
Ruhango	5,631	338	-	475	508	6,952
Muhanga	5,003	340	-	662	1,177	7,182
Kamonyi	5,605	406	-	679	636	7,326
Karongi	6,039	114	-	675	1,924	8,752
Rutsiro	4,673	-	353	691	1,639	7,356
Rubavu	2,668	-	-	574	525	3,767
Nyabihu	3,766	-	272	607	1,324	5,969
Ngororero	5,630	112	359	545	872	7,518
Rusizi	3,866	159	-	839	5,322	10,186
Nyamasheke	4,849	137	-	923	4,640	10,549
Rulindo	4,209	312	-	622	1,167	6,310
Gakenke	5,919	255	-	669	986	7,829
Musanze	3,241	120	-	634	1,859	5,854
Burera	4,437	259	-	510	1,965	7,171
Gicumbi	5,919	214	-	868	2,202	9,203
Rwamagana	5,130	173	-	1,098	1,162	7,563
Nyagatare	6,688	532	9,057	1,160	3,869	21,306
Gatsibo	7,358	434	1,048	1,074	7,675	17,589
Kayonza	7,376	280	3,857	1,262	8,694	21,469
Kirehe	7,874	-	548	1,337	3,445	13,204
Ngoma	6,379	-	-	1,035	2,244	9,658
Bugesera	8,155	452	-	1,626	4,135	14,368
National	148,119	7,508	15,494	23,433	75,435	269,989

2.1.3. Sampling procedures

Out of 5 defined agricultural strata, only dominant hill crop land stratum, dominant wetland crops stratum, dominant rangeland stratum and mixed stratum were considered as land potential for agriculture. The remaining stratum is the non-agricultural land. Note that clusters covered by tea plantations were not considered in the area sample frame due to reasons stated above. Thus, SAS is conducted on 4 above mentioned strata to cover other major crops.

In 2021 agricultural year, the total sample used was 1200 segments. At first stage,1200 segments were selected and allocated at district level based on the power allocation approach (Bankier[2], 1988). Sampled segments inside each district were distributed among strata with a proportional-to-area criterion.

Table 4: Allocation of sampled segments per district by stratum

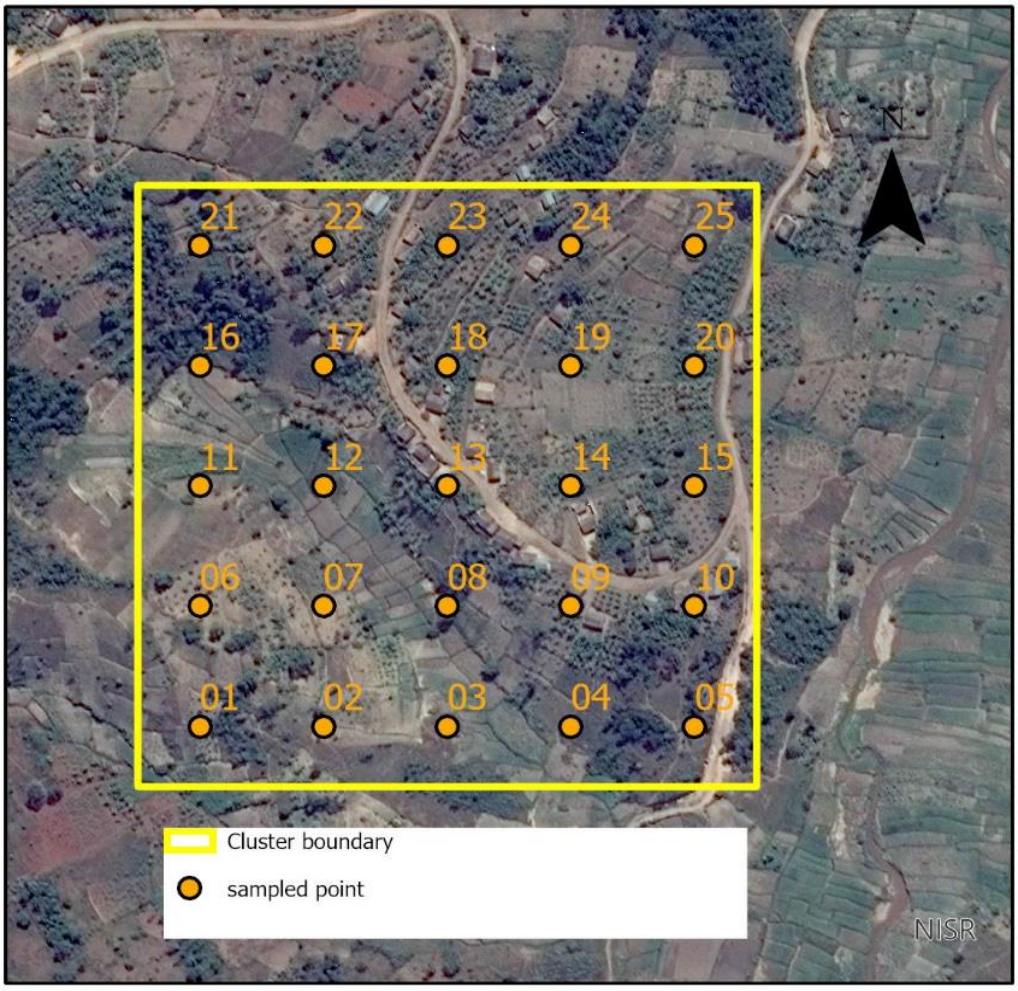
	Stratum					
District	Dominant hill crop land	Dominant wetland crops	Dominant rangeland	Mixed stratum	Total A & B	Season C
Nyarugenge	12	6	-	2	20	10
Gasabo	22	4	-	3	29	14
Kicukiro	13	5	-	2	20	9
Nyanza	37	4	-	2	43	21
Gisagara	33	5	-	3	41	18
Nyaruguru	25	3	-	7	35	20
Huye	27	3	-	5	35	17
Nyamagabe	36	2	-	6	44	17
Ruhango	36	3	-	3	42	18
Muhanga	33	3	-	4	40	13
Kamonyi	36	3	-	4	43	17
Karongi	38	2	-	3	43	11
Rutsiro	32	-	2	4	38	7
Rubavu	21	-	-	4	25	30
Nyabihu	27	-	2	3	32	37
Ngororero	36	2	2	3	43	10
Rusizi	27	2	-	5	34	2
Nyamasheke	31	2	-	5	38	11
Rulindo	28	3	-	4	35	13
Gakenke	37	2	-	4	43	14
Musanze	24	2	-	4	30	37
Burera	30	2	-	3	35	46
Gicumbi	37	2	-	5	44	14
Rwamagana	34	2	-	6	42	14
Nyagatare	31	5	25	7	68	21
Gatsibo	38	3	5	5	51	20
Kayonza	32	2	13	5	52	11
Kirehe	45	-	3	6	54	8
Ngoma	39	-	-	6	45	8
Bugesera	45	3	-	8	56	15
Total	**942**	**75**	**52**	**131**	**1,200**	**503**

Source: NISR, SAS, 2021

[2] Bankier M.D. (1988) Power allocations: determining sample sizes for subnational areas. The American Statistician, Vol. 42, n. 3 pp. 174-177.

At second stage, 25 sample points were systematically selected, following a special distance of 60 meters between points. Sample points are reporting units within each segment, where enumerators go to every point, locate and delineate plots in which the sample points fall, 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.

Map 2: Map showing square cluster(segment) with 25 sampled points



Source: NISR, SAS, 2021

2.1.4. Weighting Procedures

Based on the stratified two-stage sample design used with the new area frame, the first stage sampling probability for the sample segments in each stratum is calculated as:

$$p_{1h} = \frac{n_h}{N_h}$$

where:

p_{1h} = probability of selection of sample segments in stratum h (district by stratum)

n_h =number of sample segments selected in stratum h

N_h = Total number of segments in the area frame for stratum h in each stratum

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

$$p_{2hi} = \frac{g_{hi} \times A_{hij}}{A_{hi} \times g_{hij}}$$

Where:

$p2_h$ = Probability of selection of the plot in segment h

ghi = Number of grid squares selected in the i-th sample segment of stratum h;

Ahij = Area of the j-th sample plot selected in the i-th sample segment of stratum h

Ahi = Area of the i-th sample segment of stratum h;

ghij = Number of selected grid squares in the j-th sample plot of the i-th sample segment of stratum h

The weight of a sample plot is equal to the inverse of the first and second stage probabilities of selection:

$$W_{Phij} = \frac{1}{p_{1h} \times p_{2hi}} = \frac{N_h \times A_{hi} \times g_{hij}}{n_h \times g_{hi} \times A_{hij}}$$

Where:

W_{Phij} =weight for the j-th sample plot in the i-th sample segment in stratum h

2.2.Data Collection design

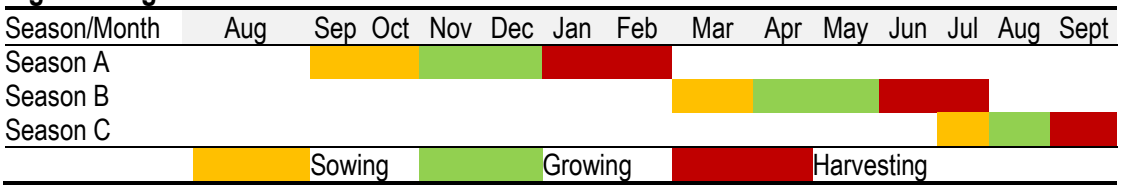
During the SAS 2021 exercise, data collection covered three main agricultural seasons A, B and C and was conducted into two separate phases in each season: the first phase, known as screening activity (post-planting phase), consists of visiting all sampled segments and demarcating all plots with sampled points with the aim of covering the information related to land area, planted crops and land use. While the second phase involves capturing of production data by visiting sampled agricultural plots identified from screening activity as well as all Large-Scale Farmers (LSF). To ensure the smooth completion of the SAS workload, NISR employed 128 Enumerators, 29 Team Leaders and 3 Editors. All fieldwork staff hold a degree in agriculture sciences and were consistently trained by NISR headquarter staff before starting data collection in each season. Moreover, a higher-level supervision was organised and done by staff from NISR who frequently visited the field teams during each phase of data collection in order to ensure the quality of collected data.

2.2.1. SAS timeframe and agricultural seasons in Rwanda

The Seasonal Agriculture Survey (SAS) data collection was conducted following the three ordinary agricultural seasons. The SAS field activities were carried out during the regular seasons' calendar that covers the approximate monthly periods as follows:

- Season A started in September 2020 and ended with February 2021
- Season B started in March 2021 and ended with June 2021; while
- Season C that starts in July and ends in September 2021, it is a short agricultural season with vegetables and sweet potato predominantly grown in marshlands, whereas Irish potato are grown in volcanic agro-ecological zone.

Figure 1: **Agricultural seasons calendar**



Source: NISR, SAS, 2021

Specifically, During the 2021 SAS, the field work for season A covered the period from 2nd December 2020 to 4th February 2021 while season B data collection was conducted from 2nd May to 30th June 2021. In both cases, data collection was carried out in 1,200 segments and 330 large scale farmers' holdings across the country. During the farmer's interviews, the survey covered 13,807 small scale farmers and 330 large scale farmers. Besides, the data collection was carried out in 843 sites potential to grow season C crops in addition to 1200 segments and covered the period from 15th August to 8th September 2021.

2.2.2. Data collection tools and materials

Seasonal Agricultural Survey used two questionnaires:

- **Screening Questionnaire:** Screening questionnaire is used to collect information on the delineated plot. This information is mainly related to land use, plot area and crop cultivated.
- **Plot Questionnaire:** Plot questionnaire is used to collect information mainly related to crop production, inputs used (seeds, fertilizers and pesticides), and agricultural practices in the sampled plots.

The computer assisted personal interview (CAPI) data collection methodology was used during the SAS exercise and it mainly comprises three different software applications:

- **Collector:** which is GIS based application, is used to identify and navigate the enumerator team to the exact GPS sample-point location and for mapping the plot boundary for GIS area determination,
- **Survey 123:** which is GIS based application, used to collect screening data for Large-scale farmers.
- **CS Entry application**, which is a CSPro data entry application used on Android tablets to collect data for interview of plot questionnaire.

In addition, 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 must check if they have required materials for their fieldwork. Filed workers use Explorer software to direct them to sampled segment. Data are collected as follows:

- **Screening Activity of the Segment:** Arriving at the segment, field workers use GPS to direct them to the sampled point inside the segment. Arriving at the point, enumerators identify plot boundary with the guide of the farmer and delineate the plot using collector with external 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 agricultural plots are given to enumerators to collect information provided in the plot questionnaire.

2.3.Data processing and analysis

CAPI data collection method allows enumerators to collect and enter data using tablets and send those data to the server at headquarter where data are received by NISR staff, checked for consistency and thereafter transmitted to analysts for tabulation and reporting using STATA 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 pastureland

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 in same plot, since 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 have 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. if the farmer only harvested 1,250 trees. In this case, the farmer has harvested only a quarter (0.125hectares) of the cultivated area.

11. Crop yield

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

12. Crop production

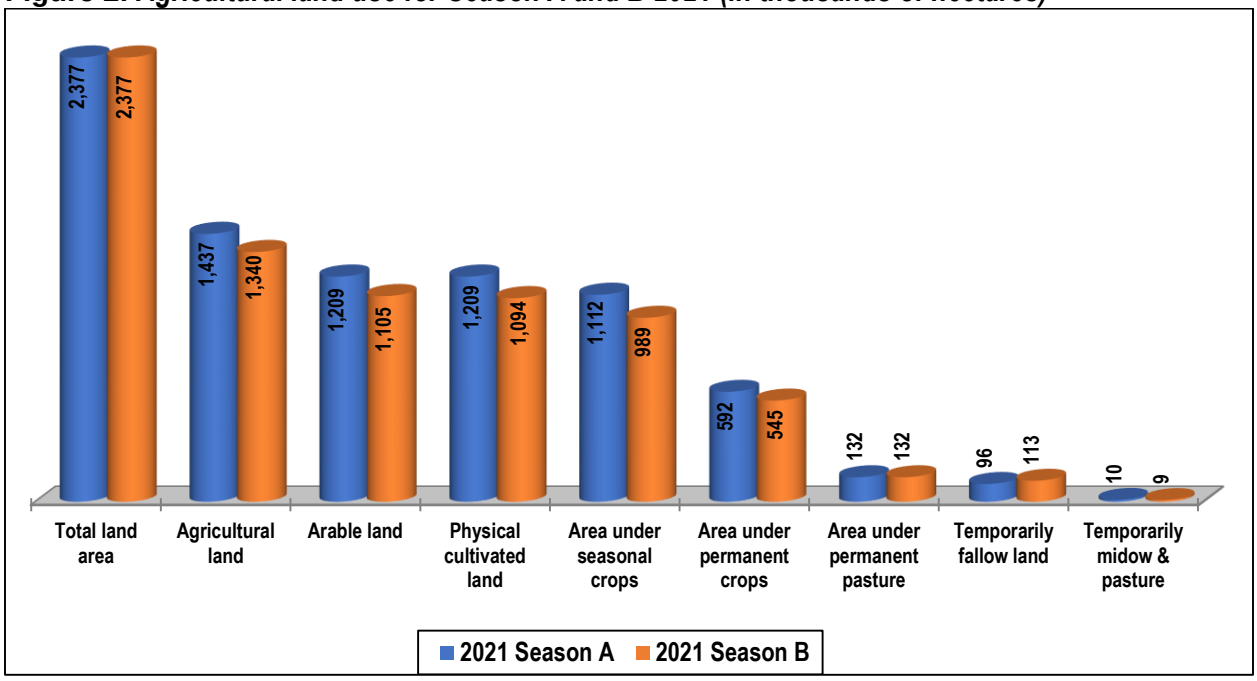
Crop production is the product of crop yield and crop area (harvested). At district level, crop production is estimated by taking crop yield of crop produces times the total harvested area in the district.

III. MAIN FINDINGS

This section presents the main findings covered during the SAS 2021 seasons A, B and C. These results are mainly related to area (physical land use, cultivated area, and harvested area), crop yield and production, agricultural inputs as well as agricultural practices in Rwanda.

3.1.Agricultural land use (1000Ha) for 2021 Season A and B

Figure 2: ***Agricultural land use for Season A and B 2021 (in thousands of hectares)***

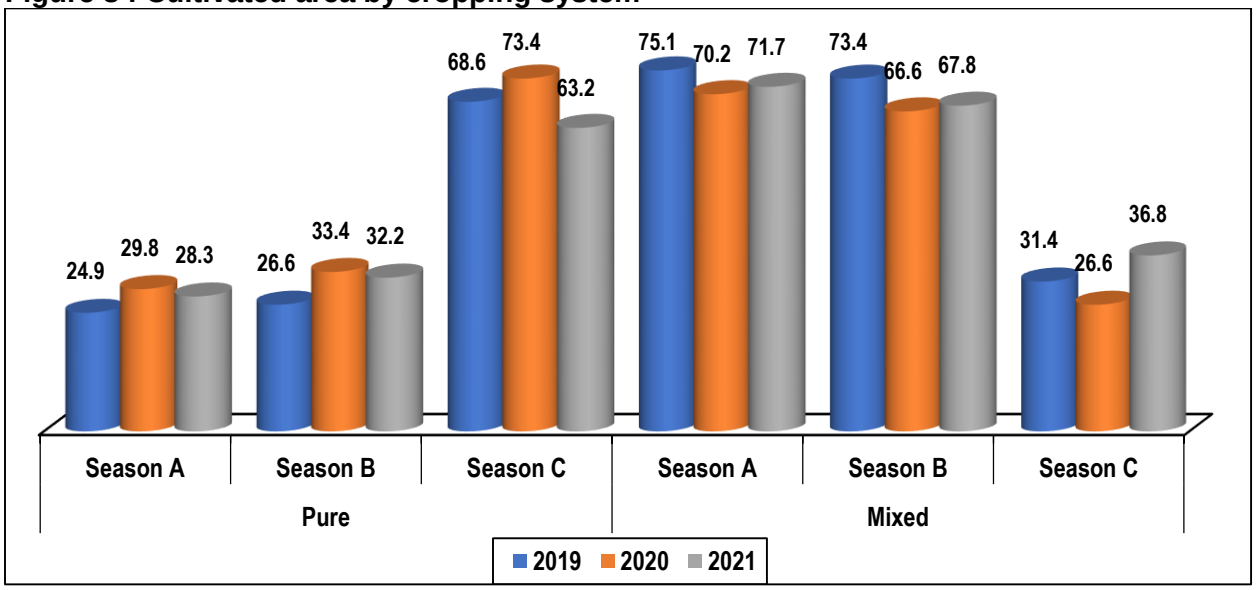


Source: NISR, SAS, 2021

The total country land area is estimated at 2.377 million of hectares for which 1.43 million hectares (56.4% of total country land) is used for agriculture. Out of the total agricultural land, 1.1 million hectares was used for Seasonal crops in season A, nearly 0.6 million hectares are area under permanent crops, 0.131 million ha under permanent pasture while 0.131 million ha was fallow coverage. For season B, 1.340 million hectares (56.4% of total country land) is used for agriculture, 1 million hectares was used for Seasonal crops, nearly 0.6 million hectares are area under permanent crops, 0.132 million ha under permanent pasture while 0.113 million ha was fallow. (See district details in Table 6).

3.2.Crop area, yield and production for major crops

Figure 3 : Cultivated area by cropping system



Source: NISR, SAS, 2021

Figure 3 above shows that, the mixed cropping system was done on 71.7 percent of cultivated area in season A compared to 67.8 percent in season B and 36.8 percent in the small season C.

Maize:

- In 2021, Maize was cultivated area estimated at 236,642 hectares and 80,570 hectares in season A and B respectively, an increase of 7 percent and 10 percent in season A and B when compared to respective seasons of 2020. Maize production was 378,641 metric tons in season A and 104,041 metric tons in season B, an increase of 7 percent and 10 percent in season A and B when compared to respective season of 2020. The average yield was 1.6 tons and 1.3 tons in season A and B. (See district details in Tables 8-22).

Sweet potato:

- In 2021, sweet potatoes were cultivated to area estimated at 99,496 hectares and 87,762 hectares in A and B respectively, an increase of 11 percent in season A and 4 percent in season B when compared to respective seasons of 2020. The production of sweet potatoes was 667,346 metric tons and 632,614 metric tons in season A and B respectively, thus an increase of 5 percent and 3 percent when compared to 2020 season A and B production while the average yield was 6,7 tons and 7.2 tons per hectare in season A and B respectively.

- The results of 2021 season C show that the cultivated area under sweet potatoes was 5,583 hectares, a decrease of 6 percent compared to 2020 season C estimates. Likewise, the production for 2021 season C decreased by 1 percent compared to the same season's estimates of the previous year. The average yield of sweet potato was estimated at 5.5 tons per hectare (see district details in table 8-22).

Irish potatoes:

- In 2021, Irish potatoes was cultivated to area estimated at 52,196 hectares in season A and 51,595 hectares in season B, an increase of 1 percent and 17 percent in season A and B when compared to respective seasons of 2020. Irish potatoes production was 463,562 metric tons in season A and 393,371 metric tons in season B, an increase of 8 percent and 12 percent in season A and B when compared to respective seasons of 2020. The average yield of Irish potato was 8,9 tons per hectares in season A and 7.6 hectares per hectare in season B.

- Results of 2021 season C show that the cultivated area under Irish potatoes was 9,667 hectares, an increase of 7 percent when compared to the same season of 2020. The overall production was estimated at 81,348 metric tons, which is an increase of 3 percent when compared to the estimates of the same season in 2020. The average yield for Irish potatoes was estimated at 8.4 tons per hectare (see district details in table 8-22).

Cassava:

- In 2021 cassava was cultivated to area estimated at 200,313 hectares in season A, and 147,320 hectares in season B, an increase of 5 percent in season A and 23 percent when compared to respective seasons of 2020. Besides, harvested area was estimated at 42,284 hectares for season A and 47,837 hectares for season B, up 3 percent for both seasons when compared to respective seasons of 2020. Cassava production was 601,291 metric tons in season A and 718,584 metric tons in season B, an increase of 4 percent and 2.5 percent in season A and B when compared to respective seasons of 2020. The average yield for cassava was 14.2 tons in season A and 15 tons in season B (See district details in Tables 8-22).

Paddy rice:

- In 2021, the cultivated area for paddy rice was estimated to be 15,374 hectares in season A and 16,302 hectares in season B, an increase of 5 percent season A and 8 percent in season B when compared to respective seasons of 2020. Paddy rice production was 63,950 metric tons in season A and 67,808 metric tons in season B, an increase of 22 percent in season A and 5.5 percent in season B when compared to respective season of 2020. The average yield was 4,1 tons per hectare in season A and 4.2 tons per hectares in season B. (See district details in Tables 8-22).

Banana:

- In 2021, the total cultivated area for banana was estimated at 280,779 hectares in season A and 202,807 hectares in season B, an increase of 3 percent in season A and 2 percent in season B when compared to respective seasons of 2020. Besides, harvested area was estimated at 42,284 hectares for season A and 47,837 hectares for season B, up 6 percent for season A and 3 percent for season B when compared to respective seasons of 2020. The production of banana was estimated at 1,152,365 metric tons in season A and 991,501 metric tons in season B, an increase of 5 percent in season A and 6 percent in season B when compared to respective seasons of 2020. The average yield of banana was 10,9 tons per hectare in season A and 12.1 tons per hectare in season B. (See district details in Tables 8-22).

Beans:

- In 2021, bean's cultivated area was estimated at 389,149 ha in season A and 301,658 in season B, an increase of 7 percent for both seasons A and B when compared to respective seasons of 2020. Bean's production was estimated at 258,851 metric tons in season A and 229,559 metric tons in season B, an increase of 14 percent in season A and 9.6 tons in season B when compared to respective seasons of 2020. The average yield of beans was 0.67 tons per hectare in season A and 0.76 tons in season B.

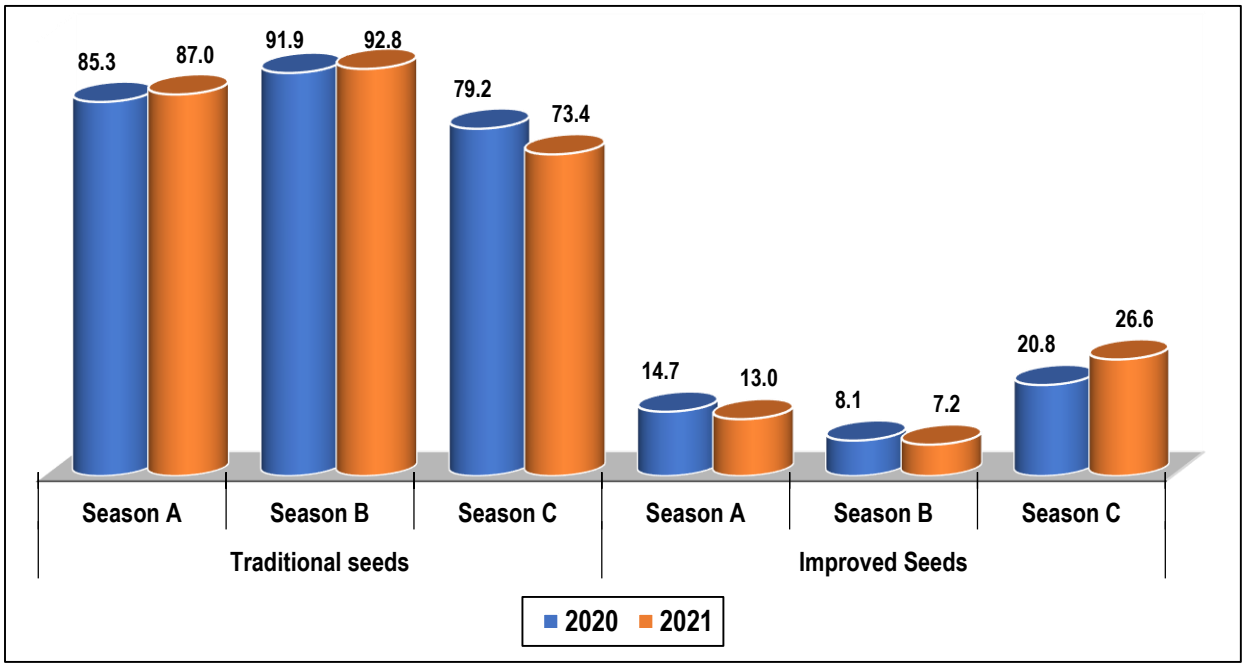
- The results of 2021 Season C show that beans cultivated area was 3,748 hectares an increase of 40 percent when compared to season C of 2020 while the production was 3,566 metric tons, an increase of 28 percent respectively when compared to season C of 2020. The average yield was estimated at 0.85 tons per hectare (see district details in table 8-22).

3.3.Agricultural inputs

The survey results related to use of agricultural inputs (seeds, fertilizers and pesticides) are presented in terms of percentage of farmers who applied such agricultural inputs during the season.

3.3.1. Use of seeds

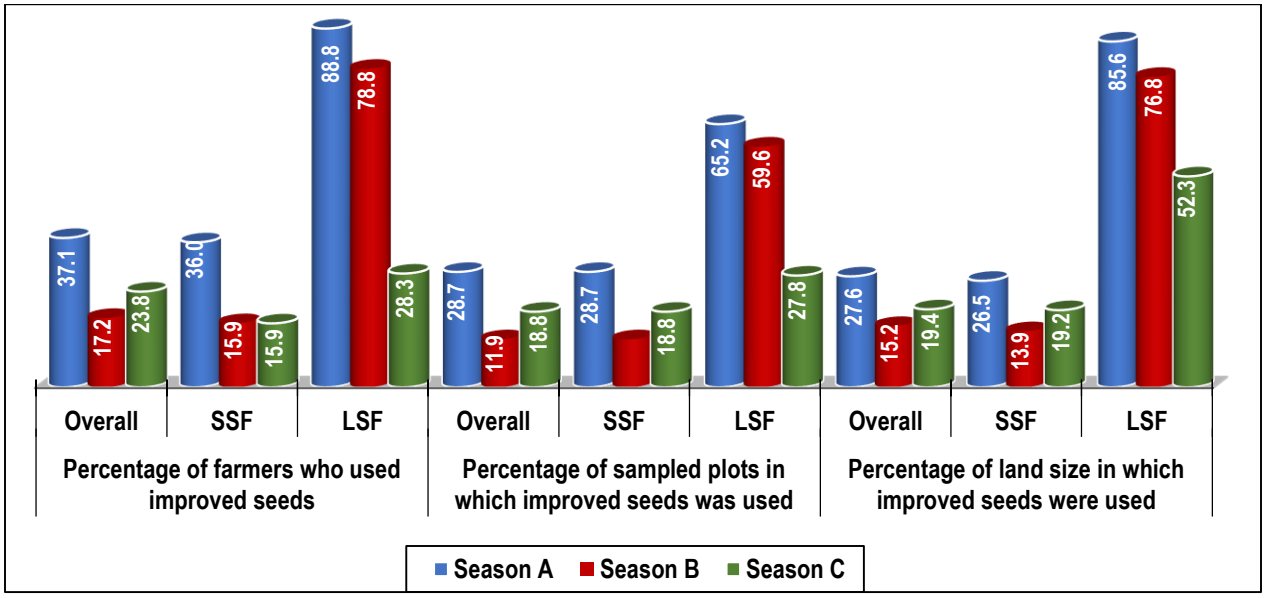
Figure 4: Types of seeds used (%)



Source: NISR, SAS, 2021

Figure 3 above shows that, out of total seeds used in 2021 87 percent in season A were traditional compared to 92.8 percent in season B and 73.4 in season C. Improved seeds accounted for 13 percent in season A compared to 7.2 percent in season B and 26.6 percent in season C.

Figure 5: Use of improved seeds (%)



Source: NISR, SAS, 2021

In 2021, 37.1 percent of farmers used improved seeds in season A against 17.2 percent in season B and 23.8 percent in season C. In regards to farmer type, 36 percent of small-scale farmers (SSF) and 88.8 percent of Large-scale farmers (LSF) used improved seeds in season A while 15.9 percent of small-scale farmers (SSF) and 78.8 percent of Large-scale farmers (LSF) used improved seeds in season B.

Table 5: Source of improved seeds (%)

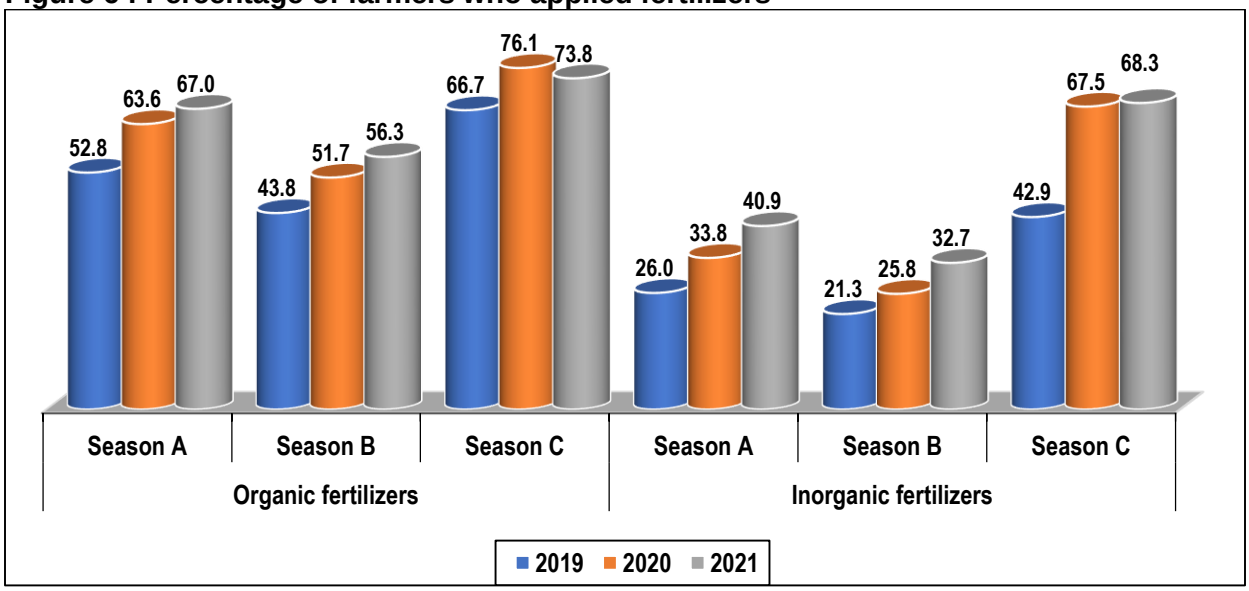
	2021			2020		
	Season A	Season B	Season C	Season A	Season B	Season C
NGOs/Companies	39.3	30.3	2.7	28.8	20.0	1.7
Agro dealers	37.6	38.9	39.8	36.6	41.6	48.4
Government (MINAGRI/RAB/NAEB)	8.3	9.2	12.6	16.5	13.1	5.8
Market	5.2	7.1	28.6	5.4	9.4	31.0
Recognized seed multipliers	4.3	7.5	9.3	5.4	9.6	6.6
Agriculture cooperative	4.3	5.9	6.7	6.1	5.3	3.9
Other source	1.0	1.0	0.3	1.4	0.9	2.7

Source: NISR, SAS, 2021

In season A, 39.3 percent of improved seeds came from NGO/companies, 37.6 percent from agro-dealers, 8.3 percent from government, 5.2 percent purchased from market, 4.3 percent from cooperatives, and 4.3 percent from seeds multipliers. In season B, 38.9 percent of improved seeds came from agro-dealers, and 30.3 percent from NGO/companies. Improved seeds were used mostly for crops such as paddy rice, maize, vegetables, fruits and wheat. (See details in Tables 29-34).

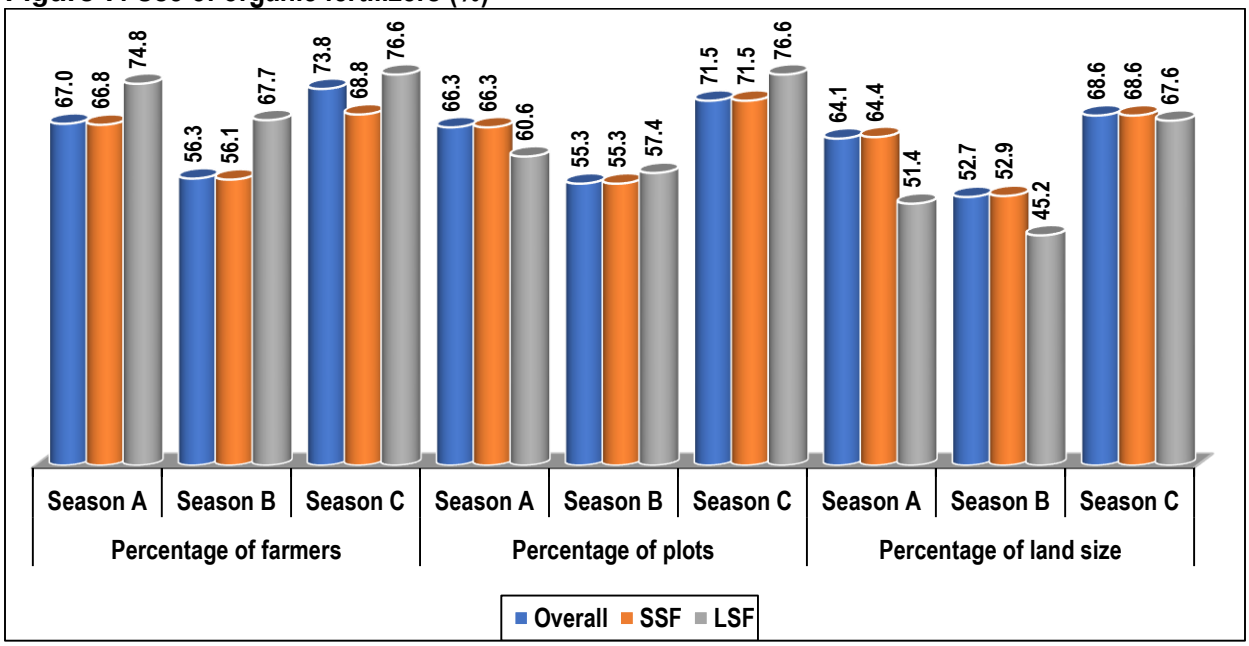
3.3.2. Use of fertilizers

Figure 6 : Percentage of farmers who applied fertilizers



In 2021, 67 percent of farmers applied organic fertilizer in their farms in season A against 56.3 percent in season B and 73.8 percent in season C, while the inorganic fertilizer was applied by 40.9 percent in season A compared to 32.7 percent in season B and 68.3 percent in season C.

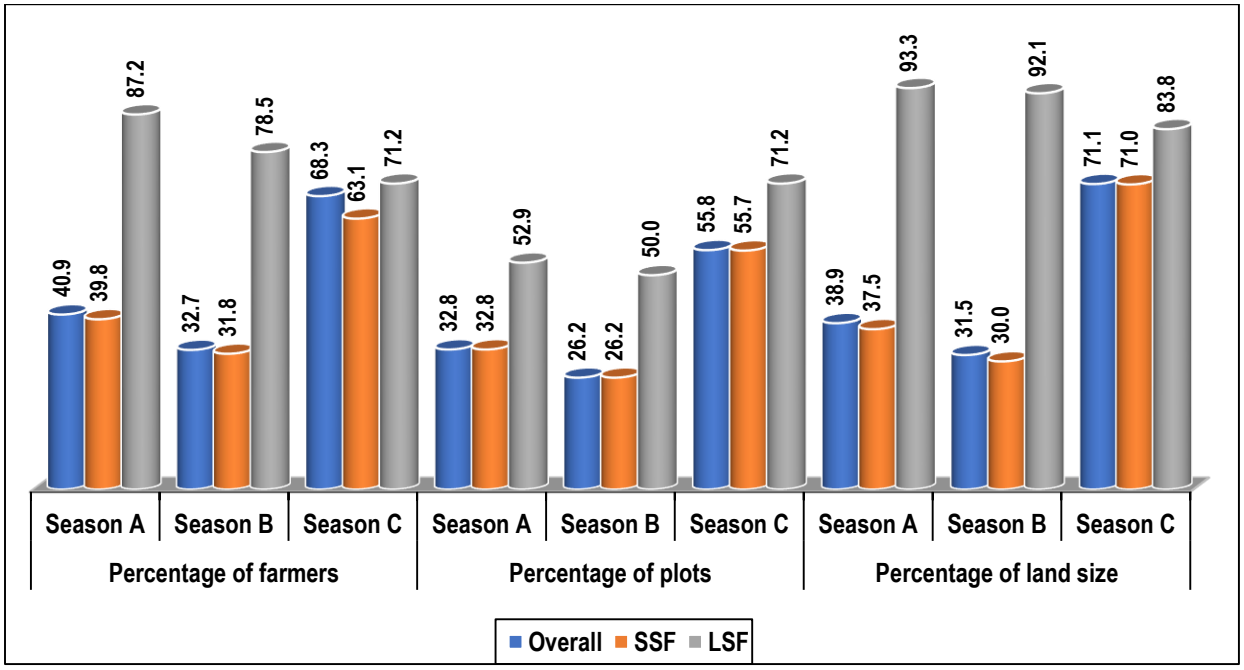
Figure 7: Use of organic fertilizers (%)



Source: NISR, SAS, 2021

In regards to farmer types, 66.8 percent of small-scale farmers against 74.8 percent of large-scale farmers applied organic in season A while 56.1 percent of small-scale farmers against 67.7 percent of large-scale farmers applied organic fertilizer in season B (See details in Tables 35-37).

Figure 8: Use of inorganic fertilizer (%)



Source: NISR, SAS, 2021

In 2021, 40.9 percent of famers applied inorganic fertilizer in season A against 32.7 percent in season B and 68.3 in season C. In regards to farmer types, 39.8 percent of small-scale farmers against 87.2 percent of large-scale farmers applied inorganic fertilizer in season A compared to 31.8 percent of small-scale farmers and 78.5 percent of large-scale farmers in season B.

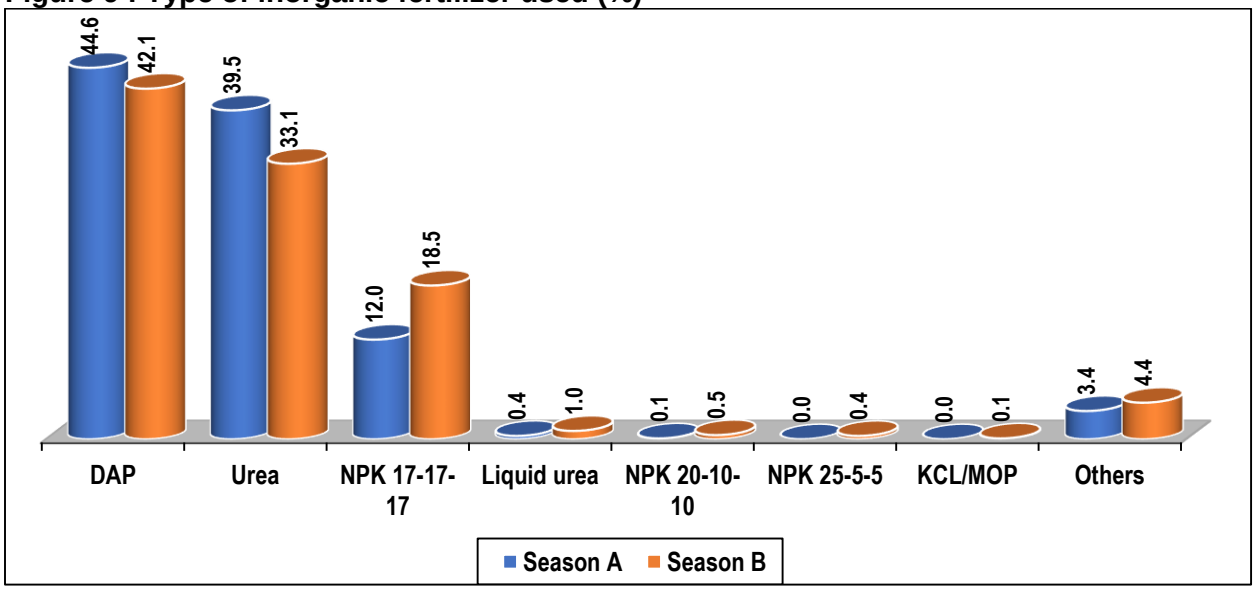
Table 6 : Percentage of farmers by source of inorganic fertilizers

	2021			2020		
	Season A	Season B	Season C	Season A	Season B	Season C
Government (MINAGRI/RAB/NAEB)	3.6	3.5	1.7	5.8	5.3	1.3
Agro-dealers	46.0	50.3	64.4	51.0	54.7	68.0
NGOs/Companies	42.2	36.9	15.1	33.4	30.1	14.1
Market	3.8	5.9	10.6	5.1	6.3	10.8
Agriculture cooperative	3.7	3.1	7.8	3.7	3.4	5.3
Other sources	0.7	0.4	0.3	1.0	0.2	0.5

Source: NISR, SAS, 2021

In regards to source of fertilizers, in season A, 46 percent of famers bought inorganic fertilizers from agro-dealers; 42.2 percent of farmers gained inorganic fertilizers from NGOs/companies while in season B, 50.3 percent and 36.9 percent of farmers sourced the inorganic fertilizer from agro dealers and NGOs/companies respectively.

Figure 9 : Type of inorganic fertilizer used (%)

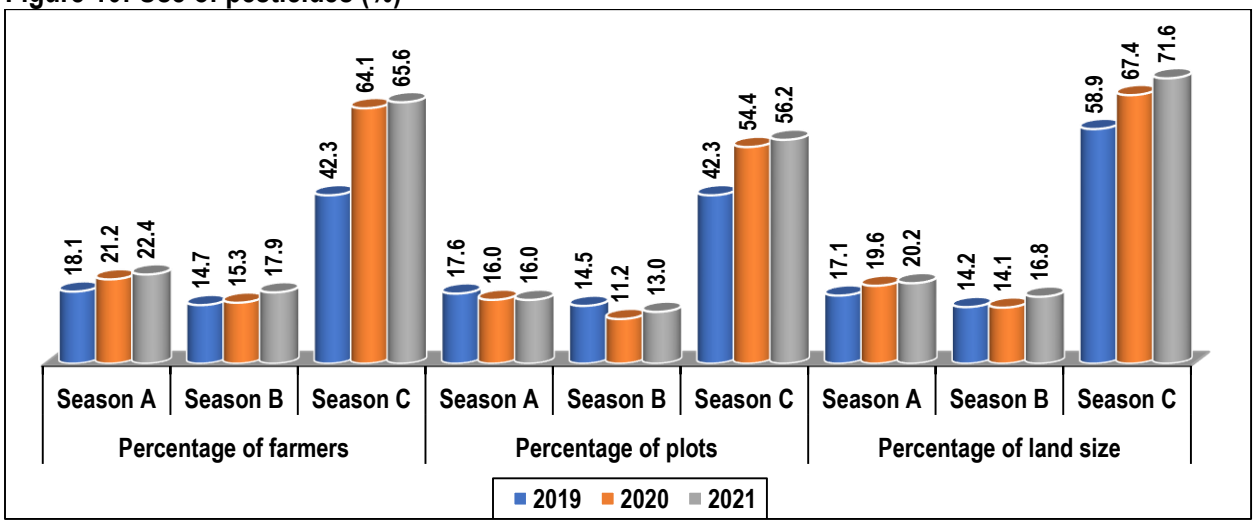


Source: NISR, SAS, 2021

In regards to type of fertilizers, DAP was used by 44.6 percent of farmers, UREA was used by 39.5 percent of farmers while NPK was used by 12.1 percent of farmers in season A. In season B, DAP was used by 42.1 percent of farmers, UREA was used by 33.1 percent of farmers while NPK was used by 18.5 percent of farmers. (See details in Tables 38-47).

3.3.3. Use of pesticides

Figure 10: Use of pesticides (%)



Source: NISR, SAS, 2021

In 2021, 22.4 percent of farmers applied pesticides in season A against 17.9 percent of farmers in season B and 65.6 percent of farmers in season C. in regards to farmer types, 20.9 percent of small-scale farmers and 87.2 percent of Large-scale farmers applied pesticides in season A compared to 16.6 percent of small-scale farmers and 79.5 percent of large-scale farmers in season B.

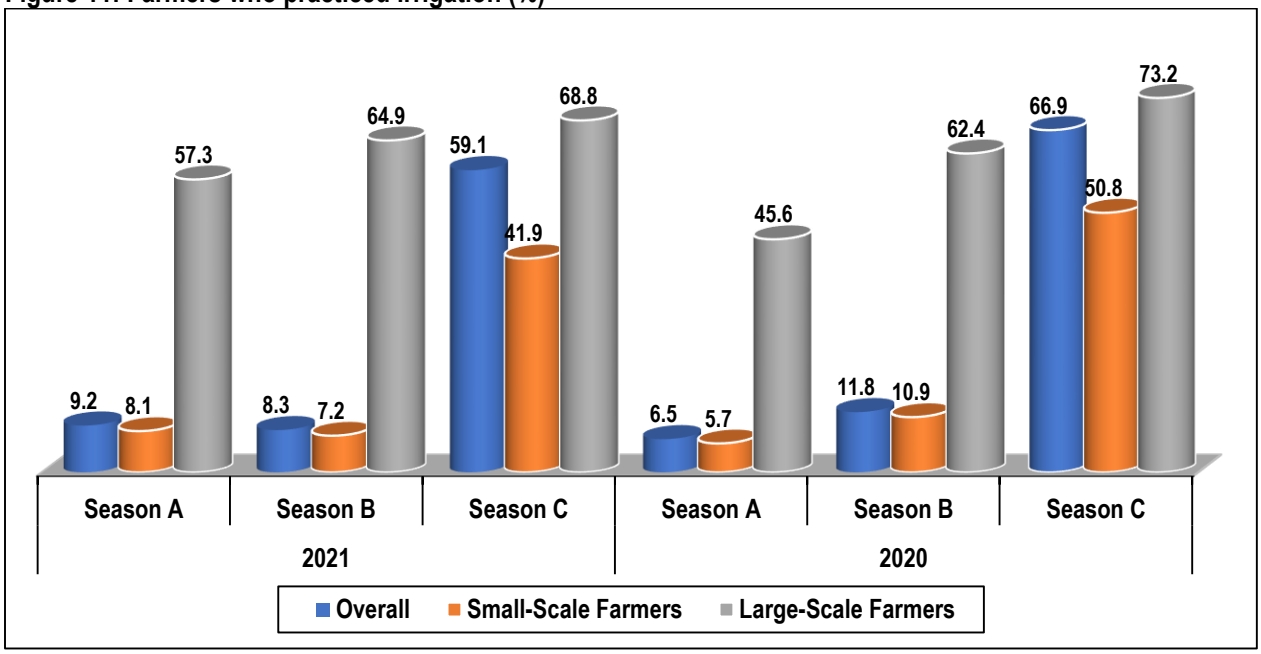
In regards to type of pesticides, 37.8 percent of farmers applied Rocket, 20.9 percent of farmers applied Dithane and 14.3 percent applied Cypermethrin in season A while in season B, 28.8 percent of farmers applied Rocket, 24.6 percent applied Dithane, and 15.8 percent applied Cypermethrin. (See details in Tables 48-51).

3.4.Agricultural practices

During the SAS 2021, information about agricultural practices were collected and the data are presented in terms of percentage of farmers who were involved into such practices.

3.4.1. Irrigation practices

Figure 11: Farmers who practiced irrigation (%)



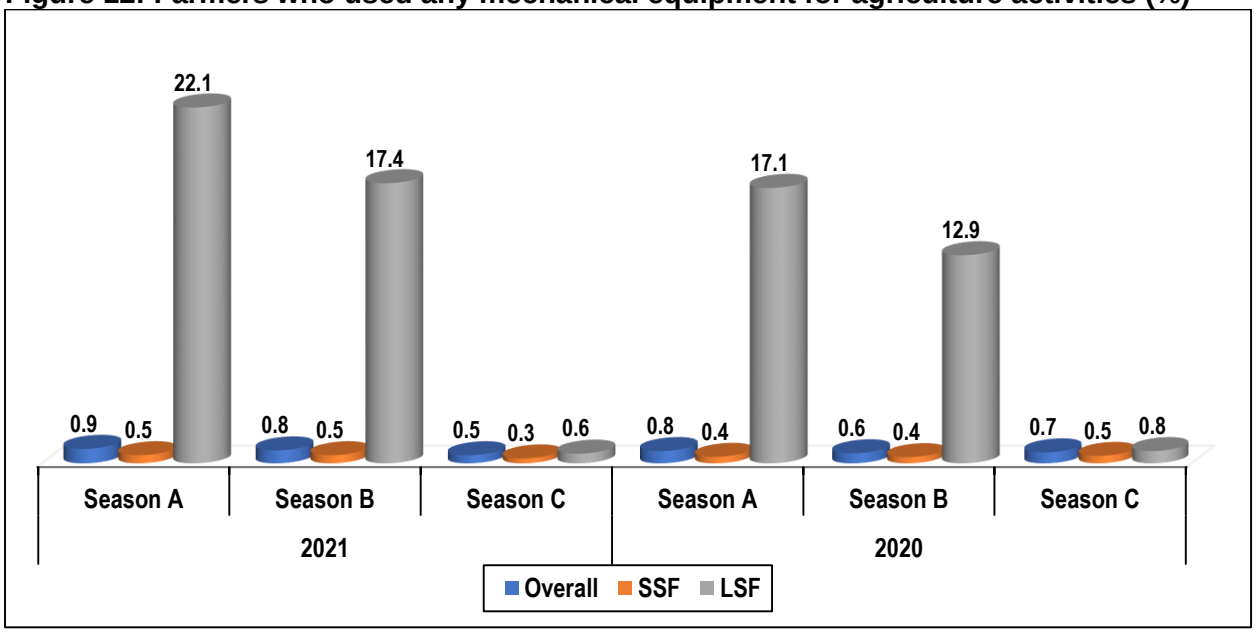
Source: NISR, SAS, 2021

In 2021, 9.2 percent of farmers practiced irrigation in season A compared to 8.3 percent of farmers in season B. In regards to farmer types 8.1 percent of small-scale farmers and 57.3 percent of large-scale farmers practiced irrigation in season A compare to 7.2 percent of small-scale farmers and 64.9 percent of large-scale farmers in season B.

Traditional irrigation technique was practiced by 40 percent of farmers in season A compared to 32.3 percent in season B and 80.4 percent in season C while modern irrigation was practiced by 60.1 percent in season A, 67.8 percent in season B and 19.6 percent in season C. In regards to source of water used for irrigation Lakes/stream is predominant across seasons with 53.7 percent in season A, 51.2 percent in season B and 53.3 percent in season C followed by underground water by 25.6 percent in season A, 27.9 percent in season B and 43.8 percent in season C. (See details in Tables 52-57).

3.4.2. Mechanisation

Figure 12: Farmers who used any mechanical equipment for agriculture activities (%)

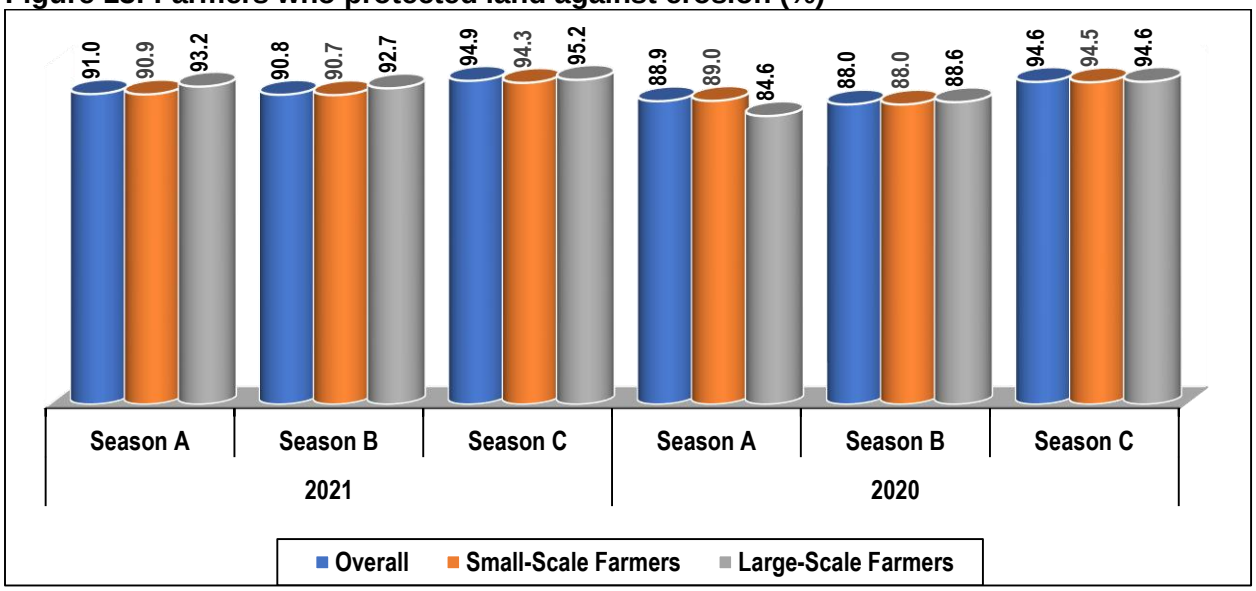


Source: NISR, SAS, 2021

In 2021, 0.9 percent of farmers used mechanical equipment for agriculture in season A compared to 0.8 percent of farmers in season B and 0.5 in season C. In regards to farmer types 22.1 percent of large-scale farmers practiced irrigation in season A compare to 17.4 percent of large-scale farmers in season B. (See details in Tables 53-55)

3.4.3. Erosion control measures

Figure 13: Farmers who protected land against erosion (%)



Source: NISR, SAS, 2021

In 2021, 91 percent of farmers practiced anti-erosion activities in season A compared to 90.8 percent in season B and 94.9 in season C. in regards to farmer types, 90.9 percent of small-scale farmers and 93.2 percent of large-scale farmers protected their land against erosion in season A compared to 90.7 percent of small-scale farmers and 92.7 percent of large-scale farmers in season B.

In regards to types of anti-erosion used, cover plants was the most used type of anti-erosion with 57.2 percent of farmers in season A against 58.7 percent in season B and 29.2 percent in season C. In regards to erosion degree, splash erosion or low erosion appeared the most across season with 55 percent in season A, 56.6 percent in season B and 58.3 percent in season C while severe erosion cases were few across seasons with 2 percent in season A, and 1.6 percent in season B. (See details in Tables 52-57).

3.5 Sowing dates

The SAS 2021 Season A results indicate that 30 percent of crops were planted in September in the dates between 01-15/09 and 16-30/09 2020, and those crops include maize, beans, Irish potatoes, sorghum, peas, cassava and groundnuts. 24 percent of crops were sown in October in the dates between 01-15/10 2020, while the rest of crops have been sown after October 2020. For 2021 season B, 28.7 percent of the crops were sown before in February 2021, 22.7 percent in march 2021, while the rest have been sown after 31/3/ 2021. For Season C 2021, 36.4 percent of crops were grown in June 2021 and 27.7 percent in May 2021 (see district details in table 26 and 27).

3.6 Gross Value Added (GVA)

The Gross Value-Added value of different crops is shown in current prices at constant price of 2017. The results shown that during the 2021 year the gross value added of crops such as maize, sorghum, Paddy rice, cassava, sweet potatoes, banana for beer, cooking banana, Irish potatoes and beans. increased comparing to the 2020 year. While the Gross Value Added for crops such as wheat, dessert banana, groundnut, peas, and soya remained constant compared to previous year.

Table 7: Main crops GVA in constant prices (RWF/ha)

	GVA in constant prices					
Crops	2016	2017	2018	2019	2020	2021
Maize	402,114	309,457	365,527	373,066	389,059	387,753.86
Sorghum	274,987	296,000	298,689	274,485	280,068	299,995.94
Paddy rice	1,304,073	1,633,520	1,492,544	1,718,397	1,691,890	1,799,479.73
Wheat	237,012	282,068	306,210	329,278	289,132	303,795.29
Cassava	177,496	305,145	1,377,459	1,629,739	1,642,935	1,653,321.67
Sweet potato	808,499	784,244	899,497	890,254	932,227	903,968.81
Irish potato	1,230,891	1,713,831	1,444,199	1,700,490	1,544,227	1,551,234.10
Cooking banana	185,884	199,565	3,715,919	3,623,122	3,180,479	3,089,891.86
Dessert banana	122,667	117,981	2,163,072	1,481,763	1,162,979	1,162,822.31
Banana for beer	108,416	102,332	1,122,757	879,672	931,198	958,934.51
Beans	401,317	391,605	410,264	391,121	318,642	334,062.72
Pea	1,086,082	1,060,761	964,611	1,049,992	1,365,309	1,355,647.18
Groundnut	177,694	187,362	221,069	183,218	187,008	186,607.63
Soybean	55,189	52,694	48,631	61,358	57,232	55,754.17
Overall GVA	**853,218**	**906,817**	**965,556**	**1,013,106**	**1,039,414**	

Source: NISR, SAS, 2021

MAIN TABLES

Table 8. Season A 2021_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 meadow and pasture	Area under permanent pasture
Nyarugenge	13.1	6.2	47.4	5.4	5.9	5.1	3.1	0.3	0.0	0.0
Gasabo	42.7	22.3	52.3	20.7	19.9	18.8	9.0	1.9	0.7	0.5
Kicukiro	16.6	6.6	39.9	5.1	5.7	4.5	3.3	0.7	0.0	0.3
Nyanza	67.1	51.0	75.9	47.9	44.8	42.1	20.7	5.8	0.5	0.3
Gisagara	67.3	43.7	64.9	42.8	37.9	37.0	16.6	5.8	0.1	-
Nyaruguru	100.7	36.0	35.7	32.4	31.7	28.1	12.0	4.2	0.3	
Huye	58.1	35.3	60.7	34.0	33.1	31.7	14.5	2.2	0.1	0.0
Nyamagabe	109.1	50.5	46.3	44.8	45.6	39.8	17.6	4.9	0.4	
Ruhango	62.6	45.7	73.0	42.1	42.3	38.7	14.5	3.3	0.7	0.1
Muhanga	64.4	41.1	63.8	36.8	37.0	32.7	19.4	4.0	0.6	-
Kamonyi	65.8	43.8	66.5	39.2	41.3	36.8	17.5	2.4	0.4	0.1
Karongi	78.9	44.6	56.6	37.8	40.3	34.0	17.9	3.8	0.6	0.6
Rutsiro	66.0	41.6	63.0	31.5	30.4	26.3	18.5	5.2	0.3	6.0
Rubavu	33.8	25.1	74.2	21.9	22.5	19.9	7.2	2.0	0.0	0.6
Nyabihu	53.6	36.3	67.8	32.0	30.2	29.9	7.0	1.9	0.2	4.2
Ngororero	67.5	47.5	70.4	41.9	41.2	38.4	22.2	`	0.3	2.8
Rusizi	91.4	38.0	41.5	36.1	37.1	35.3	13.8	0.9	0.0	-
Nyamasheke	94.8	41.7	44.0	34.9	40.3	33.4	20.9	1.5	0.1	-
Rulindo	56.7	36.7	64.7	33.9	34.5	31.7	13.9	2.2	1.0	-
Gakenke	70.1	48.9	69.8	44.6	46.1	41.8	19.9	2.6	0.2	0.2
Musanze	50.9	30.8	60.5	30.4	29.4	28.7	5.1	1.5	0.2	-
Burera	58.4	37.9	64.8	37.4	35.5	35.0	4.7	2.4	0.2	-
Gicumbi	82.5	54.3	65.8	51.8	50.7	47.9	15.3	3.6	1.0	-
Rwamagana	65.3	47.0	71.9	40.7	42.1	38.8	23.2	1.8	0.4	3.0
Nyagatare	191.1	146.2	76.5	73.7	75.2	70.9	88.6	2.8	0.0	68.2
Gatsibo	153.6	77.4	50.4	61.7	66.7	59.4	40.1	2.2	0.0	8.5
Kayonza	179.2	94.4	52.7	66.0	60.6	57.3	44.6	8.6	0.1	25.1
Kirehe	114.9	78.2	68.1	67.7	69.6	64.4	34.2	3.3	0.1	5.3
Ngoma	80.5	55.6	69.1	49.9	51.0	46.7	25.3	3.1	0.5	1.5
Bugesera	120.4	72.3	60.1	64.2	60.4	56.6	21.8	7.7	1.0	4.3
National	2,377.1	1,436.6	60.4	1,209.4	1,208.8	1,111.8	592.4	96.1	10.0	131.6

Source: NISR, SAS 2021

Table 9. Season B 2021_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 meadow and pasture	Area under permanent pasture
Nyarugenge	13.1	5.1	38.9	4.5	4.8	4.2	2.3	0.3	0.1	0.0
Gasabo	42.7	19.5	45.8	18.1	15.6	14.2	6.4	3.8	0.4	0.1
Kicukiro	16.6	5.4	32.4	4.6	4.5	4.2	2.3	0.4	0.1	0.5
Nyanza	67.1	34.4	51.3	33.4	29.1	28.3	9.0	5.1	0.3	0.2
Gisagara	67.3	38.2	56.8	36.7	33.0	31.5	11.8	5.2	0.1	-
Nyaruguru	100.7	32.2	32.0	29.1	26.9	23.6	9.4	5.4	0.6	-
Huye	58.1	28.7	49.4	27.7	26.1	25.1	10.5	2.6	0.2	-
Nyamagabe	109.1	43.2	39.6	38.6	37.9	33.6	13.0	5.0	0.3	0.2
Ruhango	62.6	43.3	69.1	41.1	39.8	37.6	10.7	3.5	0.6	-
Muhanga	64.4	40.0	62.1	35.3	34.9	30.1	17.9	5.1	0.5	-
Kamonyi	65.8	42.1	64.0	37.5	39.3	34.7	18.2	2.8	0.3	-
Karongi	78.9	41.8	53.0	36.0	34.3	28.5	13.4	7.5	0.5	-
Rutsiro	66.0	40.1	60.8	29.6	27.3	22.8	17.4	6.8	0.3	6.1
Rubavu	33.8	23.3	68.8	21.7	21.5	20.1	6.1	1.5	0.5	0.3
Nyabihu	53.6	36.5	68.1	32.1	26.8	26.3	6.2	5.6	0.6	4.1
Ngororero	67.5	38.2	56.6	32.2	29.5	26.4	15.8	5.8	0.5	2.8
Rusizi	91.4	34.8	38.1	32.6	33.6	31.2	12.1	1.2	0.0	-
Nyamasheke	94.8	35.4	37.4	27.0	34.1	25.5	16.9	1.3	0.1	-
Rulindo	56.7	39.8	70.2	36.0	35.6	32.5	18.5	3.4	0.1	0.8
Gakenke	70.1	47.9	68.3	42.5	42.9	37.6	19.3	4.9	0.2	0.1
Musanze	50.9	25.5	50.0	24.8	22.5	21.8	3.3	2.9	0.3	-
Burera	58.4	36.9	63.2	36.3	33.8	33.5	4.2	2.9	0.2	0.2
Gicumbi	82.5	51.3	62.2	48.5	47.2	44.2	16.8	4.0	0.8	-
Rwamagana	65.3	50.8	77.7	42.6	46.6	41.3	27.8	1.3	0.5	2.8
Nyagatare	191.1	145.9	76.3	72.9	75.9	71.3	93.7	1.6	0.0	68.3
Gatsibo	153.6	71.9	46.8	54.9	59.9	51.1	37.0	3.6	0.1	8.4
Kayonza	179.2	91.3	50.9	59.9	58.3	54.0	45.7	5.8	0.1	27.2
Kirehe	114.9	65.0	56.5	54.0	56.7	51.5	24.5	2.5	-	5.7
Ngoma	80.5	55.3	68.6	48.4	52.1	45.2	27.2	2.9	0.5	0.2
Bugesera	120.4	76.1	63.2	65.8	63.6	57.3	28.0	8.6	0.7	4.0
National	2,377.1	1,339.8	56.4	1,104.6	1,094.3	989.3	545.3	113.4	9.4	132.1

Source: NISR, SAS 2021

Table 10. 2021_Area under agricultural practices

District	Modern irrigated agricultural land (Ha)			Agricultural area under erosion control (Ha)			Agricultural area under agroforestry trees			Agricultural area under fertilizer application					
										Inorganic fertilizer			Organic fertilizer		
	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	30	51	98	2,572	2,596	-	2,764	2,596	-	784	443	326	2,908	2,231	131
Gasabo	362	300	-	14,375	16,321	-	8,472	10,494	-	4,376	3,274	341	10,005	8,446	385
Kicukiro	258	97	22	3,233	1,940	-	2,609	2,866	-	1,917	1,473	50	2,117	1,729	27
Nyanza	633	696	154	30,175	28,937	-	12,468	11,448	-	7,747	4,707	247	21,220	10,608	399
Gisagara	1,630	3,339	16	25,017	22,682	-	13,907	14,622	-	11,172	9,561	265	18,904	12,181	311
Nyaruguru	313	379	48	29,472	29,932	-	13,285	12,683	-	16,373	11,577	460	21,902	16,842	974
Huye	1,091	984	18	25,010	25,259	-	10,822	12,831	-	7,816	4,441	220	21,309	13,781	307
Nyamagabe	133	122	0	38,657	36,683	-	14,624	12,954	-	15,545	11,847	76	27,341	22,646	234
Ruhango	1,608	1,093	20	39,213	32,598	-	11,919	12,855	-	4,575	4,334	72	22,986	17,057	262
Muhanga	153	153	18	31,954	32,151	-	7,817	7,619	-	3,421	4,008	75	22,550	18,961	276
Kamonyi	263	348	0	33,890	30,568	-	14,223	12,947	-	5,180	4,271	226	20,706	21,230	272
Karongi		63	10	32,555	34,325	-	13,289	15,774	-	14,911	7,609	37	26,709	18,253	60
Rutsiro			-	29,530	28,513	-	11,597	11,303	-	11,368	9,756	23	19,920	15,518	60
Rubavu			-	19,760	18,250	-	8,360	6,626	-	8,514	11,368	961	5,350	7,640	446
Nyabihu			218	26,392	26,926	-	15,477	14,825	-	15,587	17,722	3,171	17,450	16,375	2,733
Ngororero			35	35,119	35,260	-	8,459	9,400	-	15,831	11,927	47	32,692	22,692	139
Rusizi	1,525	1,537	85	26,623	22,888	-	20,701	20,620	-	18,961	11,062	282	23,524	15,562	239
Nyamasheke	346	371	0	30,287	28,882	-	21,730	22,373	-	19,125	11,446	61	25,821	16,564	100
Rulindo	1,124	154	88	32,772	29,031	-	9,462	8,510	-	12,307	6,927	309	25,686	26,414	399
Gakenke	181	146	0	42,362	44,533	-	19,447	21,396	-	24,040	17,997	315	39,544	33,028	369
Musanze			0	24,336	23,469	-	9,705	8,419	-	12,260	12,717	2,470	16,849	14,390	2,331
Burera			66	30,012	29,829	-	4,726	8,207	-	14,129	10,973	2,420	25,622	22,715	2,037
Gicumbi	127	95	57	43,443	44,749	-	14,336	11,851	-	14,491	11,951	273	39,861	31,079	344
Rwamagana	697	1,335	57	33,602	36,353	-	21,258	22,533	-	16,908	13,914	325	24,914	20,638	114
Nyagatare	2,988	2,383	493	38,704	36,312	-	36,672	23,132	-	28,744	33,545	798	27,746	24,607	394
Gatsibo	2,313	2,238	0	65,307	57,270	-	35,086	33,526	-	22,662	16,293	86	40,295	29,230	105
Kayonza	2,795	2,043	80	28,342	36,044	-	21,903	24,554	-	17,925	17,943	143	26,089	20,005	89
Kirehe	2,946	3,123	-	37,655	41,108	-	33,104	31,183	-	28,224	14,553	68	38,460	18,424	111
Ngoma	806	605	4	33,310	34,722	-	24,368	24,007	-	18,548	6,886	27	29,934	15,904	32
Bugesera	2,149	2,321	99	37,374	35,766	-	33,170	27,383	-	14,602	16,419	113	22,342	22,649	92
National	24,474	23,976	1,688	921,052	903,900	-	475,757	459,535	-	408,044	320,944	14,286	700,757	537,398	13,771

Source: NISR, SAS 2021

Table 11. Season A 2021_Cultivated area by crop type per district (ha)

District	Maize	Sorghum	Paddy rice	Wheat	Other cereals	Cassava	Sweet potato	Irish potato	Yams & Taro	Bananas	Beans	Pea	Groundnut	Soybean	Vegetables	Fruits	Fodder Crops	Other crops	Total developed land
Nyarugenge	874	-	-	-	-	1,068	371	82	55	2,080	2,448	-	47	277	246	39	29	406	8,022
Gasabo	3,120	-	232	-	9	4,221	1,192	626	148	5,003	9,250	143	441	363	764	176	565	518	26,771
Kicukiro	966	-	27	-	-	381	423	15	50	1,068	2,320	-	69	77	210	24	31	839	6,501
Nyanza	5,242	278	357	-	-	13,078	2,483	311	943	10,125	21,173	103	893	1,647	607	243	410	1,748	59,640
Gisagara	6,320	538	2,045	-	166	7,574	2,441	347	375	9,683	17,434	114	482	2,016	461	1,058	56	656	51,764
Nyaruguru	5,796	-	-	33	7	5,336	4,845	1,379	726	5,493	9,294	370	36	697	620	225	342	1,866	37,063
Huye	4,507	-	972	-	363	9,412	3,137	941	227	7,867	14,668	144	237	1,906	469	171	106	1,470	46,598
Nyamagabe	5,604	-	267	128	-	7,231	8,111	2,622	397	7,347	11,919	1,410	19	1,572	680	215	267	996	48,785
Ruhango	3,454	11	852	-	30	18,194	1,951	458	578	9,161	13,874	121	1,115	2,958	470	215	613	1,818	55,874
Muhanga	1,796	28	145	3	23	9,577	4,333	356	3,146	16,746	7,047	55	20	1,943	408	178	495	1,046	47,345
Kamonyi	4,067	-	184	-	-	12,303	2,381	673	361	12,510	13,843	83	958	2,657	787	930	416	2,459	54,611
Karongi	8,208	-	-	65	-	8,703	5,102	1,070	1,303	11,692	6,812	812	-	1,136	966	199	430	1,338	47,835
Rutsiro	6,698	-	-	318	-	2,395	3,889	3,141	1,305	7,078	4,335	605	-	840	452	653	286	3,395	35,390
Rubavu	2,128	135	-	-	-	736	708	5,468	107	3,324	7,788	78	42	260	1,985	78	1	2,149	24,987
Nyabihu	3,458	1,248	-	1,242	-	859	3,008	9,059	102	1,425	7,538	822	-	-	806	380	154	2,575	32,678
Ngororero	5,231	452	-	513	-	`	5,389	1,728	1,807	12,867	12,213	483	-	1,407	243	390	202	1,643	49,239
Rusizi	7,133	30	1,499	-	-	14,995	2,242	200	1,433	5,948	12,847	149	442	1,422	931	437	50	3,114	52,870
Nyamasheke	5,433	99	337	30	85	11,954	3,833	122	1,256	7,592	8,245	148	260	1,465	419	211	60	4,535	46,084
Rulindo	4,164	-	17	51	6	4,566	4,329	1,153	79	7,224	12,543	432	56	352	1,243	532	871	1,806	39,423
Gakenke	11,195	47	104	139	501	6,857	8,206	1,157	1,332	14,277	8,541	554	94	738	489	416	183	2,099	56,927
Musanze	7,337	1,949	-	982	25	219	2,287	3,968	153	2,222	6,547	173	-	23	823	312	159	2,633	29,813
Burera	9,888	1,310	-	725	34	183	2,702	5,523	44	2,976	11,184	1,755	-	-	300	146	174	-	36,945
Gicumbi	4,579	134	-	188	-	3,430	7,032	2,886	77	6,330	20,474	1,562	294	162	715	734	848	368	49,812
Rwamagana	10,210	-	363	-	41	4,767	2,254	1,033	194	13,899	19,237	129	1,634	294	979	490	357	1,299	57,180
Nyagatare	26,575	15,223	1,537	-	165	3,930	1,851	523	15	11,274	19,935	265	1,546	635	744	130	16	332	84,697
Gatsibo	17,825	3,589	1,473	-	193	6,426	2,837	2,270	82	23,321	23,029	91	2,435	960	1,010	311	4	3,119	88,973
Kayonza	14,714	2,277	1,407	1	684	14,295	2,135	1,917	209	13,125	19,718	181	1,248	156	805	714	122	999	74,706
Kirehe	24,651	2,272	1,071	-	69	7,475	1,762	1,355	274	19,040	23,865	242	527	507	733	67	73	1,034	85,019
Ngoma	14,913	176	829	-	260	7,818	3,252	1,508	173	19,082	19,853	71	649	406	260	1,160	399	1,089	71,901
Bugesera	10,559	3,841	1,656	-	102	7,661	5,010	306	167	10,999	21,176	20	2,437	614	554	371	831	1,631	67,934
National	236,642	33,636	15,374	4,418	2,762	200,313	99,496	52,196	17,119	280,779	389,149	11,116	15,978	27,493	20,181	11,206	8,548	48,980	1,475,385
SSF	229,757	33,611	1,347	4,399	2,762	200,263	99,481	52,081	17,117	280,616	388,106	11,096	15,973	27,087	20,051	10,853	7,982	48,273	1,450,856
LSF	6,885	25	14,026	19	-	50	15	115	1	163	1,042	21	5	406	130	353	566	706	24,529

Source: NISR, SAS 2021

Table 12. Season B 2021_Cultivated area by crop type per district (ha)

District	Maize	Sorghum	Paddy rice	Wheat	Other cereals	Cassava	Sweet potato	Irish potato	Taro & Yams	Bananas	Beans	Pea	Groundnut	Soybean	Vegetables	Fruits	Fodder crops	Other crops	Total developed land
Nyarugenge	283	529				756	137	59	37	1,122	1,197	10	80	210	263	47	55	185.9	4,970.5
Gasabo	974	3,605	258			2,324	929	696	73	3,128	4,911	41	248	284	556	32	377	403.2	18,838.1
Kicukiro	505	790	26			423	397	48	67	829	1,469	11	62	181	51	35	49	141.6	5,086.3
Nyanza	2,095	4,179	598		63	8,432	2,227	355	511	3,725	10,991	29	1,022	1,244	326	165	258	1113.3	37,333.3
Gisagara	2,244	4,387	3,184		174	4,142	2,357	172	202	4,195	13,445	39	743	2,062	332	968	108	470.7	39,224.1
Nyaruguru	513	3,677		521		3,675	4,038	1,618	355	2,333	4,504	208		823	318	165	496	3,601.9	26,844.4
Huye	678	6,436	953		180	5,277	2,477	478	458	3,329	7,180	62	328	1,716	182	167	158	1,284.1	31,345.3
Nyamagabe	797	4,498	19	1,564		4,618	7,637	2,506	332	4,373	5,975	1,679		815	388	62	256	3,145.9	38,666.3
Ruhango	789	3,138	890		150	17,309	2,845	250	543	5,232	11,680	74	2,129	2,161	313	39	604	1,335.3	49,479.9
Muhanga	344	184	148	5		8,532	6,061	101	1,842	12,444	8,597	44	148	2,265	419	278	398	692.5	42,503.0
Kamonyi	1,673	4,206	197		9	10,717	3,185	632	1,040	10,125	11,637	101	539	2,396	856	751	247	1,935.6	50,245.3
Karongi	632	2,007		312		8,242	3,649	874	813	7,644	7,347	406	22	1,788	561	103	407	2,919.2	37,724.9
Rutsiro	1,794	34		540		2,102	3,250	3,483	1,110	5,689	5,075	522		791	182	628	219	2,566.2	27,985.8
Rubavu	1,753	439				422	698	6,572	191	2,393	3,891	167		150	2,260	90	458	1,323.7	20,809.3
Nyabihu	3,652			1,326		293	2,725	7,605	38	805	2,038	195		40	862	455	526	765.8	21,324.8
Ngororero	2,849			1,444		1,740	7,259	1,316	781	7,473	4,179	308		774	235	22	364	812.2	29,554.7
Rusizi	1,241	85	1,482			14,293	1,935	81	605	3,153	8,677	144	237	719	231	375	50	2,508.9	35,817.1
Nyamasheke	615	15	357	48		8,975	3,445		974	4,110	5,365	182	690	1,563	304	251	60	6,967.7	33,920.0
Rulindo	969	4,310	17	74		4,051	3,265	994	160	8,585	10,612	215	47	182	530	221	90	1,093.1	35,412.7
Gakenke	1,415	552	28	490		3,795	7,607	1,249	1,275	12,750	12,236	200	49	754	406	287	170	1,565.8	44,828.7
Musanze	2,833	1,076		759		80	1,319	5,335	202	1,441	4,470	289		7	1,129	378	264	814.9	20,396.4
Burera	2,525	6,103		1,416		74	2,997	4,273	133	2,182	11,768	601			333	76	192	42.2	32,713.2
Gicumbi	2,089	16,871		208		1,305	5,845	2,792	142	7,913	10,833	930	298	79	300	417	794	1,166.6	51,982.1
Rwamagana	3,870	10,058	474			5,103	1,061	1,952	770	11,215	10,558	131	1,638	218	1,158	520	435	1,555.8	50,716.4
Nyagatare	18,329	7,569	1,493		12	4,317	1,748	886	114	12,681	31,180	89	3,519	1,076	793	247	11	185.9	84,249.1
Gatsibo	8,243	8,856	1,504		71	2,927	1,514	1,855	423	15,138	18,336	120	4,537	965	403	187	17	2,635.8	67,732.3
Kayonza	6,872	14,887	1,474		234	7,026	1,628	2,495	398	9,649	16,069	129	1,114	223	464	383	98	1,403.1	64,545.8
Kirehe	3,035	13,279	950	44	251	3,794	1,508	1,429	905	11,766	19,733	427	649	588	566	67		788.7	59,780.5
Ngoma	2,405	4,764	857		477	6,927	1,504	796	268	14,771	19,878	125	618	605	357	616	531	1,719.4	57,218.6
Bugesera	4,556	6,500	1,393		38	5,648	2,517	692	327	12,615	17,831	42	2,818	895	497	337	568	1,871.6	59,147.1
National	80,570	133,033	16,302	8,749	1,660	147,320	87,762	51,595	15,088	202,807	301,658	7,521	21,534	25,574	15,574	8,371	8,260	4,7016.9	1,180,396
SSF	78,782	132,985	335	8,700	1,643	147,251	87,751	51,263	15,082	202,665	300,223	7,321	21,506	25,162	15,364	8,037	7,721	46,225.8	1,158,015
LSF	1,788	48	15,967	48	18	70	11	333	6	142	1,435	200	28	412	210	335	540	791	22,380.9

Source: NISR, SAS 2021

Table 13. Season C 2021_Cultivated area by crop type per district (ha)

District/Crop	Sweet potato	Irish potato	Yams & Taro	Beans	Bush bean	Climbing bean	Pea	Soybean	Vegetables	Developed land
Nyarugenge	10	27	-	140	140	0	-	104	156	437
Gasabo	115	3	-	7	7	-	-	0	427	552
Kicukiro	34	-	-	71	71	-	-	0	79	184
Nyanza	221	3	-	120	99	20	128	25	260	757
Gisagara	529	2	-	311	311	1	19	215	225	1,301
Nyaruguru	553	254	-	283	282	1	31	-	68	1,189
Huye	371	85	-	239	221	19	98	4	248	1,046
Nyamagabe	303	59	-	13	13	-	12	-	45	431
Ruhango	208	0	-	36	36	-	28	0	88	361
Muhanga	161	43	-	72	69	3	71	112	132	593
Kamonyi	94	25	-	411	411	-	43	72	314	957
Karongi	131	47	-	3	2	2	0	13	34	228
Rutsiro	64	35	-	-	-	-	5	-	7	111
Rubavu	64	888	-	134	3	131	35	-	190	1,310
Nyabihu	169	2,624	-	117	85	32	64	-	92	3,066
Ngororero	107	44	-	1	1	-	-	8	4	163
Rusizi	75	34	-	60	60	-	-	4	361	533
Nyamasheke	122	0	-	-	-	-	-	-	93	216
Rulindo	92	243	-	2	2	-	2	-	61	400
Gakenke	149	263	-	36	33	3	0	144	57	650
Musanze	401	2,054	-	38	33	5	1	-	289	2,784
Burera	396	2,287	-	28	19	9	-	-	24	2,736
Gicumbi	103	483	-	4	1	3	-	-	21	611
Rwamagana	67	13	-	174	174	-	-	-	271	526
Nyagatare	227	7	-	3	2	1	-	0	823	1,061
Gatsibo	203	4	-	2	2	-	-	0	140	349
Kayonza	36	84	-	28	28	-	1	-	189	338
Kirehe	76	42	-	18	17	1	1	2	150	289
Ngoma	35	2	-	187	187	-	2	-	83	309
Bugesera	111	9	-	1,211	1,211	-	0	38	130	1,500
National	5,226	9,667	-	3,748	3,517	230	542	741	5,061	24,985

Source: NISR, SAS 2021

Table 14. Season A 2021_Harvested area by crop type per district (ha)

District name	Maize	Sorghum	Paddy rice	Wheat	Other cereals	Cassava	Sweet potato	Irish potato	Yarms & Taro	Bananas	Beans	Pea	Groundnut	Soybean	vegetables	Fruits	Fodder crops	Other crops	Developed land
Nyarugenge	874	-	-	-	-	187	371	82	55	1,003	2,448	-	47	277	246	6	29	14	5,641
Gasabo	3,120	-	232	-	9	898	1,192	626	148	1,827	9,250	143	441	363	764	2	565	47	19,626
Kicukiro	966	-	27	-	-	44	423	15	50	475	2,320	-	69	77	210	16	31	98	4,821
Nyanza	5,242	278	357	-	-	3,694	2,483	311	282	3,551	21,173	103	893	1,647	607	109	410	41	41,179
Gisagara	6,320	538	2,045	-	166	1,103	2,441	347	375	3,795	17,434	114	482	2,016	461	49	56	54	37,793
Nyaruguru	5,796	-	-	33	7	1,015	4,845	1,379	726	1,846	9,294	370	36	697	620	118	342	298	27,422
Huye	4,507	-	972	-	363	2,488	3,137	941	205	2,800	14,668	144	237	1,906	469	39	106	4	32,985
Nyamagabe	5,604	-	267	128	-	1,563	8,111	2,622	397	2,474	11,919	1,410	19	1,572	680	149	267	0	37,181
Ruhango	3,454	11	852	-	30	4,464	1,951	458	578	2,567	13,874	121	1,115	2,958	470	116	613	95	33,728
Muhanga	1,796	28	145	3	23	1,371	4,333	356	3,146	6,327	7,047	55	20	1,943	408	116	461	244	27,822
Kamonyi	4,067	-	184	-	-	1,687	2,381	673	328	4,536	13,843	83	958	2,657	787	809	361	119	33,470
Karongi	8,208	-	-	65	-	1,744	5,102	1,070	1,303	3,928	6,812	812	-	1,136	966	130	371	550	32,196
Rutsiro	6,698	-	-	318	-	179	3,889	3,141	1,305	2,953	4,335	605	-	840	452	497	286	1,343	26,840
Rubavu	2,128	135	-	-	-	-	708	5,468	107	1,532	7,788	78	42	260	1,985	32	1	1,219	21,484
Nyabihu	3,458	1,248	-	1,242	-	108	3,008	9,059	102	418	7,538	822	-	-	806	56	154	2,525	30,546
Ngororero	5,231	452	-	513	-	`	5,389	1,728	1,077	3,825	12,213	483	-	1,407	243	267	202	503	34,577
Rusizi	7,133	30	1,499	-	-	1,470	2,242	200	1,433	2,982	12,847	149	442	1,422	931	84	50	804	33,717
Nyamasheke	5,433	99	337	30	85	2,713	3,833	122	1,256	2,362	8,245	148	260	1,465	419	36	60	624	27,528
Rulindo	4,164	-	17	51	6	738	4,329	1,153	79	2,294	12,543	432	56	352	1,243	334	346	567	28,701
Gakenke	11,195	47	104	139	501	1,004	8,206	1,157	1,332	6,369	8,541	554	94	738	489	206	183	675	41,533
Musanze	7,337	1,949	-	982	25	28	2,287	3,968	153	754	6,547	173	-	23	823	96	159	2,240	27,544
Burera	9,888	1,310	-	725	34	38	2,702	5,523	44	699	11,184	1,755	-	-	300	49	174	0	34,426
Gicumbi	4,579	134	-	188	-	617	7,032	2,886	64	1,738	20,474	1,562	294	162	715	261	848	27	41,582
Rwamagana	10,210	-	363	-	41	1,114	2,254	1,033	159	6,041	19,237	129	1,634	294	979	174	357	112	44,131
Nyagatare	26,575	15,223	1,537	-	165	1,235	1,851	523	15	5,138	19,935	265	1,546	635	744	97	16	199	75,700
Gatsibo	17,825	3,589	1,473	-	193	1,644	2,837	2,270	72	9,838	23,029	91	2,435	960	1,010	218	4	78	67,565
Kayonza	14,714	2,277	1,407	1	684	5,198	2,135	1,917	209	4,364	19,718	181	1,248	156	805	179	122	0	55,315
Kirehe	24,651	2,272	1,071	-	69	1,430	1,762	1,355	274	7,330	23,865	242	527	507	733	37	73	68	66,268
Ngoma	14,913	176	829	-	260	2,551	3,252	1,508	173	7,548	19,853	71	649	406	260	187	399	2	53,040
Bugesera	10,559	3,841	1,656	-	102	914	5,010	306	167	4,160	21,176	20	2,437	614	554	129	831	119	52,594
National	236,642	33,636	15,374	4,418	2,762	42,284	99,496	52,196	15,612	105,474	389,149	11,116	15,978	27,493	20,181	4,599	7,875	12,671	1,096,956
SSF	229,757	33,611	1,347	4,399	2,762	42,278	99,481	52,081	15,611	105,389	388,106	11,096	15,973	27,087	20,051	4,389	7,309	12,303	1,073,031
LSF	6,885	25	14,026	19	-	6	15	115	1	85	1,042	21	5	406	130	210	566	368	23,926

Source: NISR, SAS 2021

Table 15. Season B 2021_Harvested area by crop type per district (ha)

District	Maize	Sorghum	Paddy rice	Wheat	Other cereals	Cassava	Sweet potato	Irish potato	Yarms & Taro	Bananas	Beans	Pea	Groundnut	Soybean	Vegetables	Fruits	Fodder crops	Other crops	Developed land
Nyarugenge	283	529	-	-	-	190	137	59	37	635	1,197	10	80	210	263	14	55	61	3,760
Gasabo	974	3,605	258	-	-	312	929	696	73	1,233	4,911	41	248	284	556	9	371	193	14,691
Kicukiro	505	790	26	-	-	84	397	48	67	411	1,469	11	62	181	51	11	49	118	4,281
Nyanza	2,095	4,179	598	-	63	1,334	2,227	355	496	1,041	10,991	29	1,022	1,244	326	66	257	845	27,167
Gisagara	2,244	4,387	3,184	-	174	2,574	2,357	172	202	1,479	13,420	39	743	2,062	332	112	108	279	33,867
Nyaruguru	513	3,677	-	521	-	1,404	4,038	1,618	355	656	4,504	208	-	823	318	53	496	610	19,794
Huye	678	6,436	953	-	180	859	2,477	478	458	950	7,180	62	328	1,716	182	24	158	823	23,944
Nyamagabe	797	4,498	19	1,564	-	1,101	7,637	2,506	332	1,396	5,975	1,679	-	815	388	62	256	818	29,844
Ruhango	789	3,138	890	-	150	6,831	2,845	250	543	1,895	11,671	74	2,129	2,161	313	39	604	1,028	35,350
Muhanga	344	184	148	5	-	2,681	6,061	101	1,842	6,650	8,597	44	148	2,265	419	142	398	405	30,432
Kamonyi	1,673	4,206	197	-	9	1,514	3,185	632	1,040	4,548	11,637	101	539	2,396	856	685	247	1,656	35,119
Karongi	632	2,007	-	312	-	1,855	3,649	874	813	4,584	7,347	406	22	1,788	561	60	407	1,016	26,332
Rutsiro	1,794	34	-	540	-	924	3,250	3,483	1,110	2,317	5,075	522	-	791	182	554	219	1,894	22,689
Rubavu	1,753	439	-	-	-	196	698	6,572	191	907	3,891	167	-	150	2,260	68	458	906	18,656
Nyabihu	3,652	-	-	1,326	-	66	2,725	7,605	38	259	2,038	195	-	40	862	92	526	697	20,120
Ngororero	2,849	-	-	1,444	-	325	7,259	1,316	769	3,767	4,179	308	-	774	235	11	364	61	23,662
Rusizi	1,241	85	1,482	-	-	8,143	1,935	81	605	1,235	8,677	144	237	719	231	193	50	2,066	27,125
Nyamasheke	615	15	357	48	-	3,720	3,445	-	974	1,247	5,333	182	690	1,563	304	212	60	2,794	21,558
Rulindo	969	4,310	17	74	-	1,068	3,265	994	160	2,587	10,612	215	47	182	530	89	90	550	25,758
Gakenke	1,415	552	28	490	-	1,072	7,607	1,249	1,275	5,935	12,236	200	49	754	406	210	170	1,027	34,675
Musanze	2,833	1,076	-	759	-	-	1,319	5,335	202	445	4,470	289	-	7	1,129	75	264	742	18,944
Burera	2,525	6,103	-	1,416	-	28	2,997	4,273	133	612	11,768	601	-	-	333	28	192	42	31,050
Gicumbi	2,089	16,871	-	208	-	500	5,845	2,792	142	1,959	10,833	930	298	79	300	356	794	259	44,254
Rwamagana	3,870	10,058	474	-	-	1,634	1,061	1,952	770	4,274	10,558	131	1,638	218	1,158	332	431	767	39,326
Nyagatare	18,329	7,569	1,493	-	12	1,770	1,748	886	114	4,774	31,180	89	3,519	1,076	793	82	11	46	73,490
Gatsibo	8,243	8,856	1,504	-	71	680	1,514	1,855	423	5,541	18,336	120	4,537	965	403	106	17	2,020	55,191
Kayonza	6,872	14,887	1,474	-	234	2,626	1,628	2,495	396	3,228	16,069	129	1,114	223	464	187	97	749	52,872
Kirehe	3,035	13,279	950	44	251	1,821	1,508	1,429	892	4,432	19,724	427	649	588	566	67	-	510	50,174
Ngoma	2,405	4,764	857	-	477	1,471	1,504	796	268	6,301	19,878	125	618	605	357	297	531	1,144	42,398
Bugesera	4,556	6,500	1,393	-	38	1,053	2,517	692	298	6,839	17,831	42	2,818	895	497	193	568	903	47,635
National	80,570	133,033	16,302	8,749	1,660	47,837	87,762	51,595	15,017	82,137	301,584	7,521	21,534	25,574	15,574	4,429	8,249	25,032	934,159
SSF	78,782	132,985	335	8,700	1,643	47,818	87,751	51,263	15,014	82,086	300,148	7,321	21,506	25,162	15,364	4,265	7,721	24,509	912,373
LSF	1,787	48	15,967	48	18	19	11	333	4	51	1,435	200	28	412	210	164	529	523	21,786

Source : NISR, SAS 2021

Table 16. Season C 2021_Harvested area by crop type per district (ha)

District/Crop	Sweet potato	Irish potato	Yarms & Taro	Beans	Bush bean	Climbing bean	Pea	Soybean	vegetables	Developed land
Nyarugenge	10	27	-	140	140	0	-	104	156	437
Gasabo	115	3	-	7	7	-	-	0	427	552
Kicukiro	34	-	-	71	71	-	-	0	79	184
Nyanza	221	3	-	120	99	20	128	25	260	757
Gisagara	529	2	-	311	311	1	19	215	225	1,301
Nyaruguru	553	254	-	283	282	1	31	-	68	1,189
Huye	371	85	-	239	221	19	98	4	248	1,046
Nyamagabe	303	59	-	13	13	-	12	-	45	431
Ruhango	208	0	-	36	36	-	28	0	88	361
Muhanga	161	43	-	72	69	3	71	112	132	593
Kamonyi	94	25	-	411	411	-	43	72	314	957
Karongi	131	47	-	3	2	2	0	13	34	228
Rutsiro	64	35	-	-	-	-	5	-	7	111
Rubavu	64	888	-	134	3	131	35	-	190	1,310
Nyabihu	169	2,624	-	117	85	32	64	-	92	3,066
Ngororero	107	44	-	1	1	-	-	8	4	163
Rusizi	75	34	-	60	60	-	-	4	361	533
Nyamasheke	122	0	-	-	-	-	-	-	93	216
Rulindo	92	243	-	2	2	-	2	-	61	400
Gakenke	149	263	-	36	33	3	0	144	57	650
Musanze	401	2,054	-	38	33	5	1	-	289	2,784
Burera	396	2,287	-	28	19	9	-	-	24	2,736
Gicumbi	103	483	-	4	1	3	-	-	21	611
Rwamagana	67	13	-	174	174	-	-	-	271	526
Nyagatare	227	7	-	3	2	1	-	0	823	1,061
Gatsibo	203	4	-	2	2	-	-	0	140	349
Kayonza	36	84	-	28	28	-	1	-	189	338
Kirehe	76	42	-	18	17	1	1	2	150	289
Ngoma	35	2	-	187	187	-	2	-	83	309
Bugesera	111	9	-	1,211	1,211	-	0	38	130	1,500
National	**5,226**	**9,667**	**-**	**3,748**	**3,517**	**230**	**542**	**741**	**5,061**	**24,985**

Source: NISR, SAS 2021

Table 17. Season A 2021_Average yield by crop type per district (Kg/Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Other Cereals	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Banana	Bean	Peas	Ground nuts	Soya beans	Vegetables	Fruits	Fodder crops
Nyarugenge	1,383	-	-	-	-	9,101	5,429	4,879	6,469	10,456	705	-	460	637	10,107	18,861	21,825
Gasabo	1,158	-	3,709	-	117	11,951	6,556	4,311	4,138	11,147	584	1,106	439	329	8,005	7,195	12,546
Kicukiro	1,663	-	6,293	-	-	10,286	6,956	3,756	5,057	10,399	568	-	458	538	4,913	6,971	32,718
Nyanza	1,552	603	3,798	-	-	15,870	5,607	3,582	3,292	7,885	576	787	234	289	9,292	5,708	14,569
Gisagara	1,902	760	4,266	-	539	15,962	5,893	2,751	9,367	7,955	581	922	388	530	6,081	11,898	10,245
Nyaruguru	1,924	-	-	901	324	11,043	9,265	5,620	7,145	10,481	540	860	216	349	9,000	2,755	17,941
Huye	1,551	-	4,117	-	423	18,716	5,610	3,627	7,546	10,327	658	989	427	499	6,832	2,381	13,390
Nyamagabe	1,476	-	2,155	487	-	9,722	6,682	5,741	4,450	8,143	515	929	238	475	7,203	2,593	15,077
Ruhango	1,296	323	4,900	-	527	21,308	6,216	3,672	3,719	9,138	695	708	268	498	7,262	1,542	12,281
Muhanga	1,272	725	3,466	3,625	711	13,415	6,401	3,150	6,735	9,134	528	927	373	548	11,642	2,093	24,221
Kamonyi	1,381	-	4,176	-	-	14,537	4,610	3,379	4,494	9,704	634	402	332	579	7,314	7,010	18,882
Karongi	1,582	-	-	537	-	8,070	6,877	8,721	5,621	11,907	793	925	-	584	9,931	7,445	17,450
Rutsiro	1,602	-	-	536	-	12,453	7,365	9,511	7,417	11,147	694	842	-	645	7,539	6,797	12,405
Rubavu	1,581	769	-	-	-	-	7,056	12,764	4,620	10,228	595	656	621	1,072	8,692	4,246	24,549
Nyabihu	1,216	858	-	1,021	-	10,812	6,973	12,734	8,410	7,902	474	819	-	-	12,903	2,590	7,384
Ngororero	921	819	-	864	-	`	6,321	4,651	6,728	7,824	590	782	-	325	8,288	6,063	10,303
Rusizi	1,512	429	4,833	-	-	10,786	5,842	3,897	6,562	9,271	621	848	602	738	7,329	8,695	4,411
Nyamasheke	1,548	726	5,658	504	1,146	9,991	4,026	4,742	4,834	7,846	741	730	498	610	8,971	8,108	22,021
Rulindo	1,534	-	3,919	878	-	11,896	6,764	4,803	4,693	9,737	520	713	438	516	9,510	6,038	9,691
Gakenke	1,646	1,558	2,022	563	750	13,514	6,222	5,546	6,467	10,677	698	772	718	537	6,821	11,450	16,714
Musanze	1,639	1,549	-	1,182	294	5,815	7,386	13,222	2,920	12,016	712	676	-	724	6,351	4,846	6,596
Burera	2,088	1,312	-	1,468	593	11,725	9,283	10,805	6,670	10,899	640	688	-	-	6,975	735	14,420
Gicumbi	1,391	886	-	612	-	13,092	8,970	9,018	6,235	10,529	743	657	596	489	6,921	2,685	13,575
Rwamagana	1,503	-	3,005	-	495	19,537	6,323	6,071	3,468	12,622	741	688	313	367	6,022	1,996	17,237
Nyagatare	1,794	1,658	4,199	-	936	15,613	4,426	6,609	1,881	14,820	747	624	541	658	4,801	2,842	7,602
Gatsibo	1,610	974	3,159	-	453	13,230	7,455	5,111	2,598	11,648	593	587	433	545	3,682	6,088	11,474
Kayonza	1,514	1,270	4,175	500	730	12,061	6,252	3,494	5,459	13,309	712	467	386	400	9,130	2,643	20,937
Kirehe	1,519	851	4,860	-	658	15,037	5,934	4,785	2,661	13,657	747	756	366	545	6,887	16,609	16,080
Ngoma	1,719	1,072	3,676	-	314	11,935	6,142	5,258	4,528	12,593	717	817	419	430	9,675	3,396	11,342
Bugesera	1,613	817	4,266	-	688	17,030	6,725	2,418	1,406	10,670	635	720	368	351	9,387	3,121	10,619
National	1,600	1,309	4,160	1,018	629	14,220	6,707	8,881	6,009	10,926	687	775	395	518	7,912	5,495	14,226
SSF	1,529	1,309	3,191	1,015	629	14,220	6,708	8,877	6,009	10,925	687	775	395	515	7,910	5,585	14,437
LSF	3,975	2,253	4,253	1,740	-	17,543	3,232	10,853	4,318	11,703	1,048	604	528	711	8,264	3,617	11,503

Source: NISR, SAS 2021

Table 18. Season B 2021_Average yield by crop type per district (Kg/Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Other Cereals	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Bananas	Beans	Peas	G-nuts	Soya beans	Vegetables	Fruits	Fodder crops	Other crops
Nyarugenge	1,122	842	-	-	-	11,593	4,501	2,584	7,250	9,851	637	539	277	426	8,603	5,043	5,470	1,408
Gasabo	1,210	1,032	3,416	-	-	12,850	5,648	3,384	2,424	12,828	749	675	336	437	12,053	7,038	11,233	910
Kicukiro	1,071	1,180	6,632	-	-	14,485	10,375	3,786	5,573	13,437	747	551	498	839	14,351	3,716	20,832	32,371
Nyanza	1,123	1,117	3,403	-	917	18,280	9,123	3,153	3,981	9,470	693	602	344	341	13,770	6,905	5,416	492
Gisagara	1,056	829	3,533	-	803	17,128	5,345	2,528	3,624	11,429	619	567	427	418	10,592	19,628	8,212	1,321
Nyaruguru	1,705	631	-	849	-	14,786	7,983	6,945	10,541	9,770	912	1,130	-	567	10,143	5,929	10,809	1,300
Huye	1,357	860	3,856	-	867	18,607	8,591	3,230	4,360	9,814	685	895	480	446	12,089	557	3,289	1,018
Nyamagabe	1,276	715	3,320	1,277	-	12,663	6,035	7,228	8,363	7,181	684	942	-	445	10,967	2,500	24,895	832
Ruhango	1,046	837	3,203	-	796	18,755	3,969	3,662	7,056	9,299	640	969	503	520	9,430	7,270	11,792	35,534
Muhanga	1,108	752	2,903	1,133	-	16,332	6,809	3,874	7,116	9,077	632	505	363	385	10,258	3,435	21,840	4,458
Kamonyi	885	1,026	3,029	-	700	16,035	5,943	2,291	8,860	9,303	583	856	394	443	10,609	5,601	10,845	8,816
Karongi	1,385	757	-	888	-	14,071	10,967	4,537	9,463	10,182	793	1,105	467	467	9,390	3,057	11,901	1,279
Rutsiro	1,518	1,333	-	380	-	14,660	6,634	4,597	8,146	14,458	800	740	-	544	10,683	6,249	9,337	1,592
Rubavu	1,849	1,769	-	-	-	11,902	6,340	10,845	5,284	12,830	926	903	-	991	14,384	3,449	447	13,543
Nyabihu	1,436	-	-	965	-	9,276	5,945	11,075	8,690	9,834	945	697	-	370	18,284	3,778	8,032	248
Ngororero	1,031	-	-	862	-	12,108	6,452	4,063	9,496	9,941	683	950	-	325	11,556	792	10,199	1,468
Rusizi	1,337	585	5,317	-	-	9,133	8,952	6,989	7,416	12,818	797	917	457	539	6,850	3,324	2,646	2,104
Nyamasheke	1,034	1,040	4,290	670	-	11,362	8,303	-	6,579	12,209	729	792	480	500	11,249	5,293	9,175	2,183
Rulindo	1,158	1,003	2,398	840	-	15,873	7,033	5,359	6,278	12,027	793	554	488	513	7,998	6,007	22,192	36,725
Gakenke	1,104	1,107	3,921	1,409	-	18,310	10,906	5,160	7,359	11,651	934	509	378	614	9,768	7,436	6,198	1,975
Musanze	1,605	1,219	-	1,159	-	-	10,188	10,736	10,086	9,530	1,114	1,224	-	612	7,915	8,006	10,613	3,339
Burera	1,238	1,369	-	1,335	-	12,410	7,610	10,604	7,696	13,449	1,092	812	-	-	11,304	2,381	10,888	-
Gicumbi	1,051	1,120	-	856	-	15,670	7,117	8,328	7,620	12,641	967	945	602	306	12,908	-	11,888	1,045
Rwamagana	977	1,221	4,912	-	-	16,006	4,615	4,299	6,207	14,792	629	380	329	372	10,488	5,549	16,318	2,648
Nyagatare	1,430	921	4,543	-	1,041	18,337	3,976	3,606	5,495	13,816	837	491	637	655	9,784	5,921	10,166	327
Gatsibo	1,410	1,145	3,646	-	942	15,163	8,056	4,345	7,729	13,764	699	617	522	639	7,763	5,995	10,011	2,563
Kayonza	977	1,135	4,246	-	884	16,480	4,866	3,233	5,513	16,145	639	654	575	620	9,413	6,418	4,340	1,105
Kirehe	2,092	858	4,494	50	1,004	17,813	5,659	2,390	4,758	16,533	703	1,042	444	564	8,160	12,161	-	2,213
Ngoma	807	991	3,190	-	1,113	17,048	6,225	4,668	3,551	14,828	823	560	560	496	10,705	8,980	21,127	1,298
Bugesera	1,162	687	6,054	-	1,334	17,240	3,986	2,365	6,684	9,719	674	445	486	318	10,909	5,175	32,715	1,238
National	1,291	1,010	4,159	1,050	964	15,021	7,208	7,624	7,128	12,071	761	871	500	477	11,104	5,721	13,235	4,961
SSF	1,236	1,009	3,823	1,048	968	15,020	7,209	7,569	7,128	12,070	759	852	499	464	11,126	5,766	12,103	5,019
LSF	3,749	1,804	4,166	1,412	606	18,133	4,865	16,166	4,500	13,514	1,195	1,545	788	1,273	9,481	4,542	29,775	2,252

Source: NISR, SAS 2021

Table 19. Season A 2021_detailed banana and beans average yield per district (Kg/Ha)

District	Total Banana		Cooking Banana		Dessert banana		Banana for beer		Total beans		Bush bean		Climbing bean	
	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B
Nyarugenge	10,456	9,851	10,464	19,359	9,279	7,846	10,872	8,277	9,332	637	690	632	720	826
Gasabo	11,147	12,828	12,315	17,801	9,874	13,334	10,433	8,280	11,214	749	570	746	597	789
Kicukiro	10,399	13,437	10,533	19,081	11,096	14,425	10,009	9,594	11,843	747	627	743	509	1,013
Nyanza	7,885	9,470	6,968	12,455	7,302	8,744	8,631	8,793	8,226	693	608	668	543	796
Gisagara	7,955	11,429	6,745	16,748	7,122	9,894	8,876	10,374	8,631	619	563	587	598	843
Nyaruguru	10,481	9,770	11,051	14,857	8,380	8,032	10,873	7,913	9,095	912	523	620	557	981
Huye	10,327	9,814	10,175	12,277	8,551	10,114	11,351	8,616	10,005	685	635	633	681	776
Nyamagabe	8,143	7,181	6,868	9,790	6,940	12,822	8,834	6,401	9,532	684	459	576	571	712
Ruhango	9,138	9,299	8,837	18,376	6,868	12,819	9,704	8,150	9,797	640	607	598	783	737
Muhanga	9,134	9,077	10,308	15,172	9,569	10,058	8,770	8,471	9,466	632	470	595	585	699
Kamonyi	9,704	9,303	10,788	17,576	7,266	11,167	9,903	8,066	9,445	583	561	555	707	793
Karongi	11,907	10,182	13,062	15,614	12,020	12,758	11,541	9,761	12,106	793	572	766	1,013	806
Rutsiro	11,147	14,458	12,979	23,250	8,238	17,814	11,061	9,764	12,371	800	466	675	921	817
Rubavu	10,228	12,830	9,543	18,656	6,110	12,624	11,470	11,212	10,068	926	433	388	757	995
Nyabihu	7,902	9,834	11,107	16,985	6,609	9,276	7,223	7,522	7,703	945	382	-	566	945
Ngororero	7,824	9,941	8,035	15,336	7,324	12,944	7,917	9,330	9,395	683	432	564	748	708
Rusizi	9,271	12,818	8,530	17,741	7,417	17,075	9,948	9,133	11,480	797	619	774	623	849
Nyamasheke	7,846	12,209	8,351	14,741	7,963	13,919	7,600	11,376	9,827	729	591	542	891	784
Rulindo	9,737	12,027	10,378	19,968	9,545	12,669	9,381	9,251	10,532	793	500	678	539	911
Gakenke	10,677	11,651	11,889	21,054	8,982	13,066	10,642	9,263	10,897	934	506	647	890	962
Musanze	12,016	9,530	13,596	14,167	8,297	7,139	11,416	9,099	8,951	1,114	423	901	1,001	1,130
Burera	10,899	13,449	13,412	20,214	5,598	12,240	9,091	8,041	8,976	1,092	550	740	730	1,114
Gicumbi	10,529	12,641	12,958	20,494	7,517	11,166	9,436	9,250	9,373	967	570	664	916	1,119
Rwamagana	12,622	14,792	15,490	18,509	8,120	9,119	8,617	7,642	8,619	629	636	618	846	1,023
Nyagatare	14,820	13,816	18,428	18,599	8,399	8,078	11,051	8,661	9,176	837	744	836	750	852
Gatsibo	11,648	13,764	14,750	17,611	7,783	10,550	8,849	10,234	9,061	699	656	679	530	888
Kayonza	13,309	16,145	15,953	18,665	8,467	13,833	9,103	8,793	10,468	639	746	635	678	1,047
Kirehe	13,657	16,533	16,982	21,725	7,856	10,303	10,355	8,586	9,505	703	670	632	824	834
Ngoma	12,593	14,828	15,233	17,421	7,154	8,153	10,780	10,980	8,696	823	593	801	841	1,012
Bugesera	10,670	9,719	14,189	13,768	7,716	12,275	8,865	7,927	9,619	674	697	673	573	719
National	10,926	12,071	13,614	18,163	8,116	11,704	9,725	8,949	9,848	761	628	687	746	911
SSF	10,925	12,070	13,616	18,170	8,116	11,704	9,725	8,949	9,848	759	627	684	746	910
LSF	11,703	13,514	12,132	13,929	9,103	11,918	10,552	11,216	10,524	1,195	1,001	1,192	1,094	1,235

Source: NISR, SAS 2021

Table 20. Season C 2020_Average yield by crop type per district (Kg/Ha)

District/Crop	Tubers and Roots	Sweet potatoes	Irish potatoes	Bush bean	Climbing bean	Peas	Soya beans	Vegetables
Nyarugenge	3,913	3,851	3,937	881	-	-	632	14,184
Gasabo	4,377	4,375	4,461	966	-	-	-	10,229
Kicukiro	7,190	7,190	-	898	-	-	-	12,864
Nyanza	4,468	4,487	3,241	945	1,067	845	191	17,163
Gisagara	4,271	4,246	10,307	776	-	992	374	11,555
Nyaruguru	5,086	4,552	6,249	938	4,119	1,104	-	6,965
Huye	5,354	5,644	4,099	978	823	554	-	8,114
Nyamagabe	5,172	5,353	4,235	983	-	666	-	9,822
Ruhango	7,723	7,723	-	1,025	-	932	967	11,545
Muhanga	6,650	7,052	5,156	888	482	588	814	10,335
Kamonyi	4,829	5,252	3,232	1,265	-	638	650	12,199
Karongi	7,280	5,732	11,621	1,273	-	-	734	11,902
Rutsiro	6,427	6,594	6,117	-	-	764	-	8,262
Rubavu	10,655	5,338	11,037	377	760	440	-	8,734
Nyabihu	8,019	5,362	8,189	655	344	1,975	-	16,697
Ngororero	5,633	4,830	7,595	1,392	-	-	211	9,412
Rusizi	7,573	8,657	5,199	1,615	-	-	-	13,061
Nyamasheke	4,042	4,046	-	-	-	-	-	8,693
Rulindo	4,022	4,332	3,905	1,278	-	771	-	10,683
Gakenke	6,684	9,153	5,285	1,035	-	-	809	13,216
Musanze	8,217	6,325	8,587	355	1,241	-	-	11,378
Burera	9,073	5,286	9,730	846	794	-	-	23,029
Gicumbi	6,339	4,988	6,626	-	-	-	-	8,763
Rwamagana	4,338	4,237	4,845	1,162	-	-	-	8,657
Nyagatare	5,397	5,457	3,578	-	-	-	-	8,968
Gatsibo	6,788	6,733	9,318	552	-	-	-	9,701
Kayonza	5,534	7,466	4,709	746	-	355	-	15,605
Kirehe	4,262	4,436	3,942	1,260	1,558	-	-	11,664
Ngoma	5,579	5,781	2,593	850	-	1,234	-	13,256
Bugesera	5,249	5,569	1,225	936	-	904	226	12,658
National	**7,395**	**5,509**	**8,415**	**966**	**731**	**864**	**574**	**11,257**

Source: NISR, SAS 2021

Table 21. Season A 2021_Average yield on Large scale farmers by crop type and district (Kg/Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Bananas	Cooking Banana	Dessert banana	Banana for beer	Bush bean	Climbing bean	Peas	Ground nuts	Soya beans	Vegetables	Fruits	Fodder crops	Other crops
Gasabo	3,843	-	3,709	-	-	6,825	-	-	8,851	8,851	-	-	755	755	-	-	342	1,201	2,888	7,195	8,179
Kicukiro	1,106	-	6,293	-	-	-	-	-	10,255	10,554	9,600	-	153	153	-	-	-	1,883	3,735	-	10,805
Nyanza	2,746	-	4,370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gisagara	3,215	-	4,335	-	-	1,921	-	-	8,265	11,091	5,228	8,246	446	446	-	-	-	1,007	2,089	-	-
Nyaruguru	4,493	-	-	-	-	-	9,796	-	9,906	5,963	7,650	13,459	1,299	1,299	-	-	-	-	-	2,872	14,493
Huye	4,150	-	4,117	-	-	5,098	-	-	8,389	8,389	-	-	335	335	-	-	-	-	23,775	-	-
Nyamagabe	1,083	-	-	-	-	-	9,978	-	-	-	-	-	1,546	-	1,546	-	-	-	-	-	-
Ruhango	1,034	-	5,115	-	20,849	-	-	10,600	8,944	8,944	-	-	217	217	265	-	209	147	9,474	-	29,915
Muhanga	1,933	-	3,466	3,625	-	-	9,673	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kamonyi	3,030	-	4,176	-	-	-	-	-	-	-	-	-	308	308	-	-	-	889	-	-	-
Karongi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubavu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rusizi	1,616	-	-	-	-	-	22,259	2,629	11,185	11,185	-	-	827	124	1,907	1,105	-	-	1,234	-	24,549
Nyamasheke	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rulindo	-	-	-	-	`	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gicumbi	2,337	-	4,950	-	-	2,554	-	6,116	11,986	9,144	-	12,775	788	788	-	-	-	1,906	-	-	-
Rwamagana	229	-	5,658	-	-	-	-	-	-	-	-	-	746	713	801	-	586	-	-	-	-
Nyagatare	4,223	-	3,919	1,636	-	-	8,704	-	10,631	-	-	10,631	806	408	2,174	-	-	707	13,812	-	-
Gatsibo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kayonza	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kirehe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ngoma	2,256	-	-	1,129	-	-	10,217	-	-	-	-	-	567	-	567	633	-	-	11,874	-	11,354
Bugesera	3,538	-	3,005	-	25,034	9,022	8,583	2,547	15,157	15,617	8,427	9,383	572	575	271	539	211	498	6,644	1,592	25,121
National	4,302	2,109	4,199	-	22,841	3,079	6,454	-	8,758	8,585	7,305	16,683	512	507	627	767	-	1,053	7,665	3,424	7,602

Source: NISR, SAS 2021

Table 22. Season B 2020_Average yield on large scale farmers by crop type and district (Kg/Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Bananas	Cooking Banana	Dessert banana	Banana for beer	Beans	Bush bean	Climbing bean	Peas	Ground nuts	Soya beans	Vegetables	Fruits	Fodder crops	Other crops
Gasabo	2,755	1,536	3,416	-	-	-	6,060	-	-	3,848	3,848	-	-	830	830	-	-	-	446	3,525	20,376	5,850
Kicukiro	988	1,769	6,632	-	-	-	-	-	-	13,322	11,720	14,736	-	236	236	-	-	-	1,848	67,075	-	30,901
Nyanza	-	-	3,367	-	-	-	-	7,220	-	-	-	-	-	1,443	-	1,443	-	-	-	-	-	-
Gisagara	2,054	-	3,541	-	-	-	6,118	-	-	10,854	16,431	6,288	10,837	311	281	1,012	-	-	1,278	1,002	-	-
Nyaruguru	4,000	-	-	-	-	-	-	20,472	-	8,293	6,133	7,220	9,500	1,048	1,054	795	-	-	-	-	7,270	38,614
Huye	3,692	-	3,856	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nyamagabe	-	-	-	846	-	-	-	6,622	-	-	-	-	-	401	-	401	653	-	-	-	-	-
Ruhango	3,715	-	3,223	-	-	26,398	-	-	4,240	10,556	11,001	15,017	10,468	331	331	-	-	-	-	3,956	-	-
Muhanga	1,114	-	2,903	1,133	-	-	-	6,776	-	-	-	-	-	1,053	293	1,078	-	-	-	8,705	-	-
Kamonyi	4,088	-	3,029	-	-	-	-	2,799	-	-	-	-	-	1,290	1,290	-	1,425	-	-	15,073	-	-
Karongi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubavu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rusizi	2,919	-	-	-	-	-	-	12,707	4,790	12,387	12,387	-	-	1,430	-	1,430	-	-	-	-	-	-
Nyamasheke	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rulindo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gicumbi	2,256	-	5,334	-	-	9,489	-	-	-	9,664	8,619	-	11,057	830	830	-	-	-	-	-	-	-
Rwamagana	-	-	4,290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	238	-	-	-	-
Nyagatare	2,846	1,857	2,398	2,104	-	-	-	8,469	-	-	-	-	-	926	911	935	-	-	-	3,187	-	-
Gatsibo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kayonza	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kirehe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ngoma	665	-	-	1,278	-	-	-	6,350	-	-	-	-	-	891	-	891	-	-	-	-	-	27,737
Bugesera	1,848	2,097	4,912	-	-	17,782	5,535	6,936	4,798	16,400	17,280	8,056	-	720	710	3,216	-	467	138	8,467	4,140	19,693
National	3,354	1,668	4,543	-	-	49,096	2,661	4,433	-	15,374	15,755	10,474	12,223	1,295	1,294	1,450	855	-	1,312	4,585	12,206	10,166

Source : NISR, SAS 2021

Table 23. Season C_Average yield by crop type and district-SITE (Kg/Ha)

	Sweet potatoes	Irish potatoes	Bush bean	Climbing bean	Peas	Soya beans	Vegetables
Nyarugenge	3,644	-	-	-	-	520	18,434
Gasabo	7,147	-	1,452	-	-	-	11,143
Kicukiro	8,740	-	958	-	-	-	16,014
Nyanza	5,076	3,241	1,026	-	845	-	15,416
Gisagara	5,015	10,307	772	-	992	432	10,740
Nyaruguru	5,271	5,079	991	4,119	-	-	-
Huye	5,072	3,231	1,074	-	571	-	7,620
Nyamagabe	6,251	4,598	949	-	940	-	9,647
Ruhango	9,765	-	819	-	1,249	967	9,958
Muhanga	5,512	5,156	879	482	677	548	10,168
Kamonyi	5,300	1,942	1,210	-	624	-	9,819
Karongi	6,122	11,621	1,273	-	-	-	10,535
Rutsiro	5,786	6,975	-	-	752	-	-
Rubavu	-	11,434	-	-	-	-	1,639
Nyabihu	-	10,749	-	-	-	-	11,403
Ngororero	-	7,457	-	-	-	-	-
Rusizi	8,432	-	1,783	-	-	-	10,607
Nyamasheke	4,394	-	-	-	-	-	10,294
Rulindo	5,433	5,260	1,278	-	771	-	12,176
Gakenke	8,129	5,040	1,334	-	-	804	13,519
Musanze	8,191	9,744	770	-	-	-	8,272
Burera	-	11,996	1,729	-	-	-	-
Gicumbi	7,394	4,392	-	-	-	-	12,989
Rwamagana	4,389	4,140	1,363	-	-	-	12,104
Nyagatare	3,690	3,578	-	-	-	-	9,316
Gatsibo	7,437	9,318	552	-	-	-	11,155
Kayonza	8,475	5,774	706	-	355	-	15,253
Kirehe	3,736	4,147	1,426	-	-	-	10,365
Ngoma	5,544	2,862	850	-	1,234	-	13,952
Bugesera	5,528	1,212	919	-	904	-	12,788
National	5,989	7,546	971	199	742	392	11,277

Source: NISR, SAS 2021

Table 24. Season A 2021_Crop production by crop type per district (MT)

District	Maize	Sorghum	Paddy rice	Wheat	Other Cereals	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Bananas	Beans	Peas	Ground nuts	Soya beans	Vegetables	Fruits	Fodder crops	Other crops
Nyarugenge	1,209	-	-	-	-	1,704	2,016	401	353	10,492	1,689	-	22	176	2,491	114	630	416
Gasabo	3,613	-	862	-	1	10,731	7,814	2,699	611	20,365	5,280	159	193	119	6,118	15	7,083	1,205
Kicukiro	1,606	-	171	-	-	456	2,940	55	252	4,943	1,450	-	31	42	1,033	109	1,020	1,150
Nyanza	8,134	168	1,355	-	-	58,622	13,922	1,112	927	27,998	12,707	81	209	476	5,640	622	5,975	92
Gisagara	12,020	409	8,722	-	89	17,606	14,383	954	3,512	30,184	9,859	105	187	1,069	2,803	577	576	496
Nyaruguru	11,155	-	-	30	2	11,205	44,884	7,751	5,184	19,353	5,104	319	8	243	5,584	326	6,128	3,289
Huye	6,989	-	4,003	-	153	46,557	17,601	3,414	1,546	28,913	9,455	142	101	951	3,202	93	1,422	48
Nyamagabe	8,269	-	575	63	-	15,196	54,195	15,055	1,766	20,142	6,340	1,309	4	746	4,901	386	4,026	-
Ruhango	4,475	4	4,177	-	16	95,120	12,128	1,681	2,150	23,462	8,998	86	299	1,474	3,410	179	7,527	1,725
Muhanga	2,284	21	503	12	16	18,393	27,735	1,120	21,191	57,788	3,698	51	7	1,065	4,752	243	11,170	802
Kamonyi	5,617	-	767	-	-	24,521	10,976	2,273	1,473	44,022	8,041	33	318	1,538	5,757	5,670	6,811	2,631
Karongi	12,988	-	-	35	-	14,074	35,085	9,329	7,324	46,770	5,783	751	-	664	9,592	970	6,479	562
Rutsiro	10,727	-	-	171	-	2,225	28,640	29,874	9,676	32,913	3,734	510	-	542	3,408	3,380	3,542	8,642
Rubavu	3,366	103	-	-	-	-	4,998	69,790	492	15,673	5,634	51	26	278	17,255	137	24	28,453
Nyabihu	4,207	1,071	-	1,268	-	1,172	20,979	115,357	859	3,300	4,225	673	-	-	10,401	145	1,138	818
Ngororero	4,818	370	-	443	-	`	34,059	8,036	7,248	29,923	8,495	378	-	457	2,012	1,617	2,080	7,267
Rusizi	10,782	13	7,243	-	-	15,855	13,098	780	9,402	27,648	7,959	126	266	1,049	6,824	732	220	8,807
Nyamasheke	8,408	72	1,906	15	98	27,110	15,429	580	6,073	18,531	6,537	108	129	894	3,762	292	1,320	3,507
Rulindo	6,385	-	65	45	-	8,780	29,283	5,536	371	22,334	6,542	308	25	182	11,820	2,018	3,350	23,820
Gakenke	18,428	74	209	78	375	13,565	51,056	6,418	8,611	68,007	6,844	428	68	397	3,333	2,361	3,053	2,280
Musanze	12,023	3,019	-	1,161	7	161	16,892	52,462	448	9,065	6,354	117	-	17	5,226	466	1,051	5,625
Burera	20,650	1,720	-	1,065	20	446	25,086	59,671	296	7,622	8,066	1,208	-	-	2,095	36	2,515	-
Gicumbi	6,369	119	-	115	-	8,083	63,080	26,028	401	18,296	16,318	1,026	175	79	4,948	702	11,509	24
Rwamagana	15,341	-	1,091	-	21	21,768	14,251	6,272	550	76,253	12,309	89	511	108	5,897	347	6,145	821
Nyagatare	47,679	25,232	6,453	-	155	19,277	8,195	3,458	29	76,142	14,835	166	836	418	3,572	277	118	7,528
Gatsibo	28,704	3,496	4,653	-	87	21,751	21,152	11,601	186	114,590	14,912	53	1,055	524	3,719	1,330	41	117
Kayonza	22,280	2,890	5,876	0	500	62,691	13,349	6,700	1,141	58,082	14,685	84	482	62	7,350	472	2,546	0
Kirehe	37,451	1,933	5,206	-	45	21,509	10,456	6,484	728	100,103	16,240	183	193	276	5,050	622	1,174	16
Ngoma	25,636	189	3,049	-	82	30,443	19,975	7,930	783	95,056	12,011	58	272	175	2,518	637	4,531	14
Bugesera	17,026	3,137	7,064	-	70	15,561	33,690	739	235	44,393	14,745	15	896	215	5,197	403	8,829	76
National	378,641	44,039	63,950	4,500	1,738	601,291	667,346	463,562	93,819	1,152,365	258,851	8,617	6,313	14,237	159,669	25,275	112,030	110,233

Source : NISR, SAS 2021

Table 25. Season B 2021_Crop production by crop type per district (MT)

District	Maize	Sorghum	Paddy rice	Wheat	Other Cereals	Cassava	Sweet potatoes	Irish potatoes	Yams & Taro	Bananas	Beans	Peas	Ground nuts	Soya beans	Vegetables	Fruits	Fodder crops	Other crops
Nyarugenge	317	445	-	-	-	2,200	617	153	270	6,253	762	5	22	90	2,266	72	302	4,166
Gasabo	1,179	3,719	883	-	-	4,012	5,245	2,354	177	15,817	3,677	28	83	124	6,697	60	4,166	1,029
Kicukiro	541	932	172	-	-	1,214	4,122	182	372	5,523	1,097	6	31	152	728	40	1,029	1,390
Nyanza	2,352	4,669	2,035	-	58	24,382	20,313	1,118	1,975	9,859	7,613	18	352	424	4,487	455	1,390	884
Gisagara	2,370	3,636	11,248	-	140	44,084	12,599	435	732	16,899	8,307	22	317	861	3,512	2,205	884	5,366
Nyaruguru	875	2,321	-	442	-	20,764	32,234	11,234	3,737	6,413	4,109	235	-	467	3,222	316	5,366	521
Huye	920	5,536	3,676	-	156	15,990	21,280	1,545	1,995	9,324	4,916	56	157	765	2,206	13	521	6,370
Nyamagabe	1,017	3,217	63	1,997	-	13,944	46,093	18,117	2,777	10,026	4,089	1,581	-	362	4,254	156	6,370	7,119
Ruhango	825	2,628	2,851	-	119	128,115	11,293	916	3,833	17,621	7,472	71	1,070	1,123	2,953	287	7,119	8,701
Muhanga	381	138	428	6	-	43,782	41,272	391	13,107	60,360	5,434	22	54	873	4,303	487	8,701	2,677
Kamonyi	1,480	4,314	595	-	7	24,270	18,925	1,448	9,216	42,313	6,786	86	212	1,062	9,085	3,838	2,677	4,847
Karongi	875	1,520	-	277	-	26,106	40,014	3,966	7,697	46,681	5,827	449	10	834	5,265	182	4,847	2,046
Rutsiro	2,724	45	-	205	-	13,542	21,559	16,010	9,042	33,493	4,058	387	-	430	1,940	3,464	2,046	205
Rubavu	3,240	777	-	-	-	2,335	4,428	71,273	1,008	11,632	3,602	151	-	149	32,505	234	205	4,225
Nyabihu	5,244	-	-	1,280	-	609	16,199	84,219	329	2,546	1,927	136	-	15	15,759	346	4,225	3,715
Ngororero	2,938	-	-	1,245	-	3,941	46,830	5,349	7,301	37,446	2,853	293	-	251	2,718	9	3,715	132
Rusizi	1,660	50	7,880	-	-	74,377	17,325	565	4,484	15,837	6,912	132	108	387	1,581	642	132	550
Nyamasheke	636	16	1,533	32	-	42,266	28,601	-	6,406	15,220	3,887	144	331	782	3,417	1,122	550	2,002
Rulindo	1,122	4,323	40	62	-	16,956	22,962	5,326	1,003	31,120	8,418	119	23	93	4,237	535	2,002	1,057
Gakenke	1,562	611	111	690	-	19,630	82,959	6,447	9,386	69,141	11,431	102	18	463	3,965	1,565	1,057	2,801
Musanze	4,546	1,312	-	879	-	-	13,439	57,278	2,040	4,237	4,980	354	-	4	8,932	598	2,801	2,086
Burera	3,127	8,356	-	1,890	-	351	22,808	45,308	1,022	8,236	12,857	488	-	-	3,760	67	2,086	9,438
Gicumbi	2,195	18,903	-	178	-	7,839	41,602	23,255	1,081	24,769	10,477	878	179	24	3,878	-	9,438	7,039
Rwamagana	3,780	12,275	2,327	-	-	26,152	4,897	8,390	4,779	63,219	6,645	50	540	81	12,147	1,844	7,039	109
Nyagatare	26,215	6,972	6,781	-	12	32,451	6,950	3,195	628	65,959	26,095	43	2,242	705	7,761	486	109	167
Gatsibo	11,623	10,136	5,485	-	67	10,311	12,199	8,060	3,269	76,267	12,824	74	2,369	616	3,127	634	167	422
Kayonza	6,714	16,898	6,258	-	207	43,280	7,920	8,066	2,181	52,119	10,273	85	640	138	4,368	1,202	422	-
Kirehe	6,350	11,395	4,271	2	252	32,442	8,532	3,415	4,245	73,266	13,858	445	288	332	4,622	819	-	11,228
Ngoma	1,941	4,721	2,734	-	531	25,081	9,364	3,718	951	93,429	16,356	70	346	300	3,817	2,663	11,228	18,591
Bugesera	5,294	4,464	8,437	-	51	18,157	10,031	1,637	1,994	66,474	12,018	19	1,369	284	5,423	997	18,591	109,181
National 2020 B	104,041	134,331	67,808	9,184	1,600	718,584	632,614	393,371	107,037	991,501	229,559	6,549	10,763	12,194	172,936	25,340	109,181	93,438

Source : NISR, SAS 2021

Table 26. Season C 2021_Crop production by crop type per district (MT)

District/Crop	Sweet potatoes	Irish potatoes	Bush bean	Climbing bean	Peas	Soya beans	Vegetables	*Total*
Nyarugenge	39	104	123	-	-	66	2,212	2,544
Gasabo	501	12	7	-	-	-	4,370	4,890
Kicukiro	246	-	63	-	-	-	1,013	1,322
Nyanza	991	11	94	22	108	5	4,464	5,694
Gisagara	2,245	23	241	-	18	81	2,598	5,206
Nyaruguru	2,519	1,588	264	4	34	-	474	4,883
Huye	2,093	350	216	15	55	-	2,011	4,740
Nyamagabe	1,619	248	12	-	8	-	439	2,327
Ruhango	1,607	-	37	-	26	0	1,020	2,691
Muhanga	1,135	223	62	1	42	91	1,369	2,923
Kamonyi	492	80	519	-	27	47	3,827	4,992
Karongi	749	541	2	-	-	9	411	1,712
Rutsiro	425	213	-	-	4	-	56	698
Rubavu	340	9,801	1	100	15	-	1,656	11,914
Nyabihu	904	21,493	56	11	127	-	1,529	24,119
Ngororero	516	332	1	-	-	2	34	886
Rusizi	648	178	96	-	-	-	4,714	5,635
Nyamasheke	495	-	-	-	-	-	810	1,305
Rulindo	398	950	2	-	1	-	655	2,006
Gakenke	1,365	1,391	34	-	-	117	752	3,660
Musanze	2,538	17,641	12	7	-	-	3,289	23,486
Burera	2,096	22,255	16	7	-	-	550	24,924
Gicumbi	514	3,203	-	-	-	-	182	3,899
Rwamagana	282	64	202	-	-	-	2,350	2,900
Nyagatare	1,237	27	-	-	-	-	7,383	8,647
Gatsibo	1,368	41	1	-	-	-	1,356	2,766
Kayonza	269	397	21	-	0	-	2,950	3,637
Kirehe	338	164	22	1	-	-	1,753	2,279
Ngoma	201	6	159	-	2	-	1,102	1,470
Bugesera	621	11	1,134	-	0	9	1,647	3,421
National 2021 C	28,790	81,348	3,398	168	469	426	56,979	171,577
National 2020 C	29,182	78,609	1,741	1,042	352	516	52,492	163,934

Source: NISR, SAS 2021

Table 27. Season A 2021_Use of crop production by farmers (%)

Crops	Sold	Own consumption	Wages for hired labor	Farm rent	Offered as gift	Barter trade/Exchanged with other things	Seeds	Fodder purposes	Stored	Post harvesting losses	Other usage
Cereals											
Maize	34.6	54.2	1.0	1.6	5.4	0.0	0.9	0.2	1.7	0.1	0.3
Sorghum	56.4	30.9	1.5	2.9	4.2	0.0	2.4	0.0	1.1	0.2	0.4
Paddy rice	79.3	16.0	1.2	0.2	0.3	0.0	0.7	-	-	0.6	1.7
Wheat	44.2	38.4	0.0	-	5.8	-	10.7	0.1	0.4	0.0	0.4
Other cereals	15.4	67.0	0.6	0.4	6.2	-	8.9	-	0.4	0.1	0.8
Tubers and Roots											
Sweet potato	20.5	71.0	1.5	0.6	4.8	0.0	0.0	1.4	0.1	0.0	0.1
Irish potato	40.4	41.4	0.6	0.3	3.4	0.0	13.2	0.0	0.2	0.2	0.3
Yam & Taro	22.5	64.5	1.2	1.0	6.0	0.1	4.7	-	-	-	0.1
Cassava	42.5	50.6	1.5	1.2	3.3	0.0	0.0	0.2	0.1	0.2	0.4
Legumes and Pulses											
Bush bean	18.9	56.5	1.6	2.0	3.9	0.1	13.5	0.0	3.0	0.3	0.2
Climbing bean	12.9	64.2	0.9	0.6	5.2	0.1	14.1	0.0	1.8	0.1	0.2
Pea	24.8	56.4	0.1	0.0	3.6	-	14.4	-	0.5	0.1	0.0
Groundnut	18.3	56.3	0.6	1.2	3.1	0.0	20.1	`	0.3	0.0	0.1
Soybean	15.6	60.4	0.2	0.9	3.1	0.3	18.0	0.2	1.0	0.1	0.0
Banana											
Cooking banana	30.3	64.9	1.0	0.1	3.3	-	0.0	0.0	-	0.1	0.3
Dessert banana	61.7	35.7	0.2	0.1	1.9	0.0	0.0	0.0	-	0.2	0.3
Banana for beer	78.6	17.2	0.1	0.0	3.1	0.0	-	0.0	-	0.7	0.2
Vegetables and fruits											
Vegetables	77.0	16.1	0.1	0.3	3.3	0.0	1.1	0.0	0.1	0.9	1.0
Fruits	71.7	23.7	-	-	3.3	-	0.0	0.0	-	0.2	1.1
Fodder crops	3.5	-	1.3	-	0.6	0.0	0.0	91.7	2.6	0.0	0.4

Source: NISR, SAS 2021

Table 28. Season B 2021_Use of crop production by farmers (%)

Crops	Sold	Own consumption	Wages for hired labor	Farm rent	Offered as gift	Barter trade / Exchanged with other things	Seeds	Fodder purposes	Stored	Post harvesting losses	Other usage
Cereals											
Maize	25.6	63.8	0.9	1.8	5.3	0.0	0.6	0.4	1.5	0.0	0.1
Sorghum	44.4	41.6	0.9	2.2	5.5	0.1	3.4	0.0	1.5	0.1	0.3
Paddy rice	79.5	13.6	0.9	0.1	0.0	-	0.4	0.0	-	0.8	4.6
Wheat	43.0	41.4	-	0.2	7.0	-	8.0	0.0	0.2	0.1	0.0
Other cereals	17.2	72.4	0.3	1.2	2.9	0.6	4.0	-	1.3	0.1	0.0
Tubers and Roots											
Sweet potato	24.3	65.8	1.6	0.7	4.8	0.1	0.0	2.5	0.1	0.0	0.1
Irish potato	40.2	39.6	0.4	0.4	3.5	0.0	15.4	-	0.1	0.3	0.1
Yam & Taro	27.4	65.5	0.3	0.9	4.0	-	1.9	-	-	0.0	0.0
Cassava	42.0	50.6	1.3	1.6	4.0	0.0	-	0.2	0.1	0.1	0.1
Legumes and Pulses											
Bush bean	21.7	54.3	1.6	2.8	4.0	0.1	13.1	0.0	2.1	0.1	0.1
Climbing bean	15.0	60.6	0.9	0.6	6.0	0.1	15.0	0.0	1.6	0.1	0.1
Pea	31.3	51.4	0.1	0.2	2.7	0.0	14.2	-	0.1	0.1	0.0
Groundnut	34.7	42.7	0.5	1.0	3.5	-	15.8	-	1.6	0.0	0.2
Soybean	19.5	57.9	0.3	0.5	3.2	0.1	17.8	0.2	0.3	0.1	0.1
Banana											
Cooking banana	38.1	56.6	0.9	0.1	4.0	0.0	-	0.0	-	0.0	0.2
Dessert banana	64.4	32.7	0.2	0.1	1.9	0.0	-	0.0	-	0.2	0.5
Banana for beer	79.9	15.2	0.1	0.2	3.7	0.0	0.0	0.0	-	0.7	0.3
Vegetables and fruits											
Vegetables	76.9	18.7	0.5	0.0	2.9	-	0.3	0.1	-	0.6	0.1
Fruits	80.9	15.5	-	-	2.7	-	0.0	0.0	-	0.0	0.8
Fodder crops	4.0	-	3.1	-	0.9	-	0.0	88.9	0.1	0.0	3.0

Source: NISR, SAS 2021

Table 29. Season C 2021_ Use of crop production by farmers (%)

Crop Category	Sold	Auto consumption	Wages for hired labour	Farm rent	Offered as gift	Barter trade / Exchanged with other things	Seeds	Fodder purposes	Stored	Post harvesting losses	Other usage
Tubers and Roots											
Sweet potato	31.7	57.6	1.3	0.9	5.6	0.0	-	2.5	0.1	0.2	0.1
Irish potato	51.5	31.9	0.6	0.2	5.1	0.0	10.1	0.0	0.2	0.2	0.1
Legumes and Pulses	-	-	-	-	-	-	-	-	-	-	-
Bush bean	16.6	65.1	0.5	0.5	3.9	0.1	12.3	-	0.9	0.0	-
Climbing bean	16.0	65.8	3.2	-	3.9	-	11.1	-	-	-	-
Pea	62.2	31.7	-	-	2.1	-	4.0	-	-	0.0	-
Groundnut	-	-	-	-	-	-	-	-	-	-	-
Soybean	24.6	51.4	1.0	-	8.6	0.4	12.6	0.3	0.5	0.5	0.0
Vegetables and fruits	-	-	-	-	-	-	-	-	-	-	-
Vegetables	77.3	17.1	0.0	0.2	3.9	0.0	0.5	0.1	-	0.6	0.3
Fruits	-	-	-	-	-	-	-	-	-	-	-
Other crops	100.0	-	-	-	-	-	-	-	-	-	-

Source: NISR, SAS 2021

Table 30. Sowing date per Season and District in 2021 (%)

	Season A 2021								Season B 2021										Season C 2021					
District	Before 01/09	Between 01-15/09	Between 16-30/09	Between 01-15/10	Between 16-31/10	After 31/10	Other seasons for perennial crops	Total	Before 01/01	Between 01-15/01	Between 16-31/01	Between 01-15/02	Between 16-28/02	Between 01-15/03	Between16-31/03	After 31/03	Other seasons for perennial crops	Total	Before 01/05	Between 01-31/05	Between 01-30/06	Between 01-31/07	After 31/07	Total
Nyarugenge	11.1	2.8	14.4	30.6	13.0	7.6	20.5	100.0	3.3	6.5	2.1	20.0	18.3	6.7	1.7	0.3	41.2	100.0	6.1	22.7	51.5	18.2	1.5	100.0
Gasabo	14.8	5.9	25.4	25.1	8.1	6.6	14.2	100.0	23.2	10.6	3.9	17.4	15.8	9.1	3.4	3.1	13.6	100.0	7.1	35.4	27.4	23.0	7.1	100.0
Kicukiro	19.2	0.7	13.0	35.6	13.4	7.1	10.9	100.0	5.6	8.0	2.3	9.8	19.7	12.7	4.7	1.6	35.6	100.0	8.1	16.2	62.2	13.5	0.0	100.0
Nyanza	2.9	4.0	10.8	37.9	12.6	7.1	24.8	100.0	2.9	6.3	4.0	22.4	19.6	9.1	2.3	2.4	31.0	100.0	3.8	22.2	44.9	28.5	0.6	100.0
Gisagara	15.0	5.1	13.0	35.1	13.9	6.5	11.5	100.0	9.5	7.0	3.6	21.6	17.7	8.4	2.4	2.5	27.4	100.0	4.8	18.6	37.1	35.5	4.0	100.0
Nyaruguru	20.2	11.0	19.2	24.8	9.1	6.0	9.8	100.0	16.0	10.2	3.5	11.1	11.4	13.6	8.2	6.8	19.3	100.0	2.2	8.2	41.8	42.5	5.2	100.0
Huye	7.0	11.4	13.5	26.9	11.0	7.9	22.4	100.0	2.6	5.8	7.8	21.7	19.7	4.6	1.5	1.4	35.0	100.0	18.8	22.9	29.2	28.5	0.7	100.0
Nyamagabe	10.3	17.3	16.5	25.5	8.2	8.7	13.4	100.0	6.2	9.2	5.6	10.1	16.0	17.3	8.8	6.4	20.5	100.0	0.9	28.3	44.3	23.6	2.8	100.0
Ruhango	10.9	8.8	11.1	37.3	8.5	5.1	18.2	100.0	15.4	7.6	9.7	31.5	9.5	4.7	0.6	0.6	20.4	100.0	5.2	12.9	49.1	30.2	2.6	100.0
Muhanga	5.1	6.0	9.9	20.6	9.8	11.9	36.7	100.0	4.5	4.2	2.0	9.3	15.9	9.9	2.9	2.1	49.3	100.0	1.1	31.5	42.7	23.0	1.7	100.0
Kamonyi	2.3	4.3	8.5	37.5	11.7	8.0	27.6	100.0	26.2	5.6	3.9	26.7	12.4	4.3	1.4	4.0	15.5	100.0	4.7	27.1	28.2	35.3	4.7	100.0
Karongi	17.6	24.7	23.9	11.5	4.1	6.4	11.9	100.0	12.5	1.7	3.0	6.2	23.7	15.2	7.0	6.3	24.4	100.0	0.0	35.3	44.7	20.0	0.0	100.0
Rutsiro	26.2	22.5	15.2	8.1	2.7	8.3	17.0	100.0	4.0	0.9	2.6	10.1	16.0	14.3	6.3	6.6	39.3	100.0	2.0	38.0	20.0	40.0	0.0	100.0
Rubavu	37.7	31.5	9.8	8.9	3.2	3.3	5.7	100.0	24.1	3.4	6.1	18.8	18.8	12.3	10.1	5.7	0.7	100.0	0.0	6.6	14.0	73.5	5.9	100.0
Nyabihu	35.5	14.5	17.6	16.9	3.1	6.4	6.0	100.0	8.7	5.7	5.1	11.0	20.3	18.9	14.0	8.1	8.2	100.0	6.1	42.1	48.2	3.6	0.0	100.0
Ngororero	15.8	17.6	18.8	15.9	3.7	9.3	18.8	100.0	13.1	2.4	1.6	16.6	26.7	8.0	4.2	7.0	20.5	100.0	1.5	21.7	55.1	21.7	0.0	100.0
Rusizi	4.7	16.4	23.7	37.3	4.4	2.1	11.4	100.0	2.3	2.0	0.7	11.0	14.2	17.8	1.4	1.5	49.1	100.0	45.4	24.4	19.3	9.2	1.7	100.0
Nyamasheke	12.0	18.0	26.1	20.4	3.5	4.4	15.6	100.0	37.9	2.0	1.4	7.2	17.5	15.1	2.7	2.2	13.9	100.0	10.3	35.7	37.3	14.3	2.4	100.0
Rulindo	6.6	15.3	25.4	11.5	4.5	4.6	32.2	100.0	18.4	6.6	7.8	8.2	7.1	15.2	9.6	4.5	22.6	100.0	0.0	47.9	32.4	14.1	5.6	100.0
Gakenke	18.1	12.6	24.7	12.7	3.3	5.6	23.0	100.0	15.7	4.0	3.6	7.5	8.9	13.7	8.5	7.5	30.7	100.0	2.7	35.7	44.3	17.3	0.0	100.0
Musanze	31.8	30.5	11.7	7.9	2.5	7.7	8.1	100.0	6.2	4.8	4.4	8.6	10.5	21.2	19.4	14.9	10.0	100.0	0.6	22.6	31.5	43.4	1.9	100.0
Burera	20.1	28.9	27.0	8.4	4.0	5.0	6.7	100.0	4.0	9.0	6.7	11.4	10.5	19.2	21.3	11.1	6.8	100.0	4.0	30.1	42.1	23.9	0.0	100.0
Gicumbi	17.2	15.5	24.3	16.2	7.6	6.7	12.5	100.0	9.2	8.2	10.0	12.1	8.3	16.2	12.1	7.8	16.2	100.0	11.2	61.2	21.4	6.1	0.0	100.0
Rwamagana	19.7	8.1	18.5	21.9	11.1	4.1	16.8	100.0	17.9	9.3	5.0	9.4	15.1	12.8	2.0	1.4	27.1	100.0	2.4	18.9	35.4	43.3	0.0	100.0
Nyagatare	18.5	34.9	25.9	8.0	1.6	1.4	9.6	100.0	7.3	2.1	1.5	10.2	21.5	30.0	5.8	1.9	19.8	100.0	5.2	40.3	37.7	15.6	1.3	100.0
Gatsibo	16.2	16.5	23.9	19.4	5.8	2.4	15.8	100.0	23.6	4.5	2.8	14.7	17.1	15.1	4.1	1.1	17.1	100.0	0.0	36.4	34.1	27.3	2.3	100.0
Kayonza	5.8	8.7	23.1	26.2	8.1	4.2	23.9	100.0	7.7	7.1	3.1	4.1	12.1	26.5	12.7	1.8	24.9	100.0	16.7	34.3	25.5	16.7	6.9	100.0
Kirehe	9.4	2.1	10.6	39.5	11.3	4.4	22.7	100.0	14.1	8.5	2.5	9.6	18.8	17.0	1.6	0.8	27.1	100.0	14.8	27.9	31.2	19.7	6.6	100.0
Ngoma	24.6	10.8	21.4	26.0	5.0	2.1	10.2	100.0	2.8	6.6	2.8	6.1	13.8	15.1	4.9	0.4	47.4	100.0	31.2	23.7	29.0	14.0	2.2	100.0
Bugesera	6.3	5.3	8.6	36.7	15.9	7.5	19.7	100.0	4.0	8.0	1.8	6.2	13.3	32.1	7.6	2.6	24.4	100.0	0.0	12.4	33.0	53.6	1.0	100.0
National	14.3	13.0	17.9	24.1	7.8	5.7	17.3	100.0	4.7	6.3	3.3	11.7	12.7	14.3	5.5	5.3	36.3	100.0	7.1	27.7	36.4	26.7	2.2	100.0

Source: NISR, SAS 2021

Table 31. Sowing dates per Season and crop type in 2021 (%)

	Season A 2021								Season B 2021										Season C 2021					
Crops	Before 01/09	Between 01-15/09	Between 16-30/09	Between 01-15/10	Between 16-31/10	After 31/10	Other seasons for perennial crops	Total	Before 01/01	Between 01-15/01	Between 16-31/01	Between 01-15/02	Between 16-28/02	Between 01- 15/03	Between16-31/03	After 31/03	Other seasons for perennial crops	Total	Before 01/05	Between 01- 31/05	Between 01- 30/06	Between 01-31/07	After 31/07	Total
Fruits	42.1	3.8	3.1	4.5	2.4	7.9	36.3	100	50.8	2.5	0.4	1.7	3.3	3.3	1.7	5.4	30.8	100	0.0	0.0	12.5	75.0	12.5	100
Vegetables	19.3	13.0	12.0	19.0	11.6	25.2	0.0	100	11.1	9.7	5.6	18.2	11.4	14.3	10.8	18.8	0.0	100	15.1	31.7	30.1	19.5	3.6	100
Other crops	66.3	3.6	2.5	4.1	2.5	4.9	16.2	100	42.7	0.6	0.1	0.9	1.1	2.9	0.9	2.6	48.3	100	50.0	0.0	50.0	0.0	0.0	100
Other cereals	0.6	16.2	22.8	43.7	13.2	3.6	0.0	100	0.0	2.5	2.5	32.3	28.5	26.6	7.6	0.0	0.0	100	-		-		-	
Taro & Yams	17.0	23.5	18.5	18.5	5.8	16.4	0.3	100	42.3	16.8	5.7	12.4	5.9	6.4	2.2	6.9	1.2	100	-		-		-	
Fodder crops	81.1	6.6	1.8	3.1	2.6	4.9	0.0	100	81.9	0.8	1.3	3.8	2.5	3.0	2.1	4.6	0.0	100	-		-		-	
Maize	4.8	18.9	27.3	36.1	10.1	2.9	0.0	100	0.5	2.1	4.6	24.4	34.9	26.1	5.8	1.6	0.0	100	-		-		-	
Paddy rice	86.2	9.6	1.6	1.1	0.5	1.1	0.0	100	13.4	27.9	11.4	28.9	11.4	3.5	1.0	2.5	0.0	100	-		-		-	
Sorghum	28.5	30.6	21.6	13.9	4.8	0.6	0.0	100	3.8	48.6	25.1	17.4	4.4	0.6	0.2	0.1	0.0	100	-		-		-	
Wheat	6.5	7.6	14.1	34.8	16.3	20.7	0.0	100	0.4	0.9	0.4	4.3	6.0	14.9	35.3	37.9	0.0	100	-		-		-	
Bush bean	0.8	10.8	25.0	46.4	14.7	2.3	0.0	100	0.0	0.3	1.3	23.5	31.5	34.4	8.1	1.0	0.0	100	0.3	6.1	28.7	60.5	4.4	100
Climbing bean	5.5	26.8	34.5	26.4	6.1	0.7	0.0	100	0.0	0.5	1.8	18.9	31.4	30.4	14.6	2.4	0.0	100	6.7	13.3	13.3	60.0	6.7	100
Pea	8.6	20.7	31.8	22.4	10.0	6.5	0.0	100	0.6	1.4	1.6	10.4	18.1	34.0	20.4	13.6	0.0	100	2.0	12.3	52.0	32.5	1.3	100
Irish potato	13.9	20.1	21.5	23.1	9.3	12.1	0.0	100	1.1	2.6	3.9	11.6	18.7	26.3	19.5	16.3	0.0	100	2.9	32.4	36.9	26.6	1.2	100
Sweet potato	16.8	8.8	8.4	16.3	12.1	37.6	0.0	100	9.0	13.2	8.1	16.2	14.6	14.7	8.2	16.1	0.0	100	6.0	36.1	43.3	14.3	0.3	100
Soybean	0.9	11.8	21.7	43.3	16.6	5.8	0.0	100	0.0	1.5	4.0	31.2	33.8	22.9	5.4	1.3	0.0	100	0.0	3.6	68.8	27.7	0.0	100
Groundnut	0.5	15.5	29.3	39.7	12.3	2.8	0.0	100	0.0	1.7	4.4	34.8	32.2	23.6	2.9	0.5	0.0	100	-		-		-	-
Cooking banana	34.2	0.7	0.6	0.6	0.2	0.5	63.3	100	33.1	0.1	0.0	0.2	0.0	0.3	0.1	0.3	65.9	100	-		-		-	-
Dessert banana	30.9	0.8	0.4	0.6	0.2	0.6	66.5	100	31.6	0.1	0.0	0.0	0.1	0.2	0.0	0.3	67.6	100	-		-		-	-
Banana for beer	28.1	0.7	0.5	0.3	0.1	0.6	69.8	100	30.0	0.1	0.1	0.1	0.1	0.2	0.0	0.2	69.1	100	-		-		-	-
Cassava	12.8	15.9	17.4	23.4	6.0	6.2	18.4	100	21.9	3.5	2.9	6.1	4.6	3.4	1.2	2.3	54.1	100	-		-		-	-
National	14.3	13.0	17.9	24.1	7.8	5.7	17.3	100	50.8	2.5	0.4	1.7	3.3	3.3	1.7	5.4	30.8	100	5.6	33.9	38.3	21.8	0.4	100

Source: NISR, SAS 2021

Table 32. Cultivated area by cropping system, per season and district (%) in 2021

	Pure			Mixed		
District	Season A	Season B	Season C	Season A	Season B	Season C
Nyarugenge	14.9	15.8	18.0	85.1	84.2	82.0
Gasabo	20.8	28.4	54.7	79.2	71.6	45.3
Kicukiro	26.6	20.5	31.2	73.4	79.5	68.8
Nyanza	24.7	26.1	53.2	75.3	73.9	46.8
Gisagara	25.2	35.0	37.4	74.8	65.0	62.6
Nyaruguru	38.3	42.0	64.6	61.7	58.0	35.4
Huye	19.8	25.2	40.9	80.2	74.8	59.1
Nyamagabe	33.3	37.0	77.6	66.7	63.0	22.4
Ruhango	31.6	31.4	51.2	68.4	68.6	48.8
Muhanga	27.0	30.2	21.4	73.0	69.8	78.6
Kamonyi	28.4	22.1	33.0	71.6	77.9	67.0
Karongi	32.2	48.9	58.0	67.8	51.1	42.0
Rutsiro	38.1	41.6	53.1	61.9	58.4	46.9
Rubavu	54.3	53.8	76.2	45.7	46.2	23.8
Nyabihu	49.0	61.7	86.4	51.0	38.3	13.6
Ngororero	25.4	36.1	62.2	74.6	63.9	37.8
Rusizi	19.1	36.2	21.5	80.9	63.8	78.5
Nyamasheke	30.6	46.7	53.2	69.4	53.3	46.8
Rulindo	31.0	28.1	80.8	69.0	71.9	19.2
Gakenke	23.1	30.0	56.5	76.9	70.0	43.5
Musanze	47.3	56.0	87.4	52.7	44.0	12.6
Burera	48.8	48.1	85.6	51.2	51.9	14.4
Gicumbi	35.7	39.3	73.0	64.3	60.7	27.0
Rwamagana	14.3	20.9	37.7	85.7	79.1	62.3
Nyagatare	29.9	21.0	64.4	70.1	79.0	35.6
Gatsibo	21.5	22.5	80.4	78.5	77.5	19.6
Kayonza	23.8	26.5	35.3	76.2	73.5	64.7
Kirehe	18.0	33.4	35.9	82.0	66.6	64.1
Ngoma	22.1	19.0	69.7	77.9	81.0	30.3
Bugesera	20.9	23.9	19.4	79.1	76.1	80.6
National	28.3	32.2	63.2	71.7	67.8	36.8
Small scale farmers	26.7	30.9	76.0	73.3	69.1	24.0
Large scale farmers	96.0	93.8		4.0	6.2	

Source: NISR, SAS 2021

Table 33: Season A 2021_ Use of improved seeds by farmer type per district (%)

	Percentage of farmers who used improved seeds			Percentage of sampled plots in which improved seeds was used			Percentage of land size in which improved seeds were used		
District	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	35.7	35.7	-	27.8	27.8	-	25.2	25.2	-
Gasabo	35.6	33.4	91.7	21.1	21.1	71.0	26.1	24.9	80.4
Kicukiro	44.1	42.8	100.0	28.0	28.0	83.3	29.8	28.3	91.1
Nyanza	30.7	29.7	87.5	21.8	21.8	77.8	23.7	22.7	83.9
Gisagara	45.5	43.3	90.9	35.2	35.2	71.4	33.3	29.3	81.4
Nyaruguru	38.4	36.9	90.0	31.0	31.0	84.6	27.4	26.7	88.6
Huye	38.6	35.4	96.0	27.3	27.3	73.5	27.4	25.4	90.7
Nyamagabe	28.3	28.3	-	26.3	26.3	-	20.9	21.0	-
Ruhango	25.1	23.9	88.9	19.5	19.5	65.2	20.1	18.7	85.0
Muhanga	17.7	16.2	100.0	10.5	10.5	90.9	11.5	10.2	99.3
Kamonyi	35.1	33.5	100.0	26.4	26.4	80.0	24.8	23.6	97.9
Karongi	39.0	39.1	-	33.9	33.9	-	28.4	28.5	-
Rutsiro	24.4	24.4	-	20.8	20.8	-	18.4	18.4	-
Rubavu	24.1	23.3	100.0	20.4	20.4	83.3	19.8	19.7	53.7
Nyabihu	21.9	21.9	-	19.2	19.2	-	18.0	18.0	-
Ngororero	25.5	25.5	-	16.8	16.8	-	20.2	20.2	-
Rusizi	41.2	40.2	90.0	29.7	29.7	86.7	30.3	27.7	98.1
Nyamasheke	30.5	30.1	57.1	27.7	27.7	66.7	23.0	22.8	49.7
Rulindo	35.5	34.8	100.0	31.1	31.1	47.4	25.9	25.8	57.5
Gakenke	40.3	40.3	-	35.6	35.6	-	29.0	29.0	-
Musanze	35.0	35.0	-	34.3	34.3	-	29.5	29.5	-
Burera	43.9	43.9	-	36.5	36.5	-	31.7	31.7	-
Gicumbi	25.3	24.9	100.0	19.9	19.9	58.3	18.5	18.5	81.5
Rwamagana	50.9	49.2	82.8	39.7	39.7	59.1	33.3	32.6	76.9
Nyagatare	44.1	40.0	93.3	26.3	26.3	82.4	31.4	28.8	95.5
Gatsibo	44.0	42.3	100.0	32.6	32.6	78.5	32.6	30.4	98.9
Kayonza	48.9	46.3	95.7	37.9	37.9	44.3	34.0	32.4	78.3
Kirehe	51.1	50.5	90.0	43.6	43.6	91.3	34.4	33.2	75.1
Ngoma	54.8	54.3	75.0	47.8	47.8	49.0	35.2	34.6	73.7
Bugesera	37.5	35.3	75.7	33.6	33.6	60.4	26.9	25.1	82.5
National	37.1	36.0	88.8	28.7	28.7	65.2	27.6	26.5	85.6

Source: NISR, SAS 2021

Table 34: Season B 2021_Use of improved seeds by farmer type per district (%)

	Percentage of farmers who used improved seeds			Percentage of sampled plots in which improved seeds was used			Percentage of land size in which improved seeds were used		
District	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	9.6	9.6		6.1	6.1		7.8	7.8	
Gasabo	22.2	21.0	60.0	15.9	15.9	45.3	17.6	17.6	17.5
Kicukiro	24.1	22.6	100.0	20.4	20.4	75.0	21.2	19.7	91.3
Nyanza	24.2	23.5	83.3	16.3	16.3	71.4	19.0	17.9	78.2
Gisagara	18.0	16.0	75.0	11.8	11.8	63.6	19.8	13.4	75.4
Nyaruguru	16.2	13.8	90.0	12.4	12.4	76.9	12.6	11.6	93.5
Huye	15.7	12.9	79.0	9.5	9.5	79.0	12.9	10.0	87.1
Nyamagabe	10.1	9.9	100.0	8.4	8.4	100.0	8.7	8.6	100.0
Ruhango	11.2	9.7	81.8	6.8	6.8	62.5	10.8	8.9	87.5
Muhanga	6.0	4.8	100.0	3.9	3.9	70.0	4.6	4.0	77.4
Kamonyi	16.4	15.3	87.5	9.0	9.0	86.7	14.5	13.8	68.3
Karongi	9.9	9.6	100.0	8.4	8.4	100.0	9.2	9.1	100.0
Rutsiro	14.8	14.8		13.8	13.8		11.9	11.9	
Rubavu	24.4	23.8	75.0	15.9	15.9	33.3	21.3	21.3	25.9
Nyabihu	34.3	34.3		31.3	31.3		28.5	28.5	
Ngororero	26.2	26.2		24.8	24.8		21.1	21.1	
Rusizi	5.6	5.1	30.0	3.4	3.4	35.7	6.2	4.7	32.2
Nyamasheke	8.8	8.1	50.0	7.7	7.7	44.4	8.8	8.2	46.6
Rulindo	11.4	10.5	80.0	9.0	9.0	54.6	8.2	8.1	47.9
Gakenke	11.7	11.7		8.9	8.9		10.5	10.5	
Musanze	16.8	16.8		13.9	13.9		18.8	18.8	
Burera	12.1	12.1		10.1	10.1		10.7	10.7	
Gicumbi	13.8	13.5	66.7	11.3	11.3	72.7	10.6	10.6	71.2
Rwamagana	19.3	16.4	77.8	12.9	12.9	54.4	13.6	12.5	77.6
Nyagatare	39.6	36.7	82.1	24.3	24.2	69.4	28.0	26.3	90.0
Gatsibo	23.8	21.8	94.7	15.6	15.6	71.9	20.8	18.2	94.2
Kayonza	25.0	21.9	90.0	17.0	17.0	62.9	19.9	17.7	89.0
Kirehe	6.9	5.5	100.0	3.1	3.1	58.3	7.0	3.8	72.4
Ngoma	8.5	6.7	75.0	4.5	4.5	56.9	7.2	5.6	84.4
Bugesera	27.8	25.1	72.2	18.1	18.1	45.5	20.2	18.2	78.9
National	17.2	15.9	78.8	11.9	11.9	59.6	15.2	13.9	76.8

Source: NISR, SAS 2021

Table 35: Season C 2021_Use of improved seeds types per district (%)

	Percentage of farmers who used improved seeds			Percentage of sampled plots in which improved seeds was used			Percentage of land size in which improved seeds were used		
District	Overall	SSF	SITE	Overall	SSF	SITE	Overall	SSF	SITE
Nyarugenge	47.6	31.6	60.9	16.8	16.7	50.0	22.9	22.9	47.2
Gasabo	54.6	54.2	54.7	60.3	60.3	52.6	54.8	54.8	64.0
Kicukiro	26.1	37.5	20.0	18.6	18.5	100.0	42.7	42.6	100.0
Nyanza	25.2	16.0	27.7	19.1	19.0	33.3	23.1	22.9	63.4
Gisagara	15.0	4.8	18.6	4.5	4.5	40.0	4.7	4.6	28.9
Nyaruguru	20.2	20.4	20.0	19.8	19.8	18.4	20.4	20.5	6.4
Huye	25.0	38.7	19.8	40.2	40.2	24.4	29.6	29.6	16.6
Nyamagabe	20.3	9.5	25.0	21.3	21.3	19.1	10.5	10.0	45.3
Ruhango	22.1	5.0	28.1	8.0	8.0	22.2	5.5	5.5	47.9
Muhanga	20.9	6.3	26.5	10.6	10.6	21.2	8.2	8.1	34.4
Kamonyi	22.6	8.3	27.8	10.9	10.9	26.5	6.9	6.8	32.3
Karongi	16.9	23.1	15.5	17.9	17.8	40.0	24.4	21.0	93.9
Rutsiro	2.3	10.0	-	2.3	2.3	-	8.1	8.5	-
Rubavu	7.3	5.3	10.4	5.0	5.0	25.0	5.8	5.4	77.5
Nyabihu	9.6	10.7	7.6	11.3	11.3	8.3	16.9	16.9	14.0
Ngororero	15.9	6.3	21.4	0.6	0.6	-	20.6	20.6	-
Rusizi	43.6	33.3	50.0	29.0	28.9	66.7	28.3	27.4	50.0
Nyamasheke	27.8	30.0	27.5	27.3	27.3	38.1	30.6	30.6	38.4
Rulindo	23.4	12.0	30.8	12.1	12.1	16.7	12.5	12.5	1.2
Gakenke	25.2	16.7	29.4	28.0	28.0	23.5	22.1	22.1	5.5
Musanze	17.7	14.1	21.4	14.5	14.5	23.5	26.5	26.5	24.4
Burera	1.9	2.8	-	3.2	3.2	-	5.0	5.0	-
Gicumbi	7.3	-	11.8	0.0	-	18.2	0.6	-	29.6
Rwamagana	25.6	18.2	27.9	22.4	22.3	29.6	23.4	23.4	30.3
Nyagatare	46.3	56.5	38.7	55.4	55.4	40.0	46.2	46.0	88.8
Gatsibo	44.7	37.5	46.7	46.5	46.6	40.0	29.0	29.2	14.2
Kayonza	52.1	54.6	51.7	36.4	36.4	54.6	45.3	42.0	80.4
Kirehe	36.2	33.3	37.1	44.0	44.0	25.0	32.1	32.1	5.9
Ngoma	56.0	25.0	61.9	22.7	22.7	40.0	27.4	23.6	86.6
Bugesera	35.6	9.7	54.8	21.4	21.3	46.2	6.3	6.1	53.1
National	23.8	15.9	28.3	18.8	18.8	27.8	19.4	19.2	52.3

Source: NISR, SAS 2021

Table 36: Seed use by crop type and season in 2021 (%)

	Traditional seeds			Improved seeds		
Crop	Season A	Season B	Season C	Season A	Season B	Season C
Maize	38.7	44.6		61.3	55.4	
Paddy rice	28.3	35.7		71.7	64.3	
Sorghum	100	100		-	-	
Wheat	80.4	77.8		19.6	22.2	
Other cereal	100.0	98.7		-	1.3	
Bush bean	99.3	99.4	98.5	0.7	0.6	1.5
Climbing bean	99.7	99.9	100.0	0.3	0.1	-
Pea	99.7	99.4	100.0	0.3	0.6	-
Irish potato	97.1	96.3	90.7	2.9	3.8	9.3
Sweet potato	99.9	99.9	99.7	0.1	0.1	0.3
Taro & Yams	100.0			-		
Soybean	97.0	97.9	99.1	3.0	2.1	0.9
Groundnut	99.5	99.8	100.0	0.5	0.2	-
Cooking banana	99.5	99.4		0.5	0.6	
Dessert banana	98.6	98.6		1.4	1.4	
Banana for beer	99.0	99.2		1.0	0.8	
Cassava	99.7	99.6		0.3	0.4	
Vegetables	55.0	48.8	46.4	45.0	51.2	53.6
Fruits	66.9	64.6	-	33.1	35.4	100.0
Fodder	82.7	86.1		17.3	13.9	
Other crops	71.9		50.0	28.1		50.0
National	85.3	91.9	79.2	14.7	8.1	20.8

Source: NISR, SAS 2021

Table 37: Source of improved seeds per district and season in 2021 (%)

	Government (MINAGRI/RAB/NAEB)			Recognized seed multipliers			Agro dealers			NGOs/Companies			Market			Agriculture cooperative			Other source		
District	SA	SB	SC	SA	SB	SC	SA	SB	SC	SA	SB	SC	SA	SB	SC	SA	SB	SC	SA	SB	SC
Nyarugenge	34.6	10.0	5.0	-	10.0	-	44.4	75.0	50.0	4.9	-	5.0	11.1	5.0	30.0	1.2	-	10.0	3.7	-	-
Gasabo	20.9	15.6	11.5	9.7	6.5	3.9	61.9	53.3	23.1	0.8	-	-	5.2	23.4	50.0	0.8	1.3	11.5	0.8	-	-
Kicukiro	6.2	5.7	-	3.1	5.7	-	70.1	71.7	14.3	1.0	3.8	-	16.5	7.6	85.7	2.1	1.9	-	1.0	3.8	-
Nyanza	4.8	4.8	3.3	1.8	6.4	-	15.5	13.6	36.7	67.3	60.8	3.3	4.2	4.0	56.7	3.0	8.0	-	3.6	2.4	-
Gisagara	8.0	6.0	13.3	4.2	7.1	-	23.9	23.8	40.0	60.3	45.2	6.7	1.3	9.5	33.3	1.7	8.3	6.7	0.8	-	-
Nyaruguru	5.4	25.6	42.3	1.4	4.7	23.1	21.6	18.6	11.5	64.9	20.9	-	3.4	4.7	19.2	0.7	16.3	3.9	2.7	9.3	-
Huye	6.8	17.3	27.6	14.0	22.7	6.9	15.9	28.0	10.3	51.2	18.7	-	11.1	6.7	44.8	0.5	5.3	10.3	0.5	1.3	-
Nyamagabe	0.8	4.7	40.0	16.9	39.5	13.3	35.4	11.6	33.3	29.2	30.2	-	8.5	7.0	13.3	7.7	7.0	-	1.5	-	-
Ruhango	9.4	21.2	-	4.0	18.2	-	47.7	22.7	44.4	6.0	1.5	-	22.8	25.8	50.0	9.4	9.1	5.6	0.7	1.5	-
Muhanga	14.1	4.0	-	3.5	8.0	16.7	31.8	36.0	8.3	18.8	32.0	-	4.7	8.0	8.3	27.1	12.0	62.5	-	-	4.2
Kamonyi	7.8	15.9	3.2	2.9	10.2	3.2	47.6	44.3	67.7	20.9	17.1	-	7.3	3.4	9.7	11.7	9.1	16.1	1.9	-	-
Karongi	17.1	39.5	38.5	2.0	2.6	-	12.2	21.1	46.2	65.9	34.2	15.4	1.5	-	-	0.5	2.6	-	1.0	-	-
Rutsiro	11.2	13.5	-	4.1	7.7	-	26.5	46.2	100	51.0	30.8	-	3.1	1.9	-	1.0	-	-	3.1	-	-
Rubavu	6.6	3.9	-	3.3	1.9	10.0	57.1	79.6	90.0	19.8	11.7	-	11.0	-	-	1.1	-	-	1.1	2.9	-
Nyabihu	2.9	2.2	11.1	1.0	8.6	16.7	58.1	51.8	44.4	28.6	31.7	5.6	3.8	1.4	22.2	5.7	4.3	-	-	-	-
Ngororero	6.8	5.0	46.2	10.2	7.5	7.7	20.4	35.0	46.2	57.8	49.2	-	3.4	2.5	-	1.4	0.8	-	-	-	-
Rusizi	6.1	17.4	5.9	3.5	-	11.8	37.8	17.4	50.0	49.6	52.2	-	1.3	8.7	29.4	-	-	-	1.7	4.4	2.9
Nyamasheke	17.0	41.7	25.9	1.8	4.2	3.7	12.3	16.7	66.7	62.6	29.2	-	2.3	4.2	-	1.8	4.2	3.7	2.3	-	-
Rulindo	9.9	4.2	-	2.3	2.1	-	65.1	62.5	68.8	15.7	18.8	-	7.0	8.3	18.8	-	4.2	12.5	-	-	-
Gakenke	2.3	8.9	3.0	4.5	3.6	60.6	67.4	50.0	21.2	18.0	23.2	3.0	5.6	7.1	12.1	2.3	7.1	-	-	-	-
Musanze	6.2	3.2	15.4	1.0	6.5	23.1	76.3	67.7	23.1	11.9	10.8	7.7	2.8	8.6	30.8	1.4	1.1	-	0.5	2.2	-
Burera	1.2	1.4	40.0	-	1.4	20.0	81.7	75.7	20.0	12.0	14.3	-	0.4	4.3	20.0	4.8	2.9	-	-	-	-
Gicumbi	7.1	13.1	28.6	0.6	6.0	-	64.7	67.9	57.1	10.9	2.4	14.3	12.8	9.5	-	1.9	1.2	-	1.9	-	-
Rwamagana	2.6	3.1	8.0	11.1	17.8	12.0	24.8	31.0	24.0	46.4	30.2	12.0	9.0	15.5	44.0	5.3	-	-	0.9	2.3	-
Nyagatare	8.7	6.9	3.9	4.0	3.5	-	47.7	33.1	53.9	29.5	39.6	11.5	1.7	7.3	30.8	8.1	8.9	-	0.3	0.8	-
Gatsibo	6.8	9.0	11.8	5.3	5.4	5.9	20.9	23.4	70.6	61.7	53.3	-	3.2	4.8	5.9	1.8	4.2	5.9	0.3	-	-
Kayonza	5.8	14.3	5.1	3.6	2.3	5.1	28.9	26.3	53.9	58.2	44.4	2.6	2.7	7.5	23.1	0.9	5.3	10.3	-	-	-
Kirehe	8.2	9.4	-	0.5	11.3	-	13.3	22.6	76.5	64.4	24.5	-	1.1	5.7	23.5	10.3	22.6	-	2.2	3.8	-
Ngoma	18.3	21.7	13.6	2.4	5.0	-	22.5	11.7	18.2	46.7	35.0	2.3	5.5	6.7	61.4	3.7	16.7	4.6	1.0	3.3	-
Bugesera	5.5	3.2	13.8	5.1	5.4	6.9	41.4	38.9	51.7	33.6	33.5	-	3.8	7.0	24.1	10.6	11.9	3.5	-	-	-
National	8.3	9.2	12.6	4.3	7.5	9.3	37.6	38.9	39.8	39.3	30.3	2.7	5.2	7.1	28.6	4.3	5.9	6.7	1.0	1.0	0.3

Source: NISR, SAS 2021

Table 38: Source of improved seeds by season per crop type in 2021 (%)

District	Government (MINAGRI/RAB/NAEB)			Recognized seed multipliers			**Agro dealers**			NGOs/Companies			Market			Agriculture cooperative			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	24.7	11.7	-	34.8	55.0	-	14.6	10.0	62.5	5.6	3.3	-	13.5	15.0	37.5	6.7	-	-	-	5.0	-
Vegetables	3.5	3.6	8.8	3.3	3.0	2.7	53.3	58.8	46.2	4.3	2.4	2.6	32.5	26.4	33.7	0.3	3.0	5.8	3.0	2.7	0.2
Other crops	32.2	62.2	-	25.6	15.7	-	4.4	-	100.0	8.9	4.1	-	13.3	9.3	-	7.8	7.0	-	7.8	1.7	-
Taro & Yams	-	-		-	-		-	-		-	-		-	100.0		-	-		-	-	
Fodder crops	33.3	55.9		2.6	5.9		35.9	23.5		2.6	-		23.1	5.9		2.6	-		-	8.8	
Maize	7.3	4.4		2.4	3.0		39.4	44.7		44.0	40.7		3.4	4.6		3.0	2.3		0.7	0.4	
Paddy rice	2.2	6.8		39.7	30.1		0.7	1.5		1.5	0.8		-	0.8		55.9	60.2		-	-	
Wheat	15.8	-		-	-		63.2	100.0		10.5	-		-	-		10.5	-		-	-	
Bush bean	17.7	16.1	-	8.8	16.1	16.7	38.2	55.4	33.3	19.1	-	-	13.2	3.6	33.3	2.9	5.4	16.7	-	3.6	
Climbing bean	31.6	67.1		5.3	4.3		31.6	4.3		31.6	18.6		-	2.9		-	1.4		-	1.4	
Irish potato	18.3	38.5	29.6	33.8	7.7	44.4	11.3	7.7	7.4	4.2	23.1	6.5	21.1	-	0.9	8.5	23.1	10.2	2.8	-	0.9
Sweet potato	9.1	100.0	100.0	-	-	-	81.8	-	-	9.1	-	-	-	-	-	-	-	-	-	-	
Soybean	34.2	11.9	87.5	7.9	54.8	-	36.8	7.1	12.5	13.2	2.4	-	5.3	13.1	-	2.6	10.7	-	-	-	
Cooking banana	27.8	-		50.0	50.0		-	-		5.6	50.0		-	-		5.6	-		11.1	-	
Dessert banana	35.7	33.3		31.0	3.7		2.4	33.3		7.1	18.5		4.8	7.4		7.1	3.7		11.9	-	
Banana for beer	26.3	-		42.1	-		13.2	100.0		-	-		-	-		10.5	-		7.9	-	
Cassava	32.1	20.0		17.9	46.7		50.0	-		-	6.7		-	13.3		-	6.7		-	6.7	

Source: NISR, SAS 2021

Table 39: Season A 2021_Use of organic fertilizer by farmer type per district (%)

	Percentage of farmers who applied organic fertilizer			Percentage of plots in which organic fertilizer was applied			Percentage of land size in which organic fertilizer was applied		
District	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	53.8	53.8		42.0	42.0	-	53.8	53.8	-
Gasabo	60.8	60.3	75.0	54.2	54.2	80.6	56.3	56.8	36.5
Kicukiro	44.1	42.8	100.0	32.0	32.0	83.3	45.0	43.9	79.4
Nyanza	57.9	57.4	87.5	55.9	55.9	88.9	57.6	56.8	92.9
Gisagara	59.7	58.6	81.8	56.4	56.4	68.6	60.0	59.3	66.3
Nyaruguru	83.5	83.0	100.0	79.5	79.5	92.3	81.7	81.5	99.6
Huye	75.7	74.3	100.0	73.1	73.1	91.2	73.2	72.2	97.0
Nyamagabe	77.8	77.7	100.0	73.4	73.4	100.0	74.3	74.3	100.0
Ruhango	69.7	70.1	44.4	64.1	64.1	65.2	65.6	67.1	8.8
Muhanga	72.4	71.9	100.0	65.5	65.5	100.0	70.9	70.4	100.0
Kamonyi	64.9	64.3	91.7	59.2	59.2	73.3	58.5	58.0	84.8
Karongi	78.6	78.6	100.0	74.2	74.2	100.0	76.9	76.9	100.0
Rutsiro	70.7	70.7		69.4	69.4	-	70.6	70.6	-
Rubavu	27.1	26.3	100.0	24.9	24.9	58.3	25.7	25.6	80.5
Nyabihu	61.2	61.2		56.1	56.1	-	58.8	58.8	-
Ngororero	89.6	89.6		86.8	86.8	-	89.5	89.5	-
Rusizi	71.5	72.5	20.0	74.7	74.7	46.7	66.5	69.9	1.9
Nyamasheke	83.3	83.0	100.0	81.0	81.0	88.9	81.5	81.2	99.8
Rulindo	85.6	85.7	80.0	82.4	82.4	63.2	82.8	82.9	41.1
Gakenke	89.5	89.5		87.1	87.1	-	87.9	87.9	-
Musanze	60.2	60.2		57.5	57.5	-	58.1	58.1	-
Burera	76.2	76.2		74.9	74.9	-	73.9	73.9	-
Gicumbi	88.4	88.3	100.0	84.9	84.9	58.3	86.9	86.9	78.3
Rwamagana	65.1	63.8	89.7	58.9	58.9	51.9	61.4	61.6	51.0
Nyagatare	40.0	38.7	55.6	35.2	35.2	56.0	38.5	38.9	30.5
Gatsibo	68.6	68.6	68.4	62.5	62.5	55.4	63.5	65.8	13.6
Kayonza	51.1	49.0	87.0	45.2	45.2	53.6	50.1	49.3	66.8
Kirehe	60.4	60.1	80.0	55.3	55.3	91.3	61.0	59.8	92.0
Ngoma	62.7	62.8	56.3	56.7	56.7	61.2	61.6	62.4	25.5
Bugesera	43.0	42.3	54.1	41.1	41.1	47.2	39.4	39.8	29.2
National	67.0	66.8	74.8	66.3	66.3	60.6	64.1	64.4	51.4

Source: NISR, SAS 2021

Table 40: Season B 2021_Use of organic fertilizer by farmer type per district (%)

	Percentage of farmers who applied organic fertilizer			Percentage of plots in which organic fertilizer was applied			Percentage of land size in which organic fertilizer was applied		
District	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	51.3	51.3		43.8	43.8		50.4	50.4	
Gasabo	58.7	58.0	80.0	52.5	52.4	77.4	58.1	57.5	79.2
Kicukiro	40.4	39.2	100.0	26.9	26.9	91.7	39.8	39.7	44.6
Nyanza	42.0	41.7	66.7	36.4	36.4	71.4	39.7	38.8	74.5
Gisagara	45.3	46.0	25.0	42.2	42.2	22.7	39.2	43.4	7.7
Nyaruguru	79.1	78.5	100.0	70.7	70.7	84.6	74.8	74.5	99.0
Huye	59.9	58.8	84.2	53.5	53.5	84.2	55.7	54.4	84.5
Nyamagabe	70.8	70.8	100.0	67.2	67.2	75.0	67.8	67.8	83.4
Ruhango	49.4	49.1	63.6	43.1	43.1	62.5	47.5	46.6	80.8
Muhanga	70.9	70.8	80.0	58.9	58.9	90.0	66.1	66.1	69.9
Kamonyi	58.1	57.8	75.0	55.1	55.1	66.7	55.6	55.4	73.8
Karongi	68.6	68.5	100.0	59.8	59.8	100.0	65.3	65.2	100.0
Rutsiro	64.8	64.8		57.7	57.7		61.4	61.4	
Rubavu	32.1	31.6	75.0	32.1	32.1	33.3	36.5	36.4	62.9
Nyabihu	68.1	68.1		59.3	59.3		64.0	64.0	
Ngororero	88.0	88.0		83.4	83.4		88.2	88.2	
Rusizi	53.6	53.9	40.0	53.8	53.8	28.6	50.3	51.9	22.6
Nyamasheke	69.2	68.8	87.5	65.2	65.2	88.9	62.5	62.0	92.4
Rulindo	83.3	83.4	80.0	81.2	81.2	72.7	80.8	80.9	67.6
Gakenke	82.0	82.0		77.8	77.8		79.4	79.4	
Musanze	63.6	63.6		64.7	64.7		65.3	65.3	
Burera	72.2	72.2		68.5	68.5		69.5	69.5	
Gicumbi	74.7	74.6	100.0	71.3	71.3	81.8	71.3	71.2	88.0
Rwamagana	49.7	48.0	85.2	45.9	45.9	55.3	46.1	45.8	64.9
Nyagatare	34.6	32.7	61.5	35.0	35.0	61.2	32.7	32.9	26.4
Gatsibo	54.4	54.4	52.6	51.5	51.5	51.6	50.5	52.3	6.4
Kayonza	40.0	38.5	70.0	34.2	34.2	48.5	35.6	36.5	10.6
Kirehe	31.0	30.1	90.0	23.4	23.4	91.7	33.4	30.3	98.3
Ngoma	30.3	29.5	62.5	25.0	25.0	49.0	31.9	31.8	37.5
Bugesera	35.1	34.0	52.8	35.0	35.0	37.2	37.2	35.9	72.7
National	56.3	56.1	67.7	55.3	55.3	57.4	52.7	52.9	45.2

Source: NISR, SAS 2021

Table 41: Season C 2021_Use of organic fertilizer per district (%)

	Percentage of farmers who applied organic fertilizer			Percentage of plots in which organic fertilizer was applied			Percentage of land size in which organic fertilizer was applied		
District	Overall	SSF	SITE	Overall	SSF	SITE	Overall	SSF	SITE
Nyarugenge	61.9	31.6	87.0	23.7	23.3	85.7	27.8	27.6	88.3
Gasabo	88.6	83.3	90.6	78.2	78.2	91.0	82.8	82.7	94.1
Kicukiro	69.6	62.5	73.3	54.8	54.6	73.3	32.4	31.4	78.3
Nyanza	62.2	64.0	61.7	61.0	61.0	62.8	65.0	64.9	70.5
Gisagara	66.3	61.9	67.8	63.4	63.3	68.9	57.0	57.0	63.0
Nyaruguru	95.0	95.9	94.3	96.7	96.7	94.5	97.1	97.1	97.5
Huye	83.0	67.7	88.9	64.1	64.0	89.0	65.1	64.9	91.2
Nyamagabe	88.4	76.2	93.8	66.0	65.8	94.2	73.1	72.8	98.8
Ruhango	83.1	80.0	84.2	78.9	78.9	84.2	74.6	74.5	84.6
Muhanga	82.6	75.0	85.5	75.5	75.5	85.4	81.5	81.5	80.5
Kamonyi	79.0	55.6	87.6	54.6	54.5	87.3	49.5	49.0	93.1
Karongi	77.5	38.5	86.2	45.3	44.8	86.4	48.4	44.2	97.6
Rutsiro	81.4	80.0	81.8	88.7	88.7	81.8	82.9	82.4	88.9
Rubavu	34.2	42.7	20.8	39.3	39.4	20.8	43.1	43.3	14.7
Nyabihu	73.0	72.3	74.2	71.2	71.2	74.3	72.8	72.7	81.9
Ngororero	72.7	81.3	67.9	91.7	91.9	66.7	80.6	80.7	55.7
Rusizi	88.5	73.3	97.9	83.9	83.8	96.0	79.4	78.6	99.4
Nyamasheke	83.3	70.0	85.0	63.4	63.0	84.2	69.9	69.4	88.0
Rulindo	96.9	96.0	97.4	96.3	96.3	97.5	97.0	97.0	98.8
Gakenke	74.8	73.8	75.3	65.9	65.9	75.3	71.8	71.8	65.7
Musanze	83.7	76.1	91.4	76.1	76.1	92.4	83.1	83.1	98.0
Burera	85.2	82.1	91.1	79.0	79.0	91.2	77.1	77.1	94.6
Gicumbi	81.7	87.1	78.4	93.7	93.8	80.0	89.4	89.4	89.1
Rwamagana	45.6	27.3	51.5	38.4	38.2	51.4	29.4	29.1	49.6
Nyagatare	46.3	60.9	35.5	72.1	72.3	35.3	37.4	37.4	37.6
Gatsibo	86.8	87.5	86.7	87.4	87.4	86.7	86.7	86.5	97.0
Kayonza	60.6	63.6	60.0	48.9	48.7	60.0	46.0	51.4	12.9
Kirehe	59.6	75.0	54.3	84.4	84.7	54.3	79.8	80.3	58.3
Ngoma	69.3	58.3	71.4	44.5	43.6	69.7	61.0	59.5	69.7
Bugesera	30.1	19.4	38.1	33.1	33.1	37.5	16.2	15.9	29.1
National	73.8	68.8	76.6	71.5	71.5	76.6	68.6	68.6	67.6

Source: NISR, SAS 2021

Table 42: Season A 2021_Use of inorganic fertilizer by farmer type per district (%)

District	Percentage of farmers who used inorganic fertilizers			Percentage of plots in which inorganic fertilizer was applied			Percentage of land under which inorganic fertilizer was applied		
	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	16.7	16.7		9.3	9.3		14.5	14.5	-
Gasabo	28.0	25.9	83.3	18.1	18.1	27.4	26.1	24.8	74.0
Kicukiro	43.7	42.3	100.0	33.4	33.4	75.0	41.5	39.8	96.3
Nyanza	22.8	21.6	100.0	15.5	15.5	100.0	22.5	20.8	100.0
Gisagara	41.1	38.3	100.0	31.3	31.3	82.9	41.9	35.1	99.9
Nyaruguru	64.5	63.4	100.0	53.8	53.8	92.3	61.4	60.9	99.6
Huye	32.4	28.6	100.0	25.3	25.3	76.5	29.4	26.5	99.0
Nyamagabe	46.1	46.0	100.0	38.4	38.4	100.0	42.3	42.2	100.0
Ruhango	15.5	14.3	77.8	11.5	11.5	43.5	15.4	13.4	91.5
Muhanga	17.0	15.5	100.0	11.8	11.8	100.0	12.2	10.7	100.0
Kamonyi	21.1	19.2	100.0	16.7	16.7	80.0	16.2	14.5	97.9
Karongi	47.1	47.0	100.0	39.3	39.3	50.0	42.9	42.9	93.4
Rutsiro	41.5	41.5		30.4	30.4		40.3	40.3	-
Rubavu	42.4	42.3	50.0	33.3	33.3	25.0	40.8	40.8	48.4
Nyabihu	52.1	52.1		41.9	41.9		52.5	52.5	-
Ngororero	42.5	42.5		31.7	31.7		43.3	43.3	-
Rusizi	59.8	59.4	80.0	53.1	53.1	53.3	57.9	56.3	87.8
Nyamasheke	63.5	62.9	100.0	58.4	58.4	88.9	60.6	60.2	99.8
Rulindo	43.6	43.2	80.0	31.4	31.4	68.4	39.9	39.7	89.7
Gakenke	55.7	55.7		49.3	49.3		53.5	53.5	-
Musanze	42.9	42.9		37.3	37.3		42.3	42.3	-
Burera	43.7	43.7		33.2	33.2		40.7	40.7	-
Gicumbi	34.1	33.8	100.0	26.4	26.4	66.7	31.7	31.6	84.7
Rwamagana	46.1	45.0	65.5	34.4	34.4	32.5	42.5	41.8	71.8
Nyagatare	49.8	46.2	93.3	34.9	34.9	71.2	42.9	40.3	96.7
Gatsibo	40.1	38.3	100.0	29.4	29.4	69.2	39.6	37.0	98.7
Kayonza	37.4	34.6	87.0	24.8	24.8	37.9	36.6	33.8	91.2
Kirehe	47.4	46.7	90.0	34.9	34.9	87.0	46.0	43.9	97.9
Ngoma	43.9	42.6	93.8	32.3	32.3	55.1	39.8	38.7	92.5
Bugesera	32.1	30.3	62.2	27.2	27.2	41.0	27.9	26.0	75.3
National	40.9	39.8	87.2	32.8	32.8	52.9	38.9	37.5	93.3

Source: NISR, SAS 2021

Table 43: Season B 2021_Use of inorganic fertilizer by farmer type per district (%)

	Percentage of farmers who used inorganic fertilizers			Percentage of plots in which inorganic fertilizer was applied			Percentage of land under which inorganic fertilizer was applied		
District	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	11.1	11.1		7.8	7.8		10.0	10.0	
Gasabo	23.8	22.6	60.0	17.6	17.6	17.0	22.5	21.1	74.1
Kicukiro	37.0	36.2	75.0	22.6	22.6	66.7	33.9	32.7	87.3
Nyanza	18.0	17.0	100.0	11.6	11.6	100.0	17.6	15.6	100.0
Gisagara	27.0	24.4	100.0	22.2	22.2	81.8	30.8	21.7	99.9
Nyaruguru	55.5	54.3	90.0	50.6	50.6	84.6	51.4	50.8	94.3
Huye	18.2	14.7	100.0	11.7	11.7	100.0	17.9	14.4	100.0
Nyamagabe	38.1	38.0	100.0	24.6	24.6	75.0	35.5	35.4	83.4
Ruhango	13.4	12.0	81.8	9.4	9.4	37.5	12.1	9.8	97.5
Muhanga	16.7	15.6	100.0	12.9	12.9	100.0	14.0	13.3	100.0
Kamonyi	12.3	11.2	87.5	9.9	9.9	73.3	11.2	10.2	96.0
Karongi	29.9	29.7	100.0	22.7	22.7	50.0	27.2	27.2	93.7
Rutsiro	41.6	41.6		35.1	35.1		38.6	38.6	
Rubavu	50.3	50.3	50.0	42.0	42.0	33.3	54.3	54.3	58.8
Nyabihu	72.3	72.3		54.6	54.6		69.2	69.2	
Ngororero	47.2	47.2		40.2	40.2		46.3	46.3	
Rusizi	35.3	34.1	90.0	30.4	30.4	64.3	35.7	31.9	98.9
Nyamasheke	49.6	48.7	100.0	47.0	47.0	100.0	43.2	42.2	100.0
Rulindo	25.4	24.5	100.0	18.5	18.5	90.9	21.2	20.9	98.1
Gakenke	45.6	45.6		42.6	42.6		43.3	43.3	
Musanze	50.6	50.6		45.0	45.0		57.7	57.7	
Burera	35.8	35.8		27.8	27.8		33.6	33.6	
Gicumbi	30.2	29.8	100.0	23.3	23.3	81.8	27.4	27.3	87.0
Rwamagana	34.6	33.6	55.6	27.0	27.0	33.0	31.1	30.3	71.0
Nyagatare	47.6	45.9	71.8	31.8	31.8	58.2	44.6	43.1	90.3
Gatsibo	28.1	26.6	79.0	19.6	19.6	46.9	28.2	25.6	89.6
Kayonza	32.3	30.0	80.0	20.8	20.8	32.0	31.9	30.0	88.3
Kirehe	24.4	23.6	80.0	17.9	17.9	91.7	26.4	23.0	97.0
Ngoma	15.2	13.3	87.5	8.7	8.7	45.1	13.8	12.1	91.8
Bugesera	31.6	30.0	58.3	24.0	24.0	36.4	27.0	25.1	76.8
National	32.7	31.8	78.5	26.2	26.2	50.0	31.5	30.0	92.1

Source: NISR, SAS 2021

Table 44: Season C 2021_Use of inorganic fertilizer per district (%)

	Percentage of farmers who used inorganic fertilizers			Percentage of plots in which inorganic fertilizer was applied			Percentage of land under which inorganic fertilizer was applied		
District	Overall	SSF	SITE	Overall	SSF	SITE	Overall	SSF	SITE
Nyarugenge	69.1	68.4	69.6	51.8	51.7	60.7	68.9	69.0	59.5
Gasabo	87.5	70.8	93.8	70.8	70.7	94.0	73.2	73.0	98.1
Kicukiro	69.6	62.5	73.3	51.6	51.5	73.3	60.8	60.4	76.6
Nyanza	50.4	32.0	55.3	34.7	34.5	54.9	40.3	39.9	69.7
Gisagara	56.3	42.9	61.0	55.2	55.2	62.3	48.6	48.5	60.3
Nyaruguru	47.1	40.8	51.4	39.1	39.1	52.1	45.9	45.6	85.5
Huye	61.6	48.4	66.7	39.6	39.5	67.1	46.8	46.6	61.6
Nyamagabe	55.1	23.8	68.8	17.9	17.6	71.2	23.6	22.8	86.6
Ruhango	45.5	25.0	52.6	20.0	19.8	52.6	20.6	20.0	78.5
Muhanga	52.2	18.8	65.1	22.6	22.4	64.0	22.1	21.7	66.1
Kamonyi	70.7	41.7	81.4	38.5	38.4	79.4	41.1	40.6	90.8
Karongi	63.4	23.1	72.4	19.9	19.3	72.9	29.8	24.2	94.8
Rutsiro	41.9	30.0	45.5	16.0	15.6	45.5	31.1	25.6	88.7
Rubavu	89.4	86.7	93.8	88.3	88.3	93.8	92.8	93.1	56.9
Nyabihu	89.3	83.9	98.5	81.6	81.6	98.6	84.4	84.4	99.7
Ngororero	15.9	12.5	17.9	5.1	5.0	16.7	27.3	27.4	12.1
Rusizi	94.9	90.0	97.9	80.7	80.6	96.0	93.5	93.6	90.8
Nyamasheke	36.7	50.0	35.0	42.4	42.5	36.6	42.5	42.6	39.7
Rulindo	78.1	68.0	84.6	69.5	69.4	85.0	75.0	75.0	86.1
Gakenke	62.2	59.5	63.5	52.4	52.4	62.9	61.3	61.4	51.7
Musanze	85.8	78.9	92.9	82.0	81.9	93.7	88.1	88.0	98.8
Burera	94.4	91.5	100.0	90.0	90.0	100.0	91.6	91.6	100.0
Gicumbi	82.9	67.7	92.2	83.7	83.7	92.7	71.0	70.1	99.4
Rwamagana	83.3	81.8	83.8	78.9	78.8	81.9	83.8	83.8	79.9
Nyagatare	63.0	60.9	64.5	59.5	59.5	61.8	75.8	75.7	87.4
Gatsibo	71.1	62.5	73.3	69.1	69.0	73.3	70.9	70.8	75.7
Kayonza	81.7	72.7	83.3	63.8	63.5	84.6	73.5	69.5	98.3
Kirehe	51.1	50.0	51.4	50.0	49.9	51.4	48.9	48.4	68.3
Ngoma	62.7	50.0	65.1	41.9	41.1	65.2	51.0	46.1	82.1
Bugesera	46.6	22.6	64.3	27.6	27.4	66.7	19.9	19.3	53.9
National	68.3	63.1	71.2	55.8	55.7	71.2	71.1	71.0	83.8

Source: NISR, SAS 2021

Table 45: Percentage of farmers by source of inorganic fertilizers per district in Season A 2021

District	Government (MINAGRI/RAB/NAEB)	Agro dealers	NGOs/ Companies	Market	Agriculture cooperative	Other source	Total
Nyarugenge	11.4	65.7	2.9	14.3	-	5.7	100.0
Gasabo	14.1	82.6	1.1	-	2.2	-	100.0
Kicukiro	3.2	77.7	1.1	17.0	1.1	-	100.0
Nyanza	3.5	9.6	78.9	1.8	2.6	3.5	100.0
Gisagara	4.5	24.0	58.5	4.0	7.0	2.0	100.0
Nyaruguru	1.8	22.0	70.4	4.9	0.9	-	100.0
Huye	2.0	39.2	54.2	3.3	1.3	-	100.0
Nyamagabe	1.0	47.2	40.4	5.7	5.7	-	100.0
Ruhango	3.8	65.4	10.3	12.8	6.4	1.3	100.0
Muhanga	2.6	44.2	26.0	2.6	22.1	2.6	100.0
Kamonyi	3.6	50.9	25.5	4.5	11.8	3.6	100.0
Karongi	12.9	16.3	66.5	2.9	1.4	-	100.0
Rutsiro	9.3	51.9	33.3	2.5	1.9	1.2	100.0
Rubavu	1.2	76.4	16.1	6.2	-	-	100.0
Nyabihu	0.4	79.0	17.0	1.3	1.7	0.4	100.0
Ngororero	3.3	33.8	56.8	5.2	0.9	-	100.0
Rusizi	1.7	38.9	53.8	5.3	0.3	-	100.0
Nyamasheke	2.8	10.5	85.3	0.7	0.7	-	100.0
Rulindo	10.2	64.5	22.8	2.0	0.5	-	100.0
Gakenke	0.9	73.0	18.1	4.9	2.3	0.9	100.0
Musanze	3.2	88.6	7.8	0.5	-	-	100.0
Burera	-	83.8	11.4	0.4	4.4	-	100.0
Gicumbi	2.5	72.2	19.2	5.1	0.5	0.5	100.0
Rwamagana	1.5	35.3	54.4	3.3	4.8	0.7	100.0
Nyagatare	5.0	55.1	28.6	3.0	8.0	0.3	100.0
Gatsibo	2.6	31.5	60.7	1.9	3.0	0.4	100.0
Kayonza	2.5	24.2	64.6	7.5	1.2	-	100.0
Kirehe	3.9	16.1	65.9	2.9	10.0	1.3	100.0
Ngoma	2.5	24.8	59.6	5.3	5.3	2.5	100.0
Bugesera	7.5	46.2	32.1	2.8	11.3	-	100.0
National	3.6	46.0	42.2	3.8	3.7	0.7	100.0

Source: NISR, SAS 2021

Table 46: Percentage of farmers by source of inorganic fertilizers per district in Season B 2021

District	Government (MINAGRI/RAB/NAEB)	Agro dealers	NGOs/ Companies	Market	Agriculture cooperative	Other source	Total
Nyarugenge	4.4	87.0	-	8.7	-	-	100.0
Gasabo	18.7	62.7	-	13.3	4.0	1.3	100.0
Kicukiro	1.3	81.6	6.6	10.5	-	-	100.0
Nyanza	9.3	21.7	57.7	1.0	6.2	4.1	100.0
Gisagara	7.1	22.8	46.5	12.6	11.0	-	100.0
Nyaruguru	5.0	12.3	73.2	6.7	2.2	0.6	100.0
Huye	6.0	55.4	31.3	6.0	-	1.2	100.0
Nyamagabe	0.6	38.9	49.4	6.8	4.3	-	100.0
Ruhango	11.0	42.5	12.3	9.6	24.7	-	100.0
Muhanga	1.5	35.3	39.7	14.7	8.8	-	100.0
Kamonyi	9.1	60.6	22.7	-	7.6	-	100.0
Karongi	12.7	34.8	50.0	0.9	1.7	-	100.0
Rutsiro	2.0	54.3	42.4	1.3	-	-	100.0
Rubavu	1.5	75.0	13.3	9.7	0.5	-	100.0
Nyabihu	-	82.6	17.1	0.4	-	-	100.0
Ngororero	2.3	43.8	53.0	0.9	-	-	100.0
Rusizi	4.2	15.8	72.1	7.3	0.6	-	100.0
Nyamasheke	1.3	19.0	79.7	-	-	-	100.0
Rulindo	-	71.4	17.1	9.5	1.0	1.0	100.0
Gakenke	2.6	61.6	27.6	6.0	1.9	0.4	100.0
Musanze	-	87.0	8.4	2.5	2.1	-	100.0
Burera	0.6	78.7	9.6	2.3	9.0	-	100.0
Gicumbi	5.2	86.2	3.5	4.6	0.6	-	100.0
Rwamagana	4.0	44.1	42.1	6.9	2.5	0.5	100.0
Nyagatare	1.4	48.0	37.4	8.5	3.9	0.7	100.0
Gatsibo	1.1	34.0	57.5	5.9	1.6	-	100.0
Kayonza	6.3	36.4	48.3	5.6	3.5	-	100.0
Kirehe	1.8	28.7	48.8	9.8	9.2	1.8	100.0
Ngoma	8.3	24.0	40.6	22.9	3.1	1.0	100.0
Bugesera	4.4	52.7	31.5	6.9	3.9	0.5	100.0
National	3.5	50.3	36.9	5.9	3.1	0.4	100.0

Source: NISR, SAS 2021

Table 47: Percentage of farmers by source of inorganic fertilizers per district in Season C 2021

District	Government (MINAGRI/RAB/NAEB)	Agro dealers	NGOs /Companies	Market	Agriculture cooperative	Other source	Total
Nyarugenge	3.3	63.3	3.3	26.7	3.3	-	100
Gasabo	1.3	74.4	-	15.4	9.0	-	100
Kicukiro	-	81.3	6.3	12.5	-	-	100
Nyanza	-	25.0	38.3	26.7	3.3	6.7	100
Gisagara	2.2	39.1	17.4	17.4	23.9	-	100
Nyaruguru	14.3	32.1	26.8	25.0	1.8	-	100
Huye	7.3	47.8	30.4	11.6	2.9	-	100
Nyamagabe	-	65.8	29.0	5.3	-	-	100
Ruhango	-	54.3	11.4	31.4	2.9	-	100
Muhanga	-	25.0	8.3	36.7	30.0	-	100
Kamonyi	-	67.4	5.3	4.2	23.2	-	100
Karongi	-	82.2	13.3	2.2	2.2	-	100
Rutsiro	-	88.9	5.6	5.6	-	-	100
Rubavu	-	91.8	2.7	1.8	3.6	-	100
Nyabihu	0.6	91.9	5.6	1.9	-	-	100
Ngororero	-	85.7	14.3	-	-	-	100
Rusizi	8.1	17.6	62.2	10.8	-	1.4	100
Nyamasheke	12.1	45.5	36.4	3.0	-	3.0	100
Rulindo	-	33.3	5.9	5.9	54.9	-	100
Gakenke	-	63.8	16.3	2.5	17.5	-	100
Musanze	-	90.2	4.9	2.5	2.5	-	100
Burera	1.3	79.1	3.3	3.9	12.4	-	100
Gicumbi	-	70.6	27.9	1.5	-	-	100
Rwamagana	-	70.7	9.3	20.0	-	-	100
Nyagatare	-	47.1	2.9	38.2	11.8	-	100
Gatsibo	-	70.4	18.5	7.4	3.7	-	100
Kayonza	1.7	65.5	25.9	6.9	-	-	100
Kirehe	-	58.3	12.5	25.0	4.2	-	100
Ngoma	2.1	34.0	40.4	23.4	-	-	100
Bugesera	-	76.5	14.7	5.9	2.9	-	100
National	1.7	64.4	15.1	10.6	7.8	0.3	100

Source: NISR, SAS 2021

Table 48: Source of inorganic fertilizer by type of fertilizer in Season A 2021 (%)

Fertilizer name	Government (MINAGRI/RAB/ NAEB)	Agro dealers	NGOs/ Companies	Market	Agriculture cooperative	Other source	Total
NPK 17-17-17	4.9	62.6	22.1	3.9	5.8	0.8	100.0
NPK 20-10-10	30.8	23.1	30.8	-	7.7	7.7	100.0
NPK 25-5-5	66.7	-	33.3	-	-	-	100.0
NPK 22-6-12	57.1	14.3	4.8	-	23.8	-	100.0
Other NPK	3.0	78.8	15.2	-	3.0	-	100.0
Urea	3.4	41.5	47.1	3.5	3.8	0.6	100.0
liquid urea (Mbonea Majimaji)	-	76.6	14.9	6.4	2.1	-	100.0
DAP	3.1	42.1	48.8	2.8	2.8	0.4	100.0
TSP	100.0	-	-	-	-	-	100.0
KCL/MOP	25.0	25.0	-	-	50.0	-	100.0
Omax	-	87.5	12.5	-	-	-	100.0
Winner	-	100.0	-	-	-	-	100.0
Yara Viva	34.4	37.5	9.4	-	18.8	-	100.0
Amidas	2.1	63.8	12.8	2.1	17.0	2.1	100.0
Cereal	5.5	53.8	20.9	1.1	15.4	3.3	100.0
Boaster	-	40.0	60.0	-	-	-	100.0
DI Grow	-	81.0	9.5	4.8	4.8	-	100.0
Dyna gro	100.0	-	-	-	-	-	100.0
Other type of fertilizer (specify).	11.7	65.0	8.3	8.3	6.7	-	100.0
Rhizobium	-	100.0	-	-	-	-	100.0
Total	3.8	45.0	43.6	3.2	3.9	0.6	100.0

Source: NISR, SAS 2021

Table 49: Source of inorganic fertilizer by type of fertilizer in Season B 2021

Fertilizer name	Government (MINAGRI/RAB/ NAEB)	Agro dealers	NGOs/ Companies	Market	Agriculture cooperative	Other source	Total
NPK 17-17-17	2.7	65.9	23.0	3.9	4.2	0.3	100.0
NPK 20-10-10	68.6	11.4	8.6	2.9	8.6	-	100.0
NPK 25-5-5	48.2	7.4	14.8	-	18.5	11.1	100.0
NPK 22-6-12	65.0	12.5	12.5	2.5	7.5	-	100.0
Other NPK	2.6	92.3	-	-	5.1	-	100.0
Urea	2.2	47.2	39.8	6.9	3.7	0.4	100.0
liquid urea (Mbonea Majimaji)	-	81.6	11.8	4.0	2.6	-	100.0
DAP	1.9	46.6	44.3	4.4	2.7	0.2	100.0
TSP	-	-	100.0	-	-	-	100.0
KCL/MOP	-	88.9	11.1	-	-	-	100.0
Omax	-	67.9	32.1	-	-	-	100.0
Winner	-	71.4	-	14.3	14.3	-	100.0
Yara Viva	6.3	87.5	-	3.1	3.1	-	100.0
Amidas	-	38.0	20.0	8.0	34.0	-	100.0
Cereal	3.7	38.9	18.5	7.4	31.5	-	100.0
Boaster	-	100.0	-	-	-	-	100.0
DI Grow	-	70.8	8.3	8.3	12.5	-	100.0
Other type of fertilizer	1.9	75.9	16.7	3.7	1.9	-	100.0
National	2.9	51.0	36.9	5.1	3.9	0.3	100.0

Source: NISR, SAS 2021

Table 50: Source of inorganic fertilizer by type of fertilizer in Season C 2021 (%)

Fertilizer name	Government (MINAGRI/RAB/ NAEB)	Agro dealers	NGOs/ Companies	Market	Agriculture cooperative	Other source	Total
NPK 17-17-17	1.9	68.4	13.1	7.5	8.7	0.4	100
NPK 20-10-10	-	90.9	9.1	-	-	-	100
NPK 25-5-5	-	100.0	-	-	-	-	100
NPK 22-6-12	-	-	-	100.0	-	-	100
Other NPK	3.3	80.0	3.3	6.7	6.7	-	100
Urea	1.1	59.2	18.0	14.9	6.0	0.7	100
liquid urea (Mbonea Majimaji)	-	63.5	29.7	1.4	5.4	-	100
DAP	1.8	61.3	15.6	12.7	8.0	0.5	100
Omax	-	65.6	3.1	6.3	25.0	-	100
Winner	-	63.2	15.8	-	21.1	-	100
Yara Viva	-	100.0	-	-	-	-	100
Amidas	-	25.0	-	7.5	8.7	0.4	100
Cereal	-	25.0	-	50.0	25.0	-	100
Boaster	-	100.0	-	-	-	-	100
DI Grow	7.7	69.2	3.9	19.2	-	-	100
Dyna gro	-	64.1	15.1	11.0	7.7	0.5	100
Other type of fertilizer (specify)	1.6	54.7	15.6	25.0	3.1	-	100
National	1.6	64.1	15.1	11.0	7.7	0.5	100

Source: NISR, SAS 2021

Table 51: Type of inorganic fertilizer, per Season and district (%)

	Season A								Season B								Season C							
District	NPK 17-17-17	NPK 20-10-10	NPK 25-5-5	Urea	Liquid urea	DAP	KCL/MOP	Others	NPK 17-17-17	NPK 20-10-10	NPK 25-5-5	Urea	Liquid urea	DAP	KCL/MOP	Others	NPK 17-17-17	NPK 20-10-10	NPK 25-5-5	Urea	Liquid urea	DAP	KCL/MOP	Others
Nyarugenge	14.3	-	-	50	3.6	25	-	7.1	15.4	-	-	48.7	-	30.8	-	5.1	13.6	-	-	52.3	-	22.7	11.4	13.6
Gasabo	13.6	-	-	48.1	-	37.7	-	0.6	13.6	-	-	49.2	-	34.8	-	2.5	23.8	-	-	44.4	-	28.8	3.1	23.8
Kicukiro	7.3	-	-	44.2	-	41.8	-	6.7	11.6	-	-	38.8	-	42.6	-	7	20.7	-	-	41.4	-	31	6.9	20.7
Nyanza	5.7	0.5	0.5	43.9	-	49.1	-	0.3	11.9	-	7.5	38.8	0.6	38.1	-	3.1	26.4	-	-	42.7	-	22.7	8.2	26.4
Gisagara	9.2	-	-	41.6	-	43.9	-	5.3	9.3	1.5	-	41.7	-	34.8	-	12.8	30.7	-	-	38.7	-	26.7	4	30.7
Nyaruguru	4.9	-	-	39.9	-	54.5	-	0.7	8.9	0.7	0.7	30.9	-	58.4	-	0.4	64.6	-	-	18.5	-	16.9	-	64.6
Huye	12.7	0.4	-	40.6	-	38.2	-	8.1	23.1	3	0.8	40.3	-	29.1	-	3.7	21.3	1.9	-	42.6	-	34.3	-	21.3
Nyamagabe	15	-	-	36	-	47.4	-	1.6	19.9	1.7	-	32.1	-	43.2	-	3.1	51.8	-	-	30.4	-	17.9	0	51.8
Ruhango	16.3	-	-	45.5	-	33.3	-	4.9	25	-	-	39.8	-	30.6	0.9	3.7	34.5	-	-	56.9	-	8.6	-	34.5
Muhanga	11.1	-	-	35.6	-	45.2	-	8.1	17	2	-	31	-	50	-	-	41.9	-	-	33.7	1.2	19.8	3.5	41.9
Kamonyi	13.3	1.2	-	43.4	-	35.3	-	6.8	21.6	-	-	41.4	-	31.5	0.9	4.5	19.7	-	-	51.5	-	26.6	2.3	19.7
Karongi	7	-	-	41	-	48.6	-	3.4	14.4	-	-	24.4	-	53.1	-	8.1	60	-	-	23.6	-	16.4	-	60
Rutsiro	28.6	-	-	29	0.4	35.5	-	6.5	33.3	-	-	21.3	0.5	43.5	-	1.4	72.7	-	-	27.3	-	-	-	72.7
Rubavu	46.8	-	-	21.9	3.8	26.6	-	0.9	40.3	-	0.3	20.6	7.5	26.4	-	4.9	69	-	-	8.9	5.7	11.4	5.1	69
Nyabihu	35.8	-	-	25.3	5	30	-	3.9	36.4	0.2	-	24	5	24	0.2	10.2	60.2	-	-	10	10.3	10.3	9.2	60.2
Ngororero	8.5	-	-	40	-	51.2	-	0.3	6.3	-	-	40.6	-	53.1	-	-	50.0	-		50.0	-	-	-	50.0
Rusizi	9.9	0.4	-	40.9	0.2	47.8	-	0.8	16.6	2.2	-	19.7	0.9	55	0.4	5.3	34.1	-	-	34.1	6..4	17.9	9.3	34.1
Nyamasheke	7.4	-	-	37.2	-	54.8	-	0.6	8.5	-	0.3	21.3	-	65.2	-	4.7	42.0	-	-	40.0	2..0	14..0	2.0	42.0
Rulindo	12.2	0.3	-	41.6	-	42.8	0.3	2.8	19.1	1	-	37.2	-	36.7	1.5	4.5	56..2	-	-	27.4	1.4	12.3	2.7	56..2
Gakenke	3.6	-	-	38.5	0.2	56.5	-	1.2	8.1	0.7	0.7	30.6	0.2	58.9	-	0.8	55.1	-	-	18.7	0.9	17.8	7.5	55.1
Musanze	25.1	-	-	36.5	0.9	35.6	-	1.9	35.6	-	-	21.7	3	33.3	-	6.3	56.9	-	-	11.9	0.9	17.9	12.4	56.9
Burera	17.9	-	-	31.1	1.7	47.8	-	1.5	34.4	-	-	15.9	2.2	45.4	-	2.2	66.7	-	-	3.3	3.8	9.4	16.9	66.7
Gicumbi	22.7	0.3	0.3	33.7	-	42.7	-	0.3	21	-	-	37.8	0.4	40.3	-	0.4	64.6	-	-	13.5	7.3	13.5	1.0	64.6
Rwamagana	10.7	-	0.2	43.5	-	44	-	1.6	18	-	-	39	-	36.2	-	6.9	21.4	-	-	42.1	-	35.9	0.7	21.4
Nyagatare	5.6	-	-	46.2	-	40.8	-	7.4	6.7	-	-	46.4	0.2	43.3	-	3.4	28.8	-	-	40.9	-	18.2	12.1	28.8
Gatsibo	9.5	0.2	-	43.9	0.6	41.2	-	4.6	14.4	0.3	-	43.9	-	39.6	-	1.8	29.8	-	-	40.4	-	27.7	2.1	29.8
Kayonza	11.2	-	-	41.5	-	40.4	-	6.9	23.7	0.8	0.4	36.2	-	31.9	0.8	6.2	32.8	-	-	42.9	1.7	14.3	8.4	32.8
Kirehe	3.1	0.7	-	39.2	0.5	50.3	-	6.2	7	-	2.1	40.8	0.7	41.1	-	8.4	36.8	-	-	36.8	-	26.3	-	36.8
Ngoma	4	-	-	47.4	-	46.5	-	2.1	15.8	2.5	-	41.1	0.6	32.9	-	7	3.0	8.1	1.0	39.4	3.0	31.3	14.2	3.0
Bugesera	15.6	-	-	35.6	-	45.7	-	3.1	14.5	0.3	-	30.8	-	51.6	-	2.8	8.0	1..3	-	40.0	1.3	45.3	4.0	8.0
National	12	0.1	-	39.5	0.4	44.6	-	3.4	18.5	0.5	0.4	33.1	1	42.1	0.1	4.4	41..4	0.4	0.0	29..4	2.5	20.0	6.4	41..4

Source: NISR, SAS 2021

Table 52: Season A 2021_Use of pesticides by farmer type per district (%)

	Percentage of farmers who used pesticides			Percentage of plots in which pesticides were used			Percentage of land size in which pesticides were used		
District	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	21.4	21.4	-	14.1	14.1	-	17.3	17.3	-
Gasabo	21.6	19.2	83.3	13.5	13.5	41.9	18.9	17.5	74.2
Kicukiro	30.0	28.4	100.0	14.7	14.7	75.0	28.8	26.7	96.3
Nyanza	17.6	16.3	100.0	12.0	12.0	100.0	16.9	15.1	100.0
Gisagara	26.7	23.4	95.5	21.6	21.6	68.6	28.7	20.7	96.5
Nyaruguru	31.8	30.1	90.0	25.3	25.3	84.6	28.6	27.8	89.2
Huye	22.2	17.8	100.0	15.4	15.4	76.5	20.6	17.3	99.0
Nyamagabe	18.1	17.9	100.0	9.0	9.0	66.7	17.0	16.9	75.6
Ruhango	15.3	13.7	100.0	10.1	10.1	52.2	13.8	11.5	98.4
Muhanga	13.5	11.9	100.0	6.0	6.0	100.0	8.7	7.2	100.0
Kamonyi	21.1	19.4	91.7	17.6	17.6	93.3	16.3	14.6	97.2
Karongi	18.7	18.5	100.0	16.7	16.7	50.0	16.9	16.9	93.4
Rutsiro	18.4	18.4	-	17.6	17.6	-	19.4	19.4	-
Rubavu	44.0	43.6	75.0	27.1	27.1	33.3	41.8	41.8	50.0
Nyabihu	40.2	40.2	-	28.4	28.4	-	38.8	38.8	-
Ngororero	13.2	13.2	-	8.9	8.9	-	14.1	14.1	-
Rusizi	11.2	9.6	90.0	7.2	7.2	60.0	12.7	8.8	88.5
Nyamasheke	9.4	7.9	100.0	4.5	4.5	88.9	7.5	6.5	99.8
Rulindo	30.6	30.0	80.0	19.9	19.9	68.4	27.7	27.5	93.0
Gakenke	18.7	18.7	-	15.9	15.9	-	17.2	17.2	-
Musanze	42.9	42.9	-	34.3	34.3	-	44.3	44.3	-
Burera	38.7	38.7	-	30.0	30.0	-	37.0	37.0	-
Gicumbi	21.7	21.3	100.0	16.5	16.5	50.0	19.0	19.0	72.6
Rwamagana	31.8	29.5	75.9	20.2	20.2	35.7	27.5	26.4	74.9
Nyagatare	19.0	13.6	84.4	9.2	9.1	71.2	15.5	12.7	73.8
Gatsibo	22.3	20.3	89.5	13.1	13.1	53.8	23.5	20.2	98.6
Kayonza	16.5	12.2	91.3	9.2	9.2	43.6	15.8	12.0	92.6
Kirehe	17.0	15.8	90.0	10.4	10.4	87.0	16.9	13.7	97.9
Ngoma	16.5	14.5	93.8	11.2	11.2	49.0	17.1	15.5	91.5
Bugesera	16.2	13.3	64.9	12.1	12.1	42.4	14.2	11.7	76.2
National	22.4	20.9	87.2	16.0	16.0	53.8	20.2	18.5	90.2

Source: NISR, SAS 2021

Table 53: Season B 2021_ Use of pesticides by farmer type per district (%)

District	Percentage of farmers who used pesticides			Percentage of plots in which pesticides were used			Percentage of land size in which pesticides were used		
	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	13.1	13.1		11.3	11.3		10.7	10.7	
Gasabo	18.1	16.1	80.0	11.9	11.9	39.6	17.2	15.6	76.9
Kicukiro	16.3	15.1	75.0	8.0	8.0	75.0	16.1	14.3	92.4
Nyanza	13.8	12.8	100.0	9.7	9.7	85.7	14.4	12.4	93.5
Gisagara	13.7	10.9	93.8	9.4	9.4	68.2	20.5	10.0	99.8
Nyaruguru	17.1	15.1	80.0	13.9	13.9	69.2	17.0	16.0	88.3
Huye	12.5	8.9	94.7	5.6	5.6	94.7	12.7	9.1	95.3
Nyamagabe	13.9	13.7	100.0	7.9	7.9	100.0	14.4	14.3	100.0
Ruhango	8.4	6.7	90.9	5.1	5.1	41.7	8.4	6.2	90.4
Muhanga	12.2	11.1	100.0	9.1	9.1	80.0	10.4	9.8	84.7
Kamonyi	10.4	9.1	100.0	8.0	8.0	93.3	8.8	7.7	99.3
Karongi	7.9	7.9	-	7.4	7.4	-	7.6	7.6	-
Rutsiro	23.7	23.7		14.6	14.6		23.7	23.7	
Rubavu	48.2	48.2	50.0	37.6	37.6	22.2	54.0	54.0	53.8
Nyabihu	58.1	58.1		47.8	47.8		58.4	58.4	
Ngororero	19.0	19.0		14.7	14.7		21.8	21.8	
Rusizi	8.2	6.8	70.0	5.0	5.0	50.0	10.3	5.7	87.0
Nyamasheke	6.6	4.9	100.0	3.7	3.7	88.9	6.3	4.8	99.1
Rulindo	17.9	17.1	80.0	12.4	12.4	54.6	14.9	14.7	71.6
Gakenke	17.2	17.2		15.3	15.3		15.7	15.7	
Musanze	56.8	56.8		50.2	50.2		61.3	61.3	
Burera	27.4	27.4		22.1	22.1		25.6	25.6	
Gicumbi	18.3	17.9	100.0	12.9	12.9	45.5	14.2	14.2	26.3
Rwamagana	19.3	17.0	66.7	14.9	14.9	37.9	16.6	15.5	73.2
Nyagatare	18.0	13.6	79.5	8.5	8.5	64.3	14.9	12.4	87.9
Gatsibo	15.6	14.4	57.9	8.4	8.4	28.1	16.4	13.5	85.2
Kayonza	15.1	11.8	85.0	6.3	6.3	29.9	14.5	11.9	86.7
Kirehe	8.7	7.3	100.0	5.2	5.1	66.7	11.0	7.0	94.7
Ngoma	6.9	5.0	81.3	4.4	4.4	51.0	6.5	4.7	89.8
Bugesera	12.6	9.6	63.9	6.8	6.7	38.0	11.1	8.6	77.5
National	17.9	16.6	79.5	13.0	13.0	48.2	16.8	15.1	89.1

Source: NISR, SAS 2021

Table 54: Season C 2021_Use of pesticides per district (%)

	Percentage of farmers who used pesticides			Percentage of plots in which pesticides were used			Percentage of land size in which pesticides were used		
District	Overall	SSF	SITE	Overall	SSF	SITE	Overall	SSF	SITE
Nyarugenge	69.1	73.7	65.2	56.8	56.8	57.1	72.4	72.4	63.3
Gasabo	68.2	58.3	71.9	49.5	49.4	73.1	66.3	66.1	80.9
Kicukiro	60.9	50.0	66.7	35.0	34.8	66.7	55.5	55.1	70.6
Nyanza	64.7	36.0	72.3	30.5	30.2	68.6	47.4	46.8	87.0
Gisagara	65.0	57.1	67.8	67.2	67.2	67.2	62.1	62.1	67.5
Nyaruguru	7.6	10.2	5.7	5.4	5.4	5.5	11.9	11.8	28.0
Huye	60.7	35.5	70.4	35.1	35.0	70.7	33.5	33.2	71.3
Nyamagabe	29.0	14.3	35.4	23.1	23.0	32.7	14.4	13.6	69.7
Ruhango	66.2	40.0	75.4	49.9	49.8	75.4	41.3	40.9	89.1
Muhanga	60.9	40.6	68.7	41.6	41.5	67.4	38.4	38.1	65.9
Kamonyi	77.4	63.9	82.5	63.9	63.9	82.4	67.6	67.4	89.3
Karongi	36.6	15.4	41.4	14.8	14.5	40.7	21.5	16.1	83.5
Rutsiro	23.3	30.0	21.2	15.7	15.6	21.2	30.7	25.6	84.0
Rubavu	91.1	89.3	93.8	92.2	92.2	93.8	95.5	95.8	56.9
Nyabihu	84.3	78.6	93.9	74.1	74.1	94.3	82.9	82.9	97.4
Ngororero	13.6	6.3	17.9	0.7	0.6	16.7	20.5	20.6	12.4
Rusizi	93.6	86.7	97.9	77.9	77.8	96.0	91.7	91.4	99.4
Nyamasheke	25.6	20.0	26.3	19.8	19.6	28.1	16.3	15.8	33.3
Rulindo	68.8	56.0	76.9	54.4	54.3	77.5	60.3	60.2	83.3
Gakenke	65.4	59.5	68.2	75.2	75.2	68.5	64.0	64.1	63.1
Musanze	90.1	84.5	95.7	88.4	88.3	96.2	93.0	93.0	99.4
Burera	93.2	90.6	98.2	90.5	90.5	98.3	91.4	91.4	98.8
Gicumbi	67.1	45.2	80.4	61.8	61.8	80.0	48.5	47.1	93.6
Rwamagana	86.7	95.5	83.8	89.9	90.0	83.3	97.4	97.5	85.8
Nyagatare	64.8	73.9	58.1	64.0	64.0	55.9	80.8	80.7	83.0
Gatsibo	65.8	87.5	60.0	87.0	87.4	60.0	85.9	86.5	59.3
Kayonza	73.2	54.6	76.7	55.5	55.2	75.4	62.2	56.5	96.5
Kirehe	61.7	58.3	62.9	73.4	73.5	62.9	60.3	59.8	80.7
Ngoma	66.7	50.0	69.8	33.5	32.2	71.2	56.4	51.7	85.7
Bugesera	57.5	48.4	64.3	54.4	54.3	66.7	45.1	44.7	63.6
National	65.6	62.7	67.2	56.2	56.2	67.0	71.6	71.5	82.2

Source: NISR, SAS 2021

Table 55: Type of pesticides, per Season and district in 2021 (%)

	Season A								Season B								Season C							
District	Dithane	Ridomil	Dimethoate	Cypermethrin	Dursiban	Rocket	Beam	Others	Dithane	Ridomil	Dimethoate	Cypermethrin	Dursiban	Rocket	Beam	Others	Dithane	Ridomil	Dimethoate	Cypermethrin	Dursiban	Rocket	Beam	Others
Nyarugenge	26.8	-	15.9	8.5	-	42.7	-	6.1	31.0	-	20.7	5.2	-	31.0	-	12.1	21.0	-	16.1	1.6	-	40.3	-	21.0
Gasabo	16.0	2.1	5.6	6.3	-	49.3	1.4	19.3	25.0	2.8	3.7	14.8	-	41.7	1.9	12.0	27.1	0.5	13.8	10.6	-	15.4	-	32.4
Kicukiro	5.4	1.1	3.2	8.6	-	48.4	1.1	32.2	19.7	-	9.1	9.1	-	37.9	-	24.2	34.3	-	20.0	2.9	-	25.7	-	17.1
Nyanza	10.1	0.8	0.8	11.8	-	68.9	3.4	4.2	13.0	1.0	1.0	13.0	-	63.0	4.0	9.0	24.0	2.5	3.3	5.8	-	57.9	-	6.6
Gisagara	4.8	-	5.5	12.1	-	68.5	5.5	3.6	8.3	-	1.2	21.4	-	47.6	10.7	21.4	20.3	-	2.9	4.4	-	68.1	-	4.3
Nyaruguru	18.5	-	-	9.2	-	67.7	-	4.6	33.8	4.1	-	16.2	-	29.7	-	16.2	27.3	-	-	27.3	-	36.4	-	9.1
Huye	3.5	-	0.7	18.8	-	57.6	9.7	9.7	12.1	-	-	30.1	-	27.7	13.3	30.1	11.2	-	1.1	13.5	-	64.0	-	10.1
Nyamagabe	36.0	2.0	-	38.0	-	24.0	-	-	50.5	1.1	-	26.3	-	21.1	-	1.1	29.2	-	-	20.8	-	50.0	-	-
Ruhango	8.3	2.1	-	9.4	-	74.0	6.3	-0.1	10.0	-	-	13.3	-	63.3	8.3	13.3	26.5	4.8	8.4	13.3	-	45.8	-	1.2
Muhanga	12.0	2.7	6.7	9.3	1.3	44.0	4.0	20.0	11.7	1.7	8.3	6.7	-	66.7	5.0	5.0	27.8	0.9	14.8	8.3	-	44.4	-	3.7
Kamonyi	19.1	4.0	5.2	6.9	-	54.9	1.2	8.7	26.7	7.9	3.0	13.9	-	37.6	2.0	10.9	29.8	6.1	5.6	4.6	-	46.5	-	7.6
Karongi	21.2	-	28.3	14.1	-	28.3	-	8.1	30.0	-	15.0	22.5	-	30.0	-	2.5	55.2	-	-	31.0	-	13.8	-	0.0
Rutsiro	55.2	1.0	1.9	17.1	-	9.5	-	15.3	61.3	2.5	1.7	18.5	-	12.6	-	3.4	50.0	-	5.6	38.9	-	5.6	-	-0.0
Rubavu	34.4	24.9	19.9	17.1	-	3.5	-	0.2	33.8	26.4	21.9	15.0	-	1.9	-	1.0	31.4	19.3	22.4	21.6	0.3	4.2	-	0.8
Nyabihu	35.5	21.4	17.1	18.8	-	5.5	-	1.7	31.2	21.4	19.2	15.4	-	6.7	-	6.2	44.4	7.9	17.0	13.4	-	10.9	-	6.4
Ngororero	35.5	7.9	1.3	13.2	-	38.2	-	3.9	20.4	1.0	2.0	11.2	-	61.2	-	4.1	-	-	-	-	-	83.3	-	16.7
Rusizi	17.6	1.9	24.1	19.4	-	26.9	1.9	8.2	22.4	-	11.9	31.3	-	23.9	-	10.5	18.0	1.2	9.3	17.4	-	26.7	-	27.3
Nyamasheke	8.3	3.3	8.3	33.3	-	33.3	5.0	8.5	8.0	4.0	14.0	30.0	-	16.0	2.0	28.0	40.0	-	2.9	17.1	-	37.1	-	2.9
Rulindo	22.9	2.5	3.0	9.0	-	51.7	0.5	10.4	30.0	3.3	3.3	8.3	-	46.7	0.8	8.3	14.8	3.3	3.3	14.8	-	34.4	-	29.5
Gakenke	12.8	5.7	1.4	25.5	-	52.5	-	2.1	20.0	4.2	2.5	38.3	-	28.3	-	6.7	21.3	13.9	0.8	23.0	-	29.5	-	11.5
Musanze	32.1	5.0	10.4	9.4	-	39.9	-	3.2	39.3	8.7	13.6	15.2	-	15.4	-	7.9	51.0	5.0	13.4	18.0	-	9.2	-	3.4
Burera	30.7	10.4	7.4	28.2	-	22.7	-	0.6	38.0	14.8	3.8	27.9	-	13.9	-	1.7	44.0	6.7	13.1	24.8	-	4.7	-	6.7
Gicumbi	45.7	1.8	3.7	3.0	-	37.2	-	8.6	55.1	2.4	-	3.2	-	36.2	-	3.2	60.7	-	-	2.4	-	35.7	-	1.2
Rwamagana	11.6	1.2	5.1	14.0	-	51.0	3.9	13.2	26.3	1.3	7.6	9.3	-	25.9	2.5	29.7	24.7	1.1	21.9	14.0	-	20.8	-	17.4
Nyagatare	6.9	1.3	8.2	11.1	-	30.5	4.6	37.4	15.8	2.8	8.7	9.5	0.4	28.4	2.4	34.6	26.6	-	19.2	11.7	-	12.8	1.1	28.7
Gatsibo	13.1	2.0	9.0	6.6	-	54.5	2.9	11.9	20.6	-	3.1	5.6	-	56.9	1.9	13.7	34.1	2.3	6.8	6.8	-	34.1	-	15.9
Kayonza	17.9	2.2	10.7	9.4	-	24.1	3.1	32.6	23.3	2.1	7.5	11.0	-	27.4	4.1	28.8	36.7	1.8	7.3	5.5	-	32.1	-	16.5
Kirehe	6.7	1.8	7.3	17.6	-	47.3	6.1	13.2	18.3	4.8	13.5	19.1	-	20.6	7.1	23.8	22.0	1.7	18.6	13.6	-	35.6	-	8.5
Ngoma	10.0	-	8.0	11.3	-	60.0	4.0	6.7	23.0	1.2	12.6	23.0	-	27.6	4.6	12.6	29.0	1.9	14.0	5.6	-	30.8	-	18.7
Bugesera	7.8	1.7	5.6	14.7	-	46.8	6.9	16.5	14.7	6.5	9.2	15.8	-	38.0	7.1	15.8	23.6	1.8	16.4	10.0	-	26.4	-	21.8
National	20.9	5.9	8.6	14.3	-	37.8	2.2	10.3	28.8	9.0	10.2	15.8	0.0	24.6	1.8	11.7	32.6	5.2	12.4	14.1	0.0	24.5	0.0	11.1

Source: NISR, SAS 2021

Table 56: Percentage of farmers by agricultural practices in Season A 2021

District	Farmers who protected land against erosion (%)			Farmers who used any mechanical equipment for agriculture activities (%)			Farmers who practiced irrigation (%)			Farmers who practiced agroforestry (%)		
	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	85.7	85.7	-	0.5	0.5	-	11.0	11.0	-	48.5	48.5	-
Gasabo	89.7	89.6	91.7	1.2	0.3	25.0	13.7	12.0	58.3	43.1	42.3	66.7
Kicukiro	63.4	63.0	80.0	1.9	1.0	40.0	8.0	7.2	40.0	45.5	44.8	80.0
Nyanza	93.6	93.5	100.0	0.2	-	12.5	18.2	17.3	75.0	29.3	29.4	25.0
Gisagara	90.8	90.4	100.0	0.2	0.2	-	17.5	16.0	50.0	34.6	35.6	8.7
Nyaruguru	98.6	98.5	100.0	0.3	0.3	-	9.8	9.5	20.0	40.9	40.1	70.0
Huye	93.8	93.5	100.0	-	-	-	20.0	16.7	80.0	34.2	34.5	29.2
Nyamagabe	95.2	95.2	100.0	0.5	0.5	-	6.0	6.1	-	33.8	33.7	100.0
Ruhango	96.0	95.9	100.0	0.6	0.6	-	15.3	13.9	88.9	28.3	27.9	55.6
Muhanga	98.0	98.0	100.0	0.7	0.7	-	5.2	4.3	50.0	21.0	20.6	50.0
Kamonyi	92.3	92.4	91.7	0.4	0.4	-	9.4	8.0	66.7	35.8	35.8	33.3
Karongi	96.6	96.6	100.0	-	-	-	5.2	5.2	-	35.1	34.9	100.0
Rutsiro	96.6	96.6	-	0.3	0.3	-	0.3	0.3	-	36.4	36.4	-
Rubavu	93.6	93.5	100.0	0.3	0.3	-	0.3	0.3	-	37.4	37.0	75.0
Nyabihu	97.5	97.5	-	-	-	-	0.5	0.5	-	49.8	49.8	-
Ngororero	92.2	92.2	-	-	-	-	2.2	2.2	-	21.3	21.3	-
Rusizi	91.4	91.4	90.0	1.4	1.2	10.0	9.6	8.4	70.0	58.2	58.4	50.0
Nyamasheke	90.9	91.0	85.7	0.2	0.2	-	5.4	4.3	71.4	56.8	57.1	33.3
Rulindo	98.9	98.9	100.0	0.5	0.5	-	20.0	19.6	60.0	27.0	26.9	40.0
Gakenke	97.3	97.3	-	0.2	0.2	-	6.0	6.0	-	41.6	41.6	-
Musanze	95.5	95.5	-	0.2	0.2	-	0.8	0.8	-	34.1	34.1	-
Burera	93.7	93.7	-	0.4	0.4	-	1.0	1.0	-	13.9	13.9	-
Gicumbi	98.1	98.1	100.0	0.2	0.2	-	10.1	10.1	-	30.9	30.5	100.0
Rwamagana	95.9	95.7	100.0	1.4	0.4	20.7	11.0	8.3	62.1	45.9	44.7	72.4
Nyagatare	66.6	64.6	91.1	7.1	2.4	64.4	10.0	6.6	51.1	42.7	42.1	52.2
Gatsibo	96.4	96.3	100.0	3.0	1.4	57.9	8.8	8.0	36.8	52.7	52.5	63.2
Kayonza	70.1	68.4	100.0	2.6	0.5	39.1	11.5	8.2	69.6	36.0	35.6	45.5
Kirehe	81.2	81.4	70.0	0.8	0.5	20.0	10.4	9.2	90.0	46.3	46.6	25.0
Ngoma	89.9	89.7	100.0	0.6	0.2	18.8	9.0	7.8	56.3	47.5	47.8	37.5
Bugesera	80.5	80.9	73.0	0.8	0.2	10.8	15.1	13.0	51.4	45.8	45.2	56.8
National	91.0	90.9	93.2	0.9	0.5	22.1	9.2	8.1	57.3	38.4	38.2	48.6

Source: NISR, SAS 2021

Table 57: Percentage of farmers by agricultural practices in Season B 2021

District	Farmers who protected land against erosion (%)			Farmers who used any mechanical equipment for agriculture activities (%)			Farmers who practiced irrigation (%)			Farmers who practiced agroforestry (%)		
	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	67.8	67.8		1.5	1.5		8.0	8.0		46.3	46.3	
Gasabo	94.3	94.1	100.0	0.6	-	20.0	9.5	7.9	60.0	54.5	54.1	66.7
Kicukiro	63.1	62.3	100.0	2.5	1.5	50.0	13.8	12.6	75.0	53.9	53.7	60.0
Nyanza	94.5	94.5	100.0	0.6	0.6	-	10.4	9.6	83.3	27.1	27.1	28.6
Gisagara	86.9	86.4	100.0	0.4	0.4	-	13.1	10.4	87.5	38.2	39.5	9.1
Nyaruguru	98.4	98.4	100.0	0.6	0.6	-	5.3	3.2	70.0	39.1	38.1	80.0
Huye	95.8	95.7	100.0	-	-	-	18.0	14.7	94.7	40.5	41.3	24.0
Nyamagabe	90.6	90.6	100.0	0.7	0.7	-	3.1	3.1	-	31.0	30.9	100.0
Ruhango	92.1	92.0	100.0	0.6	0.6	-	12.3	11.1	72.7	29.6	29.6	33.3
Muhanga	97.8	97.7	100.0	0.5	0.5	-	3.7	2.8	80.0	21.2	20.7	50.0
Kamonyi	91.8	91.7	100.0	0.2	0.2	-	10.8	9.8	75.0	32.8	32.7	40.0
Karongi	98.2	98.2	100.0	0.3	0.3	-	7.6	7.4	100.0	41.0	40.9	100.0
Rutsiro	99.4	99.4		-	-		0.3	0.3		36.4	36.4	
Rubavu	91.0	90.9	100.0	0.3	0.3	-	0.5	0.5	-	29.7	29.8	25.0
Nyabihu	98.4	98.4		-	-		0.8	0.8		47.2	47.2	
Ngororero	94.8	94.8		0.7	0.7		0.2	0.2		23.7	23.7	
Rusizi	86.5	86.2	100.0	1.1	1.1	-	11.2	9.9	70.0	59.0	59.3	40.0
Nyamasheke	92.7	92.6	100.0	-	-	-	10.6	9.6	62.5	57.0	57.4	33.3
Rulindo	99.3	99.3	100.0	0.5	0.2	20.0	7.3	6.6	60.0	23.4	23.3	40.0
Gakenke	99.5	99.5		0.3	0.3		4.4	4.4		45.3	45.3	
Musanze	92.8	92.8		0.4	0.4		1.7	1.7		27.2	27.2	
Burera	96.2	96.2		0.4	0.4		2.4	2.4		24.0	24.0	
Gicumbi	97.0	97.0	100.0	-	-	-	8.4	8.4	-	26.9	26.6	100.0
Rwamagana	94.4	94.2	100.0	1.4	0.6	18.5	13.7	11.7	55.6	50.2	48.9	76.7
Nyagatare	72.4	72.4	71.8	5.9	2.5	53.9	7.1	3.5	59.0	31.0	30.5	39.5
Gatsibo	96.1	96.0	100.0	0.8	0.3	15.8	7.2	6.0	47.4	54.6	54.7	50.0
Kayonza	76.8	75.9	95.0	2.0	0.2	40.0	10.8	7.8	75.0	37.0	37.4	27.3
Kirehe	85.6	85.7	80.0	1.2	0.8	30.0	14.7	13.5	90.0	45.3	45.7	23.1
Ngoma	89.5	89.2	100.0	0.3	0.2	6.3	10.3	9.1	56.3	49.6	50.0	35.3
Bugesera	74.7	74.3	80.6	1.1	0.5	11.1	13.9	11.4	55.6	38.6	37.6	55.0
National	90.8	90.7	92.7	0.8	0.5	17.4	8.3	7.2	64.9	38.4	38.3	43.5

Source: NISR, SAS 2021

Table 58: Percentage of farmers by agricultural practices in Season C 2021

	Farmers who protected land against erosion (%)			Farmers who used any mechanical equipment for agriculture activities (%)			Farmers who practiced irrigation (%)			Farmers who practiced agroforestry (%)	
District	Overall	SSF	SITE	Overall	SSF	SITE	Overall	SSF	SITE	Overall	SSF
Nyarugenge	83.3	63.2	100.0	-	-	-	69.1	42.1	91.3	NA	3.1
Gasabo	100.0	100.0	100.0	-	-	-	96.6	87.5	100.0	NA	8.0
Kicukiro	91.3	87.5	93.3	-	-	-	95.7	87.5	100.0	NA	-
Nyanza	97.5	100.0	96.8	-	-	-	94.1	76.0	98.9	NA	6.4
Gisagara	92.5	95.2	91.5	-	-	-	66.3	42.9	74.6	NA	6.5
Nyaruguru	97.5	95.9	98.6	-	-	-	52.9	53.1	52.9	NA	5.0
Huye	92.9	90.3	93.8	-	-	-	88.4	74.2	93.8	NA	8.4
Nyamagabe	97.1	90.5	100.0	-	-	-	53.6	61.9	50.0	NA	8.9
Ruhango	88.3	90.0	87.7	-	-	-	77.9	60.0	84.2	NA	10.8
Muhanga	98.3	96.9	98.8	-	-	-	77.4	65.6	81.9	NA	1.6
Kamonyi	100.0	100.0	100.0	0.8	-	1.0	87.2	66.7	94.9	NA	8.3
Karongi	97.2	92.3	98.3	-	-	-	38.0	38.5	37.9	NA	15.7
Rutsiro	95.4	100.0	93.9	-	-	-	4.7	10.0	3.0	NA	35.9
Rubavu	96.7	97.3	95.7	-	-	-	2.5	-	6.4	NA	33.5
Nyabihu	97.2	97.3	97.0	0.6	-	1.5	2.8	4.5	-	NA	45.8
Ngororero	97.7	100.0	96.4	2.3	-	3.6	25.0	25.0	25.0	NA	23.5
Rusizi	100.0	100.0	100.0	1.3	-	2.1	93.6	86.7	97.9	NA	18.2
Nyamasheke	94.4	100.0	93.8	-	-	-	57.8	50.0	58.8	NA	47.1
Rulindo	100.0	100.0	100.0	1.6	4.0	-	82.8	60.0	97.4	NA	16.7
Gakenke	93.7	90.5	95.3	-	-	-	66.9	71.4	64.7	NA	30.1
Musanze	97.9	97.2	98.6	1.4	1.4	1.4	13.5	9.9	17.1	NA	27.4
Burera	97.5	97.2	98.2	-	-	-	16.7	9.4	30.4	NA	22.4
Gicumbi	95.1	90.3	98.0	1.2	-	2.0	80.5	74.2	84.3	NA	4.4
Rwamagana	82.2	72.7	85.3	1.1	-	1.5	81.1	77.3	82.4	NA	2.6
Nyagatare	79.6	87.0	74.2	-	-	-	85.2	82.6	87.1	NA	20.0
Gatsibo	100.0	100.0	100.0	-	-	-	94.7	87.5	96.7	NA	14.5
Kayonza	95.8	100.0	95.0	4.2	-	5.0	93.0	90.9	93.3	NA	9.3
Kirehe	91.5	83.3	94.3	2.1	8.3	-	89.4	91.7	88.6	NA	27.3
Ngoma	90.7	91.7	90.5	-	-	-	78.7	66.7	81.0	NA	22.2
Bugesera	80.8	83.9	78.6	-	-	-	57.5	32.3	76.2	NA	8.3
National	94.9	94.3	95.2	0.5	0.3	0.6	59.1	41.9	68.8	NA	23.7

Source: NISR, SAS 2021

Table 59: Irrigation type, per Season and district in 2021 (%)

	Modern irrigation															Traditional techniques		
	Surface irrigation			Flood irrigation			Drip irrigation			Sprinkler irrigation			Pivot irrigation					
District	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	13.3	37.5	32.4	-	-		-	-	-	-	-	-	-	-	-	86.7	62.5	67.7
Gasabo	10.7	33.3	-	10.7	-		-	13.3	-	14.3	-	-	-	-	-	64.3	53.3	100.0
Kicukiro	64.7	33.3	35.0	5.9	5.6		-	-	-	-	5.6	-	5.9	-	-	23.5	55.6	65.0
Nyanza	19.1	14.3	7.6	19.1	57.1		-	-	-	-	-	-	-	-	-	61.9	28.6	92.4
Gisagara	7.1	4.0	22.6	46.4	64.0		-	-	-	-	-	-	-	-	-	46.4	32.0	77.4
Nyaruguru	40.0	72.7	23.3	-	-		-	-	-	-	-	-	-	-	-	60.0	27.3	76.7
Huye	2.7	-	-	51.4	90.0		-	-	-	-	-	-	-	-	1.0	46.0	10.0	99.0
Nyamagabe	-	22.2	3.5	42.9	66.7		-	-	-	-	-	-	-	-	-	57.1	11.1	96.6
Ruhango	33.3	10.0	18.6	30.0	63.3		-	-	-	-	-	-	-	-	-	36.7	26.7	81.4
Muhanga	-	-	13.1	21.4	40.0		-	20.0	-	-	-	-	-	-	-	78.6	40.0	86.9
Kamonyi	7.4	11.8	-	7.4	11.8		-	-	-	-	-	0.8	-	-	-	85.2	76.5	99.2
Karongi	-	20.0	23.1	-	-		-	-	-	-	-	7.7	-	-	-	100.0	80.0	69.2
Rutsiro			-						-			-			-			100.0
Rubavu			-						-			-			-			100.0
Nyabihu	-		100.0	-			-		-	-		-	-		-	100.0		-
Ngororero	-		60.0	-			-		-	-		-	-		-	100.0		40.0
Rusizi	-	-	24.0	66.7	81.8		-	-	-	-	-	-	-	-	-	33.3	18.2	76.0
Nyamasheke	22.2	11.1	12.2	33.3	44.4		-	-	-	-	-	-	-	-	-	44.4	44.4	87.8
Rulindo	43.9	-	22.2	2.4	5.3		-	-	-	4.9	5.3	1.9	-	36.8	-	48.8	52.6	75.9
Gakenke	11.1	25.0	7.9	22.2	12.5		-	-	-	-	-	-	-	-	-	66.7	62.5	92.1
Musanze	-	-	28.6	-	-		-	-	-	-	-	-	-	-	-	100.0	100.0	71.4
Burera	-	-	41.7	-	-		-	-	-	-	-	-	-	-	-	100.0	100.0	58.3
Gicumbi	5.9	16.7	35.3	-	-		-	-	-	-	-	-	-	-	-	94.1	83.3	64.7
Rwamagana	14.1	40.5	46.8	23.4	14.3		25.0	16.7	-	1.6	-	-	-	7.1	-	35.9	21.4	53.3
Nyagatare	33.3	62.5	48.9	21.2	12.5		-	-	-	10.6	-	-	22.7	16.7	2.1	12.1	8.3	48.9
Gatsibo	42.3	46.4	-	15.4	10.7		-	-	-	3.9	7.1	-	-	-	2.8	38.5	35.7	97.2
Kayonza	47.6	28.2	31.0	11.1	15.4		-	-	1.4	17.5	20.5	-	4.8	2.6	1.4	19.1	33.3	66.2
Kirehe	14.6	11.1	-	31.7	14.8		-	-	-	12.2	44.4	-	24.4	13.0	-	17.1	16.7	100.0
Ngoma	5.9	-	16.7	41.2	19.2		23.5	3.9	-	-	30.8	-	-	-	1.7	29.4	46.2	81.7
Bugesera	6.5	31.1	64.3	31.2	42.2		6.5	-	4.8	32.3	6.7	-	-	-	-	23.7	20.0	31.0
National	20.8	24.8	18.8	22.8	26.9		3.7	2.1	0.2	8.7	9.0	0.3	4.1	5.0	0.3	40.0	32.3	80.4

Source: NISR, SAS 2021

Table 60: Source of water used for irrigation, per season and district in 2021 (%)

	Rainwater			Water treatment			Underground			Lake / streams			Water catchment		
District	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	-	-	-	20.0	25.0	-	33.3	-	11.8	46.7	75.0	88.2	-	-	-
Gasabo	3.5	6.7	-	10.3	-	-	37.9	33.3	17.9	48.3	46.7	81.1	-	13.3	1.1
Kicukiro	-	-	-	15.0	21.7	-	35.0	21.7	14.3	25.0	56.5	85.7	25.0	-	-
Nyanza	-	-	-	-	-	-	66.7	43.8	43.2	19.1	31.3	52.5	14.3	25.0	4.3
Gisagara	-	3.9	-	6.9	-	-	44.8	50.0	77.4	44.8	38.5	22.6	3.5	7.7	-
Nyaruguru	-	-	-	-	-	-	-	9.1	70.0	100.0	90.9	30.0	-	-	-
Huye	-	-	-	5.4	-	-	10.8	34.5	65.8	62.2	51.7	34.2	21.6	13.8	-
Nyamagabe	-	-	-	-	-	-	57.1	22.2	-	42.9	77.8	100.0	-	-	-
Ruhango	2.7	-	-	2.7	3.1	-	62.2	46.9	47.5	29.7	46.9	52.5	2.7	3.1	-
Muhanga	-	-	-	7.1	-	-	42.9	40.0	54.1	35.7	20.0	45.9	14.3	40.0	-
Kamonyi	-	-	-	-	-	-	25.8	46.2	55.6	64.5	50.0	44.4	9.7	3.9	-
Karongi	-	-	-	-	10.0	-	33.3	30.0	61.5	66.7	60.0	38.5	-	-	-
Rutsiro	-		-	-		-	-		100.0	-		-	-		-
Rubavu	-		-	-		-	-		100.0	-		-	-		-
Nyabihu	-		-	-		-	100.0		16.7	-		83.3	-		-
Ngororero	-		-	-		-	50.0		80.0	25.0		20.0	25.0		-
Rusizi	-	-	-	8.3	-	-	-	27.3	26.7	91.7	72.7	73.3	-	-	-
Nyamasheke	-	-	2.0	11.1	11.1	-	22.2	66.7	3.9	66.7	22.2	94.1	-	-	-
Rulindo	2.4	5.3	3.6	7.3	10.5	9.1	19.5	21.1	61.8	48.8	57.9	20.0	22.0	5.3	5.5
Gakenke	-	-	-	-	-	-	66.7	62.5	44.7	33.3	37.5	55.3	-	-	-
Musanze	-	-	-	50.0	-	7.1	-	66.7	35.7	50.0	33.3	57.1	-	-	-
Burera	-	-	-	-	-	-	-	100.0	4.2	100.0	-	95.8	-	-	-
Gicumbi	-	-	-	17.7	33.3	-	-	33.3	14.7	82.4	33.3	85.3	-	-	-
Rwamagana	2.9	-	-	11.8	11.4	-	14.7	18.2	55.6	38.2	38.6	34.6	32.4	29.6	9.9
Nyagatare	1.5	2.0	-	4.6	2.0	-	3.0	8.2	19.2	75.8	44.9	78.7	15.2	42.9	2.1
Gatsibo	-	-	-	3.9	3.5	-	26.9	17.2	46.0	50.0	58.6	51.4	19.2	20.7	2.7
Kayonza	-	2.4	-	-	4.8	-	19.7	21.4	47.2	68.2	59.5	41.7	12.1	11.9	11.1
Kirehe	4.1	-	2.3	2.0	-	-	18.4	19.3	75.0	61.2	77.2	13.6	14.3	3.5	9.1
Ngoma	5.9	23.5	-	17.7	20.6	-	35.3	17.7	50.0	11.8	32.4	43.6	29.4	5.9	6.5
Bugesera	2.0	2.2	-	1.0	2.2	-	28.0	37.8	31.0	58.0	42.2	66.7	11.0	15.6	2.4
National	1.5	2.5	0.3	5.5	5.5	0.4	25.6	27.9	43.8	53.7	51.2	53.3	13.6	12.9	2.3

Source: NISR, SAS 2021

Table 61: Type of anti-erosion activities, per season and district in 2021 Season A (%)

Disrtict	Ditches	Trees/Windbreak/ shelterbelt	Bench/Radical terraces	Progressive terraces	Cover plants	Water drainage	Mulching	Beds/ridges	Water channels
Nyarugenge	11.2	20.2	-	3.9	50.1	-	4.3	8.4	1.9
Gasabo	2.3	10.1	0.1	19.2	57.6	1.1	1.1	4.1	4.5
Kicukiro	8.8	20.6	1.9	24.2	15.5	0.1	6	5.7	17.4
Nyanza	8.6	4.9	2.6	5.3	48.8	0	2.7	11.8	15.3
Gisagara	5.5	2.4	2.3	20.8	45.5	0.7	0	3.7	19.1
Nyaruguru	14.6	7.9	2.7	3.8	54	5.1	1.3	0.5	10.1
Huye	10.4	5.6	2.2	20.2	48.5	0.1	1.1	0.7	11.2
Nyamagabe	4.3	2	7.7	18.9	56.9	0.6	1.9	0.4	7.4
Ruhango	4	5.8	0.4	7.6	60.3	0.2	1.3	6.7	13.7
Muhanga	3.3	0.6	3.3	4.9	77.4	0	3.8	3.4	3.4
Kamonyi	10.3	2.3	0.8	8	58.1	0	3	3.6	13.9
Karongi	17.9	3	2.5	8	59.8	3	0.7	0.7	4.4
Rutsiro	6.8	7.5	6	2.8	65.4	1.4	6.2	0.8	3.1
Rubavu	1.6	13.6	7.3	0.7	27.7	-	-	40.5	8.6
Nyabihu	0.2	1.5	10.6	15.8	55.3	0.1	0.1	15.2	0.8
Ngororero	8.2	2.5	4	6.5	69.9	-	1.1	1.8	6
Rusizi	34.5	8.7	0.5	7.3	41.8	0.1	2.3	2	2.9
Nyamasheke	9.2	13.6	5.5	6	55.8	0.3	2.6	0.3	6.4
Rulindo	1.9	4.3	8.7	15.6	57.6	0.4	1	2.1	8.5
Gakenke	2.7	1.5	4.3	10	69.2	0.1	4.2	2.6	5.4
Musanze	1.4	1.4	7.4	2	41.4	-	0.6	42.5	3.1
Burera	0.4	1.4	3.4	6.5	59.3	1	0.1	23.8	4.1
Gicumbi	0.3	0.5	12.2	20.9	57.4	-	0.9	0	7.9
Rwamagana	5.9	9.8	3.2	9.4	63.1	1.1	5	0.8	1.8
Nyagatare	6	6.7	1.6	10.1	52.6	0.6	8	3.9	10.5
Gatsibo	2.5	12.8	0.3	10.1	58.1	0.8	8	3.1	4.4
Kayonza	1.6	4.2	13.6	0.1	47.8	13.4	6.7	1.3	11.3
Kirehe	6.5	3.5	0.7	4.7	68.4	0.2	11.3	0.9	3.8
Ngoma	1.3	3.8	3.9	7.1	67.6	0.1	7	4.6	4.4
Bugesera	7.9	14	-	21.3	38.7	0.5	2.1	9.4	6
National	6.7	5	4.5	10	57.2	0.9	2.5	6	7.2

Source: NISR, SAS 2021

Table 62: Type of anti-erosion activities, per season and district in 2021 Season B (%)

Disrtict	Ditches	Trees/Windbreak/ shelterbelt	Bench/Radical terraces	Progressive terraces	Cover plants	Water drainage	Mulching	Beds/ridges
Nyarugenge	5	19.8	-	13.5	51.7	-	8.5	0.6
Gasabo	14.5	4.7	0.1	33.1	38.7	0.2	1	0.7
Kicukiro	6.9	23.3	1.8	10.2	18.8	0.1	6.2	6.5
Nyanza	7.1	4.1	3.1	5.5	56.7	0	0.9	3
Gisagara	5.9	2.5	3.3	20.5	45.1	0.5	1	4.6
Nyaruguru	16	7.1	2.1	2.6	53.9	6.8	0.7	1.3
Huye	6.4	4.6	2.1	25.9	48.3	0.1	0.8	0.2
Nyamagabe	3.7	1.1	9.8	13.7	60.7	0.7	2.1	0.1
Ruhango	4.5	7.3	0.3	3.3	64.5	0.9	0.7	8.6
Muhanga	0.6	1.4	3.3	8.8	75.2	0	4.3	5.2
Kamonyi	6.6	1.1	-	2.8	65	2.9	2.2	5.1
Karongi	14.8	2.5	1.9	16.7	54.1	-	0.9	0
Rutsiro	6.6	8.6	7	3.3	63.6	1.3	6.3	0.2
Rubavu	2.8	8.8	8.4	3.4	30.6	-	0.7	45.1
Nyabihu	1.4	1.2	11.9	9.5	61.1	-	0.1	14.2
Ngororero	10.6	0.2	4.7	1	76.8	0.4	0.4	4.5
Rusizi	22.8	10.6	0.1	10.9	43.9	1.3	3.5	1.8
Nyamasheke	3.7	9.1	4.3	4.2	68.9	0.1	1.6	0.5
Rulindo	0.5	4.5	10.5	7.8	68.5	0.4	0.6	0.3
Gakenke	15.8	1.8	4.3	2.7	62.7	0	5.8	1.4
Musanze	0.4	5.4	7.7	2.3	35.7	-	0.4	44.3
Burera	4	2.9	3.7	1.5	61.7	-	0.2	20.8
Gicumbi	0.2	4.2	7.4	23.2	57.1	0	0.8	0
Rwamagana	2.4	12.2	2.9	18.7	57.2	0.1	3.3	0.3
Nyagatare	5.8	17.7	0.1	19.7	39.7	0.1	9.3	1.6
Gatsibo	2.6	4.7	1.2	7.3	69	0.8	7	3.6
Kayonza	2.6	1	15.5	0.9	45.9	9.9	10.8	0.3
Kirehe	4.1	2.5	0.6	7.9	70.3	0.9	9.2	1.3
Ngoma	4	3.9	4.1	3.1	70.9	0.1	6.9	4.7
Bugesera	6.5	14.3	-	7	54.4	3.8	5.9	6.6
National	6.7	4.6	4.5	9.5	58.7	1	2.6	5.5

Source: NISR, SAS 2021

Table 63: Type of anti-erosion activities, per season and district in 2021 Season C (%)

Disrtict	Ditches	Trees/Windbreak/ shelterbelt	Bench/Radical terraces	Progressive terraces	Cover plants	Water drainage	Mulching	Beds/ridges	Water channels	Water channels
Nyarugenge	-	-	-	-	1.5	-	20.3	3.4	0.9	74.8
Gasabo	2.6	2.4	-	0.8	19.2	-	-	12.3	7	62.9
Kicukiro	-	-	-	-	-	-	9.5	11.8	26.1	78.7
Nyanza	21.8	-	1.9	-	11.2	6.1	-	16.7	19.7	42.3
Gisagara	0.6	0.3	0.2	0.4	2.2	4.4	2	82.2	16.7	7.8
Nyaruguru	0.4	1.5	0.2	-	16.4	6.2	0.3	15.8	9.5	59.2
Huye	0.6	0.9	-	0.7	11	22.6	-	15.5	11.7	48.6
Nyamagabe	0.6	-	2.4	0.3	15.8	15.7	-	4.9	8.1	60.4
Ruhango	-	1.8	-	6.8	13.2	-	-	18.4	10	59.8
Muhanga	-	-	-	1.9	24.6	-	1.1	26.5	1.1	45.9
Kamonyi	0.7	-	-	1.2	11.6	-	3	3.4	14.4	80.1
Karongi	4.2	1.4	-	11.2	34.6	20.8	-	7.6	9.1	20.4
Rutsiro	-	1	-	-	22.1	-	18.9	46.9	3	11.1
Rubavu	2.5	1.5	9.2	2.1	25.9	-	0.8	57.9	0.3	0
Nyabihu	5.2	2.2	16.3	10.4	50	-	0.2	13.9	0.6	1.8
Ngororero	6.2	1.8	3.7	-	37.1	2.5	0.4	18.2	1.5	30.2
Rusizi	-	3.3	-	2.7	9.3	5.9	10.7	14.9	5	53.2
Nyamasheke	2.7	3.6	4.6	6	16.8	-	-	10.8	7.4	55.5
Rulindo	0.9	1.1	0.7	2.9	19.6	2.9	-	23.5	7.1	48.4
Gakenke	-	3.2	-	2.5	44	-	1.7	13	5.6	35.7
Musanze	1.6	3.9	4.8	2.8	22.5	-	1.6	60.8	3.8	2.1
Burera	2.6	3.1	3.3	11	57.7	0.6	0.2	18.9	5.4	2.7
Gicumbi	-	-	-	1.1	15.8	-	-	36.6	7.2	46.5
Rwamagana	-	-	-	-	14.3	-	17.5	19.7	2.9	48.5
Nyagatare	1.3	0.8	-	2.5	4.6	51.3	6.8	17.3	6	15.3
Gatsibo	1.5	1.1	-	-	14.1	10.5	3.6	20.8	3.8	48.5
Kayonza	0.3	-	-	-	7.7	8.7	-	2.1	13.1	81.3
Kirehe	-	0.6	-	-	14.1	22.6	3.9	45.5	3.1	13.4
Ngoma	-	-	-	0.6	11.3	-	-	-	2.4	88.1
Bugesera	1.1	2.4	-	1.1	2.5	-	22.4	23.1	1.6	47.4
National	2.6	2	4	4.7	29.2	4.6	1.4	25.5	6.9	25.9

Source: NISR, SAS 2021

Table 64 : Degree of erosion, per season and district in 2021 (%)

District	Severe (Rill erosion, Gully erosion, Mass movement/Landslides)			Moderate (Diffuse overland flow erosion, overland flow erosion)			Low (wind erosion)			Very Low (splash erosion)		
	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	0.0	0.6	-	13.7	2.1	40.4	22.7	26.9	5.0	63.6	70.5	54.6
Gasabo	3.8	0.1	-	2.1	18.5	26.3	25.2	7.8	27.7	68.9	73.6	45.9
Kicukiro	0.2	-	-	14.9	-	0.1	10.0	39.1	53.1	74.8	60.9	46.8
Nyanza	2.0	4.6	0.0	33.8	30.3	32.3	26.1	44.0	25.0	38.1	21.1	42.7
Gisagara	0.1	-	0.0	0.8	2.3	-	21.2	13.7	12.3	77.9	84.1	87.7
Nyaruguru	-	-	1.3	5.0	7.1	6.5	59.4	65.1	10.1	35.6	27.8	82.2
Huye	-	0.3	10.1	12.9	13.0	13.9	20.8	41.2	3.6	66.3	45.5	72.5
Nyamagabe	1.1	0.2	-	2.3	0.9	0.6	4.7	0.4	39.4	91.9	98.5	60.1
Ruhango	1.1	1.7	-	4.7	4.5	3.6	55.8	7.8	28.8	38.4	86.1	67.6
Muhanga	0.5	1.1	0.0	7.6	14.8	9.2	55.6	54.5	67.9	36.3	29.7	22.9
Kamonyi	4.6	1.2	0.1	6.4	9.0	11.0	64.3	41.0	38.2	24.6	48.9	50.8
Karongi	2.8	2.1	0.0	11.0	20.0	6.8	22.8	37.1	6.7	63.4	40.8	86.4
Rutsiro	1.7	0.5	3.6	18.1	11.4	2.5	33.9	51.4	66.2	46.4	36.7	27.7
Rubavu	7.1	0.2	-	10.1	2.0	4.0	17.8	4.1	11.9	65.0	93.6	84.1
Nyabihu	1.6	2.2	2.8	30.4	26.4	15.1	49.8	42.1	48.8	18.2	29.3	33.3
Ngororero	10.9	7.1	-	30.6	11.8	23.1	5.1	1.3	0.2	53.4	79.8	76.7
Rusizi	3.8	2.4	0.9	10.9	8.9	0.1	51.0	56.2	29.8	34.3	32.5	69.2
Nyamasheke	0.1	1.7	-	15.4	25.8	-	16.3	15.2	23.6	68.2	57.3	76.4
Rulindo	1.0	2.4	-	29.7	11.4	-	44.9	19.9	4.4	24.5	66.4	95.6
Gakenke	0.7	2.1	-	12.2	13.1	46.1	62.2	41.6	39.9	24.9	43.2	14.1
Musanze	2.1	0.6	0.0	10.0	9.5	14.1	30.4	50.3	35.1	57.5	39.5	50.9
Burera	0.2	0.7	1.3	2.7	21.3	14.7	7.6	22.5	25.4	89.5	55.6	58.7
Gicumbi	2.0	5.2	0.5	8.6	19.4	1.0	26.5	21.4	0.1	63.0	54.1	98.4
Rwamagana	5.3	0.5	-	1.6	21.3	27.4	40.9	22.1	38.5	52.2	56.2	34.1
Nyagatare	1.0	5.0	-	7.5	11.3	21.0	19.7	22.6	19.1	71.9	61.2	59.9
Gatsibo	1.1	0.7	-	3.4	2.0	-	19.0	7.1	62.7	76.5	90.3	37.3
Kayonza	0.2	0.2	0.0	0.8	2.4	16.1	11.5	66.5	-	87.5	30.9	83.9
Kirehe	0.2	0.6	-	10.4	7.4	0.0	22.4	27.6	5.5	67.0	64.4	94.5
Ngoma	0.1	0.5	-	6.1	7.9	31.4	23.6	23.2	0.2	70.2	68.5	68.4
Bugesera	0.9	0.6	0.0	1.5	1.6	22.6	40.0	20.7	17.4	57.7	77.1	60.0
National	2.0	1.6	1.0	11.2	12.0	14.1	31.9	29.8	26.5	55.0	56.6	58.3

Source: NISR, SAS 2021

ANNEX

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