The Republic of Rwanda

SEASONAL AGRICULTURAL SURVEY
2020
SEASON B REPORT

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SEASON B 2020 REPORT

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I. INTRODUCTION

To evaluate the performance of National agricultural programs, agriculture statistics are needed. Therefore, the National Institute of Statistics of Rwanda (NISR) in collaboration with the Ministry of Agriculture and Animal Resource (MINAGRI) conduct Seasonal Agricultural Survey (SAS) to cover various information mainly related to potential agricultural land use, crop area, yield, production, agricultural inputs, agricultural practices and other agricultural items. Survey's data are supplemented by administrative records on tea and coffee from the National Agriculture Export Board (NAEB) collected through its routine activities of monitoring coffee and tea production. Other agriculture related information is obtained from MINAGRI working closely with Rwanda Agriculture Board (RAB), Districts agronomists and other partners working in Agriculture sector.

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

1.1. Objectives of Seasonal Agricultural 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.

This report presents 2020 Seasonal Agricultural Survey (SAS), Season B findings related to:

1. Land use:
   - Agricultural land: includes land already used for farming and land that can be brought back into cultivation (fallow or pasture land). Agricultural land indicates land potential for agriculture.
   - Arable land: land able to be grown and produce crops for food and feeds supply purpose. This area excludes land under permanent crops[1] and permanent pasture.
   - Physical crop cultivated area: area occupied with crops.
   - Pasture land: area under natural grasses reserved for livestock or occupied with fodder crops;
   - Fallow land: cultivable land free for cultivation in a temporal period (less than 5 years);
2. Crop land: Cultivated land devoted to each cultivated crop.
3. Crop production: Quantity of harvested crop produce used for food/livestock (quantified into 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 and pesticides)
6. Agricultural practices (practices of irrigation and erosion control measures) and others.

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[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…).

II. SURVEY DESIGN

2.1. Sample frame design

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

2.1.1. Land classification

Land classification was done using Rwanda land cover map which is a combination of different geographical layers available in the country, plus a photo interpretation of a series (2010 to 2019) of high-resolution satellite images from Worldview. 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, 2020

Map 1: Rwanda land classification map
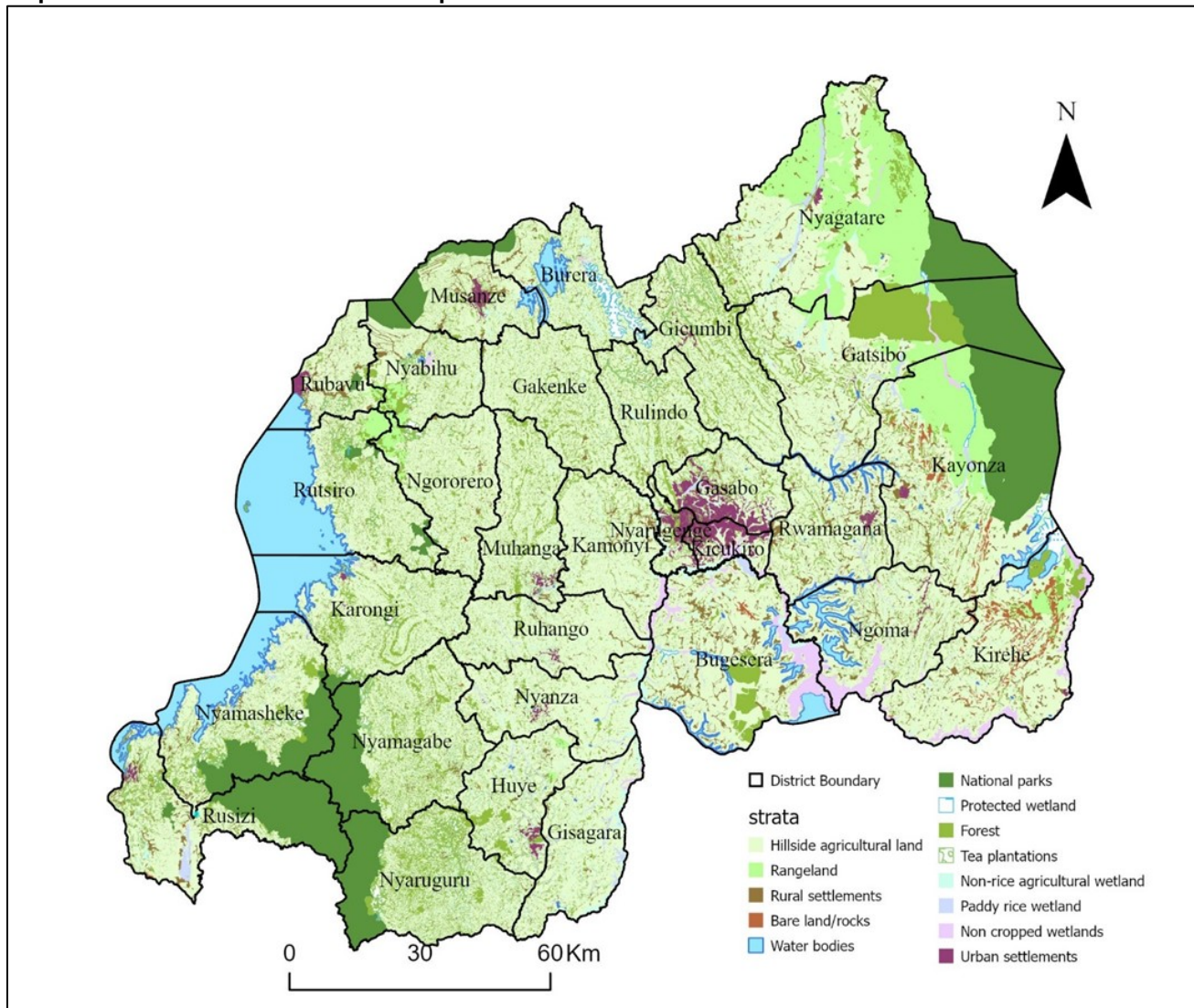
Source: NISR, SAS 2020

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 land potential 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 code	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, 2020

In addition, tea plantation class data 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)

Stratum / District	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

Source: NISR, SAS, 2020

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 2020 agricultural year, NISR increased the sample of segments in order to improve agriculture statistics where sample increased from 780 (sample used from 2018 to 2019) to 1200 segments.

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

Table 4: Allocation of 1200 sampled segments per district by stratum

Stratum / District	Dominant hill crop land	Dominant wetland crops	Dominant rangeland	Mixed stratum	Total
Nyarugenge	12	6	-	2	20
Gasabo	22	4	-	3	29
Kicukiro	13	5	-	2	20
Nyanza	37	4	-	2	43
Gisagara	33	5	-	3	41
Nyaruguru	25	3	-	7	35
Huye	27	3	-	5	35
Nyamagabe	36	2	-	6	44
Ruhango	36	3	-	3	42
Muhanga	33	3	-	4	40
Kamonyi	36	3	-	4	43
Karongi	38	2	-	3	43
Rutsiro	32	-	2	4	38
Rubavu	21	-	-	4	25
Nyabihu	27	-	2	3	32
Ngororero	36	2	2	3	43
Rusizi	27	2	-	5	34
Nyamasheke	31	2	-	5	38
Rulindo	28	3	-	4	35
Gakenke	37	2	-	4	43
Musanze	24	2	-	4	30
Burera	30	2	-	3	35
Gicumbi	37	2	-	5	44
Rwamagana	34	2	-	6	42
Nyagatare	31	5	25	7	68
Gatsibo	38	3	5	5	51
Kayonza	32	2	13	5	52
Kirehe	45	-	3	6	54
Ngoma	39	-	-	6	45
Bugesera	45	3	-	8	56
Total	**942**	**75**	**52**	**131**	**1200**

Source: NISR, SAS, 2020

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[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
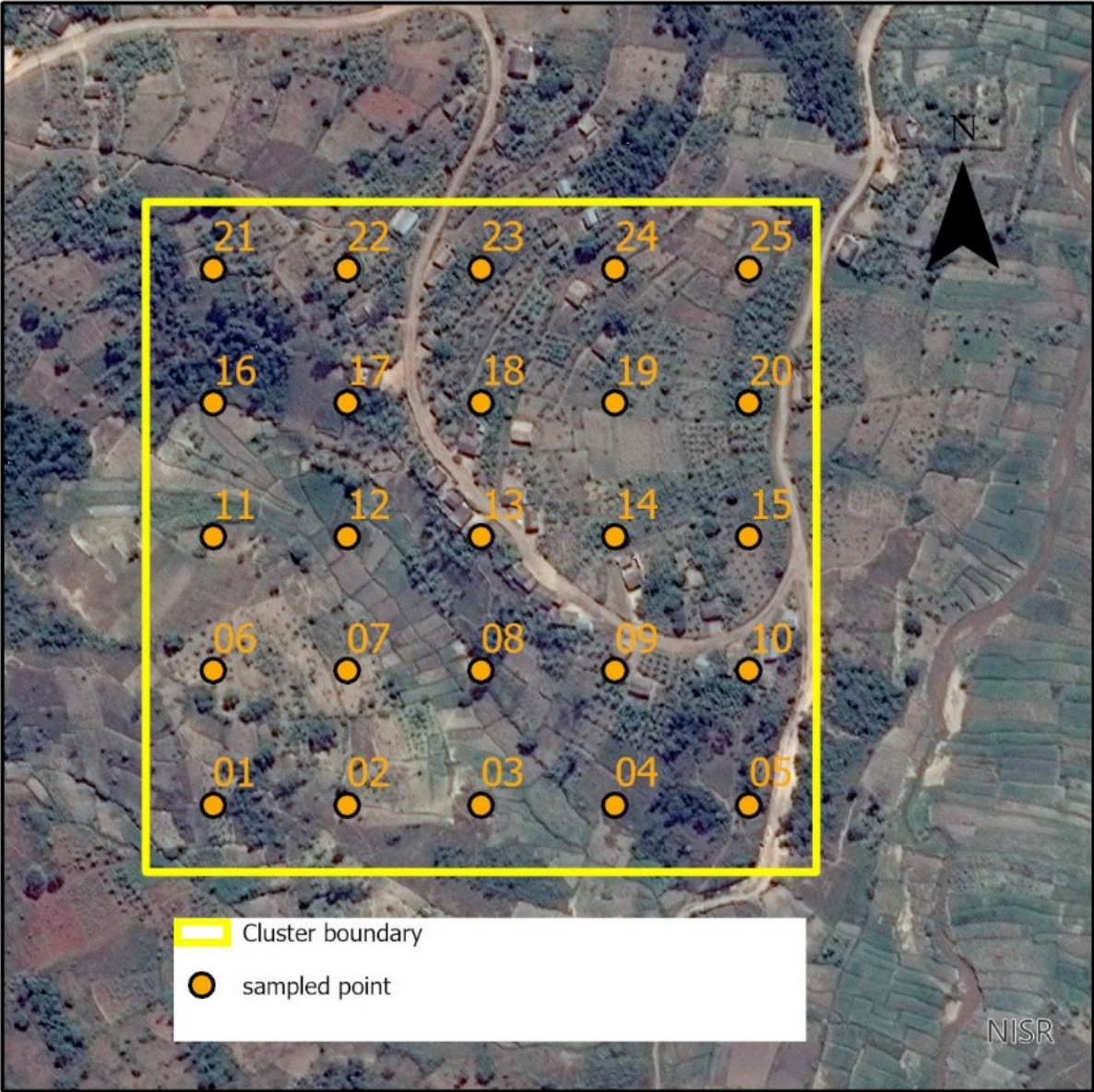
Source: NISR, SAS, 2020

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

Data collection was done in two distinct phases: The first phase, known as screening activity (post-planting phase), consists of visiting all sampled segments and delineating all plots in which the sampled points are fallen and thereafter recording the related information. The second phase consists of visiting the agricultural plots identified from screening activity in first phase as well as all Large-Scale Farmers (LSF) who have cultivated their plots in the season for which the survey is being conducted. SAS 2020 Season B used 152 Enumerators, 31 Team Leaders and 3 Editors. All fieldwork staff held a degree in agriculture sciences and were trained by NISR headquarter staff before starting data collection. Higher-level supervision was organised and done by staff from NISR who visited the field teams during each phase of data collection to ensure the quality of collected data.

2.2.1. Time frame

Season B data collection was done from 02nd June to 16th July 2020. Data collection was done in 1,200 segments and 293 large-scale farmers' holdings.

2.2.2. Data collection tools and materials

Seasonal Agricultural Survey uses 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 on the sampled plot mainly related to crop production, inputs used (seeds, fertilizers …), and agricultural practices.

The computer assisted personal interview (CAPI) data collection methodology was used based on three different software applications:

- **Collector:** which is GIS based 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, was used to collect data for interview of plot questionnaire.

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

2.2.3. Field data collection procedures

Before proceeding to the field, enumerators and their team leaders have to check if they have required materials for their fieldwork. 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 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 pasture land
Land used permanently (five years or more) for herbaceous forage crops, either cultivated or growing wild (wild prairie or grazing land).

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

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

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

in plot. In this context, the crop share is eye estimation of crop density or occupation in a plot (in %) basing on spacing between plants. Cultivated area at district level is equal to the total weighted crop areas within plots in the whole district.

Examples

- In case of pure stands, crop area will be equal to the physical area if the crop entirely covers the whole plot. Otherwise, the crop area will be less than physical area. For example, a plot of 1 hectare in which maize was grown and completely occupies the whole plot (100 % occupied), it means that cultivated area for maize is 1 hectare. On the other side let us assume that the maize crop occupies 80 % of the total plot area. In that case the area of maize equals 0.8 hectares (1hectare times 0.8).
- In case of mixed cropping system, specifically seasonal crops the crop area is less than physical area. For example, a plot of 1 hectare grown with maize and beans which occupies 60 % and 40 % of total plot area respectively. The maize area will be 0.6 hectare (1hectare times 0.6), and beans area will be 0.4(1hectare times 0.4). It is important to note that sum of shares of seasonal crops do not exceed one hundred percent.
- When seasonal and perennial crops are mixed together in same plot, due to the fact that perennial crops are permanent crops in nature, their shares are treated separately from seasonal crops. The sum of seasonal crops share does not exceed 100 %, while for perennial crops shares are given based on density (spacing between trees) and it may exceed 100 percent. For example, a plot of 1 hectare grown with maize, bean and cassava with 60 %, 40 % and 50% shares respectively. Maize area will be 0.6 hectare (1hectare times 0.6), beans area will be 0.4(1hectare times 0.4), while cassava area will be 0.5 hectare (1hectare times 0.5).

9. Developed area

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

10. Harvested area

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

11. Crop yield

Crop yield 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. SURVEY FINDINGS

This section highlights the key results of SAS 2020 Season B related to area (physical land use, cultivated area, and harvested area), crop yield and production, agricultural inputs, and agricultural practices in Rwanda.

3.1. Agricultural land use

In Season B of 2020, the Rwanda agricultural land was estimated at 1.39 million hectares (59% of total country land). Out of the total agricultural land, 1.01 million hectares were used for Seasonal crops in season B, 0.6 million hectares are area under permanent crops and 0.14 million ha under permanent pasture. (See Figure 1 and district details in Table 6).

Figure 1: Agricultural physical land use in Season B 2020 (in thousands of hectares)
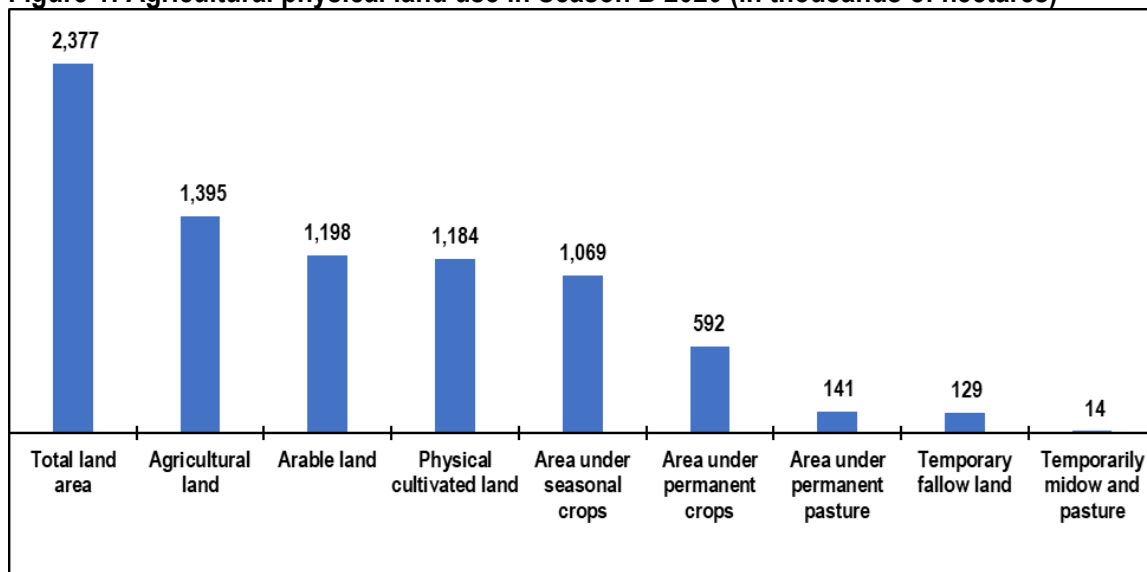
Source: NISR, SAS 2020

Figure 2: Cultivated area by cropping system and farmer type in Season B 2020 (in percentage)
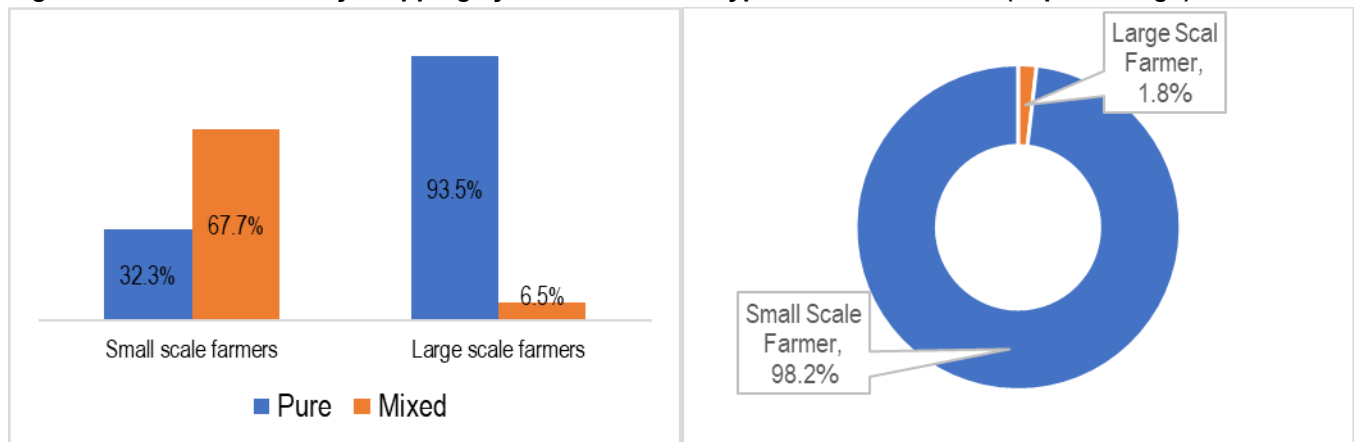
Source: NISR, SAS 2020

3.2. Crop area, yield and production estimates for major crops

In Season B of 2020, cultivated land increased by 7% in general when compared to season B of 2019.

Production and yield trend for selected crops are as follows:

- **Maize:** In 2020 Season B, maize cultivated area was estimated at 72,918 ha. This is a 0.3% decrease when compared to 2019 season B. Maize production was 94,634 MT, an increase of 5% compared to 2019 season B. The maize average yield was 1,298 kilograms per hectare. According to farmer type, the maize average yield was 1,258 kilograms per hectare for small-scale farmers and 3,136 kilograms per hectare for Large-scale farmers (See district details in Tables 5 ,8,9,10,11 and 12).

- **Sweet potato**: In 2020 Season B, sweet potato cultivated area was estimated at 84,545 ha, an increase of 4 % when compared to 2019 season B. Sweet potato production was 611,425 MT, an increase of 12 % compared to 2019 season B production estimates. Sweet potato average yield was 7,232 kilograms per hectare. (See district details in Tables 5 ,8,9,10,11 and 12).

- **Irish potatoes**: In 2020 Season B, Irish potato cultivated area was estimated at 43,950 ha, this is a decrease of 11% when compared to 2019 season B estimates. Irish potato production was 352,441 MT with a decrease of 17% compared to 2019 season B. The average yield of Irish potato was 8,019 kilograms per hectare. This is 7,952 kilograms per hectare for small-scale farmers and 18,198 kilograms per hectare for Large-scale farmers (See district details in Tables 5 ,8,9,10,11 and 12).

- **Cassava**: In 2020 Season B, cassava cultivated area was 192,156 ha, an increase of 2 % when compared to 2019 season B. Cassava production was 701,037 MT, an increase of 6% when compared to 2019 season B. The average cassava yield was 15,073 kilograms per hectare. According to farmer type, the average yield of cassava was 15,072 kilograms per hectare for small-scale farmers and 20,876 kilograms per hectare for Large-scale farmers (See district details in Tables 5 ,8,9,10,11 and 12).

- **Paddy rice**: In 2020 Season B, paddy rice cultivated area was estimated at 15,077 ha, a considerable decrease of 17 % compared to 2019 season B. Paddy rice production was 64,279 MT with a decrease of 11 % from the 2019 season B. The average paddy rice yield was 4,264 kilograms per hectare. According to farmer type, the average paddy rice yield was 3,704 kilograms per hectare for small-scale farmers and 4,276 kilograms per hectare for Large-scale farmers (See district details in Tables 5 ,8,9,10,11 and 12).

- **Banana**: In 2020 Season B, banana cultivated area was estimated at 207,635 ha, a decrease of 12 % compared to 2019 season B. Banana production was 931,991 an increase of 12 % when compared to 2019 season B. The average yield of banana was 11,781 kilograms per hectare. According to farmer type, the average yield of banana was 11,778 kilograms per hectare for small-scale farmers and 16,244 kilograms per hectare for Large-scale farmers (See district details in Tables 5 ,8,9,10,11 and 12).

- **Beans**: In 2020 Season B, beans cultivated area was estimated at 283,104 ha, and had a small increase of 0.4 % compared to 2019 season B records. Beans production was 209,383 MT, a decrease of 9% from 2019

season B estimates. The average yield of beans was 740 kilograms per hectare. (See district details in Tables 5 ,8,9,11 and 12).

Table 5: Cultivated area, harvested area, production and yield, by crop in Season B 2020

Crop/Crop Group Year/Season	Cultivated Crop area (Ha)		Harvested Crop area (Ha)		Production (MT)		Yield '000 (kg/ha)	
	2019 B	2020 B	2019 B	2020 B	2019 B	2020 B	2019 B	2020 B
Cereals	**231,838**	**233,663**	**231,838**	**233,663**				
Maize	73,139	72,918	73,139	72,918	90,128	94,634	1,232	1,298
Sorghum	131,383	136,124	131,383	136,124	122,042	128,258	929	942
Paddy rice	18,225	15,077	18,225	15,077	72,291	64,279	3,967	4,264
Wheat	7,747	8,122	7,747	8,122	8,605	8,673	1,111	1,068
Other cereals	1,343	1,422	1,343	1,422	1,473	1,540	1,096	1,083
Tubers and Roots	**333,143**	**335,216**	**190,299**	**189,569**				
Cassava	187,511	192,156	44,667	46,509	658,708	701,037	14,747	15,073
Sweet potato	80,919	84,545	80,919	84,545	546,788	611,425	6,757	7,232
Irish potato	49,244	43,950	49,244	43,950	422,266	352,441	8,575	8,019
Taro &Yams	15,469	14,565	15,469	14,565	100,700	102,628	6,510	7,046
Banana	**236,417**	**207,635**	**74,733**	**79,107**	**830,491**	**931,991**	**11,113**	**11,781**
Cooking banana	81,010	62,054	20,155	22,089	362,165	410,259	17,969	18,573
Dessert banana	37,398	30,911	10,517	11,337	123,502	138,090	11,743	12,180
Banana for beer	118,009	114,670	44,060	45,681	344,825	383,641	7,826	8,398
Legumes and Pulses	**330,491**	**333,599**	**330,491**	**333,599**				
Beans	282,099	283,104	282,099	283,104	230,744	209,383	818	740
Bush bean	190,548	189,488	190,548	189,488	140,066	125,425	735	662
Climbing bean	91,551	93,616	91,551	93,616	90,678	83,958	990	897
Pea	6,859	6,229	6,859	6,229	6,136	5,668	895	910
Groundnut	19,990	21,292	19,990	21,292	10,200	10,542	510	495
Soybean	21,543	22,974	21,543	22,974	10,588	10,955	492	477
Vegetables and Fruits	**22,430**	**23,763**	**20,595**	**20,923**				
Vegetables	14,976	15,939	14,972	15,945	155,506	166,272	10,386	10,428
Fruits	7,454	7,824	5,623	4,978	23,315	24,830	4,147	4,988
Fodder crops	7,184	12,010	6,597	11,665	98,177	106,479	14,881	9,128
Other crops	42,554	50,895	30,995	28,205	88,985	116,028	2,871	4,114
Total Developed Crop area	**1,204,057**	**1,196,782**	**885,548**	**896,733**	**(NA)**	**(NA)**	**(NA)**	**(NA)**

Source: NISR, SAS, 2020

3.3. Use of inputs

Findings related to use of agricultural inputs (seeds, fertilizers and pesticides) in 2020 Season B, are presented in terms of percentage of farmers who used such agricultural inputs.

3.3.1. Use of seeds

In Season B of 2020, 16 % of farmers used improved seeds. According to farmer type, 14 % of small-scale farmers (SSF) and 80% of Large-scale farmers (LSF) used improved seeds (See Figure 2). Improved seeds came from agro-dealers (41.6%), NGOs/companies (20.0%), government (13.1%), seeds multipliers (9.6%), market (9.4%), and

cooperatives (5.3%). Improved seeds were used mostly for crops such as paddy rice, vegetables, fruits, maize and wheat (See details in Tables,17,18,19 and 20).

3.3.2. Use of fertilizers

Results show that in season B of 2020, 52 % of farmers applied organic fertilizer in their farms. According to farmer type, 52 % of small-scale farmers and 56% of Large-scale farmers applied organic fertilizer. (See Figure 2 and Table 21).

Results also show that 26% of famers applied inorganic fertilizer. According to farmer type, 25 % of small-scale farmers and 73 % of Large-scale farmers applied inorganic fertilizer (See Figure 2). 54.7% of famers bought inorganic fertilizers from agro-dealers, 30.1 % of farmers gained inorganic fertilizers from NGOs/ companies. DAP, UREA and NPK-17-17-17 are inorganic fertilizers mostly used in 2020 Season B with 40.8 %, 33.9 % and 18.8% respectively (See details in Tables 7,21,22,23, 24 and 25).

3.3.3. Use of pesticides

In season B of 2020, 15 % of farmers applied pesticides. According to farmer type, 14 % of small-scale farmers and 75 % of Large-scale farmers applied pesticides (See Figure 2). Rocket, Dithane and Cypermethrin were the most used pesticides, with 30.4 % of farmers, 30.0% and 17.6% respectively (See details in Tables 26 and 27).

Figure 3: Use of inputs in Season B 2020 (in percentage)
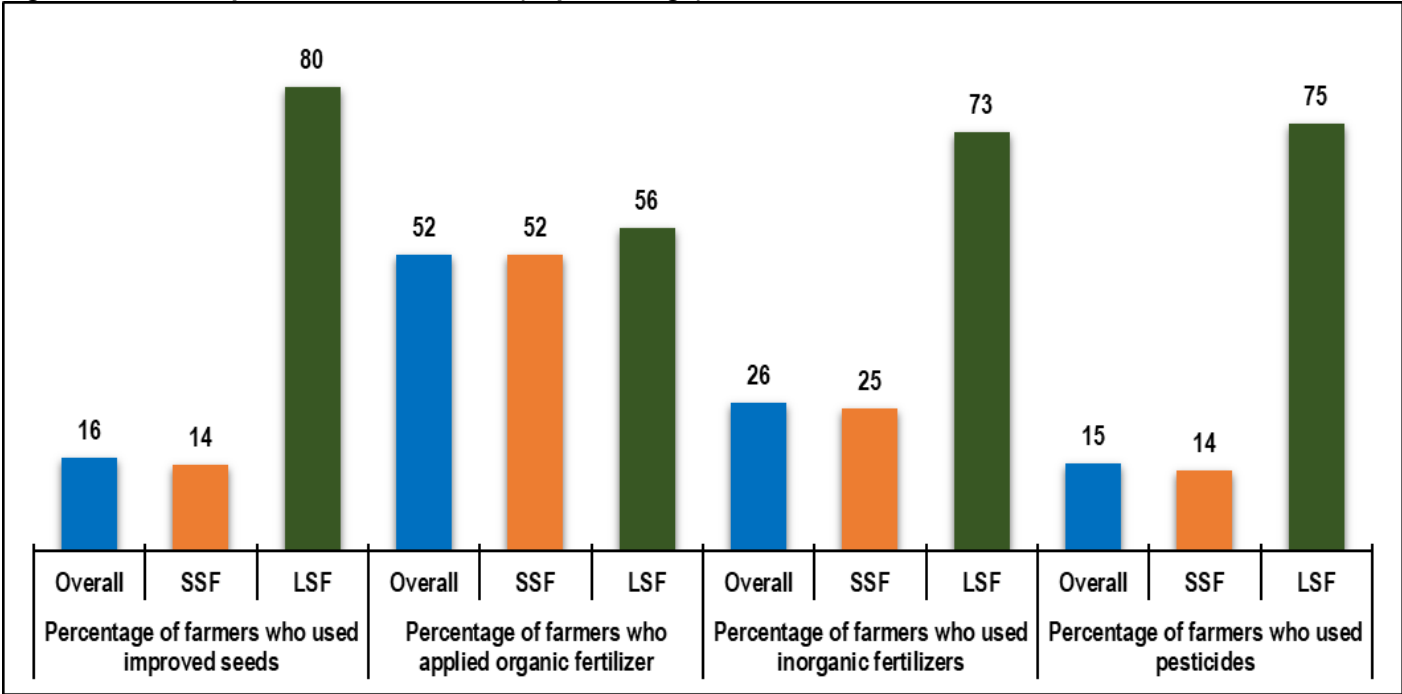
Source: NISR, SAS 2020

3.4. Agricultural practices

Findings related to use of agricultural practices (anti-erosion activities, irrigation and mechanization) in 2020 Season B, are presented in terms of percentage of farmers.

3.4.1.   Irrigation practices

In season B of 2020, 12% of farmers practiced irrigation. Traditional irrigation technique was applied by 47.1% of farmers. Lakes/stream and Underground water were most sources of water used for irrigation with 52.1% and 29.5 % respectively (See details in Tables 7,28,29 and 30).

3.4.2.   Erosion control measures

In season B of 2020, 88% of farmers practiced anti-erosion activities, while 36 % of farmers practiced agroforestry. Cover plants was the mostly type of anti-erosion used with 49.3% of farmers. The very low degree of erosion (splash erosion) appeared mostly with 54.6% (See details in Tables 7,28,31 and 32).

Figure 4: Use of agricultural practices in Season B 2020
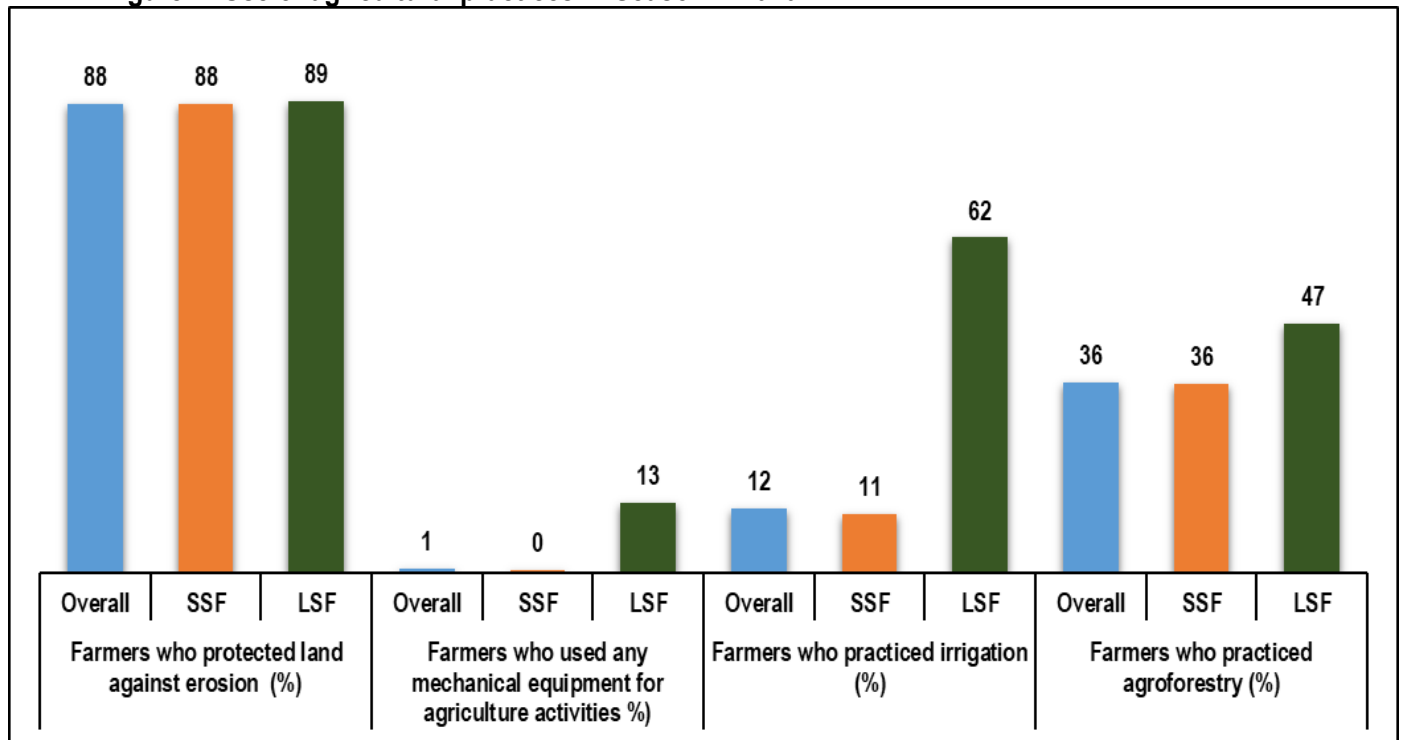
Source: NISR, SAS 2020

MAIN TABLES

Table 6: Season B 2020_Agricultural land use per district (,000Ha)

District	Total land area	Agricultural land	% of agricultural land	Arable land	Physical cultivated land	Area under seasonal crops	Area under permanent crops	Temporary fallow land	Temporarily midow and pasture	Area under permanent pasture
Nyarugenge	13.1	6.2	47.2	4.8	6.2	4.3	3.6	0.5	0.0	0.0
Gasabo	42.7	19.3	45.2	20.0	19.4	17.9	7.9	2.1	1.0	0.4
Kicukiro	16.6	5.3	32.0	5.2	5.2	4.8	2.5	0.4	0.0	0.5
Nyanza	67.1	44.1	65.7	42.7	39.5	37.5	15.5	5.2	0.5	0.4
Gisagara	67.3	44.4	65.9	40.1	35.0	33.7	15.6	6.4	0.2	0.3
Nyaruguru	100.7	37.8	37.6	30.3	28.0	24.7	10.7	5.6	0.7	-
Huye	58.1	32.4	55.8	31.0	29.1	27.6	13.8	3.4	0.1	-
Nyamagabe	109.1	46.8	42.9	41.5	41.1	36.9	14.5	4.6	0.3	-
Ruhango	62.6	45.1	72.1	56.6	55.4	52.7	15.6	3.8	0.8	0.2
Muhanga	64.4	38.8	60.3	43.6	45.1	37.1	25.0	6.5	0.7	0.2
Kamonyi	65.8	44.0	66.8	41.5	43.7	38.0	20.6	3.5	0.6	-
Karongi	78.9	45.1	57.2	41.2	41.8	34.0	21.2	7.2	0.4	0.1
Rutsiro	66.0	41.5	62.9	31.1	28.6	24.0	18.3	7.2	0.3	5.9
Rubavu	33.8	23.8	70.5	22.2	23.0	20.7	6.0	1.4	0.7	0.2
Nyabihu	53.6	36.3	67.8	31.4	24.7	24.3	6.2	7.1	0.5	4.2
Ngororero	67.5	44.3	65.7	36.4	34.9	30.4	19.3	6.0	0.3	3.5
Rusizi	91.4	36.0	39.3	32.2	35.0	30.7	13.5	1.5	-	0.1
Nyamasheke	94.8	43.6	46.0	32.2	37.6	30.0	19.5	2.2	0.3	0.1
Rulindo	56.7	37.6	66.4	38.2	38.0	35.3	15.5	2.9	0.3	0.8
Gakenke	70.1	49.0	69.9	41.4	44.5	36.6	21.2	4.7	0.1	-
Musanze	50.9	29.8	58.5	28.5	25.7	25.1	4.2	3.4	0.3	-
Burera	58.4	36.8	62.9	38.6	34.2	33.8	4.6	4.8	0.2	-
Gicumbi	82.5	50.4	61.2	48.6	47.6	44.5	12.0	4.1	0.8	-
Rwamagana	65.3	45.9	70.2	45.4	45.1	42.0	24.5	3.4	0.3	2.6
Nyagatare	191.1	145.9	76.3	74.4	76.3	72.1	89.5	2.2	0.0	71.3
Gatsibo	153.6	73.5	47.9	58.8	63.8	55.1	35.3	3.7	2.6	6.2
Kayonza	179.2	93.3	52.1	60.7	58.3	55.0	48.8	5.7	0.1	30.4
Kirehe	114.9	70.2	61.1	60.5	62.3	56.8	28.4	3.7	0.1	4.1
Ngoma	80.5	53.6	66.5	45.6	45.3	39.9	24.2	5.7	0.5	2.4
Bugesera	120.4	74.1	61.5	73.4	70.0	62.9	33.8	10.4	1.0	7.0
National	2,377.1	1,394.9	58.7	1,197.9	1,184.4	1,068.5	591.5	129.4	13.8	140.7

Source: NISR, SAS 2020

Table 7: Area Under agricultural practices

District	Modern irrigated agricultural land (Ha)	Agricultural area under erosion control	Agricultural area under agroforestry trees	Agricultural area under fertilizer application	
				Inorganic fertilizer	Organic fertilizer
Nyarugenge	60	4,005	2,128	542	2,525
Gasabo	269	13,422	10,046	2,473	6,899
Kicukiro	133	1,936	2,559	797	1,355
Nyanza	778	32,273	14,011	5,111	15,720
Gisagara	2,329	22,993	13,175	7,705	12,501
Nyaruguru	35	28,613	8,330	10,419	16,979
Huye	998	23,375	8,460	4,566	12,920
Nyamagabe	9	42,674	14,586	12,898	25,163
Ruhango	850	44,799	19,399	4,647	24,748
Muhanga	272	45,772	16,598	4,804	26,421
Kamonyi	272	34,619	10,583	3,541	19,836
Karongi	1	41,142	14,885	8,079	21,076
Rutsiro		32,453	13,136	8,774	16,671
Rubavu		19,566	5,345	10,667	8,110
Nyabihu		26,942	14,574	14,904	13,987
Ngororero	468	32,865	12,113	11,368	24,089
Rusizi	455	26,887	18,837	7,577	9,531
Nyamasheke	358	33,840	22,965	12,152	21,720
Rulindo	47	37,325	11,339	8,075	24,630
Gakenke		43,208	14,684	13,772	31,794
Musanze		22,334	10,441	10,820	14,511
Burera		27,813	3,633	7,427	20,916
Gicumbi		45,061	12,482	9,249	36,388
Rwamagana	653	40,234	20,484	9,142	16,207
Nyagatare	3,058	36,389	50,818	18,979	18,016
Gatsibo	1,827	52,003	29,145	14,068	25,677
Kayonza	1,403	24,401	37,645	10,611	13,861
Kirehe	3,685	35,880	30,807	11,149	17,862
Ngoma	2,189	26,966	22,673	6,765	13,142
Bugesera	1,624	34,335	28,642	12,174	20,435
National	**21,774**	**934,123**	**494,524**	**263,255**	**533,692**
Small scale farmers	**5,339**	**911,527**	**484,557**	**245,005**	**523,823**
Large scale farmers	**16,435**	**22,596**	**9,967**	**18,250**	**9,869**

Source: NISR, SAS 2020

Table 8: Season B 2020_Cultivated area by crop type and district (Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Other cereals	Cassava	Sweet potato	Irish potato	Yarms & Taro	Bananas	Cooking banana	Dessert banana	Banana for beer	Beans	Bush bean	Climbing bean	Pea	Groundnut	Soybean	vegetables	Fruits	Fodder crops	Other crops	Total Developed land
Nyarugenge	113	534				789	103	10	28	**1,410**	304	241	865	1,142	1,127	15	9	79	178	335	46	14	1,026	**5,815**
Gasabo	906	5,679	237		19	1,324	949	579	104	**3,082**	856	1,005	1,221	5,088	4,982	106	39	220	215	708	57	767	323	**20,296**
Kicukiro	375	1,533	20			328	362	48	20	**931**	301	210	420	1,273	1,257	16	10	73	151	67	37	17	127	**5,370**
Nyanza	1,792	6,282	597		51	6,417	2,470	325	457	**3,458**	638	1,286	1,534	9,526	7,330	2,197	21	1,131	1,112	452	235	427	1,442	**36,197**
Gisagara	1,860	4,552	2,434		291	8,574	2,095	206	188	**4,123**	669	1,216	2,238	13,971	12,379	1,592	34	746	1,974	366	579	165	463	**42,622**
Nyaruguru	488	3,723		422	7	3,210	3,681	1,424	328	**1,868**	479	540	849	3,442	702	2,739	162	49	634	231	169	605	3,223	**23,663**
Huye	457	8,047	957		24	4,238	2,324	257	420	**2,480**	712	500	1,267	6,264	3,959	2,304	21	319	1,824	190	127	117	1,275	**29,340**
Nyamagabe	401	5,111	18	1,046	62	5,533	6,584	2,149	306	**4,472**	356	435	3,681	5,181	1,118	4,063	1,544	19	800	393	137	203	3,240	**37,198**
Ruhango	1,018	3,490	765		49	32,901	2,901	230	478	**7,053**	523	820	5,710	10,625	7,386	3,240	71	1,962	1,965	478	163	792	1,021	**65,961**
Muhanga	263	173	147		9	15,015	5,936	102	1,631	**16,275**	1,171	1,355	13,749	9,044	6,166	2,878	32		2,000	369	210	605	558	**52,370**
Kamonyi	2,084	3,696	195		17	8,343	3,286	612	1,038	**13,615**	1,239	1,695	10,680	9,758	8,803	956	92	731	1,862	946	378	614	2,261	**49,529**
Karongi	585	2,272		284	68	7,685	5,126	710	906	**12,980**	540	945	11,496	6,689	2,027	4,662	349		1,898	491	25	346	2,966	**43,379**
Rutsiro	1,861	31		477		2,443	3,110	3,416	1,336	**5,094**	669	2,161	2,264	4,894	784	4,110	471		453	301	852	207	3,154	**28,098**
Rubavu	1,416	626				593	644	5,868	176	**2,173**	367	279	1,527	3,437	157	3,280	152		141	2,269	70	568	1,413	**19,548**
Nyabihu	3,346	72		1,334		231	2,425	6,436	45	**1,271**	208	500	564	2,004		2,004	193		42	1,016	79	349	2,641	**21,484**
Ngororero	1,871	9		1,455		1,600	6,652	1,525	933	**9,087**	517	1,109	7,461	3,451	555	2,896	222		734	455	111	276	720	**29,099**
Rusizi	1,099	59	1,420			16,763	1,806	32	596	**3,240**	731	236	2,273	6,840	4,321	2,519	127	59	404	187	651		3,279	**36,563**
Nyamasheke	525	14	358	46	5	10,705	3,208	66	929	**3,708**	735	478	2,495	4,291	1,092	3,200	121	628	1,784	467	159	297	7,410	**34,722**
Rulindo	1,025	4,089	17	408		6,536	3,173	1,079	139	**7,513**	993	1,865	4,655	9,938	4,891	5,048	155	62	167	543	137	201	1,058	**36,241**
Gakenke	1,468	507	30	334		5,194	6,409	1,085	1,117	**13,537**	1,895	3,659	7,984	10,748	552	10,196	189	21	383	350	244	113	1,821	**43,549**
Musanze	2,573	1,020		530		187	1,391	3,995	201	**1,391**	291	631	470	5,779	350	5,429	156			1,242	342	242	2,182	**21,230**
Burera	2,356	5,161		1,591	28	179	3,148	3,974	135	**1,925**	762	152	1,011	11,209	1,196	10,013	571			323	66	198	21	**30,886**
Gicumbi	1,570	17,145		196		2,591	5,718	2,875	161	**6,580**	1,532	1,683	3,365	11,547	3,643	7,904	888	347	34	368	301	734	995	**52,049**
Rwamagana	3,345	8,439	383		41	6,918	988	1,272	680	**10,108**	7,069	1,418	1,622	8,894	8,728	166	71	1,383	181	887	1,029	306	1,457	**46,383**
Nyagatare	18,556	8,384	1,598		20	11,131	1,893	871	173	**10,854**	6,975	738	3,141	31,124	29,798	1,326	78	3,285	1,309	761	201	17	175	**90,428**
Gatsibo	7,020	9,091	1,557		9	1,731	1,031	1,765	378	**13,236**	6,612	2,062	4,561	16,946	15,365	1,581	84	4,330	914	202	156	2,567	3,000	**64,015**
Kayonza	5,540	14,906	977		144	10,242	1,753	2,090	341	**7,570**	5,715	587	1,267	15,415	15,301	115	130	1,303	223	283	592	133	834	**62,477**
Kirehe	2,918	11,875	943		177	7,222	1,501	446	919	**9,489**	6,461	470	2,558	19,719	12,964	6,756	197	621	680	404	188	50	941	**58,294**
Ngoma	1,733	3,627	828		372	10,292	1,510	236	257	**14,110**	10,433	739	2,938	18,703	16,613	2,090	41	644	356	349	282	398	831	**54,571**
Bugesera	4,354	5,977	1,595		29	3,241	2,369	269	147	**15,001**	2,301	1,897	10,803	16,159	15,942	217		3,280	558	505	202	681	1,038	**55,405**
National Level	72,918	136,124	15,077	8,122	1,422	192,156	84,545	43,950	14,565	207,635	62,054	30,911	114,670	283,104	189,488	93,616	6,229	21,292	22,974	15,939	7,824	12,010	50,895	**1,196,782**
Small scale Farmer	71,376	136,050	328	8,076	1,422	192,099	84,529	43,660	14,564	207,570	61,997	30,906	114,667	281,223	187,612	93,611	6,175	21,290	22,406	15,837	7,629	11,370	50,360	**1,175,964**
Larger scale Farmer	1,542	75	14,749	46	-	57	16	290	2	65	57	5	3	1,880	1,876	5	54	3	569	102	196	640	534	**20,819**

Source: NISR, SAS, 2020

Table 9: Season B 2020_Harvested area by crop type and district (Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Other cereals	Cassava	Sweet potato	Irish potato	Yarms & Taro	Bananas	Cooking banana	Dessert banana	Banana for beer	Beans	Bush bean	Climbing bean	Pea	Groundnut	Soybean	vegetables	Fruits	Fodder crops	Other crops	Developed land
Nyarugenge	113	534	-	-	-	191	103	10	28	735	89	84	562	1,142	1,127	15	9	79	178	335	19	14	115	3,603
Gasabo	906	5,679	237	-	19	345	949	579	104	1,313	367	441	504	5,088	4,982	106	39	220	215	708	50	767	209	17,427
Kicukiro	375	1,533	20	-	-	81	362	48	20	402	108	90	204	1,273	1,257	16	10	73	151	67	7	17	76	4,515
Nyanza	1,792	6,282	597	-	51	1,557	2,470	325	457	1,118	214	439	465	9,526	7,330	2,197	21	1,131	1,112	452	124	427	927	28,370
Gisagara	1,860	4,552	2,434	-	291	2,812	2,095	206	188	1,648	289	426	932	13,971	12,379	1,592	34	746	1,974	366	19	165	266	33,628
Nyaruguru	488	3,723	-	422	7	1,354	3,681	1,424	328	631	168	147	315	3,442	702	2,739	162	49	634	231	123	605	762	18,063
Huye	457	8,047	957	-	24	887	2,324	257	420	930	218	213	499	6,264	3,959	2,304	21	319	1,824	190	21	117	1,018	24,076
Nyamagabe	401	5,111	18	1,046	62	1,174	6,584	2,149	306	1,418	87	117	1,214	5,181	1,118	4,063	1,544	19	800	393	81	140	1,048	27,474
Ruhango	1,018	3,490	765	-	49	6,665	2,901	230	478	2,160	130	195	1,835	10,625	7,386	3,240	71	1,962	1,965	478	112	739	678	34,385
Muhanga	263	173	147	-	9	2,574	5,936	102	1,631	6,750	345	453	5,952	9,044	6,166	2,878	32	-	2,000	369	155	605	436	30,227
Kamonyi	2,084	3,696	195	-	17	1,004	3,286	612	1,038	4,420	327	658	3,435	9,758	8,803	956	92	731	1,862	946	259	558	1,548	32,106
Karongi	585	2,272	-	284	68	1,851	5,126	710	906	4,820	132	283	4,405	6,689	2,027	4,662	349	-	1,898	491	12	346	1,111	27,517
Rutsiro	1,861	31	-	477	-	948	3,110	3,416	1,336	2,209	287	758	1,164	4,894	784	4,110	471	-	453	301	765	207	2,200	22,676
Rubavu	1,416	626	-	-	-	506	644	5,868	176	947	154	143	650	3,437	157	3,280	152	-	141	2,269	47	523	1,165	17,919
Nyabihu	3,346	72	-	1,334	-	37	2,425	6,436	45	388	58	158	172	2,004	-	2,004	193	-	42	1,016	79	349	2,576	20,343
Ngororero	1,871	9	-	1,455	-	218	6,652	1,525	933	3,717	178	366	3,173	3,451	555	2,896	222	-	734	455	106	276	176	21,798
Rusizi	1,099	59	1,420	-	-	7,731	1,806	32	596	1,215	421	119	675	6,836	4,318	2,519	127	59	404	187	292	-	1,363	23,227
Nyamasheke	525	14	358	46	5	4,037	3,208	66	929	1,172	116	124	932	4,291	1,092	3,200	121	628	1,784	467	139	237	3,410	21,437
Rulindo	1,025	4,089	17	408	-	1,089	3,173	1,079	139	2,542	373	679	1,489	9,938	4,891	5,048	155	62	167	549	76	195	537	25,241
Gakenke	1,468	507	30	334	-	1,047	6,409	1,085	1,117	5,749	663	1,465	3,621	10,748	552	10,196	189	21	383	350	195	113	1,444	31,187
Musanze	2,573	1,020	-	530	-	26	1,391	3,995	201	432	61	147	224	5,779	350	5,429	156	-	-	1,242	311	242	2,075	19,972
Burera	2,356	5,161	-	1,591	28	30	3,148	3,974	135	546	219	101	226	11,209	1,196	10,013	571	-	-	323	289	198	21	29,581
Gicumbi	1,570	17,145	-	196	-	451	5,718	2,875	161	1,752	392	471	889	11,547	3,643	7,904	888	347	34	368	279	734	207	44,272
Rwamagana	3,345	8,439	383	-	41	1,519	988	1,272	680	3,774	2,498	591	685	8,894	8,728	166	71	1,383	181	887	704	306	735	33,602
Nyagatare	18,556	8,384	1,598	-	20	1,576	1,893	871	173	4,146	2,411	210	1,525	31,124	29,798	1,326	78	3,285	1,309	761	162	17	75	74,027
Gatsibo	7,020	9,091	1,557	-	9	668	1,031	1,765	378	5,211	2,323	822	2,066	16,946	15,365	1,581	84	4,330	914	202	88	2,567	2,389	54,249
Kayonza	5,540	14,906	977	-	144	2,439	1,753	2,090	341	3,068	2,162	277	629	15,415	15,301	115	130	1,303	223	283	52	133	425	49,222
Kirehe	2,918	11,875	943	-	177	1,916	1,501	446	919	4,279	2,652	222	1,405	19,719	12,964	6,756	197	621	680	404	73	50	301	47,022
Ngoma	1,733	3,627	828	-	372	1,423	1,510	236	257	5,398	3,690	294	1,413	18,706	16,616	2,090	41	644	356	349	222	398	499	36,601
Bugesera	4,354	5,977	1,595	-	29	354	2,369	269	147	6,217	954	841	4,421	16,159	15,942	217	-	3,280	558	505	119	620	415	42,966
National Level	72,918	136,124	15,077	8,122	1,422	46,509	84,545	43,950	14,565	79,107	22,089	11,337	45,681	283,104	189,488	93,616	6,229	21,292	22,974	15,945	4,978	11,665	28,205	896,733
Small scale Farmer	71,376	136,050	328	8,076	1,422	46,504	84,529	43,660	14,564	79,050	22,040	11,332	45,678	281,223	187,612	93,611	6,175	21,290	22,406	15,843	4,911	11,026	27,966	876,397
Larger scale Farmer	1,542	75	14,749	46	-	6	16	289	2	57	49	5	2	1,880	1,876	5	54	3	569	102	67	639	239	20,336

Source: NISR, SAS, 2020

Table 10: Season B 2020_Average yield by crop type and district (Kg/Ha)

District	Maize	Sorghum	Paddy rice	Wheat	Other Cereals	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
Nyarugenge	1,239	799	-	-	-	11,257	5,446	2,413	6,894	8,639	19,949	7,725	6,977	620	617	823	563	350	455	6,328	9,672	17,417	33,375
Gasabo	1,112	873	4,104	-	838	11,966	5,895	3,370	2,307	11,783	17,607	11,782	7,541	645	645	649	652	472	346	11,129	4,482	9,994	891
Kicukiro	1,051	1,047	3,887	-	-	14,068	10,628	3,518	5,431	13,538	20,296	15,205	9,222	812	809	1,053	537	414	664	8,419	-	3,133	20,874
Nyanza	1,321	870	5,536	-	1,107	18,982	7,986	2,787	4,039	9,013	11,921	7,676	8,935	759	783	679	532	387	323	10,735	4,847	11,834	1,004
Gisagara	999	714	3,913	-	1,059	17,171	6,187	2,250	4,107	10,338	15,311	10,021	8,938	555	526	785	526	366	463	8,494	6,011	8,505	886
Nyaruguru	1,941	673	-	872	1,233	14,267	8,591	7,135	11,195	9,784	14,977	8,048	7,820	861	611	925	1,181	365	465	11,744	2,891	19,236	1,066
Huye	1,513	762	3,756	-	1,073	21,291	8,420	3,511	4,323	9,587	11,055	10,517	8,546	687	625	793	687	351	489	11,157	3,317	13,568	1,143
Nyamagabe	1,334	621	2,776	1,178	1,008	11,862	6,971	7,781	8,389	6,732	9,497	12,884	5,941	668	500	714	979	115	333	8,317	4,203	10,202	657
Ruhango	1,023	659	3,648	-	1,122	18,309	4,346	3,701	7,451	8,060	17,880	12,847	6,855	728	707	775	1,253	642	389	6,874	10,883	16,101	11,429
Muhanga	1,111	703	3,918	-	1,413	17,352	6,931	3,488	7,190	8,091	14,723	10,048	7,558	598	566	665	430	-	521	10,232	6,856	9,473	3,986
Kamonyi	631	1,086	3,906	-	880	16,118	5,329	1,663	8,511	9,109	18,559	11,184	7,813	610	602	688	949	329	444	9,328	4,612	15,028	1,577
Karongi	1,517	624	-	885	1,045	13,812	9,244	4,151	8,661	9,293	17,027	13,080	8,818	779	744	794	1,129	-	421	9,035	4,096	11,398	1,471
Rutsiro	1,501	1,362	-	404	-	14,216	7,014	4,075	7,130	15,024	25,792	19,122	9,703	759	612	787	723	-	406	10,106	6,110	6,690	5,618
Rubavu	1,936	1,681	-	-	-	8,214	6,279	11,350	5,701	12,061	19,494	13,347	10,016	863	609	876	1,243	-	1,161	13,770	3,474	2,276	16,275
Nyabihu	1,644	-	-	1,221	-	9,313	6,650	11,882	7,302	9,163	16,481	8,738	7,095	849	-	849	664	-	321	11,706	4,618	5,988	269
Ngororero	1,277	642	-	688	-	10,709	6,042	3,489	7,759	8,686	17,537	12,065	7,799	642	552	660	990	-	362	7,391	7,416	10,252	6,279
Rusizi	1,308	717	6,748	-	-	8,831	8,510	8,082	7,344	13,120	18,303	19,093	8,827	757	743	781	1,266	756	533	12,147	5,607	-	4,732
Nyamasheke	1,125	1,493	5,294	819	1,230	11,794	8,382	3,138	6,470	12,361	21,796	15,416	10,781	796	589	866	827	397	626	8,998	3,098	2,797	1,744
Rulindo	1,043	940	3,140	823	-	14,851	7,350	5,745	7,028	11,499	20,385	12,425	8,850	772	639	900	433	587	355	8,405	1,988	11,114	44,443
Gakenke	1,300	1,112	3,501	1,735	-	18,151	11,045	5,709	8,399	11,852	23,238	12,849	9,364	941	639	957	677	548	513	9,695	5,931	7,790	2,561
Musanze	1,658	1,241	-	1,158	-	11,651	10,959	10,965	10,644	9,199	16,000	7,513	8,468	1,134	1,145	1,133	1,463	-	-	8,016	4,675	6,420	3,202
Burera	1,534	1,387	-	1,436	961	11,710	7,131	11,584	7,256	14,109	21,034	12,329	8,206	1,035	648	1,081	903	-	-	7,638	750	15,310	1,216
Gicumbi	1,205	1,038	-	758	-	20,282	6,929	8,577	7,352	12,838	22,174	11,196	9,590	991	603	1,170	887	567	884	10,429	6,799	15,194	3,772
Rwamagana	1,137	1,172	4,119	-	771	16,575	4,538	4,171	6,691	15,318	18,721	9,693	7,758	603	590	1,289	369	333	397	11,574	2,050	14,366	4,587
Nyagatare	1,284	865	4,806	-	1,720	20,617	3,708	3,829	3,629	14,908	18,967	12,947	8,759	737	734	798	267	715	651	9,378	4,360	6,385	13,163
Gatsibo	1,482	1,133	4,483	-	882	16,768	9,790	4,434	8,298	13,659	18,326	11,170	9,401	712	708	754	732	535	616	11,935	4,878	49	2,214
Kayonza	1,051	1,055	4,402	-	1,127	16,311	4,174	3,310	6,119	15,805	18,034	14,110	8,896	666	662	1,226	691	409	574	14,490	12,720	28,953	968
Kirehe	1,729	844	5,326	-	1,056	17,356	4,697	2,468	4,445	16,728	21,259	14,485	8,531	674	618	781	1,091	469	497	11,914	1,046	13,583	3,114
Ngoma	941	999	4,232	-	1,136	17,110	7,598	4,859	3,413	15,550	17,597	12,384	10,866	737	706	985	582	396	439	11,433	6,189	10,096	2,618
Bugesera	1,014	717	1,207	-	1,051	21,988	4,093	2,525	6,456	9,438	14,653	12,468	7,736	623	622	704	-	394	340	12,489	15,091	11,819	486
National Level	**1,298**	**942**	**4,264**	**1,068**	**1,083**	**15,073**	**7,232**	**8,019**	**7,046**	**11,781**	**18,573**	**12,180**	**8,398**	**740**	**662**	**897**	**910**	**495**	**477**	**10,428**	**4,988**	**9,128**	**4,114**
Small scale Farmer	**1,258**	**942**	**3,704**	**1,067**	**1,083**	**15,072**	**7,232**	**7,952**	**7,047**	**11,778**	**18,578**	**12,179**	**8,398**	**740**	**661**	**897**	**902**	**495**	**471**	**10,457**	**4,982**	**8,923**	**4,116**
Larger scale Farmer	**3,136**	**1,193**	**4,276**	**1,300**	**-**	**20,876**	**4,868**	**18,198**	**1,879**	**16,244**	**16,614**	**15,458**	**10,354**	**716**	**715**	**1,062**	**1,771**	**635**	**721**	**5,933**	**5,395**	**12,654**	**3,804**

Source: NISR, SAS 2020

Table 11: 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	Peas	Ground nuts	Soya beans	Vegetables	Fruits	Fodder crops	Other crops
Gasabo	2,348	-	4,104	-	-	3,277	-	-	6,223	5,715	16,723	-	660	660	-	-	-	465	9,273	4,736	20,593
Kicukiro	378	-	3,887	-	-	-	-	-	18,213	20,636	13,064	-	901	901	-	-	-	-	3,251	-	13,019
Nyanza	1,684	-	5,599	-	-	8,889	-	-	4,304	5,121	2,520	3,546	-	-	-	-	-	-	5,297	-	-
Gisagara	617	-	3,949	-	5,352	-	-	-	17,462	17,462	-	-	287	287	-	-	-	724	701	873	6,200
Nyaruguru	3,698	-	-	856	-	-	23,662	-	18,855	10,734	11,730	28,952	882	882	-	-	-	-	-	-	14,566
Huye	1,602	-	3,756	-	-	-	-	-	13,166	13,166	-	-	-	-	-	-	-	-	-	-	13,019
Nyamagabe	1,824	-	-	1,359	-	-	11,298	-	-	-	-	-	-	-	-	1,058	-	-	-	-	-
Ruhango	3,604	680	3,668	-	18,000	12,435	-	-	6,859	15,625	22,604	12,108	8,793	989	988	1,034	1,253	-	-	318	-	13,019
Muhanga	-	-	3,918	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kamonyi	2,786	-	3,906	-	-	-	-	-	-	-	-	-	679	679	-	-	-	1,215	5,830	-	-
Karongi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubavu	-	-	-	-	-	-	16,316	2,935	14,132	14,132	-	-	-	-	-	-	-	-	-	-	67,967
Rusizi	-	-	6,748	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nyamasheke	-	-	5,294	-	-	-	-	-	-	-	-	-	112	112	-	-	191	178	-	-	-
Rulindo	2,654	1,481	3,140	1,725	-	6,967	9,209	-	22,428	23,828	15,474	-	1,020	1,047	799	1,020	-	-	-	-	13,019
Gicumbi	-	-	-	1,197	-	-	14,880	-	-	-	-	-	-	-	-	-	-	-	-	-	35,968
Rwamagana	3,365	2,092	4,119	-	18,142	4,815	3,460	2,460	19,924	20,196	6,252	6,600	753	753	-	-	295	1,137	7,564	4,716	12,592
Nyagatare	1,752	780	4,806	-	27,372	3,871	14,279	-	22,009	23,710	12,472	11,321	493	493	1,223	-	1,074	880	4,567	1,004	6,385
Gatsibo	2,023	-	4,483	-	20,660	6,256	3,353	-	20,678	21,849	10,080	10,715	739	733	1,179	-	-	660	2,043	-	12,881
Kayonza	2,090	1,272	4,402	-	14,538	8,663	14,070	754	8,969	8,962	10,397	10,357	560	560	-	72	897	816	2,811	8,463	5,015
Kirehe	4,451	-	5,297	-	-	5,352	11,298	-	-	-	-	-	1,113	1,113	-	1,975	-	641	9,803	-	-
Ngoma	2,088	-	4,232	-	-	1,235	-	-	19,730	21,415	11,882	-	330	330	-	-	-	407	1,266	6,844	8,428
Bugesera	1,222	567	1,106	-	18,532	2,345	6,537	-	15,509	14,884	17,959	8,580	555	555	-	-	506	11	1,380	790	9,883
National level	**3,136**	**1,193**	**4,276**	**1,300**	**20,876**	**4,868**	**18,198**	**1,879**	**16,244**	**16,614**	**15,458**	**10,354**	**716**	**715**	**1,062**	**1,771**	**635**	**721**	**5,933**	**5,395**	**12,654**

Source: NISR, SAS 2020

Table 12: Season B 2020_Crop production by crop type and district (MT)

District	Maize	Sorghum	Paddy rice	Wheat	Other Cereals	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
Nyarugenge	140	426	-	-	-	2,149	562	24	193	6,346	1,781	646	3,918	707	695	12	5	27	81	2,118	186	253	3,829
Gasabo	1,007	4,957	974	-	16	4,126	5,592	1,950	240	15,472	6,469	5,199	3,804	3,283	3,214	69	25	104	74	7,877	226	7,667	186
Kicukiro	394	1,606	78	-	-	1,146	3,846	167	109	5,444	2,198	1,363	1,883	1,034	1,017	17	5	30	100	561	-	53	1,594
Nyanza	2,367	5,463	3,306	-	57	29,555	19,729	905	1,847	10,077	2,554	3,367	4,156	7,233	5,742	1,491	11	438	360	4,849	602	5,052	931
Gisagara	1,859	3,252	9,521	-	308	48,292	12,958	464	774	17,033	4,431	4,271	8,331	7,758	6,508	1,250	18	274	913	3,108	114	1,407	236
Nyaruguru	947	2,504	-	368	8	19,317	31,620	10,157	3,677	6,169	2,521	1,182	2,466	2,964	429	2,535	191	18	295	2,711	354	11,629	812
Huye	692	6,128	3,595	-	25	18,879	19,568	901	1,816	8,919	2,415	2,242	4,263	4,301	2,475	1,826	15	112	892	2,121	70	1,581	1,163
Nyamagabe	535	3,175	49	1,232	62	13,927	45,897	16,722	2,568	9,547	831	1,504	7,213	3,460	559	2,900	1,513	2	266	3,266	339	1,430	689
Ruhango	1,042	2,299	2,792	-	55	122,035	12,606	850	3,558	17,408	2,322	2,507	12,579	7,732	5,221	2,511	88	1,259	764	3,288	1,220	11,894	7,746
Muhanga	292	122	575	-	12	44,672	41,143	357	11,729	54,620	5,083	4,554	44,983	5,407	3,492	1,915	14	-	1,042	3,771	1,063	5,734	1,738
Kamonyi	1,315	4,014	762	-	15	16,177	17,510	1,017	8,830	40,263	6,061	7,363	26,838	5,953	5,296	658	88	240	826	8,828	1,195	8,387	2,440
Karongi	888	1,419	-	251	71	25,560	47,389	2,945	7,846	44,792	2,251	3,699	38,842	5,213	1,509	3,704	394	-	799	4,438	51	3,939	1,634
Rutsiro	2,793	43	-	193	-	13,480	21,814	13,918	9,526	33,180	7,390	14,499	11,292	3,714	480	3,234	340	-	184	3,038	4,672	1,384	12,358
Rubavu	2,743	1,052	-	-	-	4,155	4,044	66,604	1,001	11,424	3,001	1,913	6,509	2,968	96	2,872	189	-	163	31,251	163	1,191	18,968
Nyabihu	5,500	-	-	1,629	-	348	16,128	76,475	325	3,556	953	1,383	1,220	1,701	-	1,701	128	-	13	11,898	363	2,092	693
Ngororero	2,389	6	-	1,001	-	2,336	40,193	5,320	7,241	32,289	3,123	4,416	24,749	2,216	306	1,910	220	-	266	3,360	785	2,827	1,102
Rusizi	1,438	43	9,582	-	-	68,273	15,372	262	4,374	15,945	7,712	2,278	5,955	5,176	3,208	1,968	160	44	215	2,276	1,636	-	6,450
Nyamasheke	591	21	1,893	38	6	47,608	26,895	208	6,008	14,485	2,525	1,915	10,045	3,415	643	2,771	100	249	1,116	4,206	429	664	5,947
Rulindo	1,069	3,844	54	336	-	16,172	23,322	6,198	976	29,227	7,609	8,438	13,180	7,670	3,125	4,545	67	37	59	4,614	151	2,165	23,857
Gakenke	1,909	563	105	579	-	18,996	70,792	6,191	9,381	68,133	15,402	18,824	33,907	10,114	353	9,761	128	12	196	3,397	1,158	877	3,697
Musanze	4,266	1,266	-	614	-	301	15,245	43,804	2,141	3,975	970	1,107	1,898	6,551	401	6,150	228	-	-	9,959	1,454	1,551	6,642
Burera	3,615	7,160	-	2,285	27	351	22,448	46,032	980	7,710	4,606	1,246	1,858	11,597	776	10,821	516	-	-	2,470	216	3,032	26
Gicumbi	1,891	17,802	-	149	-	9,153	39,621	24,660	1,181	22,496	8,696	5,277	8,523	11,444	2,198	9,247	788	197	30	3,838	1,898	11,158	782
Rwamagana	3,802	9,888	1,578	-	32	25,170	4,485	5,308	4,547	57,812	46,772	5,727	5,312	5,364	5,150	214	26	460	72	10,264	1,442	4,390	3,371
Nyagatare	23,832	7,256	7,678	-	34	32,486	7,020	3,333	626	61,803	45,730	2,718	13,356	22,943	21,885	1,058	21	2,350	852	7,134	708	111	990
Gatsibo	10,405	10,297	6,979	-	8	11,201	10,095	7,824	3,138	71,182	42,575	9,185	19,422	12,067	10,876	1,191	62	2,318	563	2,405	429	126	5,291
Kayonza	5,823	15,729	4,303	-	162	39,779	7,316	6,918	2,085	48,493	38,987	3,910	5,596	10,264	10,123	141	90	533	128	4,105	657	3,860	411
Kirehe	5,047	10,017	5,024	-	187	33,261	7,049	1,102	4,087	71,581	56,377	3,219	11,985	13,289	8,015	5,274	215	291	338	4,819	76	680	936
Ngoma	1,632	3,622	3,506	-	423	24,344	11,469	1,148	879	83,941	64,937	3,647	15,356	13,784	11,726	2,058	24	255	156	3,991	1,372	4,023	1,307
Bugesera	4,414	4,285	1,925	-	31	7,790	9,696	678	946	58,670	13,978	10,490	34,201	10,062	9,909	153	-	1,291	189	6,311	1,800	7,324	201
National 2020 B	**94,634**	**128,258**	**64,279**	**8,673**	**1,540**	**701,037**	**611,425**	**352,441**	**102,628**	**931,991**	**410,259**	**138,090**	**383,641**	**209,383**	**125,425**	**83,958**	**5,668**	**10,542**	**10,955**	**166,272**	**24,830**	**106,479**	**116,028**
National 2019 B	**90,128**	**122,042**	**72,291**	**8,605**	**1,473**	**658,708**	**546,788**	**422,266**	**100,700**	**830,491**	**362,165**	**123,502**	**344,825**	**230,744**	**140,066**	**90,678**	**6,136**	**10,200**	**10,588**	**155,506**	**23,315**	**98,177**	**88,985**
Change	**5.0%**	**5.1%**	**-11.1%**	**0.8%**	**4.6%**	**6.4%**	**11.8%**	**-16.5%**	**1.9%**	**12.2%**	**13.3%**	**11.8%**	**11.3%**	**-9.3%**	**-10.5%**	**-7.4%**	**-7.6%**	**3.4%**	**3.5%**	**6.9%**	**6.5%**	**8.5%**	**30.4%**

Source: NISR, SAS, 2020

Table 13: The Use of production by farmers in 2020 Season B (in percentage)

Crops	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
Cereals											
Maize	28.0	61.1	1.4	1.8	4.4	0.1	1.3	0.5	1.0	0.2	0.2
Sorghum	45.1	39.1	1.0	2.3	5.3	0.1	3.6	0.0	2.8	0.3	0.4
Paddy rice	84.3	13.0	0.2	-	0.5	-	0.7	-	0.1	1.2	0.0
Wheat	41.7	44.5	0.6	0.1	5.2	-	7.5	0.0	0.2	0.1	0.1
Other cereals	15.5	76.2	0.0	0.7	2.9	-	3.3	-	0.8	0.2	0.3
Tubers and Roots											
Sweet potato	22.6	66.9	1.8	1.1	4.9	0.0	0.0	2.3	0.1	0.1	0.1
Irish potato	42.2	40.9	0.8	0.2	2.7	0.0	12.4	0.1	0.1	0.1	0.4
Taro & Yams	23.8	67.2	1.4	0.7	4.6	-	1.7	-	0.1	0.0	0.3
Cassava	37.1	56.1	0.9	1.4	3.5	0.0	-	0.2	0.2	0.3	0.2
Legumes and Pulses											
Bush bean	21.4	59.0	1.3	1.8	3.0	0.1	11.8	0.0	1.1	0.2	0.3
Climbing bean	12.2	65.7	0.8	0.5	4.5	0.1	14.0	-	1.7	0.1	0.3
Pea	29.2	56.7	0.1	0.3	2.4	0.0	10.7	-	0.3	0.1	0.0
Groundnut	31.1	41.6	0.9	0.9	4.2	0.1	20.0	-	0.6	0.2	0.3
Soybean	21.3	59.1	0.5	0.8	3.1	0.1	14.5	0.0	0.3	0.1	0.0
Banana											
Cooking banana	36.5	57.0	1.5	0.2	4.4	0.0	0.0	0.0	-	0.2	0.2
Dessert banana	65.7	30.9	0.4	0.1	1.8	0.1	-	0.0	-	0.6	0.4
Banana for beer	76.6	17.0	0.2	0.1	3.7	0.0	-	0.0	-	1.9	0.5
Vegetables and fruits											
Vegetables	79.5	12.5	0.5	0.3	3.0	-	2.6	-	0.3	0.9	0.5
Fruits	71.4	24.1	-	-	3.3	-	0.2	-	-	0.4	0.6
Fodder crops	10.4	-	1.1	-	0.1	0.6	0.9	77.5	3.5	0.0	5.9
Other crops	91.1	4.7	0.0	0.2	0.8	-	0.2	0.6	0.0	0.2	2.3

Source: NISR, SAS, 2020

Table 14: Percentage of cultivated area by cropping system and district in 2020 Season B

District	Pure	Mixed	Total
Nyarugenge	39.1	60.9	100
Gasabo	32.3	67.7	100
Kicukiro	23.0	77.0	100
Nyanza	27.3	72.7	100
Gisagara	26.5	73.5	100
Nyaruguru	46.4	53.6	100
Huye	22.5	77.5	100
Nyamagabe	37.0	63.0	100
Ruhango	29.0	71.0	100
Muhanga	26.3	73.7	100
Kamonyi	28.6	71.4	100
Karongi	41.1	58.9	100
Rutsiro	40.8	59.2	100
Rubavu	75.5	24.5	100
Nyabihu	63.5	36.5	100
Ngororero	37.9	62.1	100
Rusizi	49.5	50.5	100
Nyamasheke	41.0	59.0	100
Rulindo	34.6	65.4	100
Gakenke	35.3	64.7	100
Musanze	57.0	43.0	100
Burera	63.2	36.8	100
Gicumbi	41.5	58.5	100
Rwamagana	23.7	76.3	100
Nyagatare	19.4	80.6	100
Gatsibo	23.2	76.8	100
Kayonza	22.3	77.7	100
Kirehe	24.5	75.5	100
Ngoma	28.4	71.6	100
Bugesera	22.8	77.2	100
National	**33.4**	**66.6**	**100**
Small scale farmers	**32.3**	**67.7**	**100**
Large scale farmers	**93.5**	**6.5**	**100**

Source: NISR, SAS 2020

Table 15: Sowing dates by district in Season B 2020 (Percentage)

District	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 season (for perennial crops only)	Total
Nyarugenge	4.0	5.5	2.1	17.1	14.0	7.9	3.3	0.9	45.3	100
Gasabo	4.2	8.3	3.3	8.5	19.1	10.6	3.7	4.4	37.9	100
Kicukiro	4.6	6.1	2.9	19.6	10.4	15.8	4.1	4.9	31.5	100
Nyanza	6.6	6.0	3.8	22.1	11.5	9.4	2.7	4.1	33.8	100
Gisagara	4.5	4.6	3.3	14.1	15.2	11.2	2.6	5.0	39.5	100
Nyaruguru	4.2	6.7	4.4	9.0	9.6	11.9	5.1	12.6	36.5	100
Huye	3.2	7.7	5.1	14.9	17.6	7.3	1.4	4.1	38.9	100
Nyamagabe	4.3	6.4	5.3	9.3	10.8	14.3	9.8	10.5	29.4	100
Ruhango	4.0	7.3	3.4	19.5	18.0	7.5	2.1	7.4	30.8	100
Muhanga	4.0	3.5	1.9	11.5	11.5	8.0	2.6	4.3	52.7	100
Kamonyi	5.9	4.8	6.1	20.5	10.0	7.0	2.8	5.2	37.8	100
Karongi	1.6	3.4	5.1	13.1	13.8	11.7	4.9	7.7	38.6	100
Rutsiro	6.9	1.7	2.2	11.1	11.5	8.8	5.4	8.9	43.6	100
Rubavu	7.0	6.2	4.0	17.6	11.5	10.3	7.2	7.5	28.8	100
Nyabihu	3.8	6.8	4.8	12.7	16.5	19.7	11.6	9.8	14.4	100
Ngororero	5.9	1.7	2.2	10.4	17.4	7.8	5.2	7.7	41.7	100
Rusizi	6.1	1.2	1.0	6.4	10.9	5.9	2.5	1.4	64.7	100
Nyamasheke	5.7	1.7	1.6	13.7	14.7	11.2	3.2	4.4	43.8	100
Rulindo	2.5	12.2	6.6	7.9	5.0	13.6	8.8	8.4	35.0	100
Gakenke	5.0	4.1	1.5	6.8	6.3	14.5	6.2	7.5	48.1	100
Musanze	3.8	3.6	3.1	5.5	7.2	26.9	20.2	15.5	14.3	100
Burera	3.7	15.5	5.5	10.8	8.1	15.4	16.9	13.2	11.0	100
Gicumbi	2.9	12.3	6.4	9.0	8.3	17.1	7.4	10.6	26.2	100
Rwamagana	7.0	9.8	2.3	11.7	11.7	9.9	4.0	2.3	41.3	100
Nyagatare	4.0	1.3	1.7	10.4	20.9	29.2	7.7	2.1	22.8	100
Gatsibo	4.1	3.9	1.8	8.2	12.1	17.8	6.2	2.5	43.5	100
Kayonza	4.0	10.3	2.9	7.6	10.2	22.9	6.5	2.6	33.1	100
Kirehe	8.1	10.1	3.1	13.7	12.5	11.2	1.5	0.7	39.0	100
Ngoma	2.8	6.6	2.8	6.1	13.8	15.1	4.9	0.4	47.4	100
Bugesera	4.0	8.0	1.8	6.2	13.3	32.1	7.6	2.6	24.4	100
National	**4.7**	**6.3**	**3.3**	**11.7**	**12.7**	**14.3**	**5.5**	**5.3**	**36.3**	**100**

Source: NISR, SAS 2020

Table 16: Percentage of crops by sowing date in Season B 2020 (Percentage)

Crops	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 season (for perennial crops only)	Total
Fruits	1.6	5.2	0.8	0.4	0.8	2.4	1.6	3.2	84.0	100
Vegetables	8.9	6.8	4.5	14.3	11.1	15.1	14.2	25.1	0.0	100
Other crops	18.1	0.1	0.3	0.9	1.1	3.9	2.9	3.2	69.5	100
Other cereals	1.0	0.0	2.1	21.0	32.8	36.9	6.2	0.0	0.0	100
Taro & Yams	73.0	7.4	1.9	5.3	2.7	3.3	1.6	5.0	0.0	100
Fodder crops	79.8	1.2	1.2	4.1	1.7	3.7	4.1	4.1	0.0	100
Maize	0.6	3.2	2.9	23.4	32.8	28.4	7.2	1.5	0.0	100
Paddy rice	17.1	32.9	14.4	14.4	7.5	4.1	4.1	5.5	0.0	100
Sorghum	5.1	54.0	21.6	14.0	3.8	1.3	0.1	0.1	0.0	100
Wheat	0.0	0.0	0.4	1.4	5.3	23.0	32.2	37.8	0.0	100
Bush bean	0.2	0.5	0.9	21.5	29.1	36.2	9.7	1.9	0.0	100
Climbing bean	0.0	0.6	1.5	20.7	27.2	33.0	13.9	3.1	0.0	100
Pea	0.0	0.7	2.0	10.3	14.6	28.9	22.9	20.6	0.0	100
Irish potato	1.1	4.3	4.4	13.3	16.6	22.6	15.6	22.3	0.0	100
Sweet potato	7.0	8.3	5.2	15.7	10.0	15.3	9.5	29.2	0.0	100
Soybean	0.5	1.0	2.7	30.5	30.4	23.5	8.1	3.3	0.0	100
Groundnut	0.5	1.4	3.1	28.3	28.2	31.1	6.2	1.2	0.0	100
Cooking banana	1.5	0.1	0.0	0.1	0.1	0.1	0.0	0.2	98.0	100
Dessert banana	2.3	0.1	0.0	0.1	0.0	0.0	0.0	0.3	97.0	100
Banana for beer	1.2	0.3	0.0	0.1	0.1	0.1	0.1	0.2	98.0	100
Cassava	2.3	1.6	1.1	4.6	2.6	3.9	1.9	6.5	75.7	100
Total	4.7	6.3	3.3	11.7	12.7	14.3	5.5	5.3	36.3	100

Source: NISR, SAS 2020

Table 17: Use of seeds by farmer type per district during Season B 2020 (in percentage)

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		
	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	13.3	13.3		12.1	12.1		12.2	12.2	
Gasabo	14.3	12.0	90.0	10.3	10.2	55.6	12.5	10.9	87.3
Kicukiro	8.9	8.2	50.0	4.3	4.3	50.0	8.7	8.6	21.3
Nyanza	18.9	18.0	85.7	13.3	13.3	75.0	17.8	16.9	69.0
Gisagara	17.1	15.0	85.7	9.4	9.4	61.9	21.0	14.8	97.2
Nyaruguru	12.0	10.1	87.5	7.6	7.6	78.6	10.5	9.7	90.3
Huye	10.7	8.2	65.0	7.4	7.4	59.1	9.5	7.2	67.8
Nyamagabe	13.4	13.4		9.2	9.2		11.6	11.6	
Ruhango	10.3	9.6	45.5	5.9	5.8	52.4	9.8	8.7	78.8
Muhanga	9.3	8.6	100.0	5.5	5.5	100.0	7.5	7.2	100.0
Kamonyi	14.5	13.6	100.0	12.4	12.4	66.7	11.6	11.1	94.3
Karongi	12.3	12.4	0.0	11.7	11.7	0.0	11.5	11.5	0.0
Rutsiro	13.9	13.9		15.0	15.0		13.3	13.3	
Rubavu	20.7	20.4	50.0	11.6	11.6	37.5	19.5	19.4	52.5
Nyabihu	41.1	41.1		39.1	39.1		40.2	40.2	
Ngororero	22.7	22.7		25.0	25.0		20.8	20.8	
Rusizi	14.9	12.4	88.9	12.5	12.4	90.9	19.8	12.5	99.2
Nyamasheke	10.0	9.5	37.5	8.9	8.9	30.0	10.0	9.6	42.8
Rulindo	15.2	14.2	83.3	10.5	10.5	31.6	15.6	15.6	26.2
Gakenke	8.9	8.9		6.7	6.7		7.6	7.6	
Musanze	16.7	16.7		12.2	12.2		17.4	17.4	
Burera	7.6	7.6		4.4	4.4		7.7	7.7	
Gicumbi	10.5	10.2	100.0	9.8	9.8	75.0	8.8	8.7	93.6
Rwamagana	17.1	13.5	88.9	11.9	11.9	43.1	13.2	12.0	79.2
Nyagatare	31.6	28.0	78.1	21.8	21.7	64.2	27.4	25.4	73.3
Gatsibo	19.1	17.4	82.4	10.4	10.4	67.9	18.2	16.4	65.8
Kayonza	22.8	20.4	93.3	15.4	15.4	72.2	21.1	19.2	96.1
Kirehe	6.8	5.5	100.0	3.6	3.6	70.3	8.3	5.2	83.3
Ngoma	6.2	5.0	72.7	3.2	3.2	70.8	8.7	7.1	81.4
Bugesera	25.6	21.9	91.2	17.5	17.5	64.8	22.5	20.0	94.2
National	**15.6**	**14.3**	**80.5**	**11.2**	**11.2**	**60.9**	**15.2**	**13.9**	**82.7**

Source: NISR, SAS 2020

Table 18: Percentage of crops by seed type in Season B 2020

Crop	Traditional seeds	Improved seeds	Total
Maize	62.2	37.8	100
Paddy rice	38.7	61.3	100
Sorghum	100.0	0.0	100
Wheat	65.7	34.3	100
Other cereal	100.0	0.0	100
Bush bean	98.9	1.2	100
Climbing bean	99.5	0.5	100
Pea	100.0	0.0	100
Irish potato	94.6	5.4	100
Sweet potato	99.8	0.2	100
Taro & Yams	99.8	0.2	100
Soybean	96.3	3.7	100
Groundnut	100.0	0.0	100
Cooking banana	99.4	0.6	100
Dessert banana	97.8	2.2	100
Banana for beer	99.1	0.9	100
Cassava	99.3	0.7	100
Vegetables	45.8	54.2	100
Fruits	49.2	50.8	100
Fodder	83.4	16.6	100
Other crops	74.3	25.7	100
National	**92.8**	**7.2**	**100**

Source: NISR, SAS 2020

Table 19: Percentage of farmers by source of improved seeds per district in Season B 2020

District	Government (MINAGRI/RAB /NAEB)	Recognized seed multipliers	Agro dealers	NGOs/Companies	Market	Agriculture cooperative	Other source	Total
Nyarugenge	14.7	8.8	55.9	0.0	20.6	0.0	0.0	100
Gasabo	12.3	10.8	52.3	0.0	24.6	0.0	0.0	100
Kicukiro	17.7	23.5	50.0	2.9	5.9	0.0	0.0	100
Nyanza	15.1	4.0	18.3	54.8	3.2	4.0	0.8	100
Gisagara	12.5	17.3	22.1	31.7	2.9	13.5	0.0	100
Nyaruguru	37.3	13.7	21.6	15.7	2.0	9.8	0.0	100
Huye	7.4	5.6	22.2	42.6	3.7	16.7	1.9	100
Nyamagabe	16.2	5.9	47.1	17.7	5.9	7.4	0.0	100
Ruhango	13.1	25.0	32.1	10.7	7.1	9.5	2.4	100
Muhanga	7.1	2.4	64.3	11.9	4.8	9.5	0.0	100
Kamonyi	18.5	7.6	57.6	4.4	6.5	5.4	0.0	100
Karongi	23.6	0.0	23.6	38.2	12.7	0.0	1.8	100
Rutsiro	16.7	0.0	53.3	30.0	0.0	0.0	0.0	100
Rubavu	4.3	5.4	47.3	1.1	39.8	2.2	0.0	100
Nyabihu	8.4	9.5	52.0	9.5	15.6	3.4	1.7	100
Ngororero	10.9	0.8	30.3	41.2	9.2	7.6	0.0	100
Rusizi	47.1	19.6	13.7	13.7	0.0	0.0	5.9	100
Nyamasheke	7.4	1.9	55.6	24.1	5.6	5.6	0.0	100
Rulindo	13.2	1.3	46.1	0.0	15.8	17.1	6.6	100
Gakenke	12.5	5.4	62.5	7.1	10.7	1.8	0.0	100
Musanze	14.1	12.1	57.6	2.0	5.1	8.1	1.0	100
Burera	6.0	16.0	68.0	0.0	6.0	4.0	0.0	100
Gicumbi	7.4	8.8	55.9	2.9	22.1	2.9	0.0	100
Rwamagana	4.6	15.6	44.8	24.7	10.4	0.0	0.0	100
Nyagatare	12.0	10.4	47.5	16.6	3.9	8.9	0.8	100
Gatsibo	16.8	7.5	19.7	52.0	1.2	2.9	0.0	100
Kayonza	11.1	13.4	39.6	27.2	5.5	1.8	1.4	100
Kirehe	26.7	12.0	25.3	12.0	10.7	8.0	5.3	100
Ngoma	23.7	11.9	33.9	23.7	1.7	5.1	0.0	100
Bugesera	7.3	8.9	49.6	12.3	16.9	5.0	0.0	100
National	**13.1**	**9.6**	**41.6**	**20.0**	**9.4**	**5.3**	**0.9**	**100**

Source: NISR, SAS 2020

Table 20: Percentage of crops by source of improved seeds

Crop	Government (MINAGRI/RAB /NAEB)	Recognized seed multipliers	Agro dealers	NGOs/Companies	Market	Agriculture cooperative	Other source	Total
Fruits	8.6	29.7	52.3	0.8	7.0	1.6	0.0	100
Vegetables	0.3	5.5	44.6	1.5	45.8	1.5	0.9	100
Other crops	42.6	4.8	39.0	1.6	1.6	8.0	2.4	100
Taro & Yams	0.0	0.0	66.7	33.3	0.0	0.0	0.0	100
Fodder crops	16.7	14.3	54.8	2.4	7.1	4.8	0.0	100
Maize	7.1	4.6	45.7	33.7	5.1	3.4	0.4	100
Paddy rice	1.1	40.7	6.6	2.2	2.2	47.3	0.0	100
Wheat	25.5	2.7	57.3	6.4	4.6	3.6	0.0	100
Bush bean	20.3	6.8	20.3	30.5	5.1	13.6	3.4	100
Climbing bean	26.1	13.0	17.4	30.4	4.4	8.7	0.0	100
Pea	0.0	0.0	50.0	0.0	50.0	0.0	0.0	100
Irish potato	25.7	50.0	5.4	1.4	5.4	12.2	0.0	100
Sweet potato	70.0	10.0	10.0	10.0	0.0	0.0	0.0	100
Soybean	51.2	17.1	17.1	12.2	0.0	2.4	0.0	100
Cooking banana	14.3	35.7	25.0	10.7	7.1	7.1	0.0	100
Dessert banana	25.0	22.8	35.9	5.4	2.2	3.3	5.4	100
Banana for beer	27.1	16.7	41.7	4.2	0.0	2.1	8.3	100
Cassava	45.2	9.7	29.0	9.7	3.2	3.2	0.0	100
National	**13.1**	**9.6**	**41.6**	**20.0**	**9.4**	**5.3**	**0.9**	**100**

Source: NISR, SAS 2020

Table 21: Season B 2020_Use of organic fertilizer by farmer type per district (in percentage)

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		
	Overall	SSF	LSF	Overall	SSF	LSF	Overall	SSF	LSF
Nyarugenge	50.7	50.7		53.0	53.0		51.9	51.9	
Gasabo	41.4	40.8	60.0	33.5	33.5	38.9	36.7	36.1	65.6
Kicukiro	23.2	22.3	75.0	15.9	15.9	60.0	26.7	26.3	77.0
Nyanza	43.4	43.1	71.4	43.2	43.2	83.3	43.1	42.6	69.0
Gisagara	39.9	40.2	28.6	35.6	35.6	23.8	36.8	37.7	25.5
Nyaruguru	74.1	73.4	100.0	68.3	68.3	92.9	70.3	70.0	99.4
Huye	47.0	46.4	60.0	45.6	45.6	54.5	46.0	45.6	56.0
Nyamagabe	71.8	71.8		69.7	69.7		70.9	70.9	
Ruhango	51.4	51.3	54.5	49.6	49.6	42.9	47.2	46.7	75.6
Muhanga	66.8	66.6	100.0	58.2	58.2	100.0	64.8	64.6	100.0
Kamonyi	51.0	50.6	100.0	48.7	48.7	77.8	48.6	48.3	99.4
Karongi	59.6	59.5	100.0	55.6	55.6	100.0	59.2	59.1	100.0
Rutsiro	67.0	67.0		58.5	58.5		64.9	64.9	
Rubavu	37.6	37.5	50.0	35.3	35.3	50.0	36.3	36.2	65.3
Nyabihu	58.6	58.6		56.6	56.6		58.2	58.2	
Ngororero	79.9	79.9		76.0	76.0		76.4	76.4	
Rusizi	50.0	49.4	66.7	50.7	50.7	54.5	46.3	48.4	23.5
Nyamasheke	75.9	75.7	87.5	73.4	73.4	80.0	71.9	71.6	89.7
Rulindo	74.8	74.9	66.7	70.6	70.6	31.6	73.4	73.5	28.0
Gakenke	79.0	79.0		79.1	79.1		76.6	76.6	
Musanze	58.3	58.3		55.2	55.2		58.3	58.3	
Burera	63.3	63.3		56.7	56.7		61.6	61.6	
Gicumbi	80.7	80.6	100.0	79.0	79.0	50.0	81.3	81.4	21.3
Rwamagana	38.6	37.7	55.6	36.4	36.4	34.6	37.2	37.5	21.9
Nyagatare	28.8	28.1	39.0	27.2	27.2	37.7	24.0	24.8	6.8
Gatsibo	45.6	45.3	58.8	39.1	39.1	28.6	42.9	41.9	69.3
Kayonza	27.3	26.9	40.0	28.0	28.0	11.1	24.8	25.4	1.7
Kirehe	27.6	27.1	66.7	24.4	24.4	81.1	29.3	26.7	91.7
Ngoma	27.9	27.6	45.5	24.9	24.9	45.8	30.0	29.5	51.5
Bugesera	30.1	28.9	52.9	28.9	28.9	44.8	30.5	29.8	53.0
National	**51.7**	**51.6**	**56.4**	**52.4**	**52.4**	**40.2**	**48.7**	**48.8**	**46.0**

Source: NISR, SAS 2020

Table 22: Season B 2020_Use of inorganic fertilizer by farmer type per district (in percentage)

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	11.4	11.4		12.2	12.2		11.1	11.1	
Gasabo	14.6	13.2	60.0	11.4	11.4	27.8	13.2	12.0	69.6
Kicukiro	20.1	19.1	75.0	9.8	9.8	30.0	15.7	15.3	63.3
Nyanza	15.4	14.3	100.0	11.7	11.7	75.0	14.0	12.5	97.9
Gisagara	22.2	20.0	92.9	17.3	17.3	71.4	22.7	16.7	96.9
Nyaruguru	47.5	46.5	87.5	39.1	39.1	78.6	43.1	42.7	91.6
Huye	17.7	13.8	100.0	12.2	12.2	90.9	16.3	13.0	99.2
Nyamagabe	38.3	38.3		27.6	27.6		36.4	36.4	
Ruhango	11.5	10.0	90.9	8.2	8.2	47.6	8.9	7.4	99.1
Muhanga	13.7	13.0	100.0	10.4	10.4	100.0	11.8	11.4	100.0
Kamonyi	9.9	9.1	100.0	5.9	5.9	66.7	8.7	8.1	94.3
Karongi	24.1	24.0	100.0	17.7	17.7	50.0	22.7	22.6	93.4
Rutsiro	34.6	34.6		26.2	26.2		34.1	34.1	
Rubavu	47.1	47.0	50.0	36.3	36.3	37.5	47.7	47.7	52.5
Nyabihu	60.0	60.0		51.1	51.1		62.0	62.0	
Ngororero	37.9	37.9		37.7	37.7		36.0	36.0	
Rusizi	37.7	35.9	88.9	28.4	28.4	72.7	36.8	32.0	88.5
Nyamasheke	42.7	41.8	87.5	38.5	38.5	70.0	40.2	39.5	90.9
Rulindo	24.9	24.1	83.3	19.9	19.9	57.9	24.1	24.0	57.3
Gakenke	35.6	35.6		33.0	33.0		33.2	33.2	
Musanze	42.4	42.4		34.8	34.8		43.4	43.4	
Burera	20.8	20.8		18.9	18.9		21.9	21.9	
Gicumbi	20.0	19.7	100.0	16.3	16.3	75.0	20.7	20.6	93.6
Rwamagana	22.5	20.8	55.6	15.0	15.0	24.6	21.0	20.2	69.1
Nyagatare	30.1	28.1	56.1	21.8	21.8	39.6	25.3	23.7	62.8
Gatsibo	25.2	24.0	70.6	16.1	16.1	41.1	23.5	21.3	84.1
Kayonza	20.4	18.3	80.0	14.6	14.6	23.1	19.0	17.3	85.7
Kirehe	17.1	16.3	77.8	12.3	12.3	78.4	18.3	15.2	93.6
Ngoma	13.4	12.3	72.7	7.7	7.7	58.3	15.4	13.8	93.3
Bugesera	21.2	19.2	55.9	16.4	16.4	28.8	18.2	16.1	78.2
National	**25.8**	**24.9**	**73.3**	**20.7**	**20.7**	**40.7**	**24.0**	**22.8**	**85.1**

Source: NISR, SAS 2020

Table 23: Percentage of farmers by source of inorganic fertilizers per district in Season B 2020

District	Government (MINAGRI/RAB/NAEB)	Agro dealers	NGOs/Companies	Market	Agriculture cooperative	Other source	Total
Nyarugenge	8.3	75.0	-	16.7	-	-	100
Gasabo	2.0	82.0	-	16.0	-	-	100
Kicukiro	2.2	62.2	-	28.9	6.7	-	100
Nyanza	13.3	28.9	53.0	3.6	1.2	-	100
Gisagara	4.7	28.3	54.7	7.5	3.8	0.9	100
Nyaruguru	11.0	22.6	52.9	10.3	2.6	0.6	100
Huye	10.0	27.5	57.5	2.5	2.5	-	100
Nyamagabe	3.6	41.9	37.1	10.8	6.6	-	100
Ruhango	12.1	34.8	27.3	16.7	7.6	1.5	100
Muhanga	-	68.4	15.8	5.3	10.5	-	100
Kamonyi	7.5	75.5	13.2	3.8	-	-	100
Karongi	11.1	30.3	57.6	1.0	-	-	100
Rutsiro	7.0	48.4	39.1	4.7	-	0.8	100
Rubavu	2.2	92.4	0.5	4.9	-	-	100
Nyabihu	0.9	91.2	7.4	-	0.5	-	100
Ngororero	2.3	28.1	59.6	6.4	3.5	-	100
Rusizi	9.9	23.8	62.4	2.0	2.0	-	100
Nyamasheke	3.2	12.4	76.3	7.0	1.1	-	100
Rulindo	4.0	69.0	-	3.0	24.0	-	100
Gakenke	4.3	83.7	5.7	5.3	1.0	-	100
Musanze	0.5	99.0		-	0.5	-	100
Burera	-	97.1	-	1.9	1.0	-	100
Gicumbi	1.8	88.6	1.8	5.3	1.8	0.9	100
Rwamagana	0.8	32.5	53.2	12.7	0.8	-	100
Nyagatare	2.3	66.3	18.6	7.6	5.2	-	100
Gatsibo	15.0	23.4	49.1	7.8	4.8	-	100
Kayonza	6.5	28.3	42.4	15.2	5.4	2.2	100
Kirehe	9.9	32.4	36.9	5.4	14.4	0.9	100
Ngoma	13.8	43.8	37.5	3.8	1.3	-	100
Bugesera	3.7	74.3	11.8	5.9	4.4	-	100
National	**5.3**	**54.7**	**30.1**	**6.3**	**3.4**	**0.2**	**100**

Source: NISR, SAS 2020

Table 24: Source of inorganic fertilizer by type of fertilizer in Season B 2020

Fertilizer name	Government (MINAGRI/RAB/NAEB)	Agro dealers	NGOs/Companies	Market	Agriculture cooperative	Other source	Total
NPK 17-17-17	3.3	69.2	17.8	6	3.5	0.2	100
NPK 20-10-10	81	8.6	3.4	1.7	5.2	0	100
NPK 25-5-5	25	16.7	33.3	16.7	8.3	0	100
NPK 22-6-12	74.1	6.9	6.9	3.4	6.9	1.7	100
Other NPK	6.7	76.7	3.3	10	3.3	0	100
Urea	2.7	55.5	31.3	6.2	4.1	0.2	100
liquid urea (Mbolea Majimaji)	0	95.4	1.5	3.1	0	0	100
DAP	3	51.1	38.3	4.8	2.5	0.2	100
KCL/MOP	9.1	81.8	0	9.1	0	0	100
Omax	0	92.9	7.1	0	0	0	100
Winner	0	100	0	0	0	0	100
Yara Viva	8.3	83.3	0	8.3	0	0	100
Amidas	0	52.6	36.8	5.3	5.3	0	100
Cereal	0	50	38.9	5.6	5.6	0	100
Boaster	0	100	0	0	0	0	100
DI Grow	5	70	10	15	0	0	100
Other type of fertilizer	12.5	60	7.5	10	10	0	100
Overall	**4.6**	**56.1**	**30.2**	**5.6**	**3.3**	**0.2**	**100**

Source: NISR, SAS 2020

Table 25: Percentage of plots by type of inorganic fertilizer, per district in Season B 2020 (in percentage)

District	NPK 17-17-17	NPK 20-10-10	NPK 25-5-5	Urea	Liquid urea	DAP	KCL/MOP	Others
Nyarugenge	10.8	-	-	56.8	-	24.3	-	8.1
Gasabo	19.5	-	-	55.8	-	22.1	-	2.6
Kicukiro	14.5	-	-	33.9	-	50.0	-	1.6
Nyanza	12.8	6.0	-	39.8	-	37.6	-	3.8
Gisagara	15.6	0.6	-	39.4	-	36.9	-	7.5
Nyaruguru	17.7	-	1.4	23.3	-	57.2	-	0.4
Huye	25.2	4.9	1.6	36.6	-	24.4	-	7.3
Nyamagabe	17.7	-	0.8	31.2	-	46.2	-	4.1
Ruhango	30.9	3.2	-	42.6	-	21.3	1.1	0.9
Muhanga	12.8	-	-	29.5	-	55.1	-	2.6
Kamonyi	21.7	-	-	44.6	1.2	24.1	2.4	6.0
Karongi	20.5	3.8	-	22.0	-	48.5	-	5.2
Rutsiro	23.9	1.1	-	26.6	0.5	41.8	-	6.1
Rubavu	37.3	1.6	-	22.5	11.7	22.2	-	4.7
Nyabihu	30.3	-	0.3	32.5	5.0	27.8	-	4.1
Ngororero	9.0	-	-	39.3	-	51.7	-	-
Rusizi	21.2	3.6	-	23.4	-	49.6	-	2.2
Nyamasheke	12.8	3.4	-	15.8	-	67.5	-	0.5
Rulindo	16.5	-	-	47.0	-	31.7	3.7	1.1
Gakenke	7.8	2.7	-	25.9	-	63.5	-	0.1
Musanze	32.9	-	-	27.6	1.3	30.3	-	7.9
Burera	36.4	-	-	14.9	2.5	46.3	-	- 0.1
Gicumbi	34.5	-	-	37.3	-	27.5	-	0.7
Rwamagana	18.4	-	1.3	37.2	-	39.7	-	3.4
Nyagatare	7.1	-	-	46.8	0.3	42.9	-	2.9
Gatsibo	14.0	-	0.4	36.4	-	37.9	-	11.3
Kayonza	17.6	1.6	-	42.9	0.5	34.1	-	3.3
Kirehe	3.7	-	-	45.7	-	44.7	1.1	4.8
Ngoma	16.8	0.8	-	48.1	0.8	30.5	-	3.0
Bugesera	10.1	1.2	-	37.0	-	45.1	-	6.6
National	**18.8**	**1.0**	**0.2**	**33.9**	**1.2**	**40.8**	**0.2**	**3.9**

Source: NISR, SAS 2020

Table 26: Season B 2020_Use of pesticides by farmer type per district (in percentage)

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	16.1	16.1		13.0	13.0		14.1	14.1	
Gasabo	12.8	11.1	70.0	9.5	9.5	30.6	10.4	9.1	71.7
Kicukiro	5.4	4.1	75.0	2.1	2.1	40.0	3.8	3.3	71.2
Nyanza	11.8	10.6	100.0	10.6	10.6	83.3	10.8	9.3	98.6
Gisagara	11.0	8.5	92.9	7.5	7.5	66.7	13.5	6.8	96.9
Nyaruguru	14.5	13.0	75.0	8.1	8.1	50.0	12.0	11.3	82.5
Huye	10.7	6.8	95.0	4.3	4.3	86.4	9.8	6.5	94.9
Nyamagabe	20.1	20.1		11.5	11.5		20.7	20.7	
Ruhango	10.5	8.9	90.9	5.5	5.5	66.7	8.5	7.0	99.1
Muhanga	11.7	11.1	100.0	9.4	9.4	100.0	9.8	9.4	100.0
Kamonyi	9.9	9.1	100.0	7.1	7.1	66.7	9.2	8.6	94.3
Karongi	8.6	8.4	100.0	6.4	6.4	50.0	7.9	7.9	6.6
Rutsiro	20.8	20.8		14.3	14.3		20.9	20.9	
Rubavu	49.6	49.6	50.0	35.2	35.2	37.5	52.1	52.1	52.5
Nyabihu	41.9	41.9		35.7	35.7		44.3	44.3	
Ngororero	19.4	19.4		17.4	17.4		19.0	19.0	
Rusizi	12.3	9.3	100.0	6.8	6.8	81.8	15.7	8.2	97.2
Nyamasheke	7.7	6.1	87.5	3.6	3.6	70.0	7.6	6.5	90.9
Rulindo	17.5	16.5	83.3	13.8	13.8	57.9	14.5	14.4	54.0
Gakenke	14.7	14.7		13.5	13.5		13.3	13.3	
Musanze	44.6	44.6		35.2	35.2		46.0	46.0	
Burera	19.2	19.2		17.2	17.2		21.2	21.2	
Gicumbi	12.8	12.5	100.0	10.7	10.7	50.0	13.2	13.2	61.1
Rwamagana	15.7	12.9	70.4	8.8	8.8	30.0	11.8	10.9	65.0
Nyagatare	10.5	6.6	61.0	5.4	5.4	42.5	8.5	6.3	61.3
Gatsibo	12.4	11.3	52.9	6.9	6.9	28.6	12.1	9.5	81.5
Kayonza	11.6	9.0	86.7	6.4	6.4	22.2	11.4	9.5	84.5
Kirehe	5.2	4.1	88.9	2.1	2.1	81.1	7.2	3.5	95.2
Ngoma	6.6	5.3	72.7	3.7	3.7	37.5	9.1	7.3	90.8
Bugesera	11.5	9.1	52.9	7.9	7.9	28.8	10.5	8.3	70.7
National	**15.3**	**14.1**	**74.8**	**11.2**	**11.2**	**40.6**	**14.1**	**12.7**	**84.0**

Source: NISR, SAS 2020

Table 27: Percentage of plots by type of pesticides, per district in Season B 2020

District	Dithane	Ridomil	Dimethoate	Cypermethrin	Dursiban	Rocket	Beam	Others
Nyarugenge	30.5	2.6	25.4	7.6	-	25.8	-	8.1
Gasabo	45.8	-	3.9	1.5	1.6	41.9	-	5.3
Kicukiro	20.3	-	-	42.8	-	36.6	0.1	0.2
Nyanza	8.5	3.4	3.6	9.7	0.5	71.1	0.4	2.8
Gisagara	25.4	-	0.2	4.6	-	60.4	-	9.4
Nyaruguru	29.8	1.8	-	6.1	-	59.9	-	2.4
Huye	14.8	-	4.6	10.7	-	60.3	0.1	9.5
Nyamagabe	21.1	0.4	-	54.9	-	20.9	-	2.7
Ruhango	20.7	-	2.5	26.5	-	49.2	1.1	-
Muhanga	21.5	3.1	2.5	8.0	-	62.3	-	2.6
Kamonyi	27.8	11.0	4.5	5.1	-	46.6	-	5.0
Karongi	23.4	0.2	9.0	20.3	2.0	36.6	-	8.5
Rutsiro	43.3	3.8	1.2	33.6	-	15.8	-	2.3
Rubavu	34.4	24.5	13.4	20.9	0.8	5.5	-	0.5
Nyabihu	35.3	22.1	11.2	17.6	-	11.2	-	2.6
Ngororero	21.1	9.2	-	12.1	-	53.7	-	3.9
Rusizi	30.4	1.5	8.4	54.9	-	3.6	-	1.2
Nyamasheke	13.7	3.4	12.6	34.9	-	11.4	-	24.0
Rulindo	23.7	1.1	9.8	7.9	-	52.4	-	5.1
Gakenke	13.3	7.5	2.6	34.8	-	32.6	-	9.2
Musanze	38.2	8.6	13.8	15.5	-	20.2	-	3.7
Burera	42.0	8.9	6.3	20.8	-	21.0	-	1.0
Gicumbi	44.1	3.1	-	12.5	-	34.1	-	6.2
Rwamagana	23.9	2.0	14.3	4.8	-	39.5	-	15.5
Nyagatare	42.1	-	20.9	9.7	-	17.1	-	10.2
Gatsibo	25.4	-	5.0	6.9	-	48.6	-	14.1
Kayonza	30.2	0.2	1.4	18.9	-	42.7	0.5	6.1
Kirehe	10.8	1.0	17.4	11.2	-	41.5	2.9	15.2
Ngoma	35.7	3.2	20.9	8.0	-	13.7	1.6	16.9
Bugesera	13.3	0.8	5.4	5.0	-	48.4	-	27.1
National	**30.0**	**8.8**	**7.8**	**17.6**	**0.2**	**30.4**	**0.1**	**5.1**

Source: NISR, SAS 202

Table 28: Percentage of farmers who practiced agricultural practices in at least one of visited plots in Season B 2020

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	64.0	64.0		0.5	0.5		10.9	10.9		39.0	39.0	
Gasabo	84.3	84.1	90.0	0.6	-	20.0	8.2	6.9	50.0	45.3	45.2	50.0
Kicukiro	55.8	55.0	100.0	-	-	-	16.5	15.5	75.0	37.2	36.7	60.0
Nyanza	93.7	93.6	100.0	-	-	-	23.4	22.6	85.7	34.7	34.8	25.0
Gisagara	87.8	87.8	85.7	0.4	0.4	-	15.2	13.3	78.6	33.8	34.6	10.5
Nyaruguru	98.5	98.4	100.0	0.3	0.3	-	16.7	15.2	75.0	26.8	25.9	75.0
Huye	91.7	91.3	100.0	-	-	-	25.7	22.7	90.0	27.2	26.8	36.4
Nyamagabe	97.9	97.9		-	-		13.4	13.4		33.0	32.8	100.0
Ruhango	94.1	93.9	100.0	0.4	0.4	-	15.0	14.1	63.6	34.5	34.2	50.0
Muhanga	97.1	97.1	100.0	-	-	-	18.5	17.9	100.0	32.2	31.8	66.7
Kamonyi	92.3	92.2	100.0	-	-	-	25.1	24.4	100.0	23.4	23.7	-
Karongi	99.0	99.0	100.0	-	-	-	14.0	13.8	100.0	32.2	32.2	-
Rutsiro	98.3	98.3		0.3	0.3		1.9	1.9		38.6	38.6	
Rubavu	92.8	93.0	75.0	0.8	0.8	-	1.3	1.3	-	23.5	23.0	75.0
Nyabihu	98.1	98.1		0.3	0.3		1.7	1.7		42.6	42.6	
Ngororero	94.9	94.9		0.9	0.9		6.0	6.0		29.3	29.3	
Rusizi	90.6	90.4	100.0	-	-	-	9.4	8.9	33.3	50.6	49.6	100.0
Nyamasheke	97.0	96.9	100.0	0.2	0.2	-	5.6	4.5	62.5	58.8	59.1	37.5
Rulindo	99.3	99.2	100.0	0.3	-	16.7	24.7	24.6	33.3	28.4	28.3	33.3
Gakenke	97.8	97.8		0.2	0.2		7.5	7.5		32.3	32.3	
Musanze	96.3	96.3		0.2	0.2		5.7	5.7		35.2	35.2	
Burera	93.6	93.6		0.6	0.6		0.2	0.2		10.5	10.5	
Gicumbi	96.0	96.0	100.0	-	-	-	10.2	10.2	-	26.5	26.3	100.0
Rwamagana	95.0	95.1	92.6	0.2	-	3.7	7.9	5.7	51.9	41.6	40.9	55.6
Nyagatare	51.2	50.5	61.0	5.2	1.7	51.2	7.3	4.1	48.8	38.7	37.9	51.2
Gatsibo	88.7	88.7	88.2	1.5	1.1	17.7	9.8	8.3	64.7	45.7	45.5	52.6
Kayonza	64.7	63.4	100.0	1.6	1.2	13.3	16.1	14.1	73.3	45.0	45.2	37.5
Kirehe	79.0	78.7	100.0	0.3	0.2	11.1	12.8	11.9	77.8	45.3	45.4	40.0
Ngoma	76.6	76.2	100.0	1.0	0.9	9.1	11.6	10.5	72.7	46.2	46.4	33.3
Bugesera	69.7	69.0	82.4	0.9	0.7	5.9	11.3	8.8	55.9	32.4	31.4	52.8
National	**88.0**	**88.0**	**88.6**	**0.6**	**0.4**	**12.9**	**11.8**	**10.9**	**62.4**	**35.7**	**35.5**	**47.1**

Source: NISR, SAS 2020

Table 29: Percentage of visited plots by types of irrigation used in 2020 Season B

District	Modern irrigation					Traditional techniques
	Surface irrigation	Flood irrigation	Drip irrigation	Sprinkler irrigation	Pivot irrigation	
Nyarugenge	42.9	-	-	-	-	57.1
Gasabo	4.0	12.0	-	20.0	-	64.0
Kicukiro	44.4	11.1	22.2	-	-	22.2
Nyanza	11.5	30.8	-	-	-	57.7
Gisagara	24.0	60.0	-	-	-	16.0
Nyaruguru	20.0	-	-	-	-	80.0
Huye	4.6	81.8	-	-	-	13.6
Nyamagabe	33.3	-	-	-	-	66.7
Ruhango	-	67.9	-	-	-	32.1
Muhanga	14.3	21.4	-	-	-	64.3
Kamonyi	6.7	6.7	-	-	-	86.7
Karongi	-	-	-	9.1	-	90.9
Rutsiro	-	-	-	-	-	100.0
Nyabihu	-	-	-	-	-	100.0
Ngororero	50.0	-	-	-	-	50.0
Rusizi	75.0	-	-	-	-	25.0
Nyamasheke	-	45.5	-	-	-	54.6
Rulindo	-	4.8	-	19.1	-	76.2
Gakenke	-	-	-	-	-	100.0
Musanze	-	-	-	-	-	100.0
Gicumbi	-	-	-	-	-	100.0
Rwamagana	15.8	10.5	21.1	5.3	2.6	44.7
Nyagatare	47.2	11.3	1.9	11.3	18.9	9.4
Gatsibo	24.1	13.8	-	-	3.5	58.6
Kayonza	8.8	14.7	-	-	11.8	64.7
Kirehe	22.0	10.0	-	26.0	28.0	14.0
Ngoma	33.3	46.7	-	-	-	20.0
Bugesera	2.0	31.4	15.7	5.9	-	45.1
National	**16.6**	**21.6**	**3.4**	**6.0**	**5.3**	**47.1**

Source: NISR, SAS 2020

Table 30: Percentage of visited plots by source of used water and district in 2020 Season B

District	Rainwater	Water treatment	Underground	Lake / streams	Water catchment
Nyarugenge	-	12.5	25.0	37.5	25.0
Gasabo	-	4.0	16.0	76.0	4.0
Kicukiro	-	-	18.2	63.6	18.2
Nyanza	-	-	18.5	70.4	11.1
Gisagara	-	-	53.6	39.3	7.1
Nyaruguru	-	-	20.0	80.0	-
Huye	3.3	3.3	23.3	56.7	13.3
Nyamagabe	-	33.3	-	66.7	-
Ruhango	6.3	6.3	25.0	59.4	3.1
Muhanga	-	-	62.5	25.0	12.5
Kamonyi	3.0	9.1	39.4	42.4	6.1
Karongi	-	-	90.9	9.1	-
Rutsiro	-	-	100.0	-	-
Nyabihu	-	100.0	-	-	-
Ngororero	-	18.2	45.5	27.3	9.1
Rusizi	-	-	-	100.0	-
Nyamasheke	-	9.1	27.3	63.6	-
Rulindo	-	-	47.6	47.6	4.8
Gakenke	-	-	44.4	55.6	-
Musanze	-	11.1	33.3	55.6	-
Gicumbi	-	-	-	100.0	-
Rwamagana	2.6	7.9	7.9	60.5	21.1
Nyagatare	16.4	4.5	14.9	37.3	26.9
Gatsibo	9.7	-	51.6	9.7	29.0
Kayonza	-	-	41.7	52.8	5.6
Kirehe	-	3.9	13.7	80.4	2.0
Ngoma	-	13.3	46.7	40.0	-
Bugesera	5.5	-	27.3	58.2	9.1
National	**3.6**	**4.3**	**29.5**	**52.1**	**10.5**

Source: NISR, SAS 2020

Table 31: Percentage of plots by type of anti-erosion activities and district in 2020 Season B

Disrtict	Ditches	Trees/Windbreak/shelterbelt	Bench/Radical terraces	Progressive terraces	Cover plants	Water drainage	Mulching	Beds/ridges	Water channels	Others
Nyarugenge	5.0	5.5	-	15.9	44.5	1.7	12.1	11.0	4.4	-
Gasabo	3.4	11.0	0.7	7.4	50.5	15.0	1.7	0.9	4.0	5.5
Kicukiro	5.4	9.5	1.4	3.4	16.3	15.0	12.9	6.8	27.2	2.0
Nyanza	11.0	10.9	2.9	6.7	46.2	11.7	0.2	3.4	4.1	2.9
Gisagara	4.9	2.3	2.0	3.5	32.7	36.9	0.8	2.5	5.6	8.7
Nyaruguru	6.8	7.6	4.3	14.6	50.1	5.1	1.6	0.3	9.8	-
Huye	4.9	8.2	2.1	12.1	33.8	25.0	1.2	1.0	4.8	7.1
Nyamagabe	5.1	2.6	10.9	20.3	54.2	1.1	1.8	0.3	3.7	-
Ruhango	8.9	3.9	0.5	14.9	50.1	10.7	0.6	0.8	7.1	2.5
Muhanga	6.1	5.5	3.3	3.4	58.0	4.6	8.0	2.2	3.9	5.1
Kamonyi	4.9	5.5	0.1	5.6	60.9	6.8	4.1	3.3	4.1	4.7
Karongi	20.8	4.8	4.7	6.5	53.5	1.0	0.8	0.8	7.1	-
Rutsiro	7.4	11.9	5.9	11.5	55.7	-	4.2	-	3.4	-
Rubavu	2.4	3.4	5.1	5.1	23.1	-	1.2	59.6	-	-
Nyabihu	0.5	8.0	16.0	15.8	43.9	-	0.2	15.1	0.6	-
Ngororero	4.3	2.5	7.7	1.5	73.0	0.6	4.2	1.4	4.8	-
Rusizi	13.6	20.1	0.2	7.2	53.0	1.5	1.5	1.8	1.2	-
Nyamasheke	8.9	10.5	2.7	4.4	56.5	7.5	5.5	1.2	2.6	0.3
Rulindo	16.8	5.5	12.5	2.1	50.4	2.6	0.4	2.4	6.7	0.7
Gakenke	3.7	2.4	4.5	4.6	74.5	0.3	5.7	1.5	2.9	-
Musanze	0.2	0.7	7.0	4.2	30.9	3.3	-	51.8	1.9	-
Burera	0.2	6.3	3.6	12.4	56.0	0.5	0.2	17.0	3.9	-
Gicumbi	0.3	0.5	14.9	19.8	59.2	0.1	0.4	0.1	4.8	-
Rwamagana	9.3	6.7	4.6	10.6	46.4	6.1	4.9	3.1	0.4	7.9
Nyagatare	17.3	1.8	0.3	4.4	33.9	26.9	5.9	4.2	2.6	2.6
Gatsibo	1.7	7.0	2.2	11.0	45.7	14.7	9.5	3.9	3.8	0.5
Kayonza	8.3	1.4	10.3	0.2	34.4	23.9	5.1	5.5	7.8	3.2
Kirehe	9.8	3.1	0.1	0.3	52.2	23.6	7.0	0.3	0.8	2.8
Ngoma	4.6	2.9	4.6	2.6	46.1	26.8	10.4	1.1	0.8	0.1
Bugesera	16.8	8.2	1.2	5.1	34.8	19.6	4.8	3.7	3.1	2.8
National	**7.2**	**5.9**	**4.8**	**8.4**	**49.3**	**9.6**	**3.5**	**5.2**	**4.0**	**2.2**

Source: NISR, SAS 2020

Table 32: Percentage of plots by degree of erosion per district in 2020 Season B

District	Severe (Rill erosion, Gully erosion, Mass movement/Landslides)	Moderate (Diffuse overland flow erosion, overland flow erosion)	Low (wind erosion)	Very Low (splash erosion)
Nyarugenge	1.2	8.1	40.1	50.6
Gasabo	5.2	12.4	12.9	69.6
Kicukiro	0.8	8.2	27.3	63.7
Nyanza	3.0	19.4	19.6	58.0
Gisagara	0.4	2.4	1.7	95.6
Nyaruguru	0.8	6.1	46.7	46.4
Huye	0.8	7.0	25.9	66.3
Nyamagabe	9.5	17.3	20.2	53.0
Ruhango	4.0	31.1	32.1	32.7
Muhanga	10.2	25.7	45.4	18.7
Kamonyi	3.6	13.9	62.2	20.2
Karongi	0.6	18.7	52.7	28.0
Rutsiro	5.6	9.0	48.1	37.3
Rubavu	2.6	4.7	31.2	61.6
Nyabihu	8.8	14.6	29.7	46.9
Ngororero	11.9	19.4	48.3	20.4
Rusizi	3.5	23.3	41.7	31.5
Nyamasheke	2.0	1.8	6.3	89.8
Rulindo	8.2	17.0	21.6	53.3
Gakenke	13.2	36.2	38.2	12.4
Musanze	4.2	7.9	32.9	55.0
Burera	2.5	4.0	26.5	67.0
Gicumbi	3.4	5.1	27.3	64.1
Rwamagana	0.5	2.0	15.0	82.6
Nyagatare	1.4	9.6	20.2	68.8
Gatsibo	1.5	11.5	45.8	41.2
Kayonza	0.5	9.2	27.4	62.9
Kirehe	2.2	3.3	20.4	74.1
Ngoma	0.3	9.8	24.8	65.1
Bugesera	2.8	2.8	21.9	72.6
National	**3.8**	**12.0**	**29.7**	**54.6**

Source: NISR, SAS 2020