The Republic of Rwanda

NATIONAL INSTITUTE OF STATISTICS OF RWANDA

AGRICULTURAL HOUSEHOLD SURVEY 2017

REPORT

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December 2018

Agricultural Household Survey (AHS) 2017 report is produced by National Institute of Statistics of Rwanda (NISR)
Additional information about Agricultural Household Survey 2017 report may be obtained from NISR
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Foreword

Agriculture statistics are useful for monitoring progress on agriculture programs and policies in Rwanda. The government of Rwanda needs updated information on agriculture in order to assist in addressing key agricultural issues and information needs that will inform policy makers and other stakeholders and allow more effective identification of priority intervention needs. In 2017, National Institute of Statistics of Rwanda (NISR), in partnership with the Ministry of Agriculture and Animal Resources (MINAGRI) introduced Agricultural Household Survey (AHS) for the first time, to provide needed agriculture statistics that are not covered in Seasonal Agricultural Survey.

The main goal of the Agricultural Household Survey is to collect data on socio-economic characteristics of agricultural households, extension services, implementation of agriculture policies and programs in agricultural households, use of agricultural inputs, agricultural practices, livestock and other related agricultural items.

This published report of Agricultural Household Survey (AHS) conducted from July to September 2017, has been done to provide current data showing the situation of agriculture in households and it is a tool to be used in planning and monitoring of agriculture policies and programs.

Special recognition must be given to the delegation of the European Union (EU) to Rwanda for their continuous interest, steadfast support and addition funding and technical assistance that enabled to conduct this survey. National Institute of Statistics of Rwanda also express its gratitude to all NISR staff and other partners who contributed tirelessly in one way or another, for the job well done.

NISR invites policy makers, partners, the general public, researchers and all users to value and use optimally the findings of this report to contribute to Rwandan Agriculture development.

Yusuf MURANGWA
Director General, NISR

Executive summary

National Institute of Statistics of Rwanda conducted for the first time the Agricultural Household Survey (AHS) in 2017. The survey aimed at capturing conditions of agricultural households of the country in the context of agriculture policies and programs of the Government of Rwanda. NISR intend to conduct this survey every three years. Findings presented in this report come from data collected in 16,057 agricultural households throughout the country from Mid-July to September 2017. In this survey Computer-Assisted Personal Interviewing (CAPI) technique was used in order to improve the speed of delivery and quality of data.

This report presents findings from AHS 2017 in areas of various aspects related to demographic and socio-economic characteristics of agricultural households, crop production, use of agricultural production, awareness of agriculture technology, government policies and programs, access to inputs, access to finance, agricultural assets, livestock numbers and other related agricultural items.

In this report, majority of tables provide results of AHS 2017 discussing different patterns across provinces and districts of Rwanda. Also, some tables results have been disaggregated for male and female-headed households to explore gender related aspects in key social and economic characteristics of agricultural households in Rwanda.

Socio-economic characteristics of agricultural households

According to the 2017 Agriculture Household Survey (AHS), during the Agricultural year September 2016 - June 2017, Rwanda had an estimated 2.1 million agricultural households. This constitutes about 80.2 percent of total estimated households of the country. Out of total agricultural households, 27.8 percent were headed by female. During this agricultural year 78.6 percent of all households in Rwanda were engaged in crop production, whereas 62.6 percent of households engaged in livestock. Of the estimated 2.1 million agricultural households in Rwanda, 76.4 percent have main activity of crop production and livestock, followed by 21.8 percent whose main activity is crop production and 1.8 percent exclusively in livestock production. Average size agricultural household is 4.5.

Out of the total estimated 9.7 million of Rwandan living in agricultural households, 47.2 percent were males while 52.8 percent were females. 46.5 percent of total agricultural households' population are in age of below 16 years (below working age). The working age population (16 years old and above) equivalent to 5.4 million people. This represents 53.5 percent of the total population living in agricultural households. Out of 5.4 million agricultural households' wirking population, 55.5 percent had primary school education level, 17.2 percent secondary school education level, 1.9 percent tertiary education level while 25.4 percent have no education level. Among agricultural population, 21.1 percent of male are not educated, while 28.9 percent of female.

Economic activity of agricultural household members

Agriculture Household Survey defines an agricultural household working population as people having at least 16 years old and the main activity of the household is agriculture. Out of the estimated 5.4 million agricultural households' working population 54.4 percent were females. Considering the economic activities, results show that 70.2 percent of agricultural household working population practice agricultural activity only, 11.6 practice activities other than agriculture, 2.1 percent do both agricultural and non-agricultural activities while16.2 percent have no activity. Furthermore, it was estimated that 65.8 percent of 3.9 million of agricultural households' working population (those practice agriculture activities only and those mixing with other non-agriculture activities) acti) practiced both crop production and livestock activites.

Agricultural land ownership and use

65.3 percent of farmers cultivated in the households' farms, while 32.3 percent cultivated in both their own households' farms and non- households' farms. Furthermore, it has been revealed that use of land of agricultural land does not vary too much in both agricultural seasons with 93.1 percent of agricultural households in Season A 2017 and 94.2 percent in Season B 2017.

Crop cultivation and production use

Results show that among major five crops grown in 2017 season A in Rwanda, bush bean was grown by 52.9 percent of crop cultivating households, followed by maize by 50.9 percent, climbing bean by 36.0 percent, sweet potato by 24.9percent and cassava by 23.7percent. For

season B 2017 bush bean was grown by 48.8 percent of crop cultivating households, followed by climbing bean by 33.5 percent, maize by 28.3 percent, sweet potato by 24.9 percent and sorghum by 23.3 percent. In Season A and B 2017, the high ratio of the production quantity of cash crops such as tea, coffee, macadamia and pyrethrum were doomed to be sold followed by fruits, vegetables, cereals (paddy rice and wheat) and dessert banana. On the other hand, beans, sweet potato, cassava, yams, taro, some vegetables and fruits were predestined for own consumption. In 2017, 58.1 percent and 56.8 percent of crop producing households were involved in market-oriented agriculture in season A and B respectively. Agricultural household headed by males were more involved in market-oriented agriculture (60.8 percent and 58.9 percent in season A and B respectively) compared to household headed by females (51.2 percent and 51.5 percent in season A and B respectively).

Agricultural cooperative membership

The survey results show that, in the whole country 12.5 percent of agricultural households have at least one member belonging to agricultural cooperative.

Agriculture extension services and programs

29.6 percent of agricultural households have received agricultural extension services. The Northern Province has the highest number of beneficiaries with 33.6 percentage of agricultural households with at least one person who received agricultural extensions. Crop production extension services were most received at 88.9 percent.

In regards to agricultural programs, results show that 13 percent of agricultural households belong to Twigire muhinzi,4.2 percent of all agricultural households have got contract farming, 13.0 percent of agricultural households rear a cow from GIRINKA Program and 44.4 percent of all agricultural households (2.1 million) have a kitchen garden.

Access to saving and credit and funds

Access to agricultural credit or funds is widely a major factor to development of agricultural households. AHS 2017 shows that countrywide, 49.6 percent of all agricultural households had at least one member having bank account. 4.7 percent had at least one household member who requested agricultural loan. Out of requested agricultural loan, 96.3 percent of them have been approved.

Agricultural inputs and equipment use for agricultural production

Survey results reveal that, in season A 2017, 79.3 percent of agricultural households, used organic fertizers compared to 62.7 percent in season B while 31.6 percent used inorganic fertilizers in Season A 2017 compared to 23.7 percent in season B 2017. In regards to the use of pesticides, results show that 17.3 percent of agriculture household applied pesticides in Season A 2017 compared to 17.9 percent in season B 2017, while the use of lime was at 2.9 percent and 1.8 percent in season A and B of 2017 respectively. Results also revealed that 23.9 percent and 31.7 percent of agricultural households use improved seeds in season A and B of 2017 respectively.

Agricultural practices

AHS 2017 results show that 10.1 percent of agriculture households practice irrigation, while 65.7percent practice anti-erosion control measures.

Livestock

Results show that 1.7 million of household have raised at least one livestock. Furthermore results show that livestock ownership is distributed as follows: 61 percent of households own cattle, 53.6 percent with goats, 33.7 percent with hens, 30.6 percent with pigs, 18.1 percent with sheep, 15 percent with rabbit, 7.4 percent with duck and 6.6 percent with turkey.The survey results also show that, 2 million litters of milk are produced every day and 36.7 percent of the production is own-consumed, 32.7 percent sold to others, 18.4 percent sold at milk collection center, 7.9 percent given to others ,3.2 percent damaged while1.1 percent are used in other way.

Main Agricultural household survey indicators

No	Indicator	AHS 2017
1	Percentage of agricultural households over total number of households in Rwanda during agricultural year 2017	80.2
2	Percentage of households engaged in crop production	78.6
3	Percentage of households engaged in livestock	62.6
4	Percentage of agricultural households whose main activity is both crop production and livestock during agricultural year 2016/2017	76.4
5	Percentage of agricultural households whose main activity is crop production only during agricultural year 2017	21.8
6	Percentage of agricultural households whose main activity in livestock only during 2017	1.8
7	Percentage of female agricultural households' population	52.8
8	Average agricultural household size	4.5
9	Percentage of agricultural households with at least five household members	46.0
10	Percentage of agricultural households headed by females	27.8
11	Percentage of working age agricultural households' population	53.5
12	Agricultural household's population over 15 years who do farming activity only	70.2
13	Percentage of agricultural households who cultivated owned land during 2017 agricultural year	93.6
14	Percentage of agricultural households engaged in market oriented during 2017 agricultural year	57.5
15	Percentage of agricultural households belonging to agricultural cooperative or association	12.5
16	Percentage of agricultural households with at least one person who received agricultural extension	29.6
17	Percentage of agricultural households belonging to Twigire muhinzi group	13.0
18	Percentage of agricultural household who have got contract farming during 2017 agricultural year	4.2
19	Percentage of agricultural households who reared cow from GIRINKA Program	13.0
20	Percentage of agricultural households who had a kitchen garden	44.4
21	Percentage of agricultural households with at least one member had bank account	49.6
22	Percentage of agricultural households with at least one member requested agricultural loan during 2017	4.7
23	Percentage of agricultural households whose requested loan has been approved during 2017	96.3
24	Percentage of agricultural households who received funds for agricultural purpose	5.7
25	Percentage of agricultural households who used organic fertilizer during season A 2017	79.3
26	Percentage of agricultural households who used organic fertilizer during season B 2017	62.7
27	Percentage of agricultural households who used inorganic fertilizer during season A 2017	31.6
28	Percentage of agricultural households who used inorganic fertilizer during season B 2017	23.7
29	Percentage of agricultural households who used pesticides during season A 2017	17.3
30	Percentage of agricultural households who used pesticides during season B 2017	17.9
31	Percentage of agricultural households who used lime during season A 2017	2.9
32	Percentage of agricultural households who used lime during season B 2017	1.8
33	Percentage of agriculture households who use improved seeds during season A 2017	23.9
34	Percentage of agriculture households who use improved seeds during season B 2017	31.7
35	Percentage of agriculture households who practice irrigation during 2017 agricultural year	10.1
36	Percentage of agriculture households who practice erosion control measures	65.7
37	Percentage of livestock-owning households rearing Cattle	61.0
38	Percentage of livestock-owning households rearing goats	53.6
39	Percentage of livestock-owning households rearing sheep	18.1
40	Percentage of livestock-owning households rearing pigs	30.6
41	Percentage of livestock-owning households rearing hen	33.7
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Acronyms and abbreviations

%: Percentage

AHS: Agriculture Household Survey

CAPI: Computer-Assisted Personal Interviewing

CSPro: Census and Survey Processing System

DAP: Diammonium Phosphate

EU: European Union

FAO: Food and Agriculture Organization

GIS: Geographical Information System

HH: Household

KCL/MOP: Potassium Chloride or Muriate of Potash

Kg: Kilograms

MINAGRI: Ministry of Agriculture and Animal Resources

NAEB: National Agriculture Export Board

NGO: Non-Government Organization

NISR: National Institute of Statistics of Rwanda

NPK: Nitrogen, Phosphorus and Potassium

PPS: Probability Proportional to Size

PSU: Primary Sampling Units

RAB: Rwanda Agriculture Board

SACCO: Savings and Credit Cooperative Organization.

SAS: Seasonal Agriculture Survey

SSU: Second Sampling Units

VUP: Vision Umurenge Program

1. INTRODUCTION

Agriculture Household Survey (AHS) was conducted by the National Institute of Statistics of Rwanda. The reference period for data collection was the agricultural year September 2016 – June 2017. Data was collected from July to September 2017. The survey covered all 30 districts of Rwanda.

The survey aimed at capturing the conditions of agricultural households of the country in the context of policies and programs of Government of Rwanda. It was designed to collect information on various aspects related to socio-economic characteristics of agricultural households, economic activity of agricultural household members, crop production, livestock, awareness of agriculture technology and government policies and programs, access to inputs, access to finance, agricultural assets, use of agricultural production and livestock number and other related agricultural items.

This survey was conducted among private agricultural households, in 4 strata used in Seasonal agricultural survey. Households were listed from the 1,560 sampled segments in the country. Among the listed households 16,057 households were found the ones applying agricultural activities. A single visit was done in every identified agricultural household and the information collected covered two agricultural seasons A and B.

2. METHODOLOGY OF CONDUCTING THE AGRICULTURAL HOUSEHOLD SURVEY

2.1 Open segment approach in collecting household-based data

In 2017, NISR used the multiple sampling frame to conduct Seasonal Agricultural Survey whose purpose was to collect accurate area-based data at district level, such as land use, crop area, production, inputs use, agricultural practices and other farm related agriculture information. To gather such information, closed segment approach was used where only farms inside the segment are recorded. According to FAO 1996[1] it is recommended to use the open segment approach to collect data related to household-based socio-economic variables and livestock. In the open segment approach, information on the whole farm is required for all farms having their residence inside the segment. In this approach the dwellings(households) within the

[1] FAO 1996, Multiple frame agricultural surveys, Volume 1, Current surveys based on area and list sampling methods.

segment are listed and surveyed. It is in this regards that NISR conducted the Agricultural household survey 2017, using open segment data collection approach in order to provide agricultural household-based socio-economic characteristics and livestock in Rwanda.

2.2 Target population

The objective of Agricultural household survey 2017 to provide data on agricultural household-based socio-economic characteristics and livestock in Rwanda. The target population, from which a sample is drawn, consisted of all households as well as those in urban areas where agriculture is an important livelihood strategy. The unit of analysis for the Agricultural household survey was the agricultural household.

2.3 Sample size and distribution

In the sampling strategy of the SAS 2017, it was proposed that 960 PSUs be selected in the first instance by systematic sampling method with probability proportional to size. At the second stage the sampled PSUs were divided into SSUs among which only one SSUs was sampled at random for each PSU and used for the survey. 960 segments were drawn from three agricultural strata including intensive agriculture land on hillsides (stratum 1.1), intensive agriculture land in marshlands (stratum 2.0), rangelands (stratum 3.0). Using the open segment obliges to include urban strata in the sampling frame. Apart from stated strata, village stratum which combines two substrata; urban area (stratum 4.1) rural settlements (stratum 4.2) was added to the sample frame. This stratum was divided into segments and a sample of 600 segments was drawn by systematic sampling method. It should be mentioned that the Stratum 4.1 and 4.2 were specially added to the purpose of having a complete sampling frame for estimation of livestock since a major portion of livestock are associated with households located in villages and rural urban area adjacent to grazing land that had previously been missing for all of the previous SAS area sampling frames.

Table 1 : Sampled segments per district and stratum

District	Stratum					Total
	Intensive agriculture land on hillsides	Intensive agriculture land in marshland	Rangeland	Urban area	Rural settlemt	
Nyarugenge	20	4	0	17	4	45
Gasabo	20	4	0	19	24	67
Kicukiro	20	4	0	19	8	51
Nyanza	20	9	0	0	7	36
Gisagara	25	12	0	0	9	46
Nyaruguru	20	4	0	0	3	27
Huye	20	6	2	2	17	47
Nyamagabe	20	4	0	0	13	37
Ruhango	20	4	0	0	8	32
Muhanga	20	4	0	2	4	30
Kamonyi	20	4	0	0	14	38
Karongi	20	4	0	0	6	30
Rutsiro	24	4	4	0	5	37
Rubavu	20	0	2	14	28	64
Nyabihu	20	4	4	0	11	39
Ngororero	20	4	4	0	5	33
Rusizi	20	6	0	6	29	61
Nyamasheke	20	4	0	0	10	34
Rulindo	20	4	0	0	6	30
Gakenke	20	4	0	0	6	30
Musanze	20	4	0	6	14	44
Burera	20	4	0	0	10	34
Gicumbi	20	4	0	2	12	38
Rwamagana	30	4	0	2	23	59
Nyagatare	48	12	12	0	50	122
Gatsibo	30	9	16	0	31	86
Kayonza	35	4	24	0	47	110
Kirehe	35	12	16	0	52	115
Ngoma	20	4	0	0	22	46
Bugesera	35	24	0	0	33	92
Total	**702**	**174**	**84**	**89**	**511**	**1,560**

Source: NISR, AHS 2017

2.4 Data collection

Data collection has been done into two phases:

a) Listing of households

A total of 1,560 sampled segments were utilized for enumeration of all households within each segment. After identifying a dwelling (household) enumerators through reading the definition of household to the household head, identify the number of households in that dwelling record the information on household's main activity.

By definition, a household is composed of the group of people living in the same dwelling space who eat meals together and acknowledge the authority of a man or women who is the head of household.

Particular cases

1) In a polygamous household where all the spouses do not live in the same concession as their husband, each of the spouses living elsewhere was listed as a separate household with the persons they live with (the spouse being the head of that household).
2) A tenant who does not take his meals where he lives is considered as a separate household.
3) In a case where a man lives in a concession with his spouse(s) and his children among which some are married, each of the married sons with his spouse(s), his children, and other unmarried dependents under his responsibility, they form a separate household.
4) In a group of unmarried people living together where everyone has his own means of livelihood, each member of the group will form his own household.

An agricultural household was defined as a household whose largest source of income is derived from agricultural production (crop production and/or livestock).

Each household was asked if there is at least one household member who was engaged in cropping or/ and livestock during the agricultural year 2016/2017. Finally, 23,419 households in sampled 1,560 segments were listed. From that list, 16,057 households from which at least one member did crop and/or livestock during 2016/2017 agricultural year were identified and interviewed for variables of agricultural household 2017. The household head was the one selected for responding on behalf of the whole household.

Table 2 : Number of sample agricultural households(unweighted) in AHS y by province and districts

Provinces and districts	Number of listed households	Number of surveyed agricultural households	Share of surveyed agriculture households at national level
Rwanda	**23,419**	**16,057**	**100.0**
City of Kigali	**5,535**	**1,520**	**9.5**
Nyarugenge	1,725	531	3.3
Gasabo	2,292	615	3.8
Kicukiro	1,518	374	2.3
South	**3,871**	**3,163**	**19.7**
Nyanza	342	291	1.8
Gisagara	556	525	3.3
Nyaruguru	250	241	1.5
Huye	712	524	3.3
Nyamagabe	480	408	2.5
Ruhango	387	324	2.0
Muhanga	468	326	2.0
Kamonyi	676	524	3.3
West	**4,286**	**3,277**	**20.4**
Karongi	300	234	1.5
Rutsiro	462	415	2.6
Rubavu	1,361	768	4.8
Nyabihu	530	476	3.0
Ngororero	326	309	1.9
Rusizi	851	676	4.2
Nyamasheke	456	399	2.5
North	**3,034**	**2,448**	**15.2**
Rulindo	461	406	2.5
Gakenke	381	352	2.2
Musanze	975	673	4.2
Burera	533	485	3.0
Gicumbi	684	532	3.3
East	**6,693**	**5,649**	**35.2**
Rwamagana	786	592	3.7
Nyagatare	1,388	1,180	7.3
Gatsibo	1,011	914	5.7
Kayonza	1,045	887	5.5
Kirehe	1,051	934	5.8
Ngoma	618	546	3.4
Bugesera	794	596	3.7

Source: NISR, AHS 2017

b) Interview for agricultural households

After identifying the agricultural households from listing, all of them were interviewed and records were taken using survey instruments.

Survey instruments

The survey instrument was designed with a common set of core modules on household composition, household members' characteristics, household members' economic activity, land tenure and crops planted during agricultural year 2016-2017, agriculture extensions and programs, access to savings and credits, inputs, use of production, storage facilities, and livestock.

The questionnaire was designed in CSPro software to facilitate electronic data collection. Tablets were used to collect data

Weight calculations

Weight calculation for strata 4.1 and 4.2

For strata 1.1, 2.0 and 30, the sampling of segment was done through two stages and probabilities were calculated for each sampling stage. Weight is inverse of the overall probability of selection

At first stage PSUs within each stratum selected with probability proportional to size (PPS) based on area of PSU

The probability of selecting the PSU was calculated as follows:

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

Where:

- p_{1hi} = first stage probability of selection for the i-th sample PSU in stratum (district and land use stratum) h
- n_h = number of PSUs selected in stratum h
- A_{hi} = area of i-th sample PSU in stratum h
- A_h = total area of stratum h

At second stage PSUs were divided into SSUs and only one SSU was selected. The probability of selecting the segment (SSU0 was calculated as follows:

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

where:

- P_{2hi} = second stage probability of selection for the i-th sample SSU in PSU (district and land use stratum) h
- S_{hi} = total number of segments in the i-th sample PSU of stratum h

Weight of the segment in strata 1.1,2.0 and 3.0

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

Weight calculation for strata 4.1 and 4.2

For strata 4.1 and 4.2 The sampling followed one stage where a stratum has been divided into Segments and

The probability of selecting the SSU (segment) was calculated as follows:

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

Where:

- p_{1hi} = first stage probability of selection for the i-th sample PSU in stratum (district and land use stratum) h
- n_h = number of PSUs selected in stratum h
- A_{hi} = area of i-th sample PSU in stratum h
- A_h = total area of stratum h

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

2.5 Data analysis

Socio-economic characteristics of household members like age, gender, education and economic activity were analysed at individual level, while for other indicators the household was the analysis unit. Some indicators were reported at National level others at province level and others were done at district level, basing on representability at each administrative unit.

3. SURVEY FINDINGS

3.1 Socio-economic characteristics of agricultural households

This section investigated current information related to agricultural households' numbers, sex, agricultural population age groups, education and household size across geographical areas.

3.1.1 Agricultural households' numbers

According to AHS2017 results, it was estimated that during agricultural year 2016/2017 there was a total of 2.1 million of agricultural households in the country which is equivalent to 80.2 percent of total estimated country households. In this agricultural year, 78.6 percent of all households in Rwanda were engaged in crop production, whereas 62.6 percent of households engaged in livestock. (See Table 3). In regards to main activity of agricultural household, 76.4 percent of households practice mainly crop and Livestock production, 21.8 percent practice solerly crop production while1.8 percent practice exclusively livestock (See table 4).

Table 3 : Percentage of househods who engaged in different agricultural activities during agricultural year 2017

Province	Percentage of agricultural households	Percentage of households engaged in crop production	Percentage of households engaged in livestock	Total number of estimated households (000s)
Kigali city	28.6	26.3	16.1	328
South	88.5	87.3	72.0	652
West	86.1	83.0	68.7	533
North	90.0	89.1	72.8	474
East	85.6	84.3	64.2	711
Rwanda	**80.2**	**78.6**	**62.6**	**2,698**

Source: NISR, AHS 2017

Table 4 : Percentage of estimated agricultural households by type of main agricultural activity, province and sex of household head

	Total agricultural households(000s)	Main agricultural activity			Total
		Crop production	Livestock production	Both crop and Livestock production	
Rwanda	**2,165**	**21.8**	**1.8**	**76.4**	**100**
Province					
Kigali city	94	43.7	7.6	48.8	100
South	577	18.6	1.3	80.2	100
West	458	20.1	3.0	76.9	100
North	426	19.0	0.9	80.1	100
East	609	24.9	1.0	74.1	100
Sex					
Male	1,563	20.5	1.8	77.7	100
Female	602	25.3	1.7	73.1	100

Source: NISR, AHS 2017

3.1.2 Agricultural households' population by Sex

Table 5 shows the distribution of agricultural household population by sex and province. During the agricultural year 2016/2017, the total population of Rwanda living in agricultural households was estimated to be 9.7 million, of whom 47.2 percent were males and 52.8 percent were females.

Kigali city has a slightly lower percentage of females compared to other provinces (51.8 percent), while a percentage of females is slightly higher in Northern Province compared to other provinces (53.8 percent).

Table 5 : Percentage of agricultural households' population by sex and province

Province	Agricultural household population (000s)	Sex		Total
		Male	Female	
Kigali city	436	48.2	51.8	100
South	2,449	47.0	53.0	100
West	2,194	47.2	52.8	100
North	1,837	46.2	53.8	100
East	2,767	47.8	52.2	100
Rwanda	**9,682**	**47.2**	**52.8**	**100**

Source: NISR, AHS 2017

Table 6 shows that of the total agricultural household population, 44.6 percent are in age below 16 years, 24.8 percent are aged from 16 to 30 years, 26.8 percent are aged from 31 to 64 years and the rest are aged 65 years and above.

For the total male household members 46.5 percent are under 16 years old, 24.9 percent are 17 to 30 years of age, 25.5 percent range between 31 to 64 years of age while the rest are 65 years and above. Female household members ages are distributed as follows: 42.9 percent are under 16 years old, 24.7 percent are betweeb 17 to 30 years of age, 27.9 percent range between31 to 64 years while the rest are 65 years and above. The same table revealed that people below 16 years represent a high number of household population (44.6 percent).

Table 6 : Percentage of agricultural households' population by sex, age group and province

Province	Sex															Agricultural household population (000s)
	Male					Female					Both male and female					
	Below 16 years	16 to 30 years	31 to 64 years	65 years and above	Total	Below 16 years	16 to 30 years	31 to 64 years	65 years and above	Total	Below 16 years	16 to 30 years	31 to 64 years	65 years and above	Total	
Kigali City	41.6	27.2	28.9	2.3	100	42.4	27.1	27.1	3.5	100	42.0	27.1	28.0	2.9	100	436
South	45.6	23.5	27.5	3.4	100	41.8	23.4	30.1	4.7	100	43.6	23.5	28.9	4.1	100	2,449
West	47.5	26.0	23.8	2.8	100	44.2	25.3	26.3	4.2	100	45.7	25.6	25.1	3.5	100	2,194
North	45.1	25.0	25.9	4.0	100	40.9	25.1	28.3	5.6	100	42.9	25.1	27.2	4.9	100	1,837
East	48.1	24.8	24.2	2.9	100	44.4	24.7	27.1	3.8	100	46.2	24.8	25.7	3.4	100	2,767
Rwanda	**46.5**	**24.9**	**25.5**	**3.2**	**100**	**42.9**	**24.7**	**27.9**	**4.5**	**100**	**44.6**	**24.8**	**26.8**	**3.9**	**100**	**9,682**

Source: NISR, AHS 2017

3.1.3 Education

This section explores key education indicators and compares them across gender, province and age group. Educational attainment is a key factor for agricultural household as it is key to improve agricultural practice in household and in the community as well.

Table 7 shows that out of 5.4 million of working age agricultural households' population, 55.5 percent has primary education level, 17.2 percent secondary education level, 1.9 percent tertiary education level while 25.4 percent have not attended school. 21.1 percent of male agricultural population have not attended school, which is slightly lower compared to 28.9 percent for female agricultural households' population.

Table 8 shows that out of 6.8 million representing agricultural households' population aged 10 years and above, 61.9 percent attained primary school, 15.1 percent secondary school, 1.5 percent university while 21.5 percent had no education. National wide, among agricultural households' population who attained primary and secondary schools, females are 51.8 and 52.5 percent respectively. In contrary a high percentage of males attained tertiary schools (59.7percent). For agricultural households' population 61.0 percent of people who have not attained school are females.

Table 7 : Percentage of agricultural households' population aged 16 and above by sex, education and province

Province	Sex															Number of agricultural households' population aged 16 years and above (000s)
	Male					Female					Both male and female					
	Primary	Secondary	Tertiary	No education level	Total	Primary	Secondary	Tertiary	No education level	Total	Primary	Secondary	Tertiary	No education level	Total	
Kigali City	50.6	29.2	8.9	11.3	100	52.3	25.9	6.8	15.0	100	51.5	27.5	7.8	13.2	100	253
South	60.0	15.1	2.2	22.7	100	56.2	15.7	1.6	26.4	100	57.9	15.4	1.9	24.7	100	1,382
West	57.0	19.9	2.2	21.0	100	51.0	16.4	0.8	31.8	100	53.8	18.0	1.4	26.9	100	1,191
North	58.6	16.0	2.0	23.4	100	48.4	16.0	1.2	34.4	100	52.9	16.0	1.6	29.5	100	1,050
East	58.9	19.0	2.1	20.0	100	55.8	16.0	1.0	27.2	100	57.2	17.4	1.5	23.9	100	1,490
Rwanda	**58.3**	**18.1**	**2.5**	**21.1**	**100**	**53.2**	**16.5**	**1.4**	**28.9**	**100**	**55.5**	**17.2**	**1.9**	**25.4**	**100**	**5,365**

Source: NISR, AHS 2017

Table 8 : Level of education attended by agricultural household members aged 10 years and above by sex and province

Province	Education level																Number of agriculture household's population aged 10 years and above (000s)
	Primary			Secondary			Tertiary			No education			Primary	Secondary	Tertiary	No education	Total	
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Both male and Female					
Kigali city	48.1	51.9	100	49.8	50.2	100	55.3	44.7	100	41.8	58.2	100	56.9	25.4	6.4	11.3	100	308
South	47.5	52.5	100	43.9	56.1	100	53.0	47.0	100	42.8	57.2	100	64.0	13.6	1.5	20.9	100	1,726
West	48.1	51.9	100	49.6	50.4	100	70.9	29.1	100	36.8	63.2	100	61.5	15.6	1.1	21.9	100	1,515
North	49.0	51.0	100	45.1	54.9	100	57.4	42.6	100	36.4	63.6	100	57.5	14.1	1.3	27.1	100	1,316
East	48.4	51.6	100	49.6	50.4	100	64.9	35.1	100	39.3	60.7	100	64.0	15.1	1.2	19.6	100	1,890
Rwanda	**48.2**	**51.8**	**100**	**47.5**	**52.5**	**100**	**59.7**	**40.3**	**100**	**39.0**	**61.0**	**100**	**61.9**	**15.1**	**1.5**	**21.5**	**100**	**6,756**

Source: NISR, AHS 2017

Table 9 highlights that the percentage of school attainment among children aged from 6 to 10 years old is 86.9 percent.the Percentage of school attainment increase with age.

Table 9 : Percentage of children from 6 to 10 years living in agricultural households, who attained schools by province

Province	Children of 6 Years	Children of 7 Years	Children of 8 Years	Children of 9 Years	Children of 10 Years	Overall (6-10 years)	Numberof children aged from 6 to 10 years(000s)
Kigali city	66.8	85.7	91.6	97.0	96.9	88.3	61
South	59.4	77.9	94.0	93.0	96.3	84.6	353
West	57.2	86.2	95.9	98.5	98.4	87.6	333
North	78.8	95.7	95.8	98.5	94.8	92.8	240
East	55.8	80.8	90.7	95.4	96.4	84.5	401
Rwanda	**61.5**	**84.1**	**93.8**	**96.0**	**96.6**	**86.9**	**1,387**

Source: NISR, AHS 2017

3.1.4 Agricultural household size

Table 10 shows that, at national level, the average size of agricultural households is 4.5. Western province is the highest in terms of agriculture household size, with 4.8 members. The same table shows that male-headed households are larger with 4.9 members on average, compared to 3.4 members on average for female-headed households.

Table 10 : Average size of agricultural households by sex of household head and province

Province	Household head sex		Overall average size	Number of agricultural Households (000s)
	Male headed	Female headed		
Kigali city	4.9	3.7	4.6	94
South	4.6	3.4	4.2	577
West	5.3	3.5	4.8	458
North	4.8	3.1	4.3	426
East	4.9	3.7	4.5	609
Rwanda	**4.9**	**3.4**	**4.5**	**2,165**

Source: NISR, AHS 2017

Table 11 illustrates that proportion of households increases as the number of household members increased. 46 percent of all agricultural households have five members and above. The highest percentage of single person per households is in Kigali city and south which is estimated at 7.6 percent.

Table 11 : Percentage of agricultural households by household size and province

Province	Mean numbers of HH persons	One person	Two persons	Three persons	Four persons	Five and above	Total	Number of agricultural Household (000s)
Kigali city	4.6	7.6	8.7	16.7	16.4	50.5	100	94
South	4.2	7.6	11.2	18.9	19.7	42.6	100	577
West	4.8	4.5	11.3	16.2	16.1	52.0	100	458
North	4.3	7.1	11.6	18.5	21.0	41.9	100	426
East	4.5	6.1	8.9	17.9	20.1	47.0	100	609
Rwanda	**4.5**	**6.4**	**10.5**	**17.9**	**19.2**	**46.0**	**100.0**	**2,165**

Source: NISR, AHS 2017

Table 12 shows that, 72.2 percent of all agricultural households are headed by male while 27.8 are headed by female. Kigali city has lower percentage of female heads of household with 21.6 percent compared to other provinces, while the percentage the southern province has a higher ratio of 31.0 percent of household headed by females.

Table 12: Percentage of agricultural households by household head sex and province

Province	Household head sex		Total	Number of agricultural Households (000s)
	Male	Female		
Kigali city	78.4	21.6	100	94
South	69.0	31.0	100	577
West	73.7	26.4	100	458
North	72.6	27.4	100	426
East	72.9	27.1	100	609
Rwanda	**72.2**	**27.8**	**100**	**2,165**

Source: NISR, AHS 2017

3.2 Economic activity of agricultural household members

The working population in agriculture is an engine to contribute to the productivity of the national economy. This section summarizes survey findings related to categories of economic activity of agricultural households. It is desaggregated to population gender, education and age.

Table 13 shows that the estimated agricultural households' population at working age (16 years and above) was 5.4million of which female represents 54.4 percent while male represents 45.6 percent. The distribution of the above-mentioned population by economic activity showes that 70.2 percent practice agricultural activity only, 11.6 practice activities other than agriculture, 2.1 percent do both agricultural and non-agricultural activities while16.2 percent do not work.

Within population that practice agricultural activities only, females represent 60.5 percent, while for those who are in activities other than agriculture males represent 69.9 percent. Among a population who does both agricultural and non-agricultural activities, males represent 66.5 percent. For non-working population males represent 52.0 percent while females represent 48.0 percent.

Table 13 : Distribution (%) of agricultural households' population from 16 years and above by economic activity, sex and province

Province	Agricultural activity only			Non-agricultural activity			Both agricultural and non-agricultural activities			No activity			Overall					Total agricultural population over 15 years (000s)	Percentage of female in Total agriculture population over 15 years
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Agricultural activity only	Non-agricultural activity	Both agricultural and non-farming activities	No activity	Total		
Kigali city	41.5	58.5	100	61.2	38.8	100	58.3	41.7	100	48.5	51.5	100	52.0	26.7	2.8	18.5	100	253	51.5
South	39.3	60.7	100	67.9	32.1	100	69.3	30.7	100	52.5	47.5	100	70.6	10.9	2.9	15.6	100	1,382	54.7
West	38.5	61.5	100	71.2	28.8	100	61.6	38.4	100	51.9	48.1	100	66.7	13.2	1.6	18.5	100	1,191	54.3
North	37.7	62.3	100	78.0	22.0	100	66.5	33.5	100	50.6	49.4	100	73.4	10.3	2.9	13.4	100	1,050	55.6
East	41.4	58.6	100	68.5	31.5	100	69.4	30.6	100	53.3	46.7	100	73.3	9.3	0.9	16.4	100	1,490	53.9
Rwanda	**39.5**	**60.5**	**100**	**69.9**	**30.1**	**100**	**66.5**	**33.5**	**100**	**52.0**	**48.0**	**100**	**70.2**	**11.6**	**2.1**	**16.2**	**100**	**5,365**	**54.4**

Source: NISR, AHS 2017

Table 14 shows the distribution of working population by age group as follows: 59.2 percent between 31 and 64 years, followed by 33.3 percent ranging between16 to 30 years while the rest 7.4 percent are 65 years and above.

Table 14 : Percentage agricultural labourers aged from 16 and above by age group, province and sex

	Age groups				Total agricultural population over 15 years (000s)
	16 to 30 years	31 to 64 years	65 and above	Total	
Rwanda	**33.3**	**59.2**	**7.4**	**100**	**3,874**
Province					
Kigali city	26.4	66.5	7.1	100	139
South	30.6	61.9	7.5	100	1,016
West	33.7	58.9	7.3	100	814
North	35.3	55.5	9.2	100	800
East	35.0	58.7	6.3	100	1,106
Sex					
Male	32.9	60.3	6.8	100	1,558
Female	33.6	58.5	7.9	100	2,316

Source: NISR, AHS 2017

Table 15 shows that, among population aged 16 years and above who reported to do agricultural activities, 59.9 percent had primary education level, 9.4 percent had secondary education level, and 0.8 percent had tertiary education level while 29.9 percent had no education level. Northern province had the highest number of agricultural labourers' population with no education compared with other provinces.

Table 15 : Percentage agricultural labourers aged from 16 and above by highest level of education, province and sex

	Highest level of education					Total agricultural population from 16 and above(000s)
	Primary	Secondary	Tertiary	No education	Total	
Rwanda	**59.9**	**9.4**	**0.8**	**29.9**	**100**	**3,874**
Province						
Kigali city	62.2	13.6	5.1	19.1	100	139
South	62.0	8.6	0.9	28.6	100	1,016
West	57.5	9.1	0.6	32.8	100	814
North	56.3	9.7	0.6	33.4	100	800
East	62.2	9.5	0.6	27.7	100	1,106
Sex						
Male	63.5	9.8	1.3	25.5	100	1,558
Female	57.5	9.1	0.5	32.9	100	2,316

Source: NISR, AHS 2017

Table 16 shows that a largest number of working age population living in agricultural households and belonging to age groups of 16-30 and 31-64 years, had primary level education (67.6 percent and 59.6 percent respectively). In contrary the highest number (69.7 percent) of

agricultural household population at working age who are above 65 years and above had no education.

Table 16 : Percentage agricultural labourers aged from 16 and above by age group, highest level of education, province and sex

	16 to 30 years					31 to 64 years					65 years and above					Total agricultural population from 16 and above(000s)
	Primary	Secondary	Tertiary	No education	Total(000s)	Primary	Secondary	Tertiary	No education	Total(000s)	Primary	Secondary	Tertiary	No education	Total(000s)	
Rwanda	**67.6**	**17.1**	**0.6**	**14.8**	**1,291**	**59.6**	**6.0**	**1.0**	**33.4**	**2,295**	**28.5**	**1.5**	**0.3**	**69.7**	**288**	**3,874**
Province																
Kigali city	64.2	20.8	3.6	11.4	367	64.2	12.0	6.1	17.6	92	35.8	1.7	1.2	61.3	10	139
South	69.5	16.7	1.0	12.9	311	61.9	5.4	0.9	31.9	629	31.7	1.9	0.1	66.3	76	1,016
West	66.6	17.2	0.3	15.9	275	56.2	5.6	0.8	37.4	480	25.1	0.8	-	74.1	60	814
North	63.2	18.0	0.2	18.6	282	57.7	5.9	1.0	35.5	444	21.0	1.2	0.3	77.5	74	800
East	70.1	16.5	0.4	13.0	387	60.4	6.2	0.7	32.7	650	34.9	2.1	0.5	62.5	70	1,106
Sex																
Male	68.5	15.7	0.8	15.1	513	62.4	7.3	1.6	28.7	940	49.4	2.8	0.7	47.1	106	1,558
Female	67.0	18.1	0.5	14.5	778	57.6	5.1	0.7	36.7	1,355	16.5	0.8	-	82.7	183	2,316

Source: NISR, AHS 2017

Table 17 shows that 52 percent aged between 16 to 30 years, 86 percent between 31 to 64 years and 76.8 percent from 65 years and above practiced agricultural activity only.

Table 17 : Agricultural household population by age group, economic activity, province and sex

	16 to 30 years					31 to 64 years					65 years and above				
	Agricultural activity	Non-agricultural activity	Both agricultural and non-agricultural activities	No activity	Total(000s)	Agricultural activity	Non-agricultural activity	Both agricultural and non-agricultural	No activity	Total(000s)	Agricultural activity	Non-agricultural activity	Both Agricultural and non-agricultural activities	No activity	Total (000s)
Rwanda	**52.0**	**16.5**	**1.7**	**29.8**	**2401**	**86.0**	**8.5**	**2.6**	**2.9**	**2591**	**76.8**	**2.0**	**0.5**	**20.7**	**373**
Province															
Kigali city	29.8	34.7	1.3	34.3	118	71.2	21.1	4.4	3.4	122	76.0	7.2	0.9	15.9	13
South	51.4	16.1	2.7	29.8	574	85.5	8.0	3.4	3.1	707	74.9	1.9	0.9	22.4	100
West	47.3	18.1	1.5	33.1	563	85.0	9.6	2.0	3.4	551	76.9	3.4	-	19.7	77
North	59.0	13.9	2.4	24.8	460	85.1	8.7	3.8	2.4	500	81.9	1.0	0.4	16.8	89
East	55.6	14.0	0.8	29.6	685	90.4	5.9	1.1	2.7	710	74.1	1.3	0.5	24.2	94
Sex															
Male	42.7	22.4	2.3	32.6	1137	77.0	15.1	3.9	4.1	1163	71.5	3.6	1.2	23.8	145
Female	60.4	11.1	1.2	27.3	1264	93.3	3.1	1.5	2.0	1428	80.2	1.0	0.0	18.8	228

Source: NISR, AHS 2017

In regards to type of agricultural activity, as shown in Table 18, during agricultural year 2017 65.8 percent of farmers did both crop production and livestock activities. In the Northern Province 71.1 percent of farmers did both crop production and livestock activities.

Table 18 : Percentage of farmers by type of agricultural activity, province and sex

	Crop production only	Crop production and livestock	Livestock only	Both agricultural and non-agricultural activities	Total	Total working age farmers (000s)
Rwanda	**28.6**	**65.8**	**2.8**	**2.8**	**100**	**3,874**
Province						
Kigali city	36.4	50.8	7.8	5.0	100	139
South	24.2	68.8	3.0	4.0	100	1,016
West	28.0	65.7	3.9	2.4	100	814
North	23.2	71.1	2.0	3.8	100	800
East	35.9	61.0	1.9	1.2	100	1,106
Sex						
Male	25.7	64.8	4.8	4.7	100	1,558
Female	30.5	66.4	1.5	1.6	100	2,316

Source: NISR, AHS 2017

3.3 Agricultural land ownership and use

Table 19, shows that in 2017, 65.3 percent of farmers cultivated their own households' farms, while 32.3 percent cultivated both own households' farms and non- households' farms.

Table 19 : Percentage of age working farmers by sex, agricultural activity location and province

Province	Male				Female				Both male and female				Total number of farmers(000s)
	In the household farms only	In non-household farms only	Both in household and non-household farmers	Total	In the household farms only	In non-household farms only	Both in household and non-household farmers	Total	In the household farms only	In non-household farms only	Both in household and non-household farmers	Total	
Kigali city	81.0	2.5	16.6	100	80.9	1.3	17.8	100	80.9	1.8	17.3	100	128
South	62.2	2.6	35.2	100	66.4	2.0	31.6	100	64.7	2.2	33.1	100	985
West	59.7	3.8	36.6	100	58.7	3.0	38.3	100	59.1	3.3	37.7	100	782
North	66.0	2.3	31.7	100	60.2	1.5	38.3	100	62.4	1.8	35.8	100	785
East	70.5	3.0	26.5	100	70.5	2.5	27.0	100	70.5	2.7	26.8	100	1,085
Rwanda	**65.6**	**2.9**	**31.5**	**100**	**65.1**	**2.2**	**32.7**	**100**	**65.3**	**2.5**	**32.3**	**100**	**3,764**

Source: NISR, AHS 2017

As Table 20 shows that, accross seasons, 93.1 percent and 94.2 percent of agriculture households operated in their own land in season A and B of 2017 respectively, while the rest rented land either by paying cash or by share of production or free rending. Apart from operating the owned land 31.7 percent of agricultural households in Season A 2017 and 29.7 percent in Season B 2017 accessed land they operated by paying cash.

Table 20 : Percentage of agricultural households who owned or rented agricultural land in different means by agricultural season, province and sex of household head

	Season A				Season B				Total agricultural households(000s)
	Cultivated owned land	Cultivated rented land by cash payment	Cultivated rented land by share of production	Cultivated land rent by others without payment	Cultivated owned land	Cultivated rented land by cash payment	Cultivated rented land by share of production	Cultivated land lent by others without payment	
Rwanda	**93.1**	**31.7**	**12.2**	**9.5**	**94.2**	**29.7**	**11.8**	**9.3**	**2,165**
Province									
Kigali city	79.4	30.97	4.4	17.5	81.2	29.0	3.5	17.7	94
South	95.2	37.7	7.2	12.4	96.4	36.7	7.1	12.5	577
West	92.4	31.42	14.8	8.4	91.9	27.6	12.9	7.2	458
North	95.1	30.2	2.6	8.1	96.9	29.2	2.6	8.3	426
East	92.5	27.51	23.0	7.2	94.0	25.1	23.0	7.4	609
Sex									
Male	92.9	35.6	13.0	9.7	94.16	33.43	12.58	9.25	1,563
Female	93.8	21.6	10.1	8.9	94.36	20.03	9.63	9.57	602

Source: NISR, AHS 2017

3.4 Crop cultivation and production use

This section presents the cultivation decisions made by agricultural households across different provinces and the use of production in both season A and B of the agricultural year 2017.

3.4.1 Crop cultivation

Table 21 and Table 22 shows the percentage of crop producing households cultivating different crops. Table 20 reveals that, among major five crops grown in 2017 season A in Rwanda bush bean was the most grown crop (52.9percent of crop cultivating households), followed by maize (50.9percent), climbing bean (36.0percent) sweet potato (24.9percent) and cassava (23.7percent).

Table 21 shows that among major five crops grown in 2017 season B in Rwanda bush bean was the most grown crop (48.8 percent of crop cultivating households), followed by climbing

bean (33.5 percent), maize (28.3 percent), sweet potato (24.9 percent) and sorghum (23.3 percent).

Table 21 : Percentage of crop-producing households cultivating different crops by province and crop type during Season A 2017

Crop/Crop category	Kigali city	South	West	North	East	Rwanda
Cereals						
Maize	52.0	29.9	45.5	47.7	77.1	50.9
Sorghum	1.2	0.4	1.2	4.8	11.5	4.6
Paddy rice	0.3	3.7	1.8	0.0	2.8	2.2
Wheat	0.1	0.2	0.8	3.7	0.1	1.0
Tubers and roots						
Cassava	28.8	28.9	34.2	8.0	21.2	23.7
Sweet potato	22.1	37.5	22.5	33.4	9.2	24.9
Irish potato	6.9	5.0	15.5	17.6	4.4	9.6
Yams and Taro	1.5	5.9	5.5	0.8	0.3	3.1
Banana						
Cooking banana	8.3	4.7	6.0	8.3	13.7	8.4
Dessert banana	4.3	2.6	3.0	4.0	0.7	2.5
Banana for beer	4.0	10.8	11.8	10.0	2.6	8.3
Legumes and pulses						
Bean						
Bush bean	88.6	67.4	16.2	18.2	83.7	52.3
Climbing bean	3.4	35.6	61.2	64.9	2.0	36.0
Pea	1.8	4.1	2.6	4.1	0.4	2.6
Groundnut	5.2	6.0	0.6	0.7	12.8	5.7
Soybean	6.5	16.4	6.6	1.5	3.6	7.3
Vegetables	11.5	2.6	3.3	3.6	1.8	3.1
Fruits	0.7	0.1	0.7	1.1	0.2	0.5
Crop-cultivating households(000s)	**82**	**557**	**432**	**410**	**581**	**2,061**

Source: NISR, AHS 2017

Table 22 : Percentage of crop-producing households cultivating different crops by province and crop type during Season B 2017

Crop/Crop category	Kigali city	South	West	North	East	Rwanda
Cereals						
Maize	35.9	12.2	23.6	16.1	54.6	28.3
Sorghum	28.0	32.5	2.1	28.5	25.8	23.3
Paddy rice	0.7	5.1	1.9	0.0	2.7	2.5
Wheat	0.1	2.7	4.7	4.5	0.3	2.7
Tubers and roots						
Cassava	15.8	20.4	24.3	4.7	7.0	14.1
Sweet potato	18.4	32.8	26.7	32.9	11.3	24.9
Irish potato	6.9	5.5	16.3	18.2	4.0	9.9
Yams and Taro	1.3	3.0	1.7	0.8	0.3	1.5
Banana						
Cooking banana	7.8	4.9	6.8	7.9	14.1	8.6
Dessert banana	3.3	2.7	3.0	4.7	0.7	2.6
Banana for beer	4.7	11.0	14.5	10.0	3.2	9.1
Legumes and pulses						
Bean						
Bush bean	76.6	60.5	16.4	16.2	80.5	48.8
Climbing bean	3.2	33.7	48.4	66.2	3.5	33.5
Pea	2.0	4.1	2.6	2.7	0.3	2.3
Groundnut	6.1	6.7	1.5	0.7	15.5	6.9
Soybean	7.2	17.7	8.9	1.4	5.0	8.6
Vegetables	11.6	3.3	5.1	3.5	2.1	3.7
Fruits	0.9	0.1	0.7	1.4	0.2	0.6
Crop-cultivating households(000s)	**83**	**563**	**430**	**418**	**589**	**2,082**

Source: NISR, AHS 2017

3.4.2 Crop production use

Table 23 and Table 24 shows the use of major crops production of Season A and B of the agricultural year 2017. The main purpose of this tables was to be used in analysis of food balance sheet analysis.

In Season A and B 2017 most five crops whose high quantity was sold are cash crops (tea, coffee, macadamia and pyrethrum), fruits, vegetables, cereals (paddy rice and wheat) and dessert banana. On the other hand, beans, sweet potato, cassava, yams, taro, vegetables and fruits were predestined for own consumption.

Table 23 : Crop production use (%) in Season A 2017 at National level

Crop name	Crop production use (%)											
	Quantity sold	quantity used for own consumption	quantity used as wages	quantity used as farm rent	quantity used as gift	the quantity exchanged for other goods	quantity used as seeds	quantity used to feed animals	quantity stored	quantity lost after harvest	quantity used in other forms	Total
Cereals												
Maize	47.4	34.3	2.2	3.9	5.4	0.1	0.9	0.2	3.0	0.2	2.4	100
Paddy rice	84.5	11.3	1.1	0.8	1.3	0.0	0.7	-	0.1	0.1	0.0	100
Sorghum	67.9	15.8	2.3	7.5	2.7	0.3	0.9	0.0	1.9	0.0	0.7	100
Wheat	71.4	19.0	0.4	-	4.1	-	2.5	0.1	1.7	0.0	0.7	100
Millet	38.5	43.4	2.3	7.5	3.4	0.8	3.5	-	-	-	0.7	100
Sun flower	15.6	61.2	-	2.4	6.4	-	1.4	-	12.1	-	0.8	100
Legumes and Pulses												
Bush bean	32.1	44.0	2.1	3.7	5.2	0.1	8.0	-	4.2	0.1	0.5	100
Small red bean	-	85.5	-	-	-	-	14.5	-	-	-	-	100
Climbing bean	18.1	58.3	1.0	1.2	8.5	0.1	8.3	-	4.0	0.0	0.4	100
Pea	33.6	45.9	0.0	-	5.9	0.2	7.9	-	6.1	-	0.4	100
Soybean	25.9	46.6	0.7	1.4	8.1	0.3	10.9	-	4.6	0.1	1.3	100
Groundnut	40.2	32.1	0.5	4.1	4.4	0.2	13.4	-	4.5	0.0	0.6	100
Tubers and Roots												
Irish potato	66.0	15.3	1.3	0.3	3.5	0.1	12.4	-	-	0.9	0.3	100
Sweet potato	19.6	66.4	1.4	0.6	7.7	0.1	0.0	3.5	-	0.2	0.4	100
Cassava	25.8	60.0	0.4	2.9	4.6	0.0	0.0	0.1	-	0.1	6.0	100
Taro	21.5	58.8	3.1	1.0	9.1	0.0	3.2	-	1.4	0.9	0.9	100
Yam	-	92.7	-	-	-	-	-	-	-	-	7.3	100
Vegetables												
Tomato	83.9	4.4	0.3	4.5	3.2	0.1	0.2	-	-	3.3	0.0	100
Cabbage	88.1	4.9	0.1	-	2.4	0.0	-	-	-	0.4	4.1	100
Cauliflower	98.8	0.5	-	-	0.5	-	-	-	-	-	0.2	100
Onion	95.3	1.7	0.1	0.1	1.1	-	0.0	-	-	1.7	0.0	100
Carrot	93.5	5.9	-	-	0.6	-	-	-	-	0.0	-	100
Eggplant	79.5	10.7	0.4	1.3	5.5	-	0.3	-	-	2.2	0.1	100
Black eggplant	100.0	-	-	-	-	-	-	-	-	-	-	100
Sweet pepper	80.6	3.1	-	-	1.3	-	-	-	-	14.5	0.5	100
Amaranth	83.7	11.6	-	-	3.2	-	-	-	-	0.5	1.1	100
Celery	97.8	1.1	-	-	1.1	-	-	-	-	-	-	100
Spinach	92.8	5.6	-	-	1.6	-	-	-	-	-	-	100
Sugar beet	75.8	15.6	-	-	8.5	-	-	-	-	-	-	100
Garlic	84.9	1.7	-	-	1.9	-	9.8	-	-	1.0	0.7	100

Crop name	Quantity sold	quantity used for own consumption	quantity used as wages	quantity used as farm rent	quantity used as gift	the quantity exchanged for other goods	quantity used as seeds	quantity used to feed animals	quantity stored	quantity lost after harvest	quantity used in other forms	Total
African cabbage	-	62.1	-	-	31.1	-	6.8	-	-	-	-	100
French bean	89.6	7.5	-	-	1.2	-	1.7	-	-	-	-	100
Pumpkin	45.6	31.3	-	-	23.0	-	-	-	-	-	-	100
Cucumber	97.0	2.0	-	-	1.1	-	-	-	-	-	-	100
Other annual vegetable	46.4	38.1	-	-	-	-	-	-	-	-	15.5	100
Pepper	98.5	0.1	-	-	0.2	-	1.1	-	-	-	0.1	100
Fruits												
Pineapple	80.7	12.9	-	-	6.2	-	-	-	-	0.1	0.1	100
Avocado	79.6	10.9	-	-	8.3	-	-	-	-	1.1	-	100
Other fruit	76.4	0.9	-	-	9.4	-	-	-	-	13.2	-	100
Mango	81.4	7.6	-	-	5.7	-	-	-	-	5.3	-	100
Papaya	-	90.0	-	-	10.0	-	-	-	-	-	-	100
Tree tomato	80.1	7.6	-	-	7.7	-	-	-	-	2.7	1.9	100
Banana												
Cooking banana	50.8	41.5	1.8	0.1	4.3	0.1	-	0.3	-	0.0	1.1	100
Dessert banana	85.0	12.4	0.1	-	0.8	0.0	-	-	-	0.3	1.4	100
Banana for beer	72.8	16.4	0.1	-	4.5	-	-	0.0	-	0.2	6.0	100
Folder crops												
Napia grass for fodder	1.4	-	-	-	-	-	-	98.6	-	-	-	100
Maize for fodder	-	-	-	-	-	-	-	100.0	-	-	-	100
Mucuna	-		-	-	-	-	-	100.0	-	-	-	100
Other crops												
Pyrethrum	99.9	-	-	-	-	-	-	-	-	0.1	-	100
Napia grass	-	-	-	-	8.7	-	-	-	-	-	91.3	100
Coffee	100.0	0.0	-	-	-	-	-	-	-	-	-	100
Sugar cane	74.3	16.9	-	-	7.6	0.1	-	-	-	0.4	0.7	100
Macadamia	100.0	-	-	-	-	-	-	-	-	-	-	100
Stevia	-		-	-	-	-	-	100.0	-	-	-	100
Tea	100.0	-	-	-	-	-	-	-	-	-	-	100
Other seasonal crop	40.0	40.0	-	-	20.0	-	-	-	-	-	-	100

Source: NISR, AHS 2017

Table 24 : Crop production use in Season B 2017 at National level

Crop name	Production use (%)											Total
	Quantity sold	quantity used for own consumption	quantity used as wages	quantity used as farm rent	quantity used as gift	the quantity exchanged for other goods	quantity used as seeds	quantity used to feed animals	quantity stored	quantity lost after harvest	quantity used in other forms	
Cereals												
Maize	37.9	39.7	1.3	4.0	4.1	0.2	1.3	0.2	8.5	0.1	2.7	100
Paddy rice	83.8	11.5	0.7	0.2	0.8	0.0	0.6	0.0	2.2	0.1	0.1	100
Sorghum	46.4	26.2	1.2	4.3	4.8	0.2	1.5	0.0	13.4	0.1	1.9	100
Wheat	34.0	39.8	0.4	1.1	5.0	-	6.4	0.0	12.2	0.1	0.9	100
Millet	33.5	49.9	-	1.4	7.1	-	7.7	-	-	-	0.4	100
Sun flower	8.2	63.0	1.8	1.2	6.9	-	0.9	-	14.4	-	3.7	100
Legumes and Pulses												
Bush bean	28.2	41.6	1.6	4.5	3.9	0.2	6.3	-	12.1	0.0	1.5	100
Small red bean	-	72.2	-	-	6.1	-	4.1	-	-	-	17.6	100
Climbing bean	14.5	55.7	0.9	1.5	7.7	0.1	8.8	-	8.9	0.1	1.8	100
Pea	40.3	43.4	0.7	0.1	4.3	-	9.2	-	2.0	0.1	0.1	100
Soybean	27.7	44.0	0.6	1.8	5.1	0.3	8.0	-	11.7	0.0	0.7	100
Groundnut	39.4	25.8	0.6	4.4	3.6	0.4	8.6	-	14.9	0.1	2.1	100
Tubers and Roots												
Irish potato	55.4	22.2	0.9	0.6	3.7	0.2	15.8	-	-	0.9	0.3	100
Sweet potato	14.7	73.9	1.2	0.9	4.4	0.0	0.0	2.8	-	0.3	1.7	100
Cassava	29.8	59.9	0.6	4.4	4.3	0.0	0.0	0.1	-	0.2	0.7	100
Taro	20.0	62.9	1.3	2.2	6.5	-	2.2	-	1.4	-	3.5	100
Yam	21.9	66.7	-	-	11.4	-	-	-	-	-	-	100
Vegetables												
Tomato	81.8	8.6	0.5	1.6	3.0	-	0.2	-	-	3.2	1.2	100
Cabbage	88.2	7.2	-	0.0	3.7	-	-	-	-	0.3	0.6	100
Cauliflower	72.7	9.1	4.5	-	9.1	-	-	-	-	4.5	-	100
Onion	97.8	1.3	-	-	0.5	-	0.0	-	-	0.1	0.4	100
Carrot	96.7	2.8	0.0	-	0.5	-	-	-	-	0.0	-	100
Eggplant	87.3	7.4	0.3	0.1	3.4	-	0.1	-	-	1.4	0.0	100
Black eggplant	87.4	8.9	-	-	3.7	-	-	-	-	-	-	100
Sweet pepper	90.5	1.0	-	-	1.3	-	-	-	-	6.7	0.4	100
Amaranth	81.8	13.2	-	-	3.9	-	-	-	-	0.3	0.8	100
Celery	98.6	1.4	-	-	-	-	-	-	-	-	-	100
Spinach	92.5	7.5	-	-	-	-	-	-	-	-	-	100
Sugar beet	81.5	14.4	-	-	3.9	-	-	-	-	0.1	0.1	100
Garlic	81.3	0.7	-	-	3.0	-	13.0	-	-	2.0	-	100
African cabbage	-	43.9	-	-	12.9	-	43.3	-	-	-	-	100
French bean	80.0	14.6	-	-	5.3	-	0.1	-	-	-	-	100

Crop name	Quantity sold	quantity used for own consumption	quantity used as wages	quantity used as farm rent	quantity used as gift	the quantity exchanged for other goods	quantity used as seeds	quantity used to feed animals	quantity stored	quantity lost after harvest	quantity used in other forms	Total
Pumpkin	11.6	61.0	-	-	25.9	-	-	-	-	1.5	-	100
Cucumber	87.3	7.2	-	-	1.4	-	-	-	-	4.2	-	100
Other annual vegetable	88.1	11.9	-	-	-	-	-	-	-	-	-	100
Pepper	95.4	0.5	-	-	1.1	-	0.8	-	-	2.2	-	100
Leek	-	100.0	-	-	-	-	-	-	-	-	-	100
Brocolli	100.0	-	-	-	-	-	-	-	-	-	-	100
Fruits												
Pineapple	82.6	13.0	-	-	4.0	-	-	-	-	-	0.4	100
Avocado	68.7	18.3	-	-	12.7	-	-	-	-	0.3	0.1	100
Other fruit	92.2	4.9	-	-	2.9	-	-	-	-	-	-	100
Mango	59.0	16.2	-	0.5	13.0	-	-	-	-	11.3	-	100
Papaya	12.3	87.7	-	-	-	-	-	-	-	-	-	100
Orange	72.7	18.2	-	-	9.1	-	-	-	-	-	-	100
Tree tomato	78.3	13.1	-	-	7.0	-	-	-	-	1.5	-	100
Banana												
Cooking banana	48.9	44.5	1.1	0.1	4.5	0.0	-	0.1	-	0.0	0.8	100
Dessert banana	85.9	11.9	0.1	-	1.5	-	-	-	-	0.1	0.6	100
Banana for beer	72.7	18.4	0.0	-	4.8	0.4	0.0	0.0	-	0.3	3.4	100
Folder crops												
Napia grass for fodder	1.1	-	-	-	-	-	-	98.9	-	-	-	100
Maize for fodder	1.1	-	-	-	-	-	-	98.9	-	-	-	100
Other crops												
Pyrethrum	99.6	-	-	-	-	-	-	-	-	0.4	-	100
Napia grass	-	-	-	-	-	-	-	-	-	-	100.0	100
Coffee	99.9	0.0	0.1	-	0.0	-	-	-	-	0.1	-	100
Sugar cane	85.6	9.0	-	-	4.8	0.2	-	-	-	0.2	0.2	100
Macadamia	100.0	-	-	-	-	-	-	-	-	-	-	100
Stevia	-		-	-	-	-	-	100.0	-	-	-	100
Tea	100.0	-	-	-	-	-	-	-	-	-	-	100
Other seasonal crop	-	-	-	-	-	-	100.0	-	-	-	-	100

Source: NISR, AHS 2017

Table 25 shows that, in 2017, 58.1 percent and 56.8 percent of crop producing households were involved in market-oriented agriculturein season A and B respectively. In season A, 60.8 of Agricultural household headed by males were more involved market-oriented agriculture compared to 51.2 percent for household headed by females. While, in season B, 58.9 percent of agricultural household headed by males were more involved market-oriented agriculture compared to 51.5 percent of household headed by females.

Table 25 : Percentage of crop producing households engaged in market oriented crop production by agricultural season and province and sex of household head

	Season A 2017		Season B 2017	
	Percentage of crop producing households engaged in market oriented	Total crop-producing households (000s)	Percentage of Households engaged in market oriented	Total crop-producing households(000s)
Rwanda	**58.1**	**2,058**	**56.8**	**2,075**
Province				
Kigali city	53.6	82	45.7	82
South	57.3	556	59.0	560
West	51.4	430	50.1	427
North	58.1	409	51.1	417
East	64.6	581	65.2	588
Sex				
Male	60.8	1,482	58.9	1,496
Female	51.2	577	51.5	579

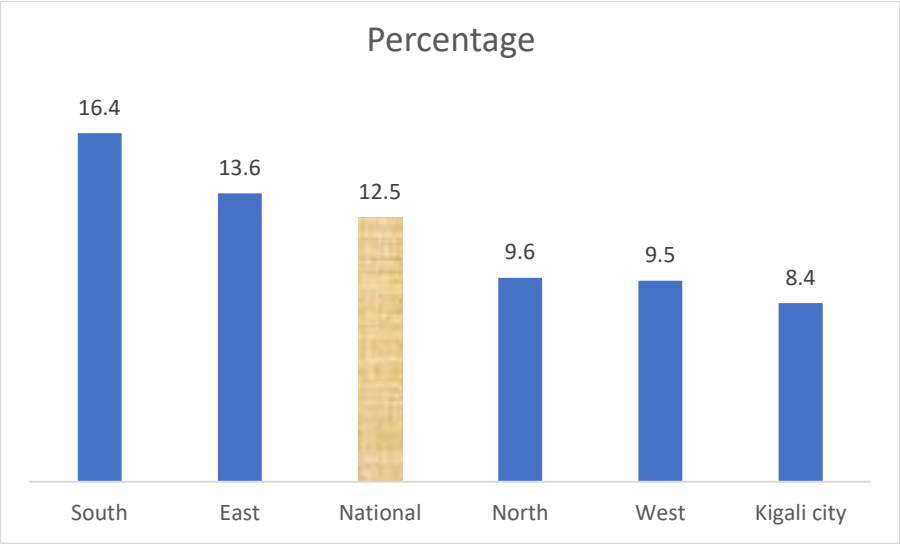
Source: NISR, AHS 2017

3.5 Agricultural cooperative membership

Agricultural cooperatives are autonomous associations of persons practicing agriculture in a united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise. Farmer groups are very crucial for they allow farmers within the group to access information on new technology, markets, prices and agricultural input. The survey investigates whether a household had at least one member belonging to agricultural cooperative. As Figure 1 show that, in the whole country 12.5 percent of agricultural households have at least one member belonging to agricultural cooperative.

Regarding agricultural cooperative type, Table 26 shows that 84.7 percent of farmers who are members of cooperative joined crop production-based cooperatives while livestock cooperative membership is still at low level with only 8.2 percent.

Figure 1 : Percentage of agricultural households belonging to agricultural cooperative or association by province



Source: NISR, AHS 2017

Table 26 : Percentage of agricultural households who are cooperative members by cooperative type, province and sex of household head

	Crop production based cooperative	Livestock based cooperative	Both crop production and livestock cooperative	Water user association	Both crop production and water user cooperative	Crop production, livestock and water user	Total	Total of agricultural households who are cooperative members(000s)
Rwanda	**84.7**	**8.2**	**6.6**	**0.1**	**0.2**	**0.2**	**100**	**270**
Province								
Kigali city	80.3	12.8	6.9	0.0	0.0	0.0	100	8
South	92.1	1.1	6.7	0.0	0.0	0.1	100	95
West	82.7	13.0	3.9	0.0	0.4	0.0	100	43
North	76.5	13.2	10.2	0.0	0.1	0.0	100	41
East	81.9	10.9	6.0	0.5	0.3	0.5	100	83
Sex								
Male	85.2	8.1	6.1	0.2	0.2	0.2	100	212
Female	83.1	8.5	8.5	-	-	-	100	58

Source: NISR, AHS 2017

3.6 Agricultural extension services and programs

3.6.1 Agricultural extension services

Agricultural extension is a continuous education exercise targeting farmers where the subject matter is agricultural techniques and technology transfer to the farming community.

29.6 percent of agriculture households have received agricultural extension services. The Northern Province has the highest beneficiary with 33.6 percentage of agricultural households with at least one person who received agricultural extensions.

Table 27 : Percentage of agricultural households with at least one person who received agricultural extensions by province and sex of household head

	Percentage of agricultural households with at least one person who received agricultural extensions	Total agricultural households(000s)
Rwanda	**29.6**	**2,165**
Province		
Kigali city	9.3	94
South	31.4	577
West	31.6	458
North	33.6	426
East	26.9	609
Sex		
Male	31.9	1,563
Female	23.9	602

Source: NISR, AHS 2017

Among households who receive agricultural extension services, crop production extension services are largely beyond other extension services to be provided (88.9 percent of agricultural households).

Table 29 shows that during the agricultural year 2017, 88.3 percent of agricultural households received extension services related to fertilizers application, followed by 76.5 percent who received extension services related to cropping system, 32.9 percent to plant breeding 28.4 percent to crop protection and 13.2 percent who received extension services related to soil protection.

Table 28 : Percentage of agricultural households by types of received agricultural extension services, province and sex of household head

	Agricultural households who received crop production extension services (%)	Agricultural households who received livestock extension services (%)	Agricultural households who received both crop production and livestock extension services (%)	Total	Number of agricultural households who received agricultural extension services (000s)
Rwanda	**88.9**	**1.3**	**9.8**	**100**	**641**
Province					
Kigali city	82.2	4.8	13.0	100	9
South	92.4	0.9	6.7	100	181
West	91.6	2.1	6.3	100	145
North	77.4	0.6	22.0	100	143
East	93.1	1.6	5.3	100	164
Sex					
Male	88.4	1.3	10.3	100	498
Female	90.7	1.3	8.0	100	144

Source: NISR, AHS 2017

Table 29 : Percentage of agricultural households by types of delivered crop production extension services, province and sex of household head

	Types of delivered cropping extension services											Total agricultural households by types of delivered cropping extension
	Cropping system	Fertilizers application	Crop protection	Post-harvest handling and storage	Mechanization	Plant breeding	Water harvesting techniques	Soil protection	Horticulture skills	Cooperative cropping-based trainings	Other cropping related extension service	
Rwanda	**76.5**	**88.3**	**28.4**	**7.2**	**0.1**	**32.9**	**2.2**	**13.2**	**3.9**	**3.4**	**4.0**	**633**
Province												
Kigali city	62.4	55.6	22.2	7.0	0.0	20.2	2.6	6.8	18.2	11.6	12.9	8
South	81.6	87.2	29.6	6.4	0.0	29.4	1.9	13.3	2.6	4.2	8.3	179
West	77.5	92.8	30.4	8.9	0.0	34.6	2.8	17.6	2.2	2.2	2.0	142
North	79.7	89.5	42.5	6.4	0.2	40.0	1.8	14.3	3.9	1.9	0.8	143
East	67.6	86.1	13.2	7.4	0.2	29.7	2.3	8.5	6.3	4.5	3.4	161
Sex												
Male	75.9	88.8	29.0	7.9	0.1	33.1	2.3	13.4	4.0	3.2	4.2	491
Female	78.5	86.5	26.4	4.9	0.1	32.4	1.8	12.4	3.7	3.8	3.2	142

Source: NISR, AHS 2017

Table 30 shows that, in 2017 at national level, of all agricultural extensionists who provided crop production extension services, 40 percent were cell employees, followed by NGOs at 18.9 percent , Sector Employees at16.1 percent, Cooperative at8.5 percent, MINAGRI/RAB/NAEB at6.3 percent, District Employees at1.4 percent and Research institutions at0.2 percent.The type of highest agricultural extension services provider of crop production services differs per province, whereby MINAGRI/RAB/NAEB was the most extension provider in Kigali city with 29.1 percent, NGOs in western province with 44.3 percent; Cell Employee in Southern, Northern and Eastern provinces with 24.3 percent, 66.1 percent and 41.2 percent respectively.

Table 30 : Types of extensions who delivered crop production extension services by province

Province	Crop production extension services provider								Total
	MINAGRI /RAB/NAEB	District Employees	Cell Employee	Sector Employees	Research institutions	NGOs	Cooperative	Other service	
Kigali City	29.1	11.0	19.2	26.3	-	6.9	5.2	2.4	100
South	8.5	1.0	24.3	17.2	0.1	22.0	17.4	9.6	100
West	4.0	0.8	31.8	10.9	0.3	44.3	4.5	3.3	100
North	2.5	1.3	66.1	17.2	0.3	1.5	2.9	8.2	100
East	8.9	2.2	41.2	18.3	0.2	7.9	7.5	13.8	100
Rwanda	**6.3**	**1.4**	**40.0**	**16.1**	**0.2**	**18.9**	**8.5**	**8.7**	**100**

Source: NISR, AHS 2017

Table 31 shows that most livestock extension services received during agricultural year 2017 were animal keeping by 83.8 percent of agricultural households, followed by animal feeding by 80.5 percent, veterinary services by 46.0 percent animal sanitation by 32.6 percent and food storage by 5.6 percent.

Table 32 shows that, in 2017 at national level, of agricultural extensionists who provided livestock extension services, 51.5 percent were Sector Employees, followed 29.2 percent by Cell Employee, 4.8 percent by MINAGRI/RAB/NAEB, 4.7 percent by NGOs, 4.6 percent by Cooperative, 3.2 by District Employees and 0.2 percent by Research institutions. The type of highest agricultural extension services provider of livestock extension services differs per province, whereby MINAGRI/RAB/NAEB was the most extension provider in Kigali city with 30.9 percent, Cell employees in Eastern province with 29.0 percent, Sector Employees in

Southern, Western Northern provinces with 38.3 percent, 47.5 percent and 64.2 percent respectively.

Table 31 : Percentage of agricultural households by types of delivered livestock extension services, province and sex of household head

	Types of livestock extension services								Total agricultural households who received with livestock extension services(000s)
	Animal keeping	Animal feeding	Veterinary services	Sanitation	Fodder storage	Bee keeping	Cooperative livestock-	Other livestock related	
Rwanda	**83.8**	**80.5**	**46.0**	**32.6**	**5.6**	**2.0**	**4.4**	**1.1**	**71**
Province									
Kigali city	53.2	65.6	25.2	19.9	34.3	5.3	20.1	3.7	2
South	85.7	84.9	48.5	21.9	4.5	1.8	4.3	0.4	14
West	69.9	70.7	29.0	36.1	2.4	1.9	3.5	0.6	12
North	92.4	86.6	60.6	40.9	2.3	2.6	3.2	0.9	32
East	76.1	70.3	22.2	19.5	16.1	0.5	6.9	2.7	11
Sex									
Male	83.9	79.1	46.8	32.6	6.5	1.9	4.7	1.2	58
Female	83.7	86.7	42.3	32.6	2.0	2.5	3.3	0.4	13

Source: NISR, AHS 2017

Table 32 : Types of livestock extension services providers by province

Province	Types of extensionists provider								Total
	MINAGRI/RAB/NAEB	District Employees	Cell Employee	Sector Employees	Research institutions	NGOs	Cooperative	Other type	
Kigali city	30.9	20.7	5.4	22.2	-	16.9	2.3	1.6	100
South	5.9	0.5	30.4	38.3	-	8.0	11.5	5.4	100
West	3.2	1.6	23.2	47.5	-	13.2	5.7	5.6	100
North	2.1	0.8	31.3	64.2	0.2	0.2	1.2	-	100
East	11.8	15.7	29.0	29.5	0.5	6.4	6.7	0.5	100
Rwanda	**4.8**	**3.2**	**29.2**	**51.5**	**0.2**	**4.7**	**4.6**	**1.9**	**100**

Source: NISR, AHS 2017

3.6.2 Agricultural programs

Twigire Muhinzi program is designed to be operating in all Rwandan villages. The model is based on farmers to farmer extension approaches. The results from Table 33 shows that 13.0 percent of agricultural households belonged to Twigire Muhinzi groups.

Contract farming is an agricultural production carried out according to an agreement between a buyer and farmers, which establishes conditions for the production and marketing of a farm products. Table 33 also shows that 4.2 of all agricultural households have got contract farming.

A kitchen garden targets the current problem of malnutrition by sensitizing a home garden of vegetables within a family compound to fight malnutrition through vegetables consumption. Table 33 also shows that 44.4 percent of all agricultural households had a kitchen garden, and Kigali city had the lowest number of agricultural households (with 33.6 percent) with kitchen garden.

Girinka Program also known as One Cow per Poor Family aim to increase agricultural production in Rwanda, especially milk production and products, reduced high rate of childhood malnutrition and as a way to accelerate poverty reduction and integrate livestock and crop farming. Table 33 shows that country wide, of all agricultural households reared cows (1 million of households), 13.0 percent reared cow from Girinka Program and Eastern province is a head over other provinces with 21.4 percent. Female-headed households were advantageous with regards to rearing cow from Girinka Program when compared to the male-headed households (18.6 percent versus to 11.4 percent).

Table 34 shows that 13.0 percent of agricultural households who raised cows during 2017 agricultural year, raised cow from Girinka program, 2.9 percent from NGOs, 30.4 percent from friends (pass on), 27.6 percent bought and 34.5 percent own raised. As Table 35 shows, 91.3 percent of agricultural households who raised cow from Girinka program were found still raising those cows.

As Figure 2 illustrated, reasons of not still raising cows from Girinka program. Reasons reported are death by 40 percent 40.0 percent of agricultural households reported, cow stolen by 6.1

percent, cow given to others by 5.8 percent, cow replaced with other cows by 2.4 percent and cow not still being raised for unspecified reason by 8.1 percent.

Table 33 : Percentage of agricultural households who are members of Twigire Muhinzi group, get contract farming, reared cows from Girinka program and had kitchen garden by province and sex of household head

	Percentage of agricultural households belonging to Twigire muhinzi group	Percentage of agricultural household who have got contract farming	Percentage of agricultural households who had a kitchen garden	Total agricultural households(000s)	Agricultural households who reared cow from GIRINKA Program	
					Percentage	Total households who reared at least a cow in 2017 agricultural year (000s)
Rwanda	**13.0**	**4.2**	**44.4**	**2,165**	**13.0**	**1,058**
Kigali city	4.9	1.5	33.6	94	18.1	26
South	11.8	5.5	40.6	577	10.0	339
West	20.6	6.0	45.3	458	10.2	236
North	17.5	1.7	47.2	426	12.1	249
East	6.4	3.9	47.2	609	21.4	207
Sex						
Male	14.7	4.6	46.0	1,563	11.4	822
Female	8.5	3.2	40.3	602	18.6	236

Source: NISR, AHS 2017

Table 34 : Percentage of households who raised cattle by type of cattle source, province and sex of household head

	Type of source of raised cattle					Total agricultural households who raised cattle(000s)
	Girinka program	NGOs	Gift from friends (pass on)	Bought	Own raised	
Rwanda	**13.0**	**2.9**	**30.4**	**27.6**	**34.5**	**1,058**
Province						
Kigali city	18.1	3.1	18.7	33.5	37.4	26
South	10.0	2.2	35.4	23.1	37.6	339
West	10.2	2.0	35.9	25.1	32.7	236
North	12.1	3.7	27.8	32.8	30.7	249
East	21.4	4.2	20.5	31.0	35.8	207
Sex						
Male	11.4	2.4	31.9	29.2	34.6	822
Female	18.6	4.6	25.1	22.1	34.4	236

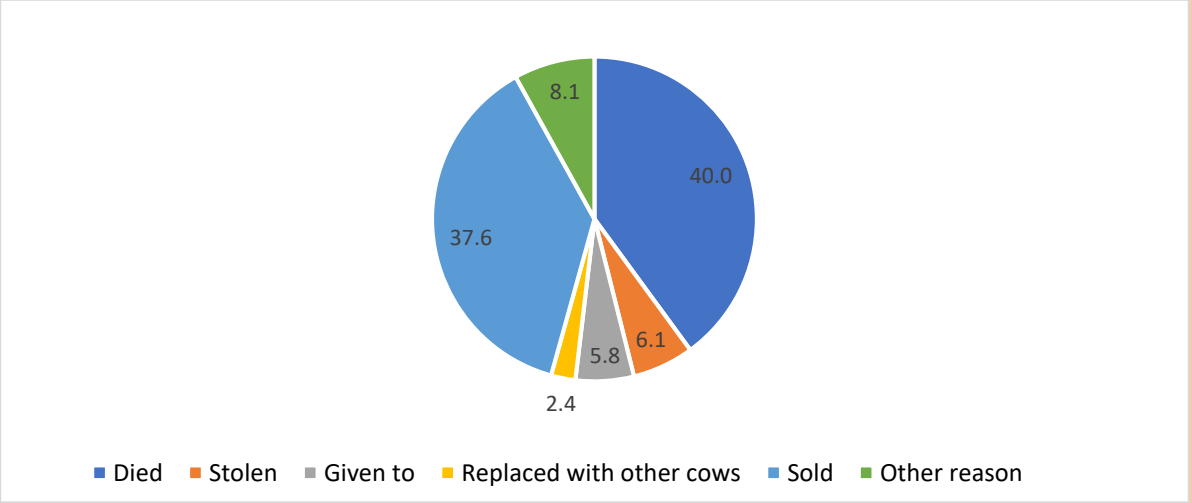
Source: NISR, AHS 2017

Table 35 : Percentage of agricultural households still raising cattle provided by Girinka program, province and sex of household head

	Percentage of agricultural households still raising cattle provided by Girinka program	Total agricultural households who reared cow from Girinka program (000s)
Rwanda	**91.3**	**138**
Province		
Kigali city	91.4	5
South	88.3	34
West	92.5	24
North	94.5	30
East	90.9	44
Sex		
Male	91.2	94
Female	91.5	44

Source: NISR, AHS 2017

Figure 2 : Reasons for not keeping the cow from Girinka program by province.

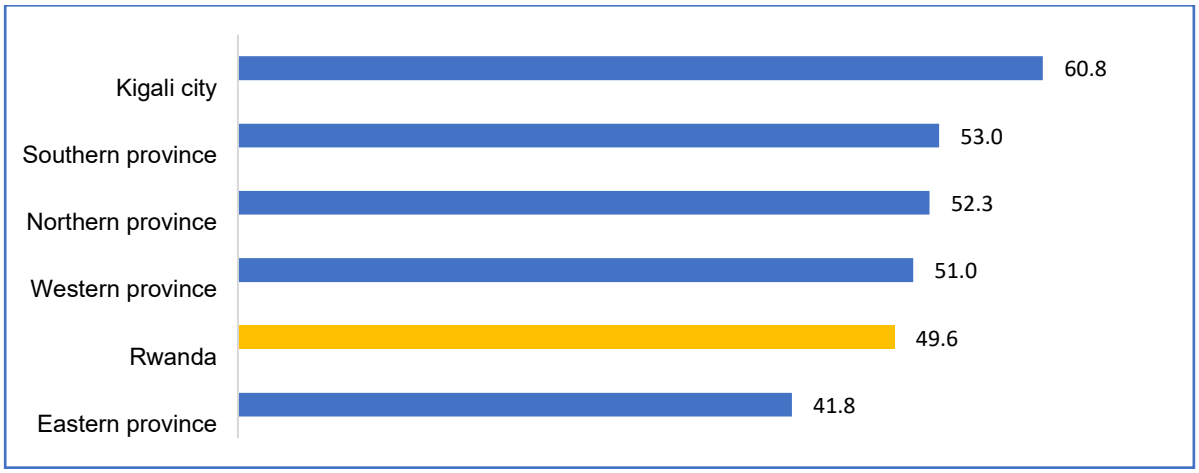


Source: NISR, AHS 2017

3.7 Access to saving, credit and funds

Access to saving, credit and fund for agricultural households has a major contribution to the development especially in terms of getting agricultural inputs which results in increase of production. This section presents the distribution of agricultural households with regards to ownership of bank account, access to credit and its source. Figure 3 shows that 49.6 percent of all agricultural households had at least one member having bank account.

Figure 3 : Percentage of households with at least one member had bank account during 2017 agricultural year by province



Source: NISR, AHS 2017

Table 36 shows that, countrywide 4.7 percent of all agricultural households had at least one household member who requested agricultural loan. Out of those who requested agricultural loan 96.3 percent of their request have been approved. Table 37 shows that national wide 38.9 percent of households requested loan in Tontine, followed by 35.4 percent in SACCO. The same table also shows that female-headed households works more with tontine and borrowing money from friends, compared to male-headed households, while male- headed households were more working with financial institutions.

Table 36 : Percentage of households with at least one member requested agricultural loan during 2017 and whose requested loan has been approved during 2017 agricultural year by province and sex of head of household

	Households who requested agricultural loan (%)	Total Households who requested agricultural loan(000s)	Percentage of approved loan (%)
Rwanda	**4.7**	**102**	**96.3**
Province			
Kigali city	2.1	2	87.2
South	3.9	22	96.6
West	6.5	30	95.0
North	5.4	23	98.4
East	4.2	25	96.2
Sex			
Male	5.6	87	96.4
Female	2.5	15	95.6

Source: NISR, AHS 2017

Table 37 : Percentage of households by source of agricultural loan during 2017by province and sex of head of household

	Commercial bank	Credit and saving cooperative	Microfinance	SACCO	VUP financial service loan	Ubudehe loan	Employer loan	Friends/relatives	Tontine (Solidarity fund)	Total Households who requested agricultural loan (000s)
Rwanda	**5.0**	**4.8**	**7.8**	**35.4**	**4.0**	**0.2**	**0.3**	**4.8**	**38.9**	**102**
Province										
Kigali city	19.4	2.8	6.3	34.6	5.9	-	-	9.0	26.8	2
South	3.3	12.0	8.8	34.7	3.0	0.9	-	1.3	36.9	23
West	3.5	1.3	5.7	29.8	2.2	0.2	0.1	9.8	49.1	30
North	0.9	0.9	10.3	46.5	6.1	-	1.4	1.2	33.0	23
East	11.0	6.1	7.1	32.7	4.9	-	-	5.0	35.1	25
Sex										
Male	4.9	5.2	8.6	37.2	4.0	0.2	0.4	4.1	36.8	87
Female	5.6	2.3	3.1	25.4	3.9	0.4	-	9.2	51.3	15

Source: NISR, AHS 2017

Table 38 shows that 5.7 percent of agricultural households have at least on member received funds for agricultural purpose. In addition, it was revealed that 47.7 percent of agricultural households who got funds received them from government, 37.3 percent from friends, 11.3 percent from NGOs, and 3.8 percent form unspecified source.

Table 38 : Percentage households with at least on member received funds for agricultural purpose and its source during 2017 by province and sex of household head

	Percentage of households who received funds for agricultural purpose	Percentage of Households by source of fund				households who receive funds for agricultural(000s)
		Government	NGOs	Friends	Other sources	
Rwanda	**5.7**	**47.7**	**11.3**	**37.3**	**3.8**	**122**
Province						
Kigali city	1.7	64.7	24.2	2.6	8.6	2
South	10.7	27.9	5.5	64.1	2.6	62
West	4.4	47.6	25.6	21.3	5.6	20
North	2.1	71.7	6.6	13.5	8.2	9
East	5.0	79.9	14.4	2.3	3.4	30
Sex						
Male	5.5	46.5	10.6	39.7	3.2	86
Female	6.0	50.4	13.0	31.5	5.0	36

Source: NISR, AHS 2017

3.8 Agricultural inputs and equipments use for agricultural production

3.8.1 Agricultural inputs

Table 39 shows that out of all agricultural households,79.3 percent in Season A 2017 and 62.7 percent in season B 2017 used organic fertilizers, while 31.6 percent in Season A 2017 and 23.7 percent in season B 2017 used inorganic fertilizers. The same table shows that 17.3 percent in Season A 2017 and 17.9 percent in season B 2017 used pesticides, while 2.9 percent in Season A 2017 and 1.8 percent in season B 2017 used lime.

In regards the source of organic fertilizers, Table 40 shows that 76.6 percent of all agricultural households who used organic fertilizers in Season A 2017 and 82.8 percent in season B 2017, used their own prepared organic fertilizers.

In regards to type of organic fertilizers used, Table 41 shows that most agricultural households who reported used organic fertilizers ,49.4 percent in Season A 2017 and 53.7 percent in season B 2017 utilized compost ground manure, while 33.9 percent in Season A 2017 and 33.1 percent in season B 2017 used compost ditch.

Table 39 : Percentage of agricultural households who used agricultural inputs during 2017 agriculture seasons by province and sex of household head

	Percentage of households who use organic fertilizer		Percentage of households who use inorganic fertilizer		Percentage of households who used pesticides		Percentage of households who used lime		Crop-cultivating households (000s)	
	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B
Rwanda	79.3	62.7	31.6	23.7	17.3	17.9	2.9	1.8	2,061	2,082
Province										
Kigali city	72.4	50.3	19.0	15.6	14.4	15.3	0.7	0.2	82	83
South	81.9	67.2	27.6	20.3	16.0	12.9	5.6	4.2	557	563
West	86.3	74.7	48.5	42.0	25.5	26.8	4.1	2.0	432	430
North	86.3	79.6	33.9	25.0	23.3	24.1	0.7	0.2	409	418
East	67.7	39.5	23.0	13.8	8.7	12.1	1.3	0.8	581	589
Sex										
Male	80.9	64.0	34.9	26.3	19.4	19.8	3.4	2.0	1,483	1,501
Female	75.2	59.4	23.0	17.1	11.9	13.0	1.7	1.2	578	581

Source: NISR, AHS 2017

Table 40 : Percentage of households who used organic fertilizers by source of fertiliser, season province and sex of household head

	Source of organic fertilizers											
	Season A 2017						Season B 2017					
	Own preparation	Bought	One part bought and the other own prepared	Gift	Total	Total households who used organic fertilizers(000s)	own preparation	Bought	One part bought and the other	Gift	Total	Total households who used organic fertilizers(000s)
Rwanda	**76.6**	**11.4**	**4.8**	**7.2**	**100**	**1,635**	**82.8**	**8.7**	**2.7**	**5.9**	**100**	**1,306**
Province												
Kigali city	66.6	21.3	3.2	8.9	100	59	76.1	16.4	2.8	4.7	100	42
South	78.2	9.5	4.9	7.4	100	456	85.7	6.3	2.3	5.8	100	378
West	74.9	11.2	5.6	8.3	100	373	80.5	9.1	2.8	7.6	100	321
North	78.2	10.6	5.5	5.8	100	353	81.9	9.3	3.8	5.0	100	333
East	76.3	13.2	3.5	7.1	100	393	83.6	9.7	1.3	5.4	100	233
Sex												
Male	75.6	12.8	5.3	6.3	100	1,200	81.8	9.8	3.1	5.3	100	961
Female	79.2	7.6	3.5	9.7	100	434	85.4	5.4	1.5	7.8	100	345

Source: NISR, AHS 2017

Table 41 : Percentage of households by organic fertilizer type, agricultural season and province

	Season A 2017					Season B 2017				
Province	Compost ditch	Ground compost	Manure heap	Prepared in other way	Total agricultural households who used organic fertilizer(000s)	Compost ditch	Ground compost	Manure heap	Prepared in other way	Total agricultural households who used organic fertilizer(000s)
Kigali city	44.4	25.8	0.2	0.9	59	49.9	28.6	0.2	2.0	42
South	21.8	59.7	1.0	4.7	456	23.1	64.0	1.1	4.2	378
West	29.6	56.6	0.8	1.0	373	29.5	59.1	0.8	1.4	321
North	37.5	48.6	0.5	1.4	353	37.7	48.6	0.7	2.4	333
East	47.1	35.0	0.4	1.6	393	44.7	41.4	0.3	2.0	233
Rwanda	**33.9**	**49.4**	**0.7**	**2.3**	**1,635**	**33.1**	**53.7**	**0.7**	**2.6**	**1,306**

Source: NISR, AHS 2017

Findings from Table 42 reveals that for both seasons A and B 2017, DAP was mostly used by 68.4 percent and 58.7 percent of agricultural households who use inorganic fertilizers in seasons A and B respectively, followed by urea (65.1 percent and 48.6 percent for seasons A and B), and NPK17-17-17 (with 28.3 percent and 36.4 percent for season A and B respectively).

Table 42 : Percentage of households who use inorganic fertilizer by season fertilizer type and province

Province	Season A 2017									Season B 2017								Total agricultural households who used inorganic fertilizer(000s)
	NPK 17-17-17	NPK 20-10-10	NPK 25-5-5	Urea	liquid urea	DAP	KCL/MOP	Other inorganic fertilizer	households who used inorganic fertilizer(000s)	NPK 17-17-17	NPK 20-10-10	NPK 25-5-5	Urea	liquid urea	DAP	KCL/MOP	Other inorganic fertilizer	
Kigali city	36.0	0.7	1.2	73.9	3.5	38.0	-	0.3	15	34.4	-	0.4	69.8	4.9	33.4	-	0.4	13
South	28.7	1.8	0.2	73.0	0.3	71.8	-	-	154	34.1	2.3	0.5	62.7	0.0	64.3	-	0.4	114
West	32.1	6.4	0.9	56.0	1.2	67.6	-	0.6	209	35.8	3.9	0.2	38.3	1.2	61.1	-	0.6	180
North	29.9	1.1	0.4	64.8	0.3	64.6	-	0.1	139	47.1	0.2	0.3	33.9	-	51.6	-	0.2	105
East	19.4	1.8	0.4	69.5	0.4	73.4	1.3	0.6	134	27.5	2.1	0.2	67.2	0.6	58.7	3.4	1.6	81
Rwanda	**28.3**	**3.1**	**0.5**	**65.1**	**0.7**	**68.4**	**0.3**	**0.3**	**651**	**36.4**	**2.3**	**0.3**	**48.6**	**0.7**	**58.7**	**0.6**	**0.6**	**494**

Source: NISR, AHS 2017

Table 43 shows the percentage of agricultural households by source of inorganic fertilizers, for Seasons A and B 2017. For Season A 2017, 34.6 percent of agricultural households got inorganic fertilizers from government, 22.8 percent from government and market, 20.4 percent from market, 18.4 percent from NGOs and 8.5 percent from another place. For Season B 2017, 35.3 percent of agricultural households got inorganic fertilizers from government, 21.8 percent from market, 20.0 percent from government and market, 17.4 percent from NGOs and 8.6 percent from another place.

In regards to type of pesticides used, Table 44 reveals that for both seasons A and B 2017, 52.8 percent and 45.8 percent of agricultural households who used inorganic fertilizers used Cypermethrin, followed by Dithane with 35.6 percent and 38.4 percent for seasons A and B, and Rocket with 24.0 percent and 27.9 percent for season A and B respectively.

Table 43 : Percentage of agricultural households by season, source of inorganic fertilizers and province

Province	Season A					Season B				
	Government (MINAGRI/ RAB/NAEB/District)	Market	Government & Market	NGOs	Other place	Government (MINAGRI/ RAB/ NAEB/ District)	Market	Government & Market	NGOs	Other place
Kigali city	31.5	55.0	16.6	-	2.1	27.4	53.4	20.5	0.4	4.7
South	38.8	20.7	8.4	22.1	12.4	40.8	21.7	5.6	20.3	14.4
West	25.8	15.4	26.7	34.9	6.3	26.9	15.1	25.0	31.0	5.7
North	45.6	25.2	29.6	0.6	1.5	49.5	29.4	21.4	0.0	2.2
East	32.6	18.8	26.9	8.9	15.5	29.5	22.1	27.3	8.1	15.3
Rwanda	**34.6**	**20.4**	**22.8**	**18.4**	**8.5**	**35.3**	**21.8**	**20.0**	**17.4**	**8.5**

Source: NISR, AHS 2017

Table 44 : Percentage of agricultural households by season, pesticide type and province

Province	Season A 2017								Total agricultural households who used pesticide (000s)	Season B 2017								Total agricultural households who used pesticide (000s)
	Dithane	Ridomil	Dimethoate	Cypermethrin	Dursiban	Tilt	Rocket	Other Pesticide		Dithane	Ridomil	Dimethoate	Cypermethrin	Dursiban	Tilt	Rocket	Other Pesticide	
Kigali city	47.2	2.7	6.5	33.6	0.7	-	55.1	23.0	12	41.6	4.0	4.3	27.3	0.8	-	56.9	18.6	13
South	17.7	2.2	0.7	57.1	1.2	-	39.7	5.4	89	24.8	2.5	1.1	53.3	0.9	-	35.2	7.8	73
West	49.7	26.7	5.1	57.0	4.0	0.0	9.9	5.5	110	52.2	28.0	4.2	49.7	0.6	0.1	18.5	6.0	115
North	44.4	11.7	15.6	50.9	-	0.1	12.1	1.7	96	50.7	16.8	13.9	42.7	-	0.1	12.5	3.0	101
East	17.2	2.3	7.7	44.5	1.9	-	42.3	23.5	51	12.2	1.1	2.7	39.7	1.1	-	52.2	20.4	71
Rwanda	**35.6**	**12.3**	**7.2**	**52.8**	**1.8**	**0.0**	**24.0**	**7.6**	**357**	**38.4**	**14.0**	**5.9**	**45.8**	**0.6**	**0.1**	**27.9**	**8.7**	**373**

Source: NISR, AHS 2017

Table 45 shows the percentage of agricultural households by source of pesticides for Seasons A and B 2017. For Season A 2017, 67.7 percent of agricultural households got inorganic fertilizers mostly from market, followed by 14.1 percent from government, 12.8 percent from government and market, 7.2 percent from other place, and 1.3 percent from NGOs. For Season B 2017, 66.9

percent of agricultural households got inorganic fertilizers from government, followed by 16.8 percent from government, 12.6 percent from government and market, 5.2 percent from other place, and 0.8 percent from NGOs.

Table 45 : Percentage of agricultural households by agricultural season, source of pesticides and province

Province	Season A					Season B				
	Government (MINAGRI/RAB/NAEB/District)	Market	Government & Market	NGOs	Other place	Government (MINAGRI/RAB/NAEB/District)	Market	Government & Market	NGOs	Other place
Kigali city	7.3	86.4	2.9	0.5	3.2	8.4	88.4	2.5	-	1.1
South	23.4	64.2	2.1	1.6	12.0	27.7	61.8	2.0	1.0	9.3
West	11.4	62.0	24.1	2.0	6.3	11.8	64.0	24.2	1.0	3.3
North	11.9	78.3	9.0	0.1	1.6	14.8	77.6	7.7	0.1	1.1
East	9.6	62.1	16.7	1.9	12.0	18.1	57.8	13.6	1.8	10.7
Rwanda	**14.1**	**67.7**	**12.8**	**1.3**	**7.2**	**16.8**	**66.9**	**12.6**	**0.8**	**5.2**

Source: NISR, AHS 2017

Table 46 shows that out of all agricultural households,98.7 percent in Season A 2017 and 98.8 percent in season B 2017 used traditional seeds, while 23.9 percent in Season A 2017 and 31.7 percent in season B 2017 used Improved seeds. For both season A and B, male-headed households were more to use improved seeds, comparing with female-headed households.

Table 47 shows that for Season A 2017, agricultural households found improved seeds from government (36.3 percent of agricultural households who used improved seeds), government and market (23.6 percent), market (18.0 percent), NGOs (16.2 percent) and other place (8.5 percent). For Season B 2017, agricultural households found inorganic fertilizers from government (14.2 percent of agricultural households who used improved seeds), government and market (7.6 percent), market (7.4 percent), NGOs (4.2 percent) and other place (3.4 percent).

Table 46 : Percentage of agriculture households by season, type of seeds, province and sex of household head

	Season A 2017			Season B 2017		
	Traditional seeds	Improved seeds	Total agricultural household(000s)	Traditional seeds	Improved seeds	Total agricultural household(000s)
Rwanda	**98.7**	**23.9**	**2,061**	**98.8**	**31.7**	**2,083**
Province						
Kigali city	98.1	15.8	82	98.7	25.8	83
South	99.4	17.8	557	99.7	36.2	563
West	98.2	29.2	432	96.9	39.8	430
North	98.3	30.7	409	98.9	23.9	418
East	98.6	22.1	581	99.3	27.9	589
Sex						
Male	98.6	25.9	1,483	98.8	33.6	1,502
Female	98.7	18.6	578	98.9	26.9	581

Source: NISR, AHS 2017

Table 47 : Percentage of agricultural households by season, source of improved seeds, province and sex of household head

	Season A 2017						Season B 2017					
	Government (MINAGRI/RAB/NAEB/District)	Market	Government & Market	NGOs	Other place	Total agricultural household who used improved	Government (MINAGRI/RAB/NAEB/District)	Market	Government & Market	NGOs	Other place	Total agricultural household who used improved
Rwanda	**36.3**	**18.0**	**23.6**	**16.2**	**8.5**	**492**	**14.2**	**7.4**	**7.6**	**4.2**	**3.4**	**661**
Province												
Kigali city	46.3	42.0	10.7	2.2	3.3	13	10.6	14.7	1.5	0.5	1.8	21
South	38.9	12.0	12.8	26.6	12.8	99	8.5	5.4	1.3	3.8	2.3	204
West	24.4	15.8	26.3	31.5	4.5	126	20.5	10.0	13.1	9.1	3.3	171
North	46.6	26.4	25.3	0.6	2.8	126	19.0	10.7	8.3	0.1	2.4	100
East	34.9	13.9	28.8	9.8	15.2	128	12.5	4.3	9.9	2.8	5.7	165
Sex												
Male	36.2	17.7	23.7	17.1	8.3	385	14.57	8.03	7.79	4.29	3.23	504
Female	36.7	19.0	23.2	12.8	9.1	108	13.16	5.50	6.83	4.11	4.05	156

Source: NISR, AHS 2017

3.8.2 Equipment (small and durable tools, and storage facilities) used for agricultural production

Table 48 shows the possession of major small tools used in agricultural households such as hoe, sacks, machete, jerry-can, sickle, basket, bucket, watering can sheet, pick, crop sprayer and wheel barrow. Table 49 shows major durable tools used agricultural households, which are drying ground, storage facilities, animal shed facilities, motorcycle, bicycle, vehicle used for agriculture, pealing machine, motor-pump, barn and milking machine.

Table 48 : Percentage of agricultural households possessing small tools during agricultural year 2017, by province and sex of household head

	Basket	Crops sprayer	Hoe	Jerry-can	Machete	Pick	Sack	Sheeting	Sickle	Watering can	Wheel barrows	Bucket	Total agricultural households(000s)
Rwanda	**43.5**	**8.4**	**92.3**	**67.2**	**80.7**	**8.6**	**81.2**	**15.0**	**47.9**	**10.4**	**1.9**	**33.9**	**2,165**
Province													
Kigali city	34.3	11.6	79.1	69.9	73.2	14.0	77.8	23.3	35.5	17.2	7.6	46.2	94
South	56.2	8.5	94.9	52.4	78.3	8.1	75.6	12.4	56.1	11.6	1.4	21.3	577
West	42.3	9.0	92.4	70.0	80.1	5.3	82.4	8.8	44.6	6.5	1.1	39.9	458
North	52.4	8.7	92.6	82.6	84.7	13.6	83.0	14.6	57.4	12.0	2.1	44.6	426
East	27.3	7.3	91.5	67.8	81.6	7.2	84.8	21.1	37.7	10.1	1.9	31.9	609
Sex													
Male	44.5	10.2	92.7	69.6	85.5	10.3	82.7	17.0	50.5	12.1	2.3	35.9	1,563
Female	40.8	3.9	91.3	60.8	68.1	4.2	77.3	9.8	41.1	6.1	0.8	28.6	602

Source: NISR, AHS 2017

Table 49 : Percentage of agricultural households who used durable equipments during agricultural year 2017 by province and sex of household head

	Drying ground	Animal shed facilities	Motorcycle	Bicycle	Vehicle used for agriculture	Pealing machine	Motor-pump	Barn	Milking machine	Total agricultural households(000s)
Rwanda	**0.8**	**10.8**	**0.9**	**0.1**	**0.1**	**0.1**	**0.2**	**29.2**	**0.1**	**2,165**
Province										
Kigali city	0.5	6.7	3.3	0.3	0.7	0.1	0.3	17.7	0.0	94
South	1.7	14.1	0.4	0.1	0.1	0.1	0.1	37.2	0.1	577
West	0.4	13.6	0.5	0.0	0.0	0.1	0.1	29.7	0.0	458
North	0.1	9.0	0.6	0.0	0.0	0.1	0.0	37.3	0.2	426
East	0.9	7.5	1.5	0.1	0.1	0.2	0.5	17.3	0.2	609
Sex										
Male	0.9	11.5	1.2	0.1	0.1	0.1	0.3	32.0	0.2	1,563
Female	0.5	8.9	0.1	0.0	0.0	0.0	0.0	21.9	0.0	602

Source: NISR, AHS 2017

Findings from Table 50 show that 13.8 percent of crop-producing households in Season A 2017 and 21.7 percent in Season B 2017 used storage facilities. Vis-à-vis the type of storage facilities, it has been found that 98.6 percent of all agricultural households who reported used storage facilities in Season A 2017, and 99.3 percent in Season B 2017, used traditional owned storage (See Table 51).

Table 50 : Percentage of crop-producing households who used storage facilities by agricultural seasons, province and sex of household head

	Season A 2017		Season B 2017	
	Percentage of households who used storage facilities	Number of crop-producing households(000s)	Percentage of households who used storage facilities	Number of crop-producing households(000s)
Rwanda	**13.8**	**2,058**	**21.7**	**2,075**
Province				
Kigali city	19.7	82	42.3	**82**
South	10.7	556	14.4	560
West	13.8	430	20.2	427
North	12.3	409	20.9	417
East	16.9	581	27.5	588
Sex				
Male	14.5	1482	22.6	1496
Female	11.9	577	19.4	579

Source: NISR, AHS 2017

Table 51 : Percentage of agricultural households who used storage facilities, by season, storage facility type, province and sex of household head

	Season A 2017				Season B 2017			
	Traditional owned storage	Public owned storage	Storage owned by cooperatives or private companies	Number of agricultural Households who used storage facilities(000s)	Traditional owned storage	Public owned storage	Storage owned by cooperatives or private companies	Number of agricultural households who used storage facilities(000s)
Rwanda	**98.6**	**1.7**	**0.3**	**283**	99.3	0.7	0.3	**450**
Province								
Kigali city	99.6	-	0.4	16	99.8	0.1	0.3	35
South	99.9	0.1	-	60	99.7	-	0.6	80
West	96.1	4.9	-	59	99.9	-	0.2	86
North	100.0	0.6	-	50	100.0	0.1	-	87
East	97.6	1.7	0.7	98	98.4	1.8	0.3	161
Sex								
Male	98.6	1.8	0.2	214	99.5	0.5	0.3	338
Female	98.5	1.6	0.4	69	98.8	1.2	0.2	112

Source: NISR, AHS 2017

3.9 Agricultural practices

Table 52 indicates that 10.1 percent of all agricultural households in Rwanda practiced irrigation during agricultural year 2017. 66.2 percent of agricultural households practiced traditional technique, followed by 24.3 percent with surface irrigation technique, 13.5 percent with flood irrigation, 2.2 percent with sprinkler irrigation and 0.7 percent with drip irrigation. In addition, male-headed agricultural households practice irrigation more, when compared to female-headed agricultural households (11.5 percent versus 6.4 percent). Concerning the source of water used for irrigation (see Table 54), it has been found that major three sources of water were lake/stream water (48.7 percent), followed by underground water (33.1 percent), and valley dam (6.7 percent).

Table 52 : Percentage of agricultural households by irrigation technique type, province and sex of household head

	Percentage of agricultural households who practiced irrigation	Total agricultural households (000s)	Surface irrigation	Flood irrigation (for paddy)	Drip irrigation	Sprinkler irrigation	Traditional technique	Total agricultural household who practiced irrigation(000s)
Rwanda	**10.1**	**2,120**	**24.3**	**13.5**	**0.7**	**2.2**	**66.2**	**213**
Province								
Kigali city	10.3	86	44.5	2.8	-	1.8	62.7	9
South	17.2	569	22.6	11.3	0.2	1.0	72.1	98
West	9.1	442	27.1	11.2	0.7	0.4	67.7	40
North	5.3	422	8.7	0.2	0.2	5.1	89.8	23
East	7.3	600	29.6	29.8	2.2	4.9	40.1	44
Sex								
Male	11.5	1,530	25.0	12.4	0.7	2.0	67.3	176
Female	6.4	590	21.1	18.7	0.4	2.8	61.1	38

Source: NISR, AHS 2017

Table 53 shows that 65.7 percent of all agricultural households have practiced anti-erosion control measures. Regarding the type of anti-erosion measures used, 76.0 percent of percent of all agricultural households have practiced anti-erosion control measures used cover plants/grasses, followed by 43.9 percent with trenches, 11.8 percnet with beds/ ridges 9.9 percent with progressive terraces and 9.4 percent with radical terraces.

Table 53 : Percentage of agricultural households by type of erosion control measures, province and sex of household head

	Percentage of households who practiced erosion control measures	Type of erosion control measures										
		Total agricultural households(000s)	Radical terraces	Progressive terraces	Trenches	Trees/Wind break/ Shelterbelt	Cover plants/grasses	Water drainage	Mulching	Beds/ ridges	Other type	Total households who practiced anti-erosion control measures(000s)
Rwanda	**65.7**	**2,165**	**9.4**	**9.9**	**43.9**	**8.5**	**76.0**	**3.8**	**4.4**	**11.8**	**0.7**	**1,421**
Province												
Kigali city	62.2	94	4.6	13.1	37.1	5.0	80.4	4.0	3.7	5.3	0.5	59
South	69.0	577	9.3	8.5	61.5	4.9	76.4	5.5	2.7	5.7	0.8	398
West	72.6	458	11.2	10.7	35.3	13.0	76.9	2.2	6.3	13.5	0.9	333
North	77.3	426	14.4	14.5	19.0	9.9	75.0	3.2	1.3	27.3	0.5	330
East	49.5	609	3.2	5.4	58.6	7.2	74.7	3.8	8.0	2.4	0.7	302
Sex												
Male	67.1	1,563	9.1	10.2	44.8	9.3	76.2	4.0	4.7	11.5	0.8	1,049
Female	61.8	602	10.5	9.3	41.2	6.1	75.6	3.1	3.6	12.7	0.6	372

Source: NISR, AHS 2017

Table 54 : Percentage of households by source of water used for irrigation and province

Province	rainwater harvesting	water treatment plant	Underground water	Lake/stream water	Valley dam	Hillside dam	Other source	Total households who practiced irrigation (000s)
Kigali city	4.3	11.2	34.2	34.5	9.6	0.0	6.1	9
South	1.2	2.3	41.2	45.4	5.3	2.1	2.6	98
West	1.5	9.5	10.5	69.3	3.4	0.2	5.5	40
North	3.7	6.9	50.2	32.7	0.1	1.8	4.6	23
East	1.6	3.3	27.1	48.3	15.4	0.8	3.4	44
Rwanda	**1.7**	**4.8**	**33.1**	**48.7**	**6.7**	**1.3**	**3.7**	**213**

Source: NISR, AHS 2017

According to the type of the market at which crop producing households sold their produce, Table 55 indicates that majority of households (75.2 percent in season A 2017 and 71.6 percent in Season B 2017) sold their produce at local market, followed by farm gate (25.0 percent in season A 2017 and 26.3 percent in Season B 2017).

Table 55 : Percentage of crop producing households by agricultural season, type of market the crop produce was sold, province and sex of household head

	Season A 2017								Season B 2018							
	Farm-gate	Local market	District market	Regional market	Contract farming	Contract with exporter	other market	Number of crop-producing households who sell their produce(000s)	Farm-gate	Local market	District market	Regional market	Contract farming	Contract with exporter	other market	Number of crop-producing households who sell their produce(000s)
Rwanda	**25.0**	**75.2**	**2.8**	**0.1**	**4.1**	**0.0**	**2.6**	**1,197**	**26.3**	**71.6**	**2.5**	**0.1**	**5.3**	**0.1**	**3.9**	**1,179**
Province																
Kigali city	24.0	75.5	5.0	-	0.7	0.1	1.5	44	23.9	74.8	3.9	-	0.8	0.3	1.6	38
South	19.8	79.9	3.3	0.0	5.9	-	3.5	319	22.0	80.0	2.9	0.0	4.8	0.0	3.8	331
West	25.7	73.1	2.0	-	6.8	0.1	2.0	221	24.9	64.0	2.3	0.0	12.9	0.3	7.7	214
North	12.7	86.6	4.9	0.4	1.8	0.0	1.9	238	13.1	84.9	3.9	0.2	2.5	-	1.9	213
East	37.0	65.1	1.4	0.1	3.0	0.1	2.8	375	38.4	60.9	1.4	0.1	3.6	0.2	3.3	383
Sex																
Male	24.0	75.6	3.0	0.1	4.3	0.1	2.7	901	25.8	72.0	2.6	0.1	5.4	0.1	3.8	880
Female	28.0	74.0	2.3	-	3.5	-	2.3	295	27.7	70.6	2.3	0.1	5.1	0.2	4.2	298

Source: NISR, AHS 2017

3.10 Livestock

The livestock section of this report covers number of households who raised livestock animals, livestock numbers by type and breed, milk production and its use.

3.10.1 Agricultural households raising livestock

Table 56 presents the distribution of livestock-raising households per type of animal. Country wide it was estimated 1.7 million livestock-rearing households at the day of interview. Cattle, goats, hens and pigs were the most commonly raised animals, at 61.0 percent, 53.6 percent, 33.7 percent and 30.6 percent respectively of livestock-raising households. Cattle and sheep-rearing was particularly high in South (71.6 percent and 26.7 percent respectively) and Northern (70.9 percent and 25.2 percent respectively) provinces. Goat-rearing was highest in Eastern province (70.2 percent) and pig-rearing in Southern Province (57.4 percent). Hen-rearing was highest in Kigali City. Raising cattle is higher among male-headed households than female-headed ones (64.6 percent compared to 51.0 percent), as is raising pigs (31.5 percent compared to 28 percent) and hen (36.2 percent compared to 26.7 percent). Besides goat-rearing was higher among female-headed households than male-headed households (60.2 percent compared to 51.2 percent).

Table 56 : Percentage of households raising different types of livestock in last in last during 2017 agricultural year by province and sex of household head

	Type of livestock								Households raising livestock (000s)
	Cattle	Goats	sheep	Pigs	Hen	Other poultry	Rabbits	Other livestock	
Rwanda	**61.0**	**53.6**	**18.1**	**30.6**	**33.7**	**8.2**	**15.0**	**8.9**	**1,690**
Province									
Kigali city	46.2	49.9	4.1	8.5	46.3	2.3	13.2	1.2	53
South	71.6	64.3	26.7	57.4	44.0	24.0	33.2	24.9	469
West	62.3	37.0	18.0	26.2	25.5	1.9	8.7	3.9	366
North	70.9	35.3	25.2	20.5	28.5	1.0	9.3	4.7	345
East	43.3	70.2	5.5	16.7	32.0	3.1	6.0	0.7	457
Sex									
Male	64.6	51.2	17.9	31.5	36.2	7.8	15.8	8.6	1,240
Female	51.0	60.2	18.6	28.0	26.7	8.0	12.9	9.8	449

Source: NISR, AHS 2017

Table 57 : Number of animals raised by agricultural households at the day of interview, by breed and province

Province	Exotic Cattle	Hybrid Cattle	Local cattle	Exotic goat	Local goats	Exotic sheep	Local sheep	Exotic pig	Local pig	Exotic hen	Local hen	Duck	Turkey	Rabbits	Other livestock
Kigali city	10,499	37,047	8,064	1,019	82,267	-	6,727	32,756	4,692	298,373	144,170	15,065	2,944	44,626	3,127
South	29,166	294,604	182,328	527	613,817	881	51,627	24,011	239,008	590,156	612,046	2,136	11,201	233,066	51,682
West	70,168	196,451	126,261	773	299,786	27,543	114,215	26,022	118,019	67,516	314,874	8,200	13,543	98,453	74,463
North	48,181	260,753	66,333	3,431	275,205	16,422	161,298	18,240	90,065	227,059	373,890	9,811	295	141,645	118,141
East	41,162	297,301	188,172	15,467	991,151	175	120,428	29,603	120,728	90,349	862,336	39,548	5,053	137,369	11,207
Rwanda	**199,176**	**1,086,156**	**571,158**	**21,217**	**2,262,228**	**45,021**	**454,295**	**130,632**	**572,513**	**1,273,453**	**2,307,316**	**74,758**	**33,037**	**655,159**	**258,621**

Source: NISR, AHS 2017

Table 58 : Number of cattle that were reared by agricultural households at the day of interview, by breeds, sex age and province

Province	Exotic Cattle					Hybrid cattle					Local cattle					Total					Total
	Male		Female			Male		Female			Male		Female			Male		Female			
	Steers/bulls	Calves	Cow not lactating	Cow lactating	Calves/Heifers	Steers/bulls	Calves	Cow not lactating	Cow lactating	Calves/Heifers	Steers/bulls	Calves	Cow not lactating	Cow lactating	Calves/Heifers	Steers/bulls	Calves	Cow not lactating	Cow lactating	Calves/Heifers	
Kigali city	244	1,353	2,223	3,738	2,941	784	6,524	7,517	11,220	11,002	512	1,674	2,150	1,989	1,739	1,540	9,551	11,890	16,947	15,682	55,610
South	1,849	5,638	8,174	7,025	6,477	9,794	40,400	88,412	68,859	87,138	6,216	28,955	58,741	39,721	48,695	17,859	74,993	155,327	115,605	142,310	506,094
West	4,235	12,071	17,863	17,693	18,306	10,498	41,867	46,209	43,193	54,684	6,358	27,393	40,860	19,165	32,484	21,091	81,331	104,932	80,051	105,474	392,879
North	2,260	7,038	16,154	9,328	13,402	17,062	43,997	87,439	48,214	64,040	4,382	11,785	28,821	6,306	15,039	23,704	62,820	132,414	63,848	92,481	375,267
East	1,425	5,594	10,704	11,341	12,099	15,754	41,088	92,837	71,315	76,309	10,513	29,248	66,181	37,442	44,789	27,692	75,930	169,722	120,098	133,197	526,639
Rwanda	**10,013**	**31,694**	**55,119**	**49,125**	**53,225**	**53,892**	**173,875**	**322,415**	**242,801**	**293,173**	**27,980**	**99,055**	**196,753**	**104,623**	**142,747**	**91,885**	**304,624**	**574,287**	**396,549**	**489,145**	**1,856,490**

Source: NISR, AHS 2017

Table 59 : Number of goats that were reared by agricultural households at the day of interview by breeds, sex, age and province

province	Exotic goats				Local goats			
	Male		Female		Male		Female	
	Bucks/bulls	Kids	Does/nannies not lactating	Kids	Bucks/bulls	Kids	Does/nannies not lactating	Kids
Kigali city	129	186	259	445	4,230	14,979	40,319	22,814
South	-	-	527	-	10,696	86,122	341,520	175,103
West	97	-	627	49	8,803	47,466	149,668	92,241
North	295	1,105	1,160	871	10,370	44,090	144,486	77,182
East	1,147	1,659	8,333	3,983	32,358	159,250	508,747	286,332
Rwanda	1,669	2,950	10,905	5,348	66,458	351,906	1,184,740	653,672

Source: NISR, AHS 2017

Table 60 : Number of sheep that were reared by agricultural households at the day of interview by breeds, sex, age and province

province	Exotic Sheep				Local sheep			
	Male		Female		Male		Female	
	Ram/Tup	Ram lamb	Ewe not lactating	Ewe lamb	Ram/Tup	Ram lamb	Ewe not lactating	Ewe lamb
Kigali city	-	-	-	-	439	774	3,645	1,871
South	-	-	516	365	4,588	5,905	32,116	9,239
West	279	5,386	16,478	5,261	4,393	17,817	61,915	28,138
North	270	2,882	9,337	3,474	5,211	28,188	94,155	33,715
East	-	-	175	-	16,142	19,132	55,232	28,569
Rwanda	**549**	**8,270**	**26,506**	**9,099**	**30,775**	**71,816**	**247,062**	**101,532**

Source: NISR, AHS 2017

Table 61 :Number of pigs that were reared by agricultural households at the day of interview by breeds, sex, age and province

Province	Exotic Pigs				Local pigs			
	Male		Female		Male		Female	
	Boars	Piglets	Sows	Gilts/piglets	Boars	Piglets	Sows	Gilts/piglets
Kigali City	3,483	5,286	11,272	12,583	447	1,324	120	1,684
South	1,928	7,244	5,230	9,699	15,229	83,007	55,139	82,520
West	2,958	11,602	4,680	7,494	8,592	37,934	21,568	47,501
North	1,916	6,439	4,782	5,175	6,537	27,894	25,144	29,648
East	3,457	7,147	10,273	8,725	8,985	35,327	32,376	43,478
Rwanda	13,742	37,720	36,238	43,678	39,791	185,484	135,437	204,831

Source: NISR, AHS2017

3.11.2 Milk production and its use

Table 62 : Average milk production in litters per cow per day by province

Province	Exotic cattle	Hybrid cattle	Local cattle	Overall average
Kigali city	5.7	4.6	2.6	4.7
South	6.3	3.3	1.9	2.9
West	4.6	3.1	2.1	3.2
North	5.4	3.7	2.3	3.8
East	4.8	3.8	2.6	3.5
Rwanda	**5.1**	**3.6**	**2.2**	**3.4**

Source: NISR, AHS 2017

Table 63 : Average days of lactation during 12 months by province

Province	Exotic cattle	Hybrid cattle	Local cattle	Overall average days of lactating
Kigali city	190	163	108	163
South	151	153	114	139
West	161	148	120	144
North	184	142	106	145
East	169	169	163	167
Rwanda	**169**	**155**	**132**	**151**

Source: NISR, AHS 2017

Table 64 : Average daily cattle milk production use (in litres) at low lactating period by province and utilization means

Province	Quantity consumed	Quantity given to others	Quantity used in other way	Quantity sold at milk collection center	Quantity sold at others	Quantity damaged	Total quantity of daily milk produced
Kigali city	14,912	1,349	311	2,382	47,355	-	66,310
South	106,835	16,029	1,366	9,385	76,861	3,392	213,868
West	81,327	19,797	474	15,776	56,501	11,248	185,124
North	63,790	8,167	1,251	28,807	37,422	973	140,410
East	110,691	15,629	2,225	63,723	110,630	720	303,618
Rwanda	**377,556**	**60,972**	**5,628**	**120,073**	**328,769**	**16,332**	**909,329**

Source: NISR, AHS 2017

Table 65 : Average daily cattle milk production use (in litres) at high lactating period by province and utilization means

	Quantity consumed	Quantity given to others	Quantity used in other way	Quantity sold at milk collection center	Quantity sold at others	Quantity damaged	Total quantity of daily milk produced
Kigali city	26,940	3,180	1,298	6,353	196,101	793	234,665
South	187,237	42,616	5,388	138,653	149,323	47,806	571,023
West	141,231	45,449	8,194	25,193	123,924	13,011	357,004
North	113,738	21,365	4,008	89,103	79,097	78	307,389
East	190,340	46,084	9,035	133,184	149,226	9,855	537,723
Rwanda	**659,486**	**158,694**	**27,923**	**392,486**	**697,670**	**71,544**	**2,007,803**

Source: NISR, AHS 2017

Appendix A: District Tables

Appendix A: 1 Percentage of estimated agricultural households by type of main agricultural activity and district

District	Main agricultural activity			Total
	Crop production	Livestock production	Both crop and Livestock production	
Nyarugenge	49.7	7.8	42.5	100
Gasabo	40.8	5.7	53.5	100
Kicukiro	45.9	13.4	40.7	100
Nyanza	25.0	1.7	73.3	100
Gisagara	19.9	0.6	79.6	100
Nyaruguru	9.6	0.0	90.4	100
Huye	23.9	2.4	73.7	100
Nyamagabe	12.1	0.2	87.7	100
Ruhango	19.1	1.0	79.9	100
Muhanga	12.0	1.5	86.5	100
Kamonyi	22.7	2.1	75.2	100
Karongi	10.5	1.2	88.4	100
Rutsiro	16.1	2.6	81.3	100
Rubavu	35.6	10.3	54.2	100
Nyabihu	29.1	1.2	69.7	100
Ngororero	13.0	0.3	86.7	100
Rusizi	21.9	3.4	74.7	100
Nyamasheke	14.4	2.1	83.5	100
Rulindo	22.1	2.0	75.9	100
Gakenke	7.8	0.0	92.1	100
Musanze	29.9	1.9	68.2	100
Burera	23.3	0.6	76.2	100
Gicumbi	14.4	0.5	85.2	100
Rwamagana	26.6	1.6	71.8	100
Nyagatare	33.2	0.7	66.1	100
Gatsibo	23.0	0.8	76.2	100
Kayonza	29.4	0.9	69.7	100
Kirehe	21.9	0.5	77.6	100
Ngoma	15.5	0.6	83.9	100
Bugesera	23.6	2.7	73.7	100
Rwanda	**21.8**	**1.8**	**76.4**	**100**

Source: NISR, AHS 2017

Appendix A: 2 Percentage of agricultural households' population by sex and district

District	Sex		Total
	Male	Female	
Nyarugenge	47.7	52.3	100
Gasabo	48.8	51.2	100
Kicukiro	46.9	53.1	100
Nyanza	49.0	51.0	100
Gisagara	47.1	22.1	100
Nyaruguru	48.7	51.3	100
Huye	48.3	51.8	100
Nyamagabe	44.2	55.8	100
Ruhango	47.1	52.9	100
Muhanga	45.5	54.5	100
Kamonyi	46.9	53.1	100
Karongi	49.8	50.2	100
Rutsiro	46.3	53.7	100
Rubavu	47.1	52.9	100
Nyabihu	45.7	54.3	100
Ngororero	45.0	55.0	100
Rusizi	48.9	51.1	100
Nyamasheke	47.7	52.3	100
Rulindo	46.8	53.2	100
Gakenke	47.4	52.6	100
Musanze	46.5	53.5	100
Burera	43.7	56.3	100
Gicumbi	46.8	53.2	100
Rwamagana	47.5	52.5	100
Nyagatare	47.5	52.5	100
Gatsibo	47.5	52.5	100
Kayonza	48.2	51.8	100
Kirehe	48.6	51.4	100
Ngoma	48.0	52.0	100
Bugesera	47.8	52.2	100
Rwanda	**47.2**	**52.8**	**100**

Source: NISR, AHS 2017

Appendix A: 3 Percentage of agricultural households' population by sex, age group and district

District	Sex														
	Male					Female					Both male and female				
	<16 years	16 to 30 years	31 to 64 years	65 and above years	Total	<16 years	16 to 30 years	31 to 64 years	65 and above years	Total	<16 years	16 to 30 years	31 to 64 years	65 and above years	Total
Nyarugenge	40.5	27.7	29.8	2.1	100	41.6	27.6	28.1	2.7	100	41.1	27.6	28.9	2.4	100
Gasabo	42.7	26.7	28.4	2.3	100	43.5	25.8	26.9	3.8	100	43.1	26.2	27.6	3.1	100
Kicukiro	39.6	28.2	29.8	2.5	100	39.9	30.1	26.6	3.3	100	39.8	29.2	28.1	2.9	100
Nyanza	49.5	19.0	27.1	4.4	100	43.7	20.9	29.8	5.6	100	46.5	20.0	28.5	5.0	100
Gisagara	48.6	23.3	25.1	3.0	100	44.9	20.7	30.9	3.5	100	46.6	21.9	28.2	3.3	100
Nyaruguru	47.5	23.9	25.0	3.6	100	45.8	21.8	27.8	4.7	100	46.6	22.8	26.4	4.2	100
Huye	43.8	24.8	28.1	3.2	100	40.2	23.4	32.2	4.3	100	41.9	24.1	30.2	3.8	100
Nyamagabe	43.6	24.0	28.6	3.8	100	39.2	26.9	28.9	5.0	100	41.2	25.6	28.8	4.4	100
Ruhango	47.7	21.2	27.2	3.9	100	40.3	23.2	31.2	5.3	100	43.8	22.3	29.3	4.6	100
Muhanga	43.1	25.9	27.8	3.2	100	40.9	21.1	32.0	6.1	100	41.9	23.3	30.1	4.7	100
Kamonyi	42.6	24.6	29.8	3.0	100	40.9	26.9	28.4	3.8	100	41.7	25.9	29.0	3.4	100
Karongi	49.2	24.1	23.9	2.8	100	38.7	24.4	31.5	5.5	100	43.9	24.3	27.7	4.1	100
Rutsiro	43.1	30.1	24.1	2.7	100	44.6	25.9	25.6	3.8	100	43.9	27.8	24.9	3.3	100
Rubavu	49.2	26.5	22.2	2.2	100	49.0	24.6	23.5	3.0	100	49.1	25.5	22.9	2.6	100
Nyabihu	47.0	26.4	24.7	1.9	100	44.5	25.7	26.4	3.4	100	45.6	26.0	25.6	2.7	100
Ngororero	49.9	22.6	24.5	3.0	100	46.3	23.9	25.3	4.5	100	47.9	23.3	24.9	3.8	100
Rusizi	46.7	26.0	23.8	3.5	100	40.4	30.0	25.9	3.8	100	43.5	28.0	24.9	3.7	100
Nyamasheke	48.4	24.9	23.6	3.1	100	44.3	22.7	27.3	5.7	100	46.3	23.8	25.5	4.5	100
Rulindo	45.1	22.4	27.8	4.7	100	43.0	22.6	29.2	5.2	100	44.0	22.5	28.5	5.0	100
Gakenke	45.5	24.1	26.3	4.1	100	39.6	23.8	30.7	6.0	100	42.4	23.9	28.6	5.1	100
Musanze	46.5	26.6	24.1	2.8	100	39.0	28.6	27.2	5.2	100	42.5	27.7	25.8	4.1	100
Burera	43.9	26.0	25.8	4.3	100	44.4	23.7	26.1	5.8	100	44.2	24.7	26.0	5.2	100
Gicumbi	44.8	25.4	25.8	4.1	100	38.9	26.4	28.9	5.8	100	41.7	25.9	27.4	**5.0**	100
Rwamagana	44.5	27.0	24.7	3.9	100	40.2	26.4	28.5	5.0	100	42.2	26.6	26.7	4.5	100
Nyagatare	47.8	26.3	23.0	2.9	100	46.3	25.5	25.1	3.1	100	47.0	25.9	24.1	3.0	100
Gatsibo	46.7	25.8	24.9	2.6	100	43.9	25.2	27.9	3.0	100	45.2	25.5	26.5	2.8	100
Kayonza	48.8	24.2	24.3	2.7	100	46.5	22.3	28.0	3.1	100	47.6	23.2	26.2	2.9	100
Kirehe	48.5	25.3	23.6	2.7	100	42.2	25.4	27.2	5.2	100	45.2	25.4	25.4	4.0	100
Ngoma	50.5	21.7	25.2	2.6	100	43.0	24.5	28.4	4.1	100	46.6	23.2	26.9	3.4	100
Bugesera	49.7	23.6	23.5	3.3	100	47.2	23.4	25.3	4.1	100	48.4	23.5	24.4	3.7	100
Rwanda	**46.5**	**24.9**	**25.5**	**3.2**	**100**	**42.9**	**24.7**	**27.9**	**4.5**	**100**	**44.6**	**24.8**	**26.8**	**3.9**	**100**

Source: NISR, AHS 2017

Appendix A: 4 Percentage of agricultural households' population aged from 16 years and above by sex, education and district

District	Sex														
	Male					Female					Both male and female				
	Primary	Secondary	Tertiary	No education	Total	Primary	Secondary	Tertiary	No education	Total	Primary	Secondary	Tertiary	No education	Total
Nyarugenge	45.6	29.7	10.5	14.2	100	46.2	30.6	6.3	17.0	100	45.9	30.2	8.3	15.6	100
Gasabo	53.8	27.9	7.3	11.0	100	56.5	22.8	5.3	15.5	100	55.2	25.3	6.2	13.3	100
Kicukiro	46.1	32.3	12.2	9.4	100	47.1	29.7	11.3	11.9	100	46.6	31.0	11.7	10.7	100
Nyanza	53.6	19.1	2.1	25.2	100	49.1	15.5	1.7	33.7	100	51.2	17.2	1.9	29.8	100
Gisagara	62.1	8.2	0.5	29.2	100	56.6	7.8	0.5	35.1	100	59.1	8.0	0.5	32.4	100
Nyaruguru	61.9	14.0	1.0	23.1	100	50.6	11.9	0.5	36.9	100	56.0	12.9	0.7	30.3	100
Huye	63.7	17.0	2.2	17.1	100	60.2	18.0	2.0	19.8	100	61.8	17.5	2.1	18.5	100
Nyamagabe	58.6	14.3	2.6	24.5	100	54.5	15.7	1.9	27.9	100	56.2	15.1	2.2	26.5	100
Ruhango	55.1	12.7	2.3	29.9	100	55.9	14.9	1.9	27.3	100	55.5	13.9	2.1	28.4	100
Muhanga	61.6	17.9	1.4	19.1	100	63.3	14.8	0.7	21.1	100	62.6	16.2	1.0	20.2	100
Kamonyi	60.6	17.1	4.3	18.0	100	56.2	23.1	2.9	17.8	100	58.2	20.3	3.6	17.9	100
Karongi	56.7	18.2	1.5	23.6	100	52.8	18.2	0.1	28.8	100	54.6	18.2	0.8	26.5	100
Rutsiro	51.4	24.1	2.5	22.1	100	47.9	15.5	0.5	36.2	100	49.5	19.5	1.4	29.6	100
Rubavu	54.0	20.9	2.6	22.6	100	44.4	15.9	1.5	38.1	100	48.9	18.3	2.0	30.8	100
Nyabihu	59.4	22.0	2.8	15.9	100	53.6	18.6	0.5	27.4	100	56.1	20.1	1.5	22.3	100
Ngororero	57.1	11.9	0.5	30.4	100	44.1	11.9	0.3	43.8	100	49.7	11.9	0.4	38.0	100
Rusizi	68.3	15.8	1.5	14.5	100	60.6	17.1	1.3	21.0	100	64.1	16.5	1.4	18.0	100
Nyamasheke	52.8	23.7	3.5	20.0	100	52.9	18.0	1.0	28.1	100	52.8	20.6	2.1	24.4	100
Rulindo	65.3	11.8	2.5	20.4	100	62.4	14.7	1.1	21.9	100	63.7	13.4	1.7	21.2	100
Gakenke	62.7	17.2	1.5	18.6	100	53.2	14.6	2.5	29.7	100	57.5	15.8	2.0	24.7	100
Musanze	50.6	21.8	3.7	23.9	100	42.0	22.0	1.7	34.4	100	45.7	21.9	2.6	29.8	100
Burera	49.0	11.7	0.8	38.5	100	33.9	9.2	0.5	56.5	100	40.5	10.3	0.6	48.6	100
Gicumbi	64.3	17.3	1.9	16.6	100	52.9	18.9	0.7	27.6	100	57.9	18.2	1.2	22.7	100
Rwamagana	59.9	22.3	3.4	14.5	100	56.4	21.8	1.5	20.3	100	58.0	22.0	2.3	17.7	100
Nyagatare	57.2	21.0	2.1	19.8	100	54.5	16.5	1.0	28.1	100	55.7	18.6	1.5	24.2	100
Gatsibo	56.4	20.6	2.2	20.8	100	52.6	18.5	1.2	27.7	100	54.4	19.5	1.6	24.5	100
Kayonza	62.5	18.0	2.2	17.4	100	58.1	15.5	0.8	25.6	100	60.2	16.7	1.5	21.7	100
Kirehe	54.9	19.0	1.7	24.5	100	51.0	14.1	0.6	34.3	100	52.7	16.4	1.1	29.8	100
Ngoma	63.5	14.4	1.2	20.9	100	61.9	11.2	1.0	25.8	100	62.6	12.6	1.1	23.7	100
Bugesera	59.0	16.9	2.6	21.5	100	55.4	15.4	0.7	28.5	100	57.1	16.1	1.6	25.2	100
Rwanda	**58.3**	**18.1**	**2.5**	**21.1**	**100**	**53.2**	**16.5**	**1.4**	**28.9**	**100**	**55.5**	**17.2**	**1.9**	**25.4**	**100**

Source: NISR, AHS 2017

Appendix A: 5 Highest level of education attended by each agricultural household members aged 10 years and above by sex and district

District	Primary			Secondary			Tertiary			No education			Primary	Secondary	Tertiary	No education	Total
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Both male and Female				
Nyarugenge	47.1	52.9	100	46.5	53.5	100	60.7	39.3	100	43.7	56.3	100	52.2	27.8	6.8	13.2	100
Gasabo	49.4	50.6	100	52.1	47.9	100	57.1	42.9	100	41.4	58.6	100	60.1	23.4	5.1	11.5	100
Kicukiro	45.0	55.0	100	47.4	52.6	100	49.1	50.9	100	40.9	59.1	100	52.3	28.8	9.8	9.1	100
Nyanza	50.4	49.6	100	51.2	48.8	100	51.6	48.4	100	39.3	60.7	100	60.6	14.3	1.5	23.7	100
Gisagara	46.1	53.9	100	47.2	52.8	100	45.6	54.4	100	43.3	56.7	100	64.1	6.5	0.4	29.0	100
Nyaruguru	52.7	47.3	100	52.5	47.5	100	63.0	37.0	100	38.4	61.6	100	62.9	10.9	0.6	25.6	100
Huye	50.0	50.0	100	45.4	54.6	100	48.9	51.1	100	43.7	56.3	100	66.7	16.1	1.7	15.5	100
Nyamagabe	46.8	53.2	100	40.2	59.8	100	51.1	48.9	100	40.2	59.8	100	62.3	13.3	1.8	22.6	100
Ruhango	45.3	54.7	100	37.8	62.2	100	48.3	51.7	100	47.5	52.5	100	63.2	12.1	1.7	23.1	100
Muhanga	43.6	56.4	100	47.6	52.4	100	61.3	38.7	100	42.6	57.4	100	68.2	14.6	0.8	16.4	100
Kamonyi	47.6	52.4	100	38.8	61.2	100	55.9	44.1	100	47.2	52.8	100	63.3	18.8	2.9	15.0	100
Karongi	48.1	51.9	100	43.3	56.7	100	89.9	10.1	100	41.5	58.5	100	61.0	15.8	0.6	22.5	100
Rutsiro	46.9	53.1	100	57.1	42.9	100	82.3	17.7	100	35.9	64.1	100	59.4	16.1	1.1	23.5	100
Rubavu	50.7	49.3	100	51.9	48.1	100	60.2	39.8	100	37.3	62.7	100	57.3	15.5	1.6	25.6	100
Nyabihu	46.5	53.5	100	49.5	50.5	100	81.8	18.2	100	33.6	66.4	100	64.2	16.9	1.2	17.7	100
Ngororero	48.2	51.8	100	41.8	58.2	100	60.0	40.0	100	35.4	64.6	100	59.2	10.2	0.3	30.4	100
Rusizi	50.3	49.7	100	43.6	56.4	100	48.9	51.1	100	37.5	62.5	100	68.9	14.9	1.1	15.0	100
Nyamasheke	46.3	53.7	100	52.6	47.4	100	75.1	24.9	100	37.4	62.6	100	60.1	18.7	1.7	19.5	100
Rulindo	47.7	52.3	100	42.2	57.8	100	65.9	34.1	100	44.8	55.2	100	69.2	12.2	1.4	17.2	100
Gakenke	49.5	50.5	100	49.5	50.5	100	33.3	66.7	100	33.8	66.2	100	62.1	14.2	1.6	22.1	100
Musanze	47.6	52.4	100	43.8	56.2	100	63.3	36.7	100	36.7	63.3	100	51.3	19.8	2.0	26.9	100
Burera	49.8	50.2	100	49.5	50.5	100	58.3	41.7	100	36.5	63.5	100	41.5	8.2	0.5	49.8	100
Gicumbi	49.8	50.2	100	42.9	57.1	100	69.7	30.3	100	33.5	66.5	100	64.3	15.9	1.0	18.8	100
Rwamagana	49.0	51.0	100	46.1	53.9	100	65.9	34.1	100	38.0	62.0	100	63.0	19.9	1.9	15.2	100
Nyagatare	47.6	52.4	100	52.4	47.6	100	65.3	34.7	100	38.8	61.2	100	62.2	16.5	1.2	20.1	100
Gatsibo	49.3	50.7	100	48.5	51.5	100	60.9	39.1	100	40.1	59.9	100	61.9	16.8	1.3	20.0	100
Kayonza	49.0	51.0	100	48.5	51.5	100	69.7	30.3	100	37.6	62.4	100	66.8	14.6	1.1	17.5	100
Kirehe	48.8	51.2	100	52.4	47.6	100	70.1	29.9	100	37.7	62.3	100	61.2	14.0	0.9	24.0	100
Ngoma	47.7	52.3	100	49.8	50.2	100	47.9	52.1	100	41.0	59.0	100	69.0	10.8	0.9	19.3	100
Bugesera	48.2	51.8	100	48.4	51.6	100	77.5	22.5	100	41.1	58.9	100	64.2	13.5	1.2	21.1	100
Rwanda	**48.2**	**51.8**	**100**	**47.5**	**52.5**	**100**	**59.7**	**40.3**	**100**	**39.0**	**61.0**	**100**	**61.9**	**15.1**	**1.5**	**21.5**	**100**

Source: NISR, AHS 2017

Appendix A: 6 Percentage of children from 6 to 10 years living in agricultural households, who attained schools by district

District	Children of 6 Years	Children of 7 Years	Children of 8 Years	Children of 9 Years	Children of 10 Years	Overall(6-10 years)
Nyarugenge	66.0	92.8	90.4	95.2	98.9	89.0
Gasabo	60.6	82.8	89.2	96.8	96.3	86.0
Kicukiro	90.7	88.5	100.0	100.0	96.6	95.6
Nyanza	55.1	71.4	95.4	87.9	93.5	80.7
Gisagara	25.0	58.2	92.6	79.0	94.7	72.7
Nyaruguru	37.7	58.1	87.7	90.9	90.6	74.9
Huye	66.8	75.7	89.9	92.6	95.9	84.5
Nyamagabe	55.3	88.0	94.2	96.7	97.3	85.3
Ruhango	59.9	77.5	92.2	100	100	86.5
Muhanga	85.5	99.4	100	100	99.6	96.1
Kamonyi	77.4	94.7	100	100	97.9	94.5
Karongi	63.5	88.6	96.0	99.6	97.1	90.7
Rutsiro	68.6	89.8	95.0	100.0	98.0	90.3
Rubavu	43.0	78.0	93.3	98.1	97.3	82.4
Nyabihu	64.1	88.1	93.9	97.8	96.9	89.0
Ngororero	56.9	91.2	96.8	100	100	90.2
Rusizi	38.0	81.8	98.4	98.7	100	81.2
Nyamasheke	70.2	88.0	97.6	95.7	100	89.8
Rulindo	74.8	92.3	97.4	99.6	91.4	91.4
Gakenke	85.5	100	100	100	100	97.5
Musanze	68.3	96.9	96.2	97.8	96.8	90.4
Burera	81.0	96.0	93.3	97.6	92.3	91.5
Gicumbi	85.4	93.2	94.5	97.4	93.7	93.3
Rwamagana	68.0	93.0	99.2	98.7	96.2	90.7
Nyagatare	53.6	81.2	84.3	93.9	92.1	82.0
Gatsibo	51.7	76.4	85.8	98.1	99.8	83.2
Kayonza	70.0	83.6	94.3	94.9	96.1	88.2
Kirehe	54.0	75.1	93.7	97.4	97.4	83.7
Ngoma	51.3	81.0	92.3	95.6	98.3	85.3
Bugesera	44.9	77.9	92.0	91.0	98.2	81.0
Rwanda	**61.5**	**84.1**	**93.8**	**96.0**	**96.6**	**86.9**

Source: NISR, AHS 2017

Appendix A: 7 Average size of agricultural households by sex of household head and district

District	Household head sex		Overall average size
	Male headed	Female headed	
Nyarugenge	4.6	3.6	4.4
Gasabo	4.9	3.6	4.6
Kicukiro	5.2	4.1	5.0
Nyanza	4.5	3.3	4.1
Gisagara	4.7	3.3	4.3
Nyaruguru	5.1	3.3	4.6
Huye	4.5	3.6	4.3
Nyamagabe	4.5	3.4	4.1
Ruhango	4.3	3.1	3.9
Muhanga	4.8	3.1	4.2
Kamonyi	4.8	3.8	4.5
Karongi	5.0	3.6	4.6
Rutsiro	5.3	3.6	4.8
Rubavu	5.5	3.4	5.0
Nyabihu	4.9	3.5	4.5
Ngororero	5.0	3.1	4.5
Rusizi	5.3	3.8	5.0
Nyamasheke	5.7	3.5	5.0
Rulindo	4.5	3.4	4.2
Gakenke	4.7	2.9	4.1
Musanze	5.0	3.3	4.5
Burera	4.9	3.0	4.4
Gicumbi	4.8	3.1	4.3
Rwamagana	4.5	3.8	4.3
Nyagatare	5.1	3.9	4.8
Gatsibo	4.9	3.7	4.6
Kayonza	5.0	3.6	4.6
Kirehe	4.9	3.5	4.5
Ngoma	4.7	3.5	4.4
Bugesera	4.8	3.8	4.6
Rwanda	**4.9**	**3.4**	**4.5**

Source: NISR, AHS 2017

Appendix A: 8 Percentage of agricultural households by household size and district

District	Mean numbers of HH persons	One person	Two persons	Three persons	Four persons	Five and above	Total
Nyarugenge	4.4	11.4	10.4	14.1	19.2	44.9	100
Gasabo	4.6	6.6	8.9	18.7	15.2	50.6	100
Kicukiro	5.0	6.8	6.4	13.3	17.1	56.4	100
Nyanza	4.1	12.6	11.8	14.5	17.1	43.9	100
Gisagara	4.3	8.2	11.4	19.4	17.7	43.3	100
Nyaruguru	4.6	3.5	9.8	24.6	14.1	48.0	100
Huye	4.3	6.3	9.4	18.6	23.0	42.6	100
Nyamagabe	4.1	7.1	13.6	22.1	17.0	41.9	100
Ruhango	3.9	12.8	13.4	14.9	23.0	35.9	100
Muhanga	4.2	5.9	12.2	22.7	22.3	36.9	100
Kamonyi	4.5	4.8	8.7	17.2	21.6	47.7	100
Karongi	4.6	3.4	16.3	13.1	15.4	51.8	100
Rutsiro	4.8	2.9	10.2	19.4	16.9	50.7	100
Rubavu	5.0	4.2	8.5	15.7	16.8	54.8	100
Nyabihu	4.5	5.2	12.0	17.8	17.7	47.4	100
Ngororero	4.5	4.3	13.4	14.6	20.2	47.4	100
Rusizi	5.0	6.4	7.9	14.2	15.9	55.6	100
Nyamasheke	5.0	5.3	11.9	17.1	9.8	55.9	100
Rulindo	4.2	6.0	10.2	20.5	23.2	40.1	100
Gakenke	4.1	9.7	12.6	20.1	20.1	37.5	100
Musanze	4.5	5.8	10.4	19.4	19.2	45.3	100
Burera	4.4	7.5	11.3	15.3	19.8	46.1	100
Gicumbi	4.3	6.3	12.6	18.1	22.2	40.7	100
Rwamagana	4.3	8.3	10.4	18.2	20.7	42.5	100
Nyagatare	4.8	5.1	9.9	17.0	17.6	50.4	100
Gatsibo	4.6	6.0	8.3	16.6	19.0	50.2	100
Kayonza	4.6	7.1	8.6	15.9	18.5	49.8	100
Kirehe	4.5	5.4	9.5	19.5	19.8	45.8	100
Ngoma	4.4	5.5	7.2	21.1	24.4	41.8	100
Bugesera	4.6	6.0	9.2	17.1	21.0	46.7	100
Rwanda	**4.5**	**6.4**	**10.5**	**17.9**	**19.2**	**46.0**	**100**

Source: NISR, AHS 2017

Appendix A: 9 Percentage of agricultural households by household head sex and district

District	Household head sex		Total
	Male	Female	
Nyarugenge	76.6	23.4	100
Gasabo	78.2	21.8	100
Kicukiro	81.0	19.0	100
Nyanza	68.2	31.8	100
Gisagara	68.9	31.1	100
Nyaruguru	71.6	28.4	100
Huye	71.1	28.9	100
Nyamagabe	69.6	30.4	100
Ruhango	63.5	36.5	100
Muhanga	66.1	33.9	100
Kamonyi	71.9	28.1	100
Karongi	71.7	28.3	100
Rutsiro	74.0	26.0	100
Rubavu	76.1	23.9	100
Nyabihu	73.4	26.6	100
Ngororero	72.0	28.0	100
Rusizi	80.2	19.8	100
Nyamasheke	68.1	31.9	100
Rulindo	77.5	22.5	100
Gakenke	71.8	28.2	100
Musanze	70.7	29.3	100
Burera	73.0	27.0	100
Gicumbi	71.1	28.9	100
Rwamagana	68.8	31.2	100
Nyagatare	76.0	24.0	100
Gatsibo	74.9	25.1	100
Kayonza	71.4	28.6	100
Kirehe	70.8	29.2	100
Ngoma	70.7	29.3	100
Bugesera	75.3	24.7	100
Rwanda	**72.2**	**27.8**	**100**

Source: NISR, AHS 2017

Appendix A: 10 Distribution (%) of agricultural households' population from 16 years and above by economic activity, sex and district

District	Agricultural activity only			Non-agricultural activity			Both agricultural and non-agricultural activities			No activity			Overall					Percentage of females in total agricultural households' population over 15 years
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Agricultural activity only	Non-agricultural activity	Both agricultural and non-agricultural activities	No activity	Total	
Nyarugenge	38.1	61.9	100	67.3	32.7	100	40.9	59.1	100	51.0	49.0	100	45.4	22.1	5.2	27.3	100	51.8
Gasabo	42.2	57.8	100	61.1	38.9	100	68.4	31.6	100	50.4	49.6	100	56.3	29.0	1.3	13.5	100	50.9
Kicukiro	42.3	57.7	100	56.2	43.8	100	69.0	31.0	100	42.7	57.3	100	46.5	24.8	4.6	24.1	100	52.9
Nyanza	42.9	57.1	100	61.3	38.7	100	88.2	11.8	100	51.9	48.1	100	75.8	4.7	1.9	17.6	100	53.8
Gisagara	41.6	58.4	100	65.6	34.4	100	95.1	4.9	100	57.1	42.9	100	81.7	6.7	1.0	10.6	100	54.6
Nyaruguru	39.5	60.5	100	76.8	23.2	100	84.3	15.7	100	62.5	37.5	100	69.4	7.2	1.5	22.0	100	52.1
Huye	39.3	60.7	100	63.6	36.4	100	53.2	46.8	100	54.8	45.2	100	60.4	14.5	2.6	22.6	100	53.3
Nyamagabe	37.4	62.6	100	71.0	29.0	100	65.1	34.9	100	53.6	46.4	100	79.5	7.1	4.0	9.4	100	57.6
Ruhango	39.9	60.1	100	62.3	37.7	100	82.1	17.9	100	52.5	47.5	100	77.8	5.2	2.3	14.8	100	56.2
Muhanga	36.0	64.0	100	69.4	30.6	100	76.8	23.2	100	55.0	45.0	100	70.1	13.3	4.8	11.8	100	55.4
Kamonyi	38.1	61.9	100	69.4	30.6	100	58.6	41.4	100	41.7	58.3	100	57.1	20.8	4.2	18.0	100	53.9
Karongi	40.0	60.0	100	67.4	32.6	100	68.9	31.1	100	51.4	48.6	100	70.1	8.0	2.1	19.8	100	54.9
Rutsiro	38.3	61.7	100	75.0	25.0	100	65.2	34.8	100	62.1	37.9	100	68.8	9.3	1.8	20.1	100	53.0
Rubavu	41.2	58.8	100	65.4	34.6	100	67.2	32.8	100	46.7	53.3	100	60.5	19.0	0.5	19.9	100	53.0
Nyabihu	36.3	63.7	100	74.7	25.3	100	54.0	46.0	100	47.7	52.3	100	62.9	14.4	1.9	20.9	100	55.5
Ngororero	38.5	61.5	100	78.7	21.3	100	97.4	2.6	100	44.9	55.1	100	77.4	8.8	0.7	13.1	100	56.7
Rusizi	40.9	59.1	100	63.6	36.4	100	53.2	46.8	100	45.3	54.7	100	62.4	18.0	3.4	16.3	100	53.9
Nyamasheke	34.8	65.2	100	79.3	20.7	100	60.5	39.5	100	58.3	41.7	100	65.9	14.3	0.8	19.1	100	54.2
Rulindo	40.3	59.7	100	75.3	24.7	100	47.8	52.2	100	52.0	48.0	100	75.4	12.4	2.6	9.7	100	54.1
Gakenke	39.1	60.9	100	84.9	15.1	100	66.3	33.7	100	51.1	48.9	100	78.1	7.4	3.9	10.6	100	55.2
Musanze	34.3	65.7	100	72.0	28.0	100	57.8	42.2	100	50.5	49.5	100	65.8	15.1	2.8	16.3	100	56.7
Burera	37.5	62.5	100	88.1	11.9	100	71.0	29.0	100	53.2	46.8	100	78.3	7.6	2.0	12.1	100	56.1
Gicumbi	37.2	62.8	100	76.8	23.2	100	80.3	19.7	100	48.3	51.7	100	70.3	9.9	3.0	16.8	100	55.7
Rwamagana	40.7	59.3	100	69.7	30.3	100	44.0	56.0	100	49.7	50.3	100	68.0	10.7	0.9	20.3	100	54.3
Nyagatare	43.0	57.0	100	64.9	35.1	100	79.8	20.2	100	53.7	46.3	100	74.2	5.6	1.4	18.8	100	53.2
Gatsibo	42.1	57.9	100	63.9	36.1	100	71.2	28.8	100	54.6	45.4	100	75.2	10.9	0.1	13.8	100	53.7
Kayonza	41.6	58.4	100	63.0	37.0	100	83.6	16.4	100	56.3	43.7	100	70.1	12.6	1.1	16.2	100	52.9
Kirehe	40.2	59.8	100	78.4	21.6	100	90.1	9.9	100	54.1	45.9	100	73.5	6.5	0.8	19.2	100	54.3
Ngoma	40.6	59.4	100	76.5	23.5	100	57.2	42.8	100	52.6	47.4	100	80.2	6.0	1.3	12.5	100	55.5
Bugesera	39.7	60.3	100	71.0	29.0	100	45.7	54.3	100	51.5	48.5	100	67.7	16.3	0.6	15.3	100	53.4
Rwanda	**39.5**	**60.5**	**100**	**69.9**	**30.1**	**100**	**66.5**	**33.5**	**100**	**52.0**	**48.0**	**100**	**70.2**	**11.6**	**2.1**	**16.2**	**100**	**54.4**

Source: NISR, AHS 2017

Appendix A: 11 Percentage agricultural labourers aged from 16 and above by age group and district

District	Age group			
	16 to 30 years	31 to 64 years	65 years and above	Total
Nyarugenge	26.9	67.7	5.4	100
Gasabo	26.9	65.4	7.7	100
Kicukiro	24.6	68.7	6.8	100
Nyanza	25.6	64.8	9.6	100
Gisagara	33.9	59.8	6.2	100
Nyaruguru	28.1	62.9	9.1	100
Huye	25.2	68.5	6.3	100
Nyamagabe	39.0	54.2	6.8	100
Ruhango	29.2	62.1	8.7	100
Muhanga	28.1	63.0	8.9	100
Kamonyi	30.5	63.6	5.9	100
Karongi	28.2	63.9	7.9	100
Rutsiro	36.9	55.8	7.3	100
Rubavu	35.8	58.4	5.7	100
Nyabihu	34.4	59.5	6.0	100
Ngororero	35.1	58.0	7.0	100
Rusizi	33.9	58.5	7.6	100
Nyamasheke	30.9	59.9	9.2	100
Rulindo	33.8	56.9	9.3	100
Gakenke	35.1	55.5	9.5	100
Musanze	38.2	53.7	8.1	100
Burera	38.7	52.5	8.8	100
Gicumbi	31.5	58.5	9.9	100
Rwamagana	32.1	59.5	8.4	100
Nyagatare	38.5	55.8	5.7	100
Gatsibo	35.9	59.0	5.0	100
Kayonza	30.6	63.0	6.4	100
Kirehe	35.2	57.7	7.1	100
Ngoma	35.5	58.9	5.5	100
Bugesera	32.8	59.2	8.0	100
Rwanda	**33.3**	**59.2**	**7.4**	**100**

Source: NISR, AHS 2017

Appendix A: 12 : Percentage agricultural labourers aged from 16 and above by highest level of education and district

District	Highest level of education				
	Primary	Secondary	Tertiary	No education	Total
Nyarugenge	57.1	14.5	4.8	23.7	100
Gasabo	64.6	12.5	3.8	19.2	100
Kicukiro	59.7	16.5	9.4	14.4	100
Nyanza	56.0	10.0	1.1	32.9	100
Gisagara	59.4	4.4	0.1	36.0	100
Nyaruguru	57.0	5.6	0.3	37.1	100
Huye	67.0	9.5	1.0	22.6	100
Nyamagabe	58.6	13.0	1.4	27.0	100
Ruhango	57.2	8.3	1.1	33.4	100
Muhanga	68.4	8.7	0.5	22.4	100
Kamonyi	68.9	8.4	1.2	21.4	100
Karongi	60.3	9.6	0.3	29.8	100
Rutsiro	51.4	10.6	0.8	37.2	100
Rubavu	51.9	8.9	0.7	38.4	100
Nyabihu	60.5	11.0	0.7	27.7	100
Ngororero	51.3	4.3	0.4	44.1	100
Rusizi	69.0	8.0	0.5	22.6	100
Nyamasheke	58.7	11.4	0.5	29.4	100
Rulindo	66.5	8.9	0.8	23.9	100
Gakenke	62.0	9.4	1.0	27.6	100
Musanze	50.8	13.0	0.9	35.3	100
Burera	40.4	8.0	0.3	51.3	100
Gicumbi	62.3	9.8	0.4	27.5	100
Rwamagana	66.4	11.4	1.1	21.2	100
Nyagatare	60.9	10.7	0.5	27.9	100
Gatsibo	59.2	10.9	0.6	29.2	100
Kayonza	65.2	7.7	0.5	26.7	100
Kirehe	55.4	9.6	0.4	34.7	100
Ngoma	66.9	7.1	0.6	25.4	100
Bugesera	61.9	9.3	0.6	28.2	100
Rwanda	**59.9**	**9.4**	**0.8**	**29.9**	**100**

Source: NISR, AHS 2017

Appendix A: 13 : Percentage agricultural labourers aged from 16 and above by age group, highest level of education and district

District	16 to 30 years					31 to 64 years					65 and above years				
	Primary	Secondary	Tertiary	No education	Total	Primary	Secondary	Tertiary	No education	Total	Primary	Secondary	Tertiary	No education	Total
Nyarugenge	67.6	17.1	0.6	14.8	100	59.6	6.0	1.0	33.4	100	28.5	1.5	0.3	69.7	100
Gasabo	62.0	20.7	4.1	13.3	100	58.2	12.8	4.8	24.2	100	18.8	4.1	8.2	69.0	100
Kicukiro	65.1	21.5	1.4	12.0	100	67.5	10.2	5.2	17.1	100	37.2	0.0	0.0	62.9	100
Nyanza	63.4	18.9	10.4	7.3	100	60.0	16.7	9.9	13.4	100	43.7	6.1	0.0	50.2	100
Gisagara	64.3	19.0	1.4	15.2	100	55.8	7.9	1.1	35.2	100	35.2	0.0	0.0	64.8	100
Nyaruguru	69.2	8.7	0.2	21.9	100	56.1	2.0	0.1	41.8	100	38.1	4.7	0.0	57.2	100
Huye	70.8	12.0	1.0	16.3	100	54.7	3.5	0.1	41.7	100	30.3	0.0	0.0	69.8	100
Nyamagabe	66.4	20.9	1.1	11.5	100	69.3	5.9	0.9	23.8	100	43.2	2.0	0.6	54.1	100
Ruhango	67.6	22.3	1.1	9.0	100	56.1	7.6	1.7	34.5	100	27.4	2.3	0.0	70.3	100
Muhanga	70.3	15.9	1.7	12.2	100	55.9	5.6	1.0	37.5	100	22.3	2.7	0.0	75.0	100
Kamonyi	71.5	17.8	0.8	9.8	100	72.1	5.5	0.4	22.0	100	33.0	2.2	0.0	64.8	100
Karongi	74.6	16.7	0.8	7.9	100	70.1	5.2	1.5	23.2	100	26.1	0.5	0.5	72.9	100
Rutsiro	68.1	20.6	0.0	11.3	100	61.8	6.0	0.4	31.9	100	21.3	0.0	0.0	78.7	100
Rubavu	63.3	20.0	0.0	16.7	100	48.6	5.5	1.4	44.5	100	12.8	2.5	0.0	84.8	100
Nyabihu	58.3	13.9	0.7	27.1	100	49.1	6.7	0.8	43.5	100	41.0	0.8	0.0	58.2	100
Ngororero	69.0	19.7	0.7	10.7	100	59.0	7.2	0.9	32.9	100	26.1	0.0	0.0	73.9	100
Rusizi	69.4	3.3	0.4	26.9	100	45.0	5.3	0.4	49.3	100	12.5	0.7	0.0	86.9	100
Nyamasheke	75.9	14.2	0.4	9.5	100	67.1	5.4	0.6	27.0	100	52.5	0.6	0.0	46.9	100
Rulindo	62.6	29.5	0.1	7.8	100	63.0	3.7	0.8	32.5	100	17.9	0.4	0.0	81.6	100
Gakenke	75.5	16.1	0.0	8.4	100	66.6	6.0	1.3	26.0	100	32.9	0.0	0.0	67.1	100
Musanze	68.4	18.0	0.1	13.5	100	65.3	5.3	1.7	27.7	100	18.9	1.9	0.0	79.2	100
Burera	54.4	20.8	0.4	24.5	100	51.8	9.3	1.2	37.7	100	27.0	0.9	1.7	70.4	100
Gicumbi	49.3	14.6	0.3	35.9	100	37.7	4.3	0.2	57.8	100	18.0	1.5	0.0	80.6	100
Rwamagana	71.8	20.7	0.1	7.5	100	65.3	5.3	0.7	28.7	100	14.2	1.6	0.0	84.3	100
Nyagatare	69.8	22.0	0.6	7.6	100	68.8	7.2	1.5	22.6	100	36.3	1.0	0.0	62.8	100
Gatsibo	72.4	15.6	0.5	11.5	100	56.0	7.9	0.6	35.5	100	31.1	4.9	0.0	64.1	100
Kayonza	65.9	16.5	0.3	17.3	100	56.6	8.3	0.9	34.3	100	42.8	1.9	0.0	55.3	100
Kirehe	71.9	15.4	0.4	12.2	100	63.8	4.7	0.6	30.9	100	45.6	0.0	0.0	54.4	100
Ngoma	64.5	16.5	0.5	18.5	100	52.9	6.5	0.4	40.3	100	30.0	0.6	0.0	69.4	100
Bugesera	77.4	12.4	0.1	10.1	100	63.8	4.5	0.7	31.1	100	32.8	1.5	3.2	62.5	100
Rwanda	**64.3**	**21.6**	**1.1**	**13.0**	**100**	**65.1**	**3.2**	**0.4**	**31.2**	**100**	**28.2**	**3.4**	**0.0**	**68.4**	**100**

Source: NISR, AHS 2017

Appendix A: 14 Agricultural household population by age group, economic activity and district

District	16 to 30 years					31 to 64 years					65 and above years				
	Agricultural activity	Non-agricultural activity	Both agricultural and non-agricultural activities	No activity	Total	Agricultural activity	Non-agricultural activity	Both Agricultura land non-agricultural activities	No activity	Total	Agricultural activity	Non-agricultural activity	Both Agricultural and non-Agricultural activities	No activity	Total
Nyarugenge	26.3	22.2	2.7	48.8	100	61.9	23.5	8.0	6.7	100	66.8	4.2	-	29.0	100
Gasabo	33.1	40.4	0.5	25.9	100	75.5	20.4	2.1	2.0	100	81.3	8.9	-	9.8	100
Kicukiro	24.1	30.9	1.8	43.2	100	67.7	20.6	7.6	4.1	100	66.8	4.3	4.3	24.6	100
Nyanza	52.9	7.7	0.4	39.1	100	91.5	3.5	2.9	2.1	100	77.3	0.4	2.6	19.7	100
Gisagara	66.5	11.6	1.8	20.2	100	93.5	3.5	0.3	2.7	100	82.3	1.7	1.6	14.5	100
Nyaruguru	44.7	9.6	1.8	43.9	100	88.6	6.3	1.4	3.7	100	82.7	-	-	17.4	100
Huye	35.6	21.0	2.8	40.7	100	80.1	10.7	2.8	6.4	100	60.8	2.5	-	36.7	100
Nyamagabe	71.8	10.3	2.9	15.0	100	87.1	5.1	5.5	2.4	100	75.6	1.9	-	22.5	100
Ruhango	57.5	8.6	1.6	32.3	100	92.3	3.4	3.1	1.3	100	84.1	-	0.4	15.5	100
Muhanga	46.9	23.1	5.7	24.3	100	86.3	7.3	4.8	1.6	100	81.8	3.6	-	14.7	100
Kamonyi	39.0	26.2	3.2	31.7	100	73.0	18.0	5.3	3.8	100	59.5	3.7	2.0	34.8	100
Karongi	46.4	13.8	0.7	39.1	100	89.7	3.7	3.6	3.0	100	77.8	2.8	-	19.4	100
Rutsiro	50.7	12.2	1.7	35.4	100	86.6	7.3	2.2	4.0	100	87.1	-	-	12.9	100
Rubavu	43.3	23.4	0.5	32.8	100	78.8	15.3	0.7	5.3	100	68.5	9.1	-	22.4	100
Nyabihu	45.0	15.8	1.6	37.6	100	79.4	14.1	2.5	4.0	100	77.4	3.0	-	19.7	100
Ngororero	60.7	15.3	0.4	23.6	100	93.5	3.3	1.1	2.1	100	74.7	4.7	-	20.6	100
Rusizi	40.6	27.3	4.4	27.8	100	84.7	10.1	2.8	2.5	100	77.6	0.8	-	21.6	100
Nyamasheke	46.0	17.8	0.6	35.7	100	83.0	12.7	1.1	3.2	100	73.6	4.6	-	21.8	100
Rulindo	63.8	16.3	1.8	18.1	100	83.4	11.1	3.6	1.8	100	81.9	1.3	-	16.8	100
Gakenke	66.7	8.8	2.5	22.0	100	85.8	7.5	5.8	0.9	100	88.3	-	-	11.7	100
Musanze	51.7	17.6	2.7	27.9	100	78.7	14.7	3.4	3.1	100	78.9	0.4	-	20.7	100
Burera	69.3	10.3	1.0	19.4	100	87.3	6.1	3.3	3.4	100	76.4	2.3	-	21.4	100
Gicumbi	48.6	15.7	3.4	32.3	100	88.4	6.0	2.9	2.7	100	83.7	0.7	1.4	14.3	100
Rwamagana	47.6	15.4	0.4	36.6	100	87.4	7.5	1.6	3.6	100	74.7	1.9	-	23.4	100
Nyagatare	58.4	8.1	1.3	32.3	100	91.1	3.5	1.7	3.8	100	75.2	1.8	-	23.0	100
Gatsibo	58.1	17.2	0.0	24.7	100	91.8	6.1	0.1	2.0	100	73.0	0.4	-	26.6	100
Kayonza	48.3	20.1	0.9	30.7	100	88.3	7.1	1.5	3.1	100	80.7	1.7	-	17.7	100
Kirehe	55.7	9.1	0.8	34.5	100	91.6	4.7	0.9	2.9	100	72.4	0.9	-	26.7	100
Ngoma	65.5	10.4	1.2	22.9	100	94.2	3.0	1.2	1.6	100	69.2	-	2.4	28.5	100
Bugesera	48.4	22.7	0.8	28.1	100	85.2	12.4	0.4	2.0	100	75.5	2.4	0.5	21.7	100
Rwanda	52.0	16.5	1.7	29.8	100	86.0	8.5	2.6	2.9	100	76.8	2.0	0.5	20.7	100

Source: NISR, AHS 2017

Appendix A: 15 Percentage of farmers by type of agricultural activity and district

District	Crop production only	Crop production and livestock	Livestock only	Both agricultural and non-agricultural activities	Total
Nyarugenge	38.6	44.2	7.0	10.3	100
Gasabo	34.4	56.5	6.9	2.2	100
Kicukiro	40.4	39.1	11.4	9.0	100
Nyanza	39.3	53.2	5.0	2.5	100
Gisagara	32.5	65.4	0.9	1.2	100
Nyaruguru	14.6	83.1	0.3	2.1	100
Huye	30.8	62.8	2.4	4.1	100
Nyamagabe	10.8	81.1	3.4	4.7	100
Ruhango	29.4	65.1	2.7	2.8	100
Muhanga	16.1	71.6	5.9	6.4	100
Kamonyi	21.5	68.4	3.3	6.8	100
Karongi	17.1	77.2	2.8	2.9	100
Rutsiro	21.4	73.2	2.9	2.6	100
Rubavu	44.2	47.4	7.5	0.9	100
Nyabihu	31.3	64.5	1.1	3.0	100
Ngororero	13.4	85.0	0.7	0.9	100
Rusizi	35.5	54.8	4.5	5.1	100
Nyamasheke	35.7	55.3	7.9	1.2	100
Rulindo	25.6	69.5	1.6	3.3	100
Gakenke	12.0	81.5	1.8	4.8	100
Musanze	36.3	55.9	3.6	4.2	100
Burera	28.9	66.5	2.2	2.5	100
Gicumbi	17.0	77.8	1.1	4.1	100
Rwamagana	29.4	67.2	2.0	1.3	100
Nyagatare	45.4	50.5	2.2	1.8	100
Gatsibo	40.6	57.6	1.7	0.1	100
Kayonza	47.1	50.2	1.1	1.6	100
Kirehe	32.6	64.5	1.9	1.0	100
Ngoma	18.3	78.2	1.9	1.6	100
Bugesera	36.5	59.9	2.7	0.9	100
Rwanda	**28.6**	**65.8**	**2.8**	**2.8**	**100**

Source: NISR, AHS 2017

Appendix A: 16 Percentage of age working farmers by sex, agricultural activity location and district

District	Male				Female				Both male and female			
	In the household farms only	In others 'farms only	Both in household farms and others	Total	In the household farms only	In others' farms only	Both in household farms and others	Total	In the household farms only	In others' farms only	Both in household farms and others	Total
Nyarugenge	76.8	4.1	19.1	100	75.9	3.2	20.9	100	76.3	3.5	20.2	100
Gasabo	80.3	2.5	17.2	100	82.4	0.9	16.8	100	81.5	1.5	16.9	100
Kicukiro	86.2	1.1	12.7	100	81.1	0.6	18.3	100	83.3	0.8	15.9	100
Nyanza	62.1	1.3	36.6	100	69.6	-	30.4	100	66.4	0.6	33.0	100
Gisagara	44.9	3.0	52.1	100	47.8	1.5	50.7	100	46.6	2.1	51.3	100
Nyaruguru	73.8	-	26.2	100	80.2	0.7	19.2	100	77.6	0.4	22.0	100
Huye	70.6	7.7	21.7	100	68.9	7.6	23.5	100	69.6	7.7	22.8	100
Nyamagabe	56.8	0.8	42.4	100	62.4	0.8	36.8	100	60.3	0.8	39.0	100
Ruhango	56.2	2.5	41.4	100	64.6	0.5	34.9	100	61.2	1.3	37.5	100
Muhanga	73.3	1.0	25.7	100	73.5	1.8	24.7	100	73.4	1.5	25.1	100
Kamonyi	76.3	3.5	20.2	100	76.8	2.5	20.6	100	76.6	2.9	20.5	100
Karongi	65.6	0.7	33.7	100	58.3	0.5	41.2	100	61.2	0.6	38.2	100
Rutsiro	69.3	0.7	30.0	100	63.9	-	36.1	100	66.0	0.3	33.8	100
Rubavu	53.4	7.1	39.5	100	52.2	5.7	42.0	100	52.7	6.3	41.0	100
Nyabihu	64.3	6.7	29.1	100	62.8	5.1	32.1	100	63.3	5.7	31.0	100
Ngororero	50.3	1.1	48.6	100	56.0	0.4	43.6	100	53.8	0.6	45.5	100
Rusizi	56.8	5.2	38.1	100	63.2	4.8	32.0	100	60.6	5.0	34.5	100
Nyamasheke	57.1	6.6	36.3	100	53.5	5.5	41.1	100	54.6	5.8	39.6	100
Rulindo	70.5	2.3	27.2	100	68.9	0.8	30.3	100	69.5	1.4	29.1	100
Gakenke	71.8	1.1	27.1	100	64.8	0.3	34.9	100	67.5	0.6	31.9	100
Musanze	53.5	4.6	41.9	100	49.8	5.0	45.3	100	51.0	4.9	44.1	100
Burera	61.7	1.4	36.9	100	52.5	0.8	46.7	100	55.9	1.1	43.0	100
Gicumbi	70.1	2.9	27.0	100	66.4	1.5	32.1	100	67.9	2.0	30.1	100
Rwamagana	68.9	2.9	28.2	100	69.6	1.0	29.4	100	69.3	1.8	28.9	100
Nyagatare	69.4	3.3	27.3	100	69.5	3.7	26.9	100	69.5	3.5	27.1	100
Gatsibo	64.1	3.1	32.8	100	65.3	2.2	32.4	100	64.8	2.6	32.6	100
Kayonza	72.1	3.3	24.7	100	73.5	2.8	23.7	100	72.9	3.0	24.1	100
Kirehe	65.2	4.7	30.1	100	67.1	4.2	28.7	100	66.4	4.4	29.2	100
Ngoma	72.2	1.7	26.1	100	70.8	0.8	28.4	100	71.4	1.2	27.5	100
Bugesera	86.9	2.9	10.2	100	81.9	3.3	14.8	100	83.9	3.1	13.0	100
Rwanda	**65.9**	**2.9**	**31.2**	100	**65.3**	**2.2**	**32.5**	100	**65.5**	**2.5**	**32.0**	100

Source: NISR, AHS 2017

Appendix A: 17 Percentage of agricultural households who owned or rented agricultural land in different means by agricultural season and district

District	Use of land in Season A 2017					Use of land in Season B 2017				
	Used land for grazing	Cultivated owned land	Cultivated rented land by cash payment	Cultivated rented land by share of production	Cultivated land rent by others without payment	Used land for grazing	Cultivated owned land	Cultivated rented land by cash payment	Cultivated rented land by share of production	Cultivated land lent by others without payment
Nyarugenge	26.6	79.2	28.2	2.7	13.0	27.9	80.3	27.2	1.6	12.5
Gasabo	33.3	81.2	32.5	5.2	19.2	33.8	82.9	30.5	4.5	19.7
Kicukiro	22.2	74.1	29.2	3.7	17.2	20.7	77.0	26.5	2.6	16.8
Nyanza	1.3	92.5	44.4	1.4	19.9	3.1	95.5	45.5	1.8	21.7
Gisagara	1.7	95.7	39.9	8.7	6.1	1.9	97.0	40.6	8.9	7.1
Nyaruguru	9.3	98.0	38.7	5.5	15.4	10.3	98.4	36.3	7.8	13.4
Huye	57.9	93.5	22.1	3.2	12.0	56.1	95.0	43.0	2.5	10.4
Nyamagabe	0.4	96.0	39.0	1.8	14.8	0.3	97.9	39.4	1.8	15.2
Ruhango	2.5	95.8	40.1	10.4	14.8	2.6	96.9	40.6	9.1	16.1
Muhanga	4.4	95.2	31.7	15.4	13.1	4.7	95.2	28.6	14.7	11.5
Kamonyi	2.3	95.2	27.7	9.7	8.2	1.6	95.9	24.0	9.3	8.6
Karongi	4.2	96.0	33.8	3.7	13.3	5.7	98.4	27.4	4.0	13.3
Rutsiro	10.5	95.7	19.4	29.0	10.3	10.6	93.5	16.3	25.6	6.4
Rubavu	23.4	80.7	34.0	3.0	8.4	24.3	82.1	30.9	2.2	9.0
Nyabihu	17.5	89.7	25.7	1.0	5.7	18.1	89.7	22.4	0.3	5.7
Ngororero	2.1	98.4	27.2	23.2	12.1	2.1	96.7	21.9	19.5	8.5
Rusizi	11.6	92.6	46.5	14.7	3.6	11.3	93.4	46.2	14.4	4.6
Nyamasheke	4.3	92.9	35.6	23.4	5.9	4.0	89.8	29.8	19.7	4.3
Rulindo	14.9	91.9	27.6	1.2	6.8	15.8	95.6	23.9	1.8	5.3
Gakenke	0.7	97.7	27.6	6.6	9.0	1.1	97.4	26.4	6.0	8.5
Musanze	10.3	91.6	37.2	0.9	8.8	10.2	94.3	36.0	1.8	9.1
Burera	2.4	95.3	27.5	0.8	7.5	1.3	97.5	25.1	0.5	8.1
Gicumbi	6.5	97.6	31.3	3.1	8.2	7.6	98.8	33.5	3.0	9.7
Rwamagana	8.6	91.6	33.8	10.2	13.6	8.3	91.9	31.1	10.2	13.3
Nyagatare	9.1	88.2	29.2	23.6	3.6	8.6	91.0	27.8	26.7	3.8
Gatsibo	3.4	94.7	28.6	23.8	7.4	4.7	96.5	24.8	25.4	7.0
Kayonza	4.5	93.6	31.0	22.9	8.9	4.3	93.5	26.3	20.7	9.8
Kirehe	3.0	94.9	22.7	23.6	5.3	3.4	94.8	20.0	23.1	5.5
Ngoma	24.2	98.3	17.3	39.5	5.9	24.2	99.5	16.5	35.7	5.5
Bugesera	26.1	85.4	33.2	8.5	8.9	27.5	89.4	31.8	9.7	10.5
Rwanda	**10.7**	**93.1**	**31.7**	**12.2**	**9.5**	**10.9**	**94.2**	**29.7**	**11.8**	**9.3**

Source: NISR, AHS 2017

Appendix A: 18 Percentage of crop-producing households cultivating different crops by district and crop type during Season A 2017

Crop/Crop category	Nyarugenge	Gasabo	Kicukiro	Nyanza	Gisagara	Nyaruguru	Huye	Nyamagabe	Ruhango	Muhanga	Kamonyi	Karongi	Rutsiro	Rubavu	Nyabihu	Ngororero	Rusizi	Nyamasheke
Cereals																		
Maize	47.3	50.6	62.3	37.1	42.7	30.1	25.0	43.2	11.0	20.7	26.1	52.5	46.9	39.7	25.5	45.6	68.0	39.3
Sorghum	-	1.9	0.4	1.8	1.2	0.5	-	-	0.2	0.1	-	-	-	1.1	1.6	5.6	0.3	-
Paddy rice	0.3	0.3	0.6	3.8	8.3	-	9.9	-	1.4	1.5	2.4	-	-	0.1	-	2.0	7.0	3.0
Wheat	-	0.1	-	-	-	1.5	-	0.7	-	-	-	-	0.3	-	4.3	1.3	-	-
Tubers and roots																		
Cassava	31.8	26.1	34.9	35.2	19.5	27.6	23.7	10.8	56.2	43.2	23.6	30.7	35.5	3.5	0.9	20.8	71.3	68.7
Sweet potato	19.8	23.3	20.6	34.3	27.8	67.1	33.2	38.4	31.3	41.6	37.4	37.2	15.3	9.4	16.2	48.8	7.8	23.9
Irish potato	2.5	9.7	2.2	0.9	2.9	17.4	2.4	13.5	3.6	1.3	2.4	7.0	23.2	27.7	42.1	8.5	0.3	0.7
Yams and Taro	3.1	0.9	1.6	3.1	1.6	2.2	1.9	3.0	8.2	27.4	1.7	6.8	7.4	0.5	0.3	14.7	0.6	6.7
Banana																		
Cooking banana	8.8	6.1	15.6	2.5	9.5	2.7	5.0	4.5	0.1	2.0	7.7	2.5	6.3	15.1	3.9	2.5	6.1	6.0
Dessert banana	4.6	3.7	6.1	1.0	2.5	0.9	6.6	3.8	2.0	0.9	2.0	1.3	9.9	1.9	0.9	4.8	0.2	0.1
Banana for beer	8.2	2.7	3.9	1.8	9.7	5.0	11.0	13.4	3.3	20.7	15.8	39.7	12.5	3.8	4.5	15.5	3.3	6.8
Legumes and pulses																		
Bean																		
Bush bean	85.9	90.8	83.7	89.5	84.9	13.4	74.3	30.7	81.0	48.5	92.1	26.3	3.6	1.4	0.3	4.3	56.0	22.7
Climbing bean	3.8	3.4	3.2	15.9	17.9	85.5	31.1	87.8	22.4	38.9	8.1	66.7	62.7	63.6	62.5	84.6	27.1	61.6
Pea	1.5	2.3	0.4	3.9	0.4	6.3	2.5	14.7	2.7	2.0	1.5	4.2	5.4	0.2	3.3	4.1	0.1	0.4
Groundnut	2.9	6.3	4.0	7.3	5.3	0.9	5.2	-	15.9	0.4	11.2	0.1	-	-	-	-	0.2	3.5
Soybean	7.3	6.8	4.5	14.8	16.4	10.4	7.2	8.0	26.9	27.3	18.7	2.8	9.6	0.9	-	5.2	1.9	22.7
Vegetables	17.2	11.1	6.7	2.3	1.4	2.1	7.2	2.4	0.6	2.3	2.6	3.1	1.2	7.1	4.2	3.9	2.8	1.9
Fruits	1.3	-	2.5	-	0.2	-	-	0.4	-	-	0.3	1.1	1.8	0.6	0.9	-	0.1	0.4

Source: NISR, AHS 2017

Percentage of crop-producing households cultivating different crops by district and crop type during Season A 2017. Cont'd

Crop/Crop category	Rulindo	Gakenke	Musanze	Burera	Gicumbi	Rwamagana	Nyagatare	Gatsibo	Kayonza	Kirehe	Ngoma	Bugesera	Rwanda
Cereals													
Maize	42.9	76.2	67.1	39.8	22.7	65.5	85.6	80.4	67.2	85.1	77.4	70.9	**50.9**
Sorghum	0.6	0.0	3.7	19.4	-	-	27.9	15.5	11.4	6.3	0.1	13.0	**4.6**
Paddy rice	0.1	-	-	-	-	0.3	1.9	4.4	1.9	2.6	5.3	1.5	**2.2**
Wheat	1.6	1.1	12.9	2.3	2.1	-	0.1	0.2	-	-	-	-	**1.0**
Tubers and roots													
Cassava	23.5	5.5	1.5	0.3	10.6	25.6	5.3	15.2	24.9	28.3	32.3	23.7	**23.7**
Sweet potato	41.4	43.1	21.3	18.9	40.4	12.5	2.5	8.9	11.0	6.6	12.2	13.6	**24.9**
Irish potato	8.1	10.9	24.1	21.7	21.3	12.0	2.1	3.1	6.0	3.3	5.4	0.1	**9.6**
Yams and Taro	0.6	3.3	0.4	-	-	0.1	-	-	-	0.3	0.1	2.0	**3.1**
Banana													
Cooking banana	8.7	11.4	5.5	6.7	8.9	11.9	3.2	11.5	25.7	11.6	24.6	7.9	**8.4**
Dessert banana	4.1	9.7	4.9	1.1	1.4	1.7	0.6	0.4	0.2	0.2	0.9	1.4	**2.5**
Banana for beer	19.2	24.3	3.1	1.9	4.3	4.3	0.7	2.7	1.0	1.0	2.7	7.8	**8.3**
Legumes and pulses													
Bean													
Bush bean	48.6	6.8	3.0	1.1	31.3	90.9	76.0	85.8	85.0	80.6	85.2	86.3	**52.3**
Climbing bean	35.5	66.8	63.9	73.9	75.4	1.3	1.9	3.3	1.5	3.7	1.4	0.8	**36.0**
Pea	2.5	4.9	0.1	5.4	6.3	1.1	0.1	0.1	0.8	0.3	0.3	-	**2.6**
Groundnut	0.4	0.7	-	-	1.8	8.8	19.9	14.0	7.9	5.7	9.6	21.4	**5.7**
Soybean	2.8	3.7	0.4	0.3	0.6	3.4	2.7	3.4	3.5	4.4	3.0	5.5	**7.3**
Vegetables	4.3	0.8	6.3	0.8	5.9	5.1	1.2	1.2	0.8	1.7	1.2	2.8	**3.1**
Fruits	0.6	4.0	0.3	0.3	0.6	0.3	0.1	0.1	0.4	0.1	0.2	-	**0.5**

Source: NISR, AHS 2017

Appendix A: 19 Percentage of crop-producing households cultivating different crops by district and crop type during Season B 2017

Crop/Crop category	Nyarugenge	Gasabo	Kicukiro	Nyanza	Gisagara	Nyaruguru	Huye	Nyamagabe	Ruhango	Muhanga	Kamonyi	Karongi	Rutsiro	Rubavu	Nyabihu	Ngororero	Rusizi	Nyamasheke
Cereals																		
Maize	35.4	34.1	42.2	24.7	17.7	10.1	6.9	5.8	9.4	11.6	11.7	16.1	19.9	31.8	38.8	36.7	14.3	9.2
Sorghum	20.7	32.8	20.0	45.7	26.2	28.4	54.3	31.0	29.3	1.6	39.7	10.6	0.4	4.3	0.1	0.4	0.3	0.1
Paddy rice	0.3	0.9	0.5	7.7	11.5	-	13.3	0.3	1.1	0.8	3.3	-	-	0.1	-	1.6	7.7	3.4
Wheat	-	0.1	0.3	-	-	9.2	-	14.6	-	-	-	2.0	10.6	0.1	9.7	8.6	-	-
Tubers and roots																		
Cassava	20.3	10.7	27.7	24.0	12.3	13.9	18.4	11.3	47.5	21.9	17.9	24.8	41.0	3.3	0.6	9.4	66.8	17.0
Sweet potato	16.2	20.2	14.7	18.5	26.1	61.0	26.3	36.2	23.2	53.0	29.0	30.1	18.5	10.4	14.0	54.3	14.5	44.2
Irish potato	1.7	10.1	2.1	1.0	2.6	20.7	2.2	17.1	1.3	0.8	3.2	6.3	19.0	30.3	50.9	9.1	-	0.4
Yams and Taro	3.0	0.6	1.8	0.5	0.9	2.9	0.4	3.1	4.0	12.8	0.8	5.5	2.1	1.0	-	2.1	0.5	1.2
Banana																		
Cooking banana	8.0	5.6	15.3	2.8	8.9	3.8	4.6	7.0	0.5	1.2	7.6	1.9	7.1	15.2	3.0	3.4	9.6	7.9
Dessert banana	5.1	1.8	6.2	0.5	2.9	0.9	5.1	5.0	1.5	1.9	2.3	1.3	9.7	1.8	0.6	6.1	0.3	-
Banana for beer	8.9	3.2	5.1	2.7	9.6	6.7	10.0	17.6	2.2	19.8	15.0	43.4	18.9	4.1	3.9	15.9	4.3	13.0
Legumes and pulses																		
Bean																		
Bush bean	73.2	78.0	75.9	82.3	84.1	10.2	64.5	14.4	72.3	54.8	79.5	37.3	2.6	1.2	-	5.3	51.1	19.6
Climbing bean	3.8	3.0	3.0	15.3	16.7	81.1	30.8	77.4	26.9	37.2	7.6	71.1	34.4	55.5	24.1	71.3	29.6	58.5
Pea	1.1	2.8	0.4	3.6	0.1	5.9	1.0	16.2	3.0	2.6	1.5	4.3	8.0	0.3	2.1	2.4	-	0.1
Groundnut	4.8	7.0	4.4	8.9	5.5	0.6	1.9	-	19.7	0.1	14.2	0.1	-	-	-	-	0.6	9.8
Soybean	6.4	7.7	6.4	14.1	18.1	12.4	5.2	6.0	27.5	40.5	18.6	7.8	8.1	1.2	0.3	13.3	5.1	24.9
Vegetables	23.8	9.6	4.6	3.6	1.3	4.5	6.9	3.0	2.6	4.5	1.2	3.9	1.8	7.8	6.5	6.2	4.8	5.2
Fruits	2.1	-	2.8	-	0.2	-	0.1	0.7	-	-	-	0.6	1.5	0.5	1.6	0.0	0.1	0.4

Source: NISR, AHS 2017

Percentage of crop-producing households cultivating different crops by district and crop type during Season B 2017 cont'd

	Rulindo	Gakenke	Musanze	Burera	Gicumbi	Rwamagana	Nyagatare	Gatsibo	Kayonza	Kirehe	Ngoma	Bugesera	Rwanda
Cereals													
Maize	10.3	13.5	30.5	10.1	17.0	38.4	83.9	63.8	55.9	28.0	29.1	71.4	**28.3**
Sorghum	24.7	3.0	1.6	44.0	55.6	34.2	13.5	26.8	27.4	45.7	22.2	20.3	**23.3**
Paddy rice	0.1	-	-	-	-	0.4	2.3	1.8	2.6	2.6	6.0	1.9	**2.5**
Wheat	1.6	4.8	6.2	7.5	2.6	-	-	1.2	0.1	0.1	0.4	-	**2.7**
Tubers and roots													
Cassava	14.7	4.5	1.7	-	4.4	10.0	2.3	2.8	11.3	4.5	11.8	9.1	**14.1**
Sweet potato	41.6	54.9	22.1	12.5	34.1	19.9	1.7	8.9	15.8	6.1	19.3	10.9	**24.9**
Irish potato	4.9	15.2	32.7	22.5	15.6	9.7	2.5	2.4	6.3	1.7	5.8	0.2	**9.9**
Yams and Taro	0.6	3.8	0.1	-	-	-	-	0.1	0.3	0.2	-	2.0	**1.5**
Banana													
Cooking banana	8.6	12.7	6.6	6.3	5.8	12.1	3.2	9.6	25.7	12.3	28.9	7.9	**8.6**
Dessert banana	5.1	11.3	5.8	0.8	1.7	1.4	0.4	0.5	0.4	0.2	1.6	0.2	**2.6**
Banana for beer	18.3	24.5	4.2	1.9	4.2	3.7	0.6	4.1	1.3	1.7	3.4	9.5	**9.1**
Legumes and pulses													
Bean													
Bush bean	44.7	4.5	5.6	1.3	25.9	77.0	85.2	80.4	76.4	71.1	82.3	87.7	**48.8**
Climbing bean	44.1	84.3	58.5	74.5	65.2	1.2	2.4	3.6	1.3	13.4	2.6	0.8	**33.5**
Pea	1.6	3.5	0.4	3.0	3.9	0.3	0.1	0.3	0.2	0.6	0.7	-	**2.3**
Groundnut	0.5	0.0	-	-	2.3	13.2	26.0	22.7	7.2	6.2	4.0	25.1	**6.9**
Soybean	3.1	2.9	0.2	-	1.1	2.9	5.9	5.7	4.6	5.5	4.4	5.5	**8.6**
Vegetables	3.1	1.2	7.4	1.8	4.2	3.7	1.0	1.2	1.9	1.4	2.8	3.9	**3.7**
Fruits	0.6	5.0	0.5	0.5	0.6	0.3	0.1	-	0.2	0.2	0.8	0.1	**0.6**

Source: NISR, AHS 2017

Appendix A: 20 Percentage of Households engaged in market-oriented crop production by agricultural season and district

District	Season A	Season B
Nyarugenge	51.8	49.5
Gasabo	55.4	45.5
Kicukiro	49.3	41.9
Nyanza	57.6	61.1
Gisagara	59.2	59.9
Nyaruguru	60.5	60.4
Huye	50.9	72.7
Nyamagabe	58.0	58.9
Ruhango	64.8	62.4
Muhanga	53.0	42.7
Kamonyi	56.4	55.4
Karongi	68.5	60.5
Rutsiro	48.6	62.6
Rubavu	55.0	56.2
Nyabihu	58.4	47.5
Ngororero	51.6	35.9
Rusizi	38.5	37.3
Nyamasheke	43.7	51.7
Rulindo	48.3	34.0
Gakenke	70.2	61.3
Musanze	59.8	50.2
Burera	56.5	56.3
Gicumbi	55.2	50.7
Rwamagana	67.1	63.2
Nyagatare	77.8	62.0
Gatsibo	77.9	69.8
Kayonza	61.5	67.5
Kirehe	44.6	71.3
Ngoma	52.6	62.3
Bugesera	63.4	61.7
Rwanda	**58.1**	**56.8**

Source: NISR, AHS 2017

Appendix A: 21 Percentage of households belonging to agricultural cooperative or association by district

District	Yes	No	Total
Nyarugenge	8.9	91.1	100
Gasabo	9.0	91.0	100
Kicukiro	6.1	93.9	100
Nyanza	15.5	84.5	100
Gisagara	26.1	73.9	100
Nyaruguru	10.9	89.1	100
Huye	27.1	72.9	100
Nyamagabe	9.6	90.4	100
Ruhango	8.4	91.6	100
Muhanga	17.1	82.9	100
Kamonyi	13.0	87.0	100
Karongi	5.9	94.1	100
Rutsiro	11.5	88.5	100
Rubavu	6.7	93.3	100
Nyabihu	7.6	92.4	100
Ngororero	6.2	93.8	100
Rusizi	12.5	87.5	100
Nyamasheke	14.4	85.6	100
Rulindo	7.3	92.7	100
Gakenke	12.3	87.7	100
Musanze	11.5	88.5	100
Burera	7.0	93.0	100
Gicumbi	9.9	90.1	100
Rwamagana	10.7	89.3	100
Nyagatare	8.2	91.8	100
Gatsibo	15.8	84.2	100
Kayonza	11.8	88.2	100
Kirehe	16.0	84.0	100
Ngoma	19.0	81.0	100
Bugesera	14.0	86.0	100
Rwanda	**12.5**	**87.5**	**100**

Source: NISR, AHS 2017

Appendix A: 22 Percentage of agricultural households who are cooperative members by cooperative type and district

District	Cropping cooperative or association	Livestock cooperative or association	Both cropping and livestock cooperative	Water user association	Both cropping and water user cooperative	Cropping, livestock and water user	Other type	Total
Nyarugenge	87.8	7.4	4.9	0.0		0.0	0.0	100
Gasabo	78.4	12.5	9.2	0.0		0.0	0.0	100
Kicukiro	77.0	23.0	0.0	0.0		0.0	0.0	100
Nyanza	94.0	0.0	5.5	0.0		0.0	0.5	100
Gisagara	98.0	0.2	1.8	0.0		0.0	0.0	100
Nyaruguru	77.9	0.0	22.1	0.0		0.0	0.0	100
Huye	96.7	0.0	3.0	0.0		0.3	0.0	100
Nyamagabe	65.9	8.8	25.3	0.0		0.0	0.0	100
Ruhango	90.5	0.0	9.5	0.0		0.0	0.0	100
Muhanga	89.5	2.1	8.4	0.0		0.0	0.0	100
Kamonyi	96.5	0.8	2.8	0.0		0.0	0.0	100
Karongi	89.8	10.2	0.0	0.0		0.0	0.0	100
Rutsiro	93.1	6.6	0.3	0.0		0.0	0.0	100
Rubavu	57.5	25.7	16.8	0.0		0.0	0.0	100
Nyabihu	82.2	6.9	7.3	0.0	3.6	0.0	0.0	100
Ngororero	84.9	14.4	0.7	0.0		0.0	0.0	100
Rusizi	84.2	12.8	3.0	0.0		0.0	0.0	100
Nyamasheke	79.8	16.9	3.3	0.0		0.0	0.0	100
Rulindo	83.4	4.0	12.6	0.0		0.0	0.0	100
Gakenke	85.5	11.0	3.5	0.0		0.0	0.0	100
Musanze	87.3	5.1	7.7	0.0		0.0	0.0	100
Burera	70.4	17.9	10.9	0.0	0.9	0.0	0.0	100
Gicumbi	59.4	23.5	17.1	0.0		0.0	0.0	100
Rwamagana	83.0	8.7	8.4	0.0		0.0	0.0	100
Nyagatare	77.6	18.6	2.7	0.6		0.6	0.0	100
Gatsibo	89.7	6.3	2.4	0.0	1.5	0.0	0.0	100
Kayonza	87.4	6.9	5.8	0.0		0.0	0.0	100
Kirehe	74.5	7.5	18.0	0.0		0.0	0.0	100
Ngoma	80.8	11.3	4.5	1.8		1.7	0.0	100
Bugesera	78.3	18.9	2.9	0.0		0.0	0.0	100
Rwanda	**84.7**	**8.2**	**6.6**	**0.1**	**0.2**	**0.2**	**0.0**	**100**

Source: NISR, AHS 2017

Appendix A: 23 Percentage of agricultural households with at least one person who received agricultural extensions by district

District	Yes	No	Total
Nyarugenge	12.0	88.0	100.0
Gasabo	8.6	91.4	100.0
Kicukiro	8.4	91.6	100.0
Nyanza	34.4	65.6	100.0
Gisagara	42.2	57.8	100.0
Nyaruguru	31.9	68.1	100.0
Huye	34.5	65.5	100.0
Nyamagabe	52.4	47.7	22.1
Ruhango	22.0	78.0	100.0
Muhanga	28.7	71.3	100.0
Kamonyi	8.9	91.1	100.0
Karongi	37.6	62.5	100.0
Rutsiro	32.3	67.8	100.0
Rubavu	18.0	82.0	100.0
Nyabihu	12.3	87.8	100.0
Ngororero	47.9	52.1	100.0
Rusizi	36.4	63.6	100.0
Nyamasheke	36.7	63.3	100.0
Rulindo	26.3	73.7	100.0
Gakenke	53.2	46.8	100.0
Musanze	31.6	68.4	100.0
Burera	13.9	86.1	100.0
Gicumbi	41.2	58.8	100.0
Rwamagana	28.1	72.0	100.0
Nyagatare	22.5	77.5	100.0
Gatsibo	22.1	77.9	100.0
Kayonza	18.7	81.3	100.0
Kirehe	20.4	79.6	100.0
Ngoma	49.3	50.7	100.0
Bugesera	22.6	77.4	100.0
Rwanda	**29.6**	**70.4**	**100.0**

Source: NISR, AHS 2017

Appendix A: 24 : Percentage of agricultural households by types of received agricultural extension services by district

District	Cropping	Livestock	Both cropping and livestock	Total
Nyarugenge	89.0	2.4	8.6	100.0
Gasabo	79.6	6.4	14.0	100.0
Kicukiro	79.9	3.8	16.3	100.0
Nyanza	95.6	2.7	1.7	100.0
Gisagara	99.1	0.1	0.8	100.0
Nyaruguru	99.7	-	0.3	100.0
Huye	98.6	0.4	1.0	100.0
Nyamagabe	82.5	0.1	22.1	100.0
Ruhango	97.8	-	2.2	100.0
Muhanga	80.6	2.7	16.6	100.0
Kamonyi	89.7	4.0	6.3	100.0
Karongi	94.1	0.2	5.7	100.0
Rutsiro	90.7	2.6	6.7	100.0
Rubavu	89.8	1.3	8.9	100.0
Nyabihu	89.1	1.4	9.5	100.0
Ngororero	88.4	0.1	11.5	100.0
Rusizi	89.0	8.4	2.6	100.0
Nyamasheke	98.5	-	1.5	100.0
Rulindo	82.0	1.1	16.9	100.0
Gakenke	56.8	-	43.2	100.0
Musanze	77.7	1.2	21.1	100.0
Burera	68.4	-	31.6	100.0
Gicumbi	97.9	0.7	1.4	100.0
Rwamagana	89.8	0.3	9.9	100.0
Nyagatare	91.3	4.4	4.3	100.0
Gatsibo	92.3	2.8	4.9	100.0
Kayonza	95.3	2.5	2.3	100.0
Kirehe	87.6	0.3	12.1	100.0
Ngoma	97.7	0.7	1.6	100.0
Bugesera	89.5	-	10.5	100.0
Rwanda	**88.9**	**1.3**	**9.8**	**100.0**

Source: NISR, AHS 2017

Appendix A: 25 Percentage of agricultural households by types of delivered cropping extension services and district

District	types of delivered cropping extension services										
	Cropping system	Fertilizers application	Crop protection	Post-harvest handling	Mechanization	Plant breeding	Water harvesting	Soil protection	Horticulture skills	Cooperative cropping-based	Other cropping related extension
Nyarugenge	59.1	49.6	11.2	8.8	0.0	19.0	5.0	7.6	23.2	18.6	6.4
Gasabo	67.8	57.1	27.2	5.3	0.0	17.1	1.3	5.6	18.3	6.9	14.7
Kicukiro	50.7	60.5	24.1	9.5	0.0	32.1	2.8	9.4	9.5	14.8	17.7
Nyanza	86.0	83.3	22.8	7.8	0.0	29.7	2.8	3.9	2.7	2.7	6.6
Gisagara	76.7	80.2	36.5	1.7	0.0	25.7	4.1	34.0	1.2	1.3	25.3
Nyaruguru	81.3	92.0	15.4	0.0	0.0	13.6	0.3	10.6	0.0	0.3	0.0
Huye	87.4	93.1	20.6	3.1	0.0	7.5	0.2	3.4	7.1	7.7	2.4
Nyamagabe	96.3	95.9	22.1	14.5	0.0	58.8	2.8	12.9	1.3	8.5	0.8
Ruhango	82.9	87.7	8.2	5.4	0.0	18.6	0.6	2.1	1.9	1.8	5.5
Muhanga	67.1	86.7	25.0	2.7	0.0	26.6	0.0	12.9	4.1	2.6	7.7
Kamonyi	36.8	59.1	15.8	15.8	0.0	24.7	0.0	3.0	3.0	3.0	13.7
Karongi	85.8	94.2	24.7	12.0	0.0	51.7	1.4	13.9	1.6	0.2	2.7
Rutsiro	71.6	92.7	35.5	10.3	0.0	36.5	3.0	35.3	0.9	0.1	5.5
Rubavu	68.1	80.4	29.2	12.3	0.0	62.4	8.8	22.7	3.0	5.9	1.2
Nyabihu	52.5	99.3	45.1	5.3	0.0	52.7	2.4	52.2	0.0	7.1	2.3
Ngororero	83.6	95.3	37.1	13.6	0.0	23.0	2.5	9.8	0.0	0.1	0.9
Rusizi	63.2	88.9	29.2	1.9	0.3	28.9	1.3	4.9	6.8	3.4	0.5
Nyamasheke	93.4	95.6	18.9	4.9	0.0	20.4	2.7	11.3	2.7	4.2	0.9
Rulindo	83.9	89.8	35.5	8.1	0.2	40.8	0.2	22.9	0.0	0.2	0.0
Gakenke	84.0	95.9	56.3	4.4	0.6	46.4	0.0	27.3	3.2	1.4	0.0
Musanze	57.2	87.0	33.8	2.9	0.0	58.7	3.8	13.4	8.9	4.2	0.7
Burera	76.9	93.9	65.1	8.5	0.0	17.3	0.0	5.6	17.1	7.3	1.9
Gicumbi	86.6	83.2	30.2	8.8	0.0	29.7	3.8	0.7	0.0	0.2	1.6
Rwamagana	78.2	87.9	15.2	3.0	0.3	27.3	2.1	4.6	2.4	2.2	0.6
Nyagatare	54.2	81.2	5.9	5.4	0.6	32.7	1.5	6.2	1.9	2.3	2.9
Gatsibo	71.3	86.9	23.9	7.3	0.2	26.3	3.0	20.2	3.3	6.3	1.7
Kayonza	54.2	63.2	21.9	10.4	0.0	28.2	2.9	4.8	5.6	3.0	9.3
Kirehe	60.7	77.9	20.3	4.0	0.4	17.9	2.9	6.1	4.0	10.7	6.5
Ngoma	77.7	94.9	5.9	9.9	0.1	27.0	1.4	7.0	13.2	3.1	2.0
Bugesera	57.3	90.3	17.7	7.9	0.0	52.7	4.3	11.5	3.2	8.2	6.1
Rwanda	**76.5**	**88.3**	**28.4**	**7.2**	**0.1**	**32.9**	**2.2**	**13.2**	**3.9**	**3.4**	**4.0**

Source: NISR, AHS 2017

Appendix A: 2615 Types of extensions who delivered crop production extension services by district

District	cropping extension services provider								Total
	MINAGRI/ RAB/NAEB	District Employees	Cell Employee	Sector Employees	Research institutions	NGOs	Cooperative	Other	
Nyarugenge	16.4	25.3	29.0	17.5	-	6.0	5.9	-	100
Gasabo	38.9	5.2	11.6	34.4	-	4.6	3.5	1.8	100
Kicukiro	17.9	7.9	28.0	14.6	-	14.8	9.7	7.3	100
Nyanza	6.2	-	16.8	23.3	-	27.5	17.6	8.6	100
Gisagara	1.9	0.2	44.2	5.7	-	18.0	27.6	2.5	100
Nyaruguru	7.2	-	2.1	13.1	-	28.8	4.8	43.9	100
Huye	4.5	3.3	17.1	31.0	-	6.7	32.7	4.8	100
Nyamagabe	17.0	1.7	22.1	17.9	-	37.8	2.5	2.5	100
Ruhango	9.8	0.2	27.9	25.0	-	9.7	16.4	11.1	100
Muhanga	2.3	0.2	23.0	15.8	-	4.5	21.7	32.7	100
Kamonyi	19.5	1.7	15.6	11.4	3.6	12.2	34.3	1.7	100
Karongi	0.5	0.2	11.4	19.2	-	59.3	4.2	5.3	100
Rutsiro	5.0	1.3	25.3	12.9	-	49.4	5.1	1.0	100
Rubavu	2.9	3.1	57.5	21.6	-	4.9	2.6	7.5	100
Nyabihu	6.1	-	59.9	18.6	-	2.1	1.6	11.6	100
Ngororero	5.0	0.2	60.5	0.6	-	26.3	3.4	4.1	100
Rusizi	3.5	1.3	21.2	10.7	0.3	58.3	4.1	0.7	100
Nyamasheke	5.1	0.4	5.0	6.1	1.4	74.0	8.0	-	100
Rulindo	8.1	-	61.2	9.7	-	0.6	0.7	19.8	100
Gakenke	1.0	0.5	75.2	14.9	-	2.9	4.6	0.9	100
Musanze	1.8	1.0	72.0	16.1	1.9	2.2	2.3	2.7	100
Burera	3.7	6.5	48.7	33.9	-	0.8	0.9	5.6	100
Gicumbi	1.8	1.3	59.2	19.0	-	-	2.7	16.0	100
Rwamagana	10.7	3.4	44.7	24.0	0.4	4.5	3.1	9.2	100
Nyagatare	8.1	1.7	32.7	24.2	-	9.6	3.8	19.8	100
Gatsibo	11.1	1.1	48.6	11.1	0.3	15.0	12.8	0.1	100
Kayonza	33.2	7.3	14.1	8.9	0.2	16.5	11.2	8.5	100
Kirehe	9.0	3.7	35.7	17.1	-	1.9	16.9	15.9	100
Ngoma	2.8	1.2	50.4	20.1	0.1	6.8	5.0	13.6	100
Bugesera	6.7	1.7	33.8	17.3	0.3	1.2	7.2	31.9	100
Rwanda	**6.3**	**1.4**	**40.0**	**16.1**	**0.2**	**18.9**	**8.5**	**8.7**	**100**

Source: NISR, AHS 2017

Appendix A: 27 Percentage of agricultural households by types of delivered livestock extension services and district

District	types of livestock extension services							
	Animal keeping	Animal feeding	Veterinary services	Sanitation	Fodder storage	Bee keeping	Cooperative livestock-based	Other livestock related extension
Nyarugenge	11.0	22.0	21.8	-	56.2	-	11.0	-
Gasabo	59.7	76.3	23.8	21.4	39.1	8.3	18.7	5.8
Kicukiro	67.7	67.7	32.3	32.3	-	-	32.3	-
Nyanza	100.0	90.5	32.5	4.7	29.5	-	-	-
Gisagara	86.3	100.0	58.8	13.7	-	-	13.7	-
Nyaruguru	100.0	100.0	-	-	-	-	-	-
Huye	-	70.9	87.2	-	12.8	-	-	-
Nyamagabe	93.4	78.6	22.1	19.9	3.6	3.6	0.7	0.7
Ruhango	14.6	85.4	-	-	-	-	-	-
Muhanga	92.5	97.6	57.9	33.0	-	-	6.3	-
Kamonyi	38.7	72.0	33.3	28.0	5.3	-	28.0	-
Karongi	100.0	76.0	-	-	-	-	-	-
Rutsiro	75.6	68.6	16.0	11.4	-	-	2.3	0.8
Rubavu	90.7	96.1	-	54.6	20.1	-	7.9	4.7
Nyabihu	100.0	93.7	1.6	92.2	1.6	-	-	-
Ngororero	93.1	92.4	36.6	49.7	-	-	-	-
Rusizi	7.2	23.4	59.9	23.9	1.9	-	7.2	-
Nyamasheke	25.8	61.3	61.3	74.2	-	61.3	25.8	-
Rulindo	92.7	60.5	9.7	13.8	7.6	-	6.0	-
Gakenke	92.5	92.8	65.9	34.2	-	4.5	1.4	1.5
Musanze	90.5	73.6	62.0	73.0	1.0	-	10.3	-
Burera	94.3	94.3	88.5	52.9	11.3	-	-	-
Gicumbi	94.1	100.0	15.0	42.8	-	-	-	-
Rwamagana	79.2	94.1	37.7	47.1	11.9	2.9	2.9	-
Nyagatare	85.0	53.8	25.9	21.3	23.9	-	-	-
Gatsibo	69.4	59.6	5.1	1.9	28.0	-	1.0	-
Kayonza	47.9	42.3	-	16.9	60.6	-	16.9	-
Kirehe	59.3	64.2	15.1	10.7	7.4	-	33.3	14.2
Ngoma	70.6	100.0	61.0	4.8	-	-	-	-
Bugesera	100.0	74.6	6.8	23.8	-	-	-	3.4
Rwanda	**83.8**	**80.5**	**46.0**	**32.6**	**5.6**	**2.0**	**4.4**	**1.1**

Source: NISR, AHS 2017

Appendix A:28 Types of livestock extension services providers by district

District	Types of extension provider								Total
	MINAGRI/RAB/NAEB	District Employees	Cell Employee	Sector Employees	Research institutions	NGOs	Cooperative	Other	
Nyarugenge	27.1	-	28.0	27.1	-	-	-	17.9	100.0
Gasabo	31.0	22.6	-	21.6	-	21.6	3.3	-	100.0
Kicukiro	32.3	23.4	14.4	22.0	-	8.1	-	-	100.0
Nyanza	57.9	-	-	16.3	-	3.7	22.2	-	100.0
Gisagara	10.1	15.1	64.7	10.1	-	-	-	-	100.0
Nyaruguru	-	-	-	100.0	-	-	-	-	100.0
Huye	-	-	-	17.0	-	-	15.0	68.0	100.0
Nyamagabe	2.8	-	22.1	30.1	-	9.2	11.1	0.9	100.0
Ruhango	-	-	-	85.4	-	14.6	-	-	100.0
Muhanga	-	-	13.2	57.3	-	6.6	11.1	11.8	100.0
Kamonyi	2.6	2.6	27.2	40.9	-	16.2	10.4	-	100.0
Karongi	-	-	55.3	27.7	-	3.3	-	13.6	100.0
Rutsiro	0.9	3.0	35.3	53.0	-	7.3	0.4	-	100.0
Rubavu	4.3	1.4	35.3	46.7	-	-	7.2	5.1	100.0
Nyabihu	1.1	2.2	15.3	80.9	-	-	-	0.5	100.0
Ngororero	5.4	-	15.2	33.8	-	28.1	7.5	10.1	100.0
Rusizi	3.0	5.8	13.1	78.0	-	-	-	-	100.0
Nyamasheke	-	-	4.2	24.0	-	28.1	43.8	-	100.0
Rulindo	19.4	-	58.5	21.5	-	0.6	-	-	100.0
Gakenke	0.1	-	26.6	72.1	-	-	1.2	-	100.0
Musanze	-	2.1	58.9	34.3	1.0	0.9	2.9	-	100.0
Burera	-	3.3	6.9	89.7	-	-	-	-	100.0
Gicumbi	26.5	-	11.8	61.7	-	-	-	-	100.0
Rwamagana	16.1	4.2	71.1	2.1	-	4.2	2.1	-	100.0
Nyagatare	4.9	45.5	-	28.2	2.3	1.1	18.0	-	100.0
Gatsibo	40.9	9.1	22.8	17.4	-	-	9.7	-	100.0
Kayonza	22.9	4.6	-	12.2	-	60.3	-	-	100.0
Kirehe	3.1	23.4	17.2	39.2	-	4.7	9.2	3.1	100.0
Ngoma	-	-	44.5	55.5	-	-	-	-	100.0
Bugesera	4.9	4.9	21.1	59.4	-	9.8	-	-	100.0
Rwanda	**4.8**	**3.2**	**29.2**	**51.5**	**0.2**	**4.7**	**4.6**	**1.9**	**100.0**

Source: NISR, AHS 2017

Appendix A: 29 Percentage of agricultural households who are members of twigire muhinzi, get contract farming, reared cows from Girinka program, and had kitchen garden by district

District	percentage of agricultural households belonging to Twig ire muhinzi group	percentage of agricultural household who have got contract farming	percentage of agricultural households who had a kitchen garden	Percentage Agricultural households who reared cow from GIRINKA Program Out of livestock-rearing households
Nyarugenge	3.5	2.0	47.2	27.2
Gasabo	6.3	1.3	27.3	16.1
Kicukiro	2.1	1.4	38.5	16.1
Nyanza	12.2	6.7	42.3	6.6
Gisagara	4.8	16.0	51.4	11.0
Nyaruguru	23.6	0.7	29.4	14.6
Huye	7.3	4.0	29.1	12.1
Nyamagabe	32.4	0.3	39.2	6.3
Ruhango	5.7	3.3	31.1	4.9
Muhanga	14.1	6.7	46.8	10.7
Kamonyi	1.9	3.2	47.2	15.9
Karongi	33.8	1.0	34.3	3.7
Rutsiro	17.5	6.5	34.9	12.5
Rubavu	7.3	11.4	51.7	26.1
Nyabihu	15.5	0.9	23.4	11.6
Ngororero	23.7	1.6	64.4	10.0
Rusizi	23.4	10.5	51.4	12.2
Nyamasheke	25.2	9.2	56.6	7.6
Rulindo	14.9	2.1	43.6	13.4
Gakenke	37.2	0.4	57.5	3.0
Musanze	21.1	5.5	52.6	11.2
Burera	7.0	0.7	25.0	15.4
Gicumbi	10.4	0.6	56.0	18.0
Rwamagana	7.6	3.1	37.7	24.7
Nyagatare	7.2	1.2	48.1	19.8
Gatsibo	12.0	5.6	44.6	21.2
Kayonza	4.5	3.9	30.6	15.4
Kirehe	3.2	6.2	66.5	36.3
Ngoma	4.1	5.7	67.5	14.1
Bugesera	4.4	1.4	27.6	24.3
Rwanda	**13.0**	**4.2**	**44.4**	**13.0**

Source: NISR, AHS 2017

Appendix A: 30 Percentage of households who raised cattle by type of cattle source by district

District	Source of raised cattle				
	Girinka program	NGOs	Gift from friends	Bought	Own raised
Nyarugenge	27.2	2.9	16.7	42.3	38.7
Gasabo	16.1	3.4	20.9	30.2	34.0
Kicukiro	16.1	1.6	8.3	39.8	55.7
Nyanza	6.6	-	31.6	14.2	57.4
Gisagara	11.0	1.6	50.9	32.1	16.0
Nyaruguru	14.6	0.7	36.8	24.9	18.6
Huye	12.1	4.9	21.2	28.6	33.3
Nyamagabe	6.3	1.7	50.7	22.3	38.1
Ruhango	4.9	-	25.7	15.9	57.1
Muhanga	10.7	1.5	41.4	21.5	38.2
Kamonyi	15.9	6.6	28.2	30.2	26.7
Karongi	3.7	2.9	43.8	31.2	39.8
Rutsiro	12.5	1.3	32.4	21.5	44.4
Rubavu	26.1	3.7	19.7	27.7	46.2
Nyabihu	11.6	3.2	27.8	19.9	33.2
Ngororero	10.0	1.2	46.1	21.2	22.9
Rusizi	12.2	0.2	28.2	27.8	30.5
Nyamasheke	7.6	2.1	35.9	28.1	22.1
Rulindo	13.4	3.6	22.5	27.3	33.4
Gakenke	3.0	0.6	34.3	35.9	30.6
Musanze	11.2	4.2	36.4	33.9	24.6
Burera	15.4	3.8	37.1	36.1	19.5
Gicumbi	18.0	6.2	16.6	30.8	37.9
Rwamagana	24.7	4.0	20.9	31.9	28.3
Nyagatare	19.8	3.9	12.4	27.0	52.7
Gatsibo	21.2	4.0	21.9	33.8	37.2
Kayonza	15.4	5.2	19.4	37.3	35.6
Kirehe	36.3	5.9	11.2	29.4	30.6
Ngoma	14.1	0.4	32.0	28.1	32.5
Bugesera	24.3	9.5	13.2	32.0	35.9
Rwanda	**13.0**	**2.9**	**30.4**	**27.6**	**34.5**

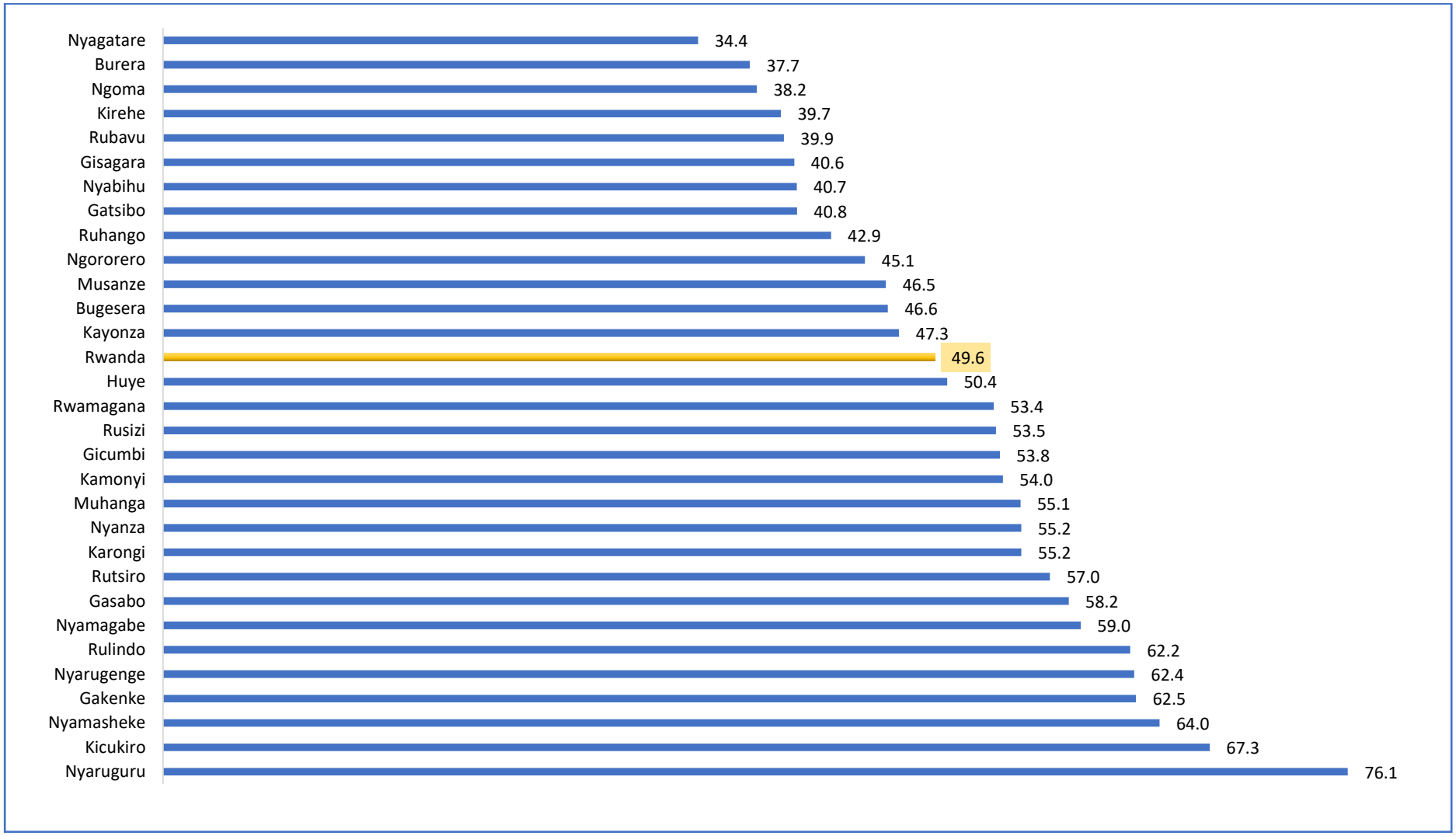
Source: NISR, AHS 2017

Appendix A:31 Percentage of agricultural households still raising cattle provided by Girinka program by district

District	Yes	No	Total
Nyarugenge	91.5	8.5	100.0
Gasabo	90.0	10.0	100.0
Kicukiro	100.0	-	100.0
Nyanza	100.0	-	100.0
Gisagara	88.5	11.6	100.0
Nyaruguru	70.5	29.5	100.0
Huye	83.7	16.3	100.0
Nyamagabe	71.8	28.2	22.1
Ruhango	89.3	10.7	100.0
Muhanga	91.0	9.0	100.0
Kamonyi	98.9	1.1	100.0
Karongi	97.6	2.4	100.0
Rutsiro	100.0	-	100.0
Rubavu	92.0	8.0	100.0
Nyabihu	84.0	16.0	100.0
Ngororero	88.9	11.1	100.0
Rusizi	93.6	6.4	100.0
Nyamasheke	91.9	8.1	100.0
Rulindo	96.1	3.9	100.0
Gakenke	100.0	-	100.0
Musanze	100.0	-	100.0
Burera	95.0	5.0	100.0
Gicumbi	91.6	8.4	100.0
Rwamagana	89.2	10.8	100.0
Nyagatare	94.1	5.9	100.0
Gatsibo	91.8	8.2	100.0
Kayonza	91.9	8.2	100.0
Kirehe	93.4	6.6	100.0
Ngoma	84.5	15.5	100.0
Bugesera	92.4	7.6	100.0
Rwanda	**91.3**	**8.7**	**100.0**

Source: NISR, AHS 2017

Appendix A: 32 Percentage of households with at least one member had bank account during 2017 by district



Appendix A: 33 Percentage of households with at least one member requested agricultural loan during 2017 and whose requested loan has been approved during 2017 by district

District	Households who requested agricultural loan (%)	Households whose requested loan has been approved (%)
Nyarugenge	2.6	78.3
Gasabo	1.2	100.0
Kicukiro	4.4	82.8
Nyanza	2.5	95.4
Gisagara	4.5	100.0
Nyaruguru	1.4	100.0
Huye	5.7	95.3
Nyamagabe	4.0	92.2
Ruhango	3.0	100.0
Muhanga	6.7	94.7
Kamonyi	2.4	100.0
Karongi	10.7	95.0
Rutsiro	5.2	94.6
Rubavu	3.0	77.7
Nyabihu	3.7	100.0
Ngororero	16.1	100.0
Rusizi	5.1	86.2
Nyamasheke	2.7	100.0
Rulindo	4.8	100.0
Gakenke	5.4	100.0
Musanze	5.3	91.7
Burera	4.0	100.0
Gicumbi	6.8	99.3
Rwamagana	1.4	81.0
Nyagatare	6.6	94.7
Gatsibo	4.3	100.0
Kayonza	3.2	92.9
Kirehe	2.6	96.9
Ngoma	3.0	100.0
Bugesera	6.9	97.7
Rwanda	**4.7**	**96.3**

Source: NISR, AHS 2017

Appendix A: 34 Percentage households with at least on member received funds for agricultural purpose and its source during 2017 by district

District	Percentage of households who receive funds for agricultural purpose	Percentage of Households by source of fund			
		Government	NGOs	Friends a	Other sources
Nyarugenge	1.9	76.8	23.2	-	-
Gasabo	1.6	54.1	30.2	-	15.7
Kicukiro	2.0	78.2	10.5	11.4	-
Nyanza	5.4	91.9	-	8.1	-
Gisagara	1.7	45.4	16.0	-	38.6
Nyaruguru	2.9	80.0	20.0	-	-
Huye	1.6	27.4	-	51.8	20.8
Nyamagabe	56.4	6.1	3.0	22.1	1.2
Ruhango	2.3	47.0	53.0	-	-
Muhanga	10.2	92.9	7.1	-	-
Kamonyi	2.7	79.1	11.3	-	9.6
Karongi	4.4	23.9	27.6	24.7	23.8
Rutsiro	6.4	17.5	73.7	-	8.8
Rubavu	6.6	58.8	4.4	35.5	1.3
Nyabihu	5.7	58.8	1.5	39.7	-
Ngororero	2.7	100.0	-	-	-
Rusizi	2.0	58.6	23.2	14.2	4.1
Nyamasheke	2.5	53.3	15.2	31.5	-
Rulindo	1.0	87.9	6.9	-	5.2
Gakenke	4.2	77.2	11.2	10.6	1.1
Musanze	3.0	70.3	2.4	12.2	15.1
Burera	0.3	-	18.9	81.1	-
Gicumbi	2.2	68.8	2.3	15.0	13.9
Rwamagana	0.8	77.9	22.2	-	-
Nyagatare	7.5	81.9	13.9	3.5	0.6
Gatsibo	6.6	75.7	14.2	1.1	9.1
Kayonza	3.1	49.4	33.1	4.8	12.6
Kirehe	4.6	87.4	10.2	2.4	-
Ngoma	5.3	93.9	5.1	1.0	-
Bugesera	4.4	74.8	21.5	1.8	1.8
Rwanda	**5.7**	47.7	11.3	37.3	3.8

Source: NISR, AHS 2017

Appendix A: 35 Percentage of households by agricultural season, organic fertilizer type and district

District	own preparation	Bought	One part bought and the other own prepared	Gift	Total		own preparation	Bought	One part bought and the other own prepared	Gift	Total
Nyarugenge	59.3	24.5	3.2	13.1	100		65.5	20.0	4.1	10.4	100
Gasabo	69.8	18.9	2.7	8.6	100		79.2	15.2	2.6	3.0	100
Kicukiro	63.0	26.6	5.2	5.2	100		77.9	16.6	2.0	3.5	100
Nyanza	75.9	13.5	3.6	7.0	100		83.5	8.4	3.2	4.9	100
Gisagara	82.6	10.2	3.8	3.4	100		89.9	6.0	1.7	2.4	100
Nyaruguru	79.4	8.4	4.2	7.9	100		83.5	6.4	3.2	6.9	100
Huye	70.4	15.9	3.3	10.5	100		82.7	9.5	0.9	6.9	100
Nyamagabe	77.7	6.0	7.7	8.5	100		85.6	6.1	3.6	4.7	100
Ruhango	77.7	10.6	4.5	7.1	100		83.7	9.9	1.4	5.0	100
Muhanga	82.4	6.5	4.2	6.9	100		86.3	4.2	1.7	7.8	100
Kamonyi	77.9	7.7	6.1	8.3	100		88.2	3.1	1.9	6.7	100
Karongi	90.3	3.7	3.5	2.5	100		93.6	3.8	1.2	1.4	100
Rutsiro	71.5	12.7	5.8	10.0	100		80.2	8.7	2.4	8.7	100
Rubavu	70.2	18.5	1.0	10.4	100		73.2	15.3	1.4	10.1	100
Nyabihu	61.8	22.2	5.4	10.7	100		61.9	21.4	2.2	14.5	100
Ngororero	80.7	3.4	8.3	7.6	100		87.4	2.4	4.6	5.5	100
Rusizi	78.8	10.6	4.2	6.4	100		80.9	8.9	3.3	6.9	100
Nyamasheke	69.9	11.8	8.0	10.3	100		80.3	8.6	3.6	7.4	100
Rulindo	80.3	10.3	7.1	2.4	100		84.3	8.1	5.3	2.2	100
Gakenke	85.3	4.3	8.8	1.6	100		89.9	2.2	6.3	1.6	100
Musanze	67.9	19.3	7.6	5.3	100		68.5	22.6	4.1	4.7	100
Burera	83.4	9.9	2.4	4.3	100		89.0	6.5	0.8	3.7	100
Gicumbi	73.4	11.3	3.0	12.3	100		76.8	10.3	2.7	10.2	100
Rwamagana	69.7	17.3	6.9	6.1	100		78.8	12.7	2.4	6.2	100
Nyagatare	75.1	9.8	1.1	14.0	100		82.1	6.4	0.8	10.7	100
Gatsibo	76.4	10.9	4.5	8.3	100		83.8	9.1	1.1	6.0	100
Kayonza	69.9	19.0	3.6	7.5	100		74.6	17.1	1.6	6.7	100
Kirehe	72.4	18.8	3.2	5.6	100		85.2	7.3	3.5	4.0	100
Ngoma	82.1	9.5	3.3	5.2	100		91.1	6.3	1.1	1.6	100
Bugesera	84.2	12.1	1.7	2.0	100		87.4	11.2	0.5	0.9	100
Rwanda	**76.6**	**11.4**	**4.8**	**7.2**	**100**		**82.8**	**8.7**	**2.7**	**5.9**	**100**

Source: NISR, AHS 2017

Appendix A: 36 Percentage of households by agricultural season, organic fertilizer preparation type and district

District	Season A				Season B			
	Compost ditch	Ground compost	Manure heap	Prepared in other way	Compost ditch	Ground compost	Manure heap	Prepared in other way
Nyarugenge	43.6	21.2	-	0.8	48.2	24.6	-	1.7
Gasabo	47.4	24.5	0.2	1.1	52.9	27.2	0.3	2.2
Kicukiro	33.7	36.3	0.4	0.5	41.0	39.4	-	1.5
Nyanza	26.0	50.9	1.3	3.1	26.4	57.9	1.6	3.2
Gisagara	13.7	72.3	0.7	1.4	18.0	73.3	1.3	1.6
Nyaruguru	35.4	51.2	-	0.2	33.5	56.0	-	1.3
Huye	38.6	35.7	0.5	2.0	47.6	36.2	0.1	2.3
Nyamagabe	16.5	74.1	3.5	2.4	16.6	77.9	3.6	1.4
Ruhango	18.4	61.2	0.7	4.7	17.6	64.1	0.7	4.6
Muhanga	25.4	63.2	0.4	0.4	24.6	65.9	0.4	0.4
Kamonyi	11.4	58.4	0.1	18.1	12.9	66.4	0.1	15.4
Karongi	5.0	88.7	0.6	0.1	5.4	89.9	0.6	0.6
Rutsiro	22.2	54.9	0.9	1.8	23.5	59.6	0.4	1.2
Rubavu	18.7	53.1	3.6	3.4	18.8	55.5	4.3	5.4
Nyabihu	10.6	60.2	1.6	1.5	9.8	58.5	1.6	1.2
Ngororero	24.8	82.6	-	0.4	24.8	84.9	-	0.4
Rusizi	56.5	32.7	-	-	60.1	28.5	-	0.1
Nyamasheke	58.2	27.6	0.4	0.8	61.4	27.4	0.5	2.8
Rulindo	45.6	42.0	-	0.8	47.0	41.9	-	1.4
Gakenke	45.3	51.5	0.4	1.5	46.4	50.5	0.8	3.0
Musanze	13.7	62.5	0.3	2.7	12.8	59.7	1.0	2.7
Burera	39.8	51.8	0.2	2.2	39.9	52.6	0.2	4.4
Gicumbi	38.0	40.2	1.1	0.4	38.3	41.8	1.1	1.0
Rwamagana	53.5	25.0	-	1.5	56.5	25.6	0.2	1.9
Nyagatare	31.0	46.3	0.3	1.1	35.4	48.4	0.4	0.5
Gatsibo	42.1	40.6	-	0.7	40.7	45.5	-	0.8
Kayonza	54.5	26.8	0.7	0.3	52.0	33.1	0.2	1.8
Kirehe	55.3	17.4	2.1	5.0	59.9	22.1	2.3	7.7
Ngoma	51.4	38.0	-	1.0	44.4	48.3	-	2.6
Bugesera	44.3	43.5	0.6	2.4	40.9	47.7	-	2.9
Rwanda	**33.9**	**49.4**	**0.7**	**2.3**	**33.1**	**53.7**	**0.7**	**2.6**

Source: NISR, AHS 2017

Appendix A: 37 Percentage of agricultural households who used agricultural inputs during 2017 agriculture seasons by district

District	Percentage of households who use organic fertilizer		Percentage of households who use inorganic fertilizer		Percentage of households who used pesticides		Percentage of households who used lime	
	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B
Nyarugenge	71.3	52.41	17.4	17.46	18.0	18.31	0.9	0.2
Gasabo	74.4	51.15	19.6	16.6	12.7	15.69	0.8	0.3
Kicukiro	66.8	44.98	18.5	10	16.2	10.61	-	-
Nyanza	76.1	55.28	25.9	17.08	15.1	13.68	5.6	2.2
Gisagara	76.5	41.1	30.7	12.41	21.9	9.68	0.2	0.5
Nyaruguru	93.7	90.51	61.4	54.62	30.6	21.2	26.1	21.5
Huye	70.9	49.39	28.8	22.04	11.5	9.64	3.9	4.5
Nyamagabe	91.0	89.01	45.2	44.57	23.7	23.88	15.3	10.6
Ruhango	80.4	65.67	9.5	7.53	8.4	11.46	1.0	-
Muhanga	89.4	89.86	22.9	12.39	14.8	11.82	0.1	0.4
Kamonyi	81.7	67.94	10.0	6.5	7.8	6.82	1.1	0.6
Karongi	94.1	90.19	55.7	40.91	31.7	20.43	7.7	4.2
Rutsiro	95.1	74.43	50.1	35.07	27.7	21.28	6.1	2.7
Rubavu	51.5	41.15	34.7	33.54	33.9	37.6	1.2	1.1
Nyabihu	80.2	76.74	45.9	58.48	46.8	67.23	0.6	-
Ngororero	94.7	91.65	33.7	28.33	17.6	26.01	2.4	1.2
Rusizi	87.2	61.13	49.0	35.21	11.7	7.05	2.7	0.8
Nyamasheke	95.1	85.1	68.9	62.97	12.9	11.57	7.7	4.2
Rulindo	83.5	71.19	24.8	9.81	14.5	5.6	0.7	0.1
Gakenke	95.5	94.59	69.1	42.13	26.3	22.5	0.4	0.4
Musanze	76.5	72.29	40.1	38.99	42.9	59.29	2.2	0.4
Burera	80.2	70.32	22.8	20.66	24.7	19.42	0.6	0.1
Gicumbi	92.2	86.11	17.6	15.99	12.7	17.46	0.1	0.1
Rwamagana	72.3	38.35	32.1	20.46	14.5	14.78	1.5	0.6
Nyagatare	51.6	34.01	14.4	10.75	10.0	10.61	-	0.1
Gatsibo	74.3	61.09	25.3	16.36	8.2	15.26	0.4	0.1
Kayonza	57.0	35.43	16.8	14.25	4.8	10.7	3.3	3.5
Kirehe	70.5	25.4	17.4	5.73	11.4	7.6	0.9	0.7
Ngoma	83.6	31.7	36.6	14.07	7.1	9.95	2.4	0.7
Bugesera	64.9	48.49	16.9	16.36	5.4	16.7	0.9	-
Rwanda	**79.3**	**62.71**	**31.6**	**23.71**	**17.3**	**17.89**	**2.9**	**1.8**

Source: NISR, AHS 2017

Appendix A: 38 16 Percentage of households who use inorganic fertilizer by season fertilizer type and district

District	Season A								Season B							
	NPK 17-17-17	NPK 20-10-10	NPK 25-5-5	Urea	liquid urea	DAP	KCL/MOP	Other inorganic fertilizer	NPK 17-17-17	NPK 20-10-10	NPK 25-5-5	Urea	liquid urea	DAP	KCL/MOP	Other inorganic fertilizer
Nyarugenge	25.5	1.9	-	85.3	5.4	34.1	-	-	14.0	-	-	85.5	6.8	32.1	-	-
Gasabo	41.1	-	1.9	73.3	3.9	34.5	-	0.5	40.5	-	0.7	67.5	4.6	32.6	-	0.6
Kicukiro	28.2	2.1	-	63.4	-	55.4	-	-	39.4	-	-	51.9	2.7	40.7	-	-
Nyanza	26.2	1.7	-	69.3	-	73.6	-	-	37.0	2.7	-	73.0	-	60.2	-	-
Gisagara	33.1	-	-	77.3	-	60.5	-	-	58.3	0.9	-	74.8	0.4	43.9	-	1.9
Nyaruguru	25.8	-	0.8	60.7	-	92.5	-	-	25.9	-	1.8	36.1	-	87.4	-	-
Huye	53.0	-	0.4	84.7	-	53.4	-	-	66.9	3.9	0.6	70.7	-	32.3	-	-
Nyamagabe	19.2	1.2	-	81.4	-	84.6	-	-	18.4	1.0	0.1	66.4	-	80.7	-	-
Ruhango	36.8	8.8	-	45.0	-	45.2	-	-	34.8	5.5	0.9	81.7	-	35.3	-	-
Muhanga	3.8	-	-	80.2	1.6	87.3	-	-	4.6	6.5	-	67.9	-	71.4	-	3.0
Kamonyi	45.9	17.4	-	54.2	2.7	24.8	-	-	60.3	8.2	-	69.3	-	17.9	-	-
Karongi	13.6	-	-	75.6	-	91.1	-	-	16.6	2.6	-	51.0	-	84.4	-	1.3
Rutsiro	20.3	31.3	0.6	55.8	-	57.6	-	2.2	16.2	18.9	-	55.4	-	57.4	-	0.8
Rubavu	82.1	0.2	1.7	22.9	1.0	23.4	-	0.7	89.6	0.3	-	17.6	1.5	16.5	-	-
Nyabihu	81.3	-	0.7	16.7	8.7	15.9	-	-	72.6	-	-	21.4	5.3	21.9	-	-
Ngororero	11.0	-	2.4	75.4	-	93.2	-	-	8.1	-	-	60.6	-	91.5	-	1.5
Rusizi	26.8	3.6	1.2	83.9	-	75.4	-	-	27.7	5.7	1.7	50.2	-	70.1	-	1.1
Nyamasheke	17.1	1.0	0.5	52.6	-	92.8	-	0.5	18.9	0.7	-	27.9	-	87.1	-	-
Rulindo	22.0	-	1.3	83.9	-	73.5	-	-	41.2	3.0	-	58.2	-	58.2	-	-
Gakenke	4.2	1.0	0.5	89.1	-	88.2	-	-	14.8	-	0.8	40.9	-	83.1	-	-
Musanze	49.1	-	-	47.3	0.6	46.3	-	0.6	68.8	-	-	26.2	-	29.0	-	0.6
Burera	61.2	-	-	21.6	-	46.8	-	-	72.5	-	-	12.6	-	34.0	-	-
Gicumbi	52.4	4.9	-	46.0	1.7	32.0	-	-	51.9	-	-	44.9	-	41.9	-	-
Rwamagana	21.7	-	2.6	61.7	-	75.7	-	-	21.0	1.9	1.3	58.5	-	69.5	-	0.9
Nyagatare	16.9	-	-	89.9	0.8	63.3	-	-	22.1	-	-	81.9	1.0	53.1	-	1.5
Gatsibo	25.4	4.2	-	77.7	-	67.0	2.3	1.0	26.3	0.7	-	78.4	-	64.2	3.9	3.3
Kayonza	26.4	4.8	-	70.8	-	66.1	-	-	35.0	1.7	-	69.3	-	46.9	-	-
Kirehe	13.4	2.7	-	48.9	-	85.4	6.3	1.6	26.0	2.9	-	70.7	-	71.3	19.4	2.4
Ngoma	13.0	0.9	-	70.2	0.9	81.0	0.9	0.9	30.7	7.3	-	61.6	2.4	51.5	9.7	2.3
Bugesera	25.1	1.1	-	54.8	0.5	66.9	-	-	32.4	-	-	48.6	-	59.6	-	-
Rwanda	**28.3**	**3.1**	**0.5**	**65.1**	**0.7**	**68.4**	**0.3**	**0.3**	**36.4**	**2.3**	**0.3**	**48.6**	**0.7**	**58.7**	**0.6**	**0.6**

Source: NISR, AHS 2017

Appendix A: 39 percentage of agricultural households during 2017 agricultural seasons by Source of inorganic fertilizers by district

District	Season A					Season B				
	Government (MINAGRI/RAB/NAEB/ District)	Market	Government & Market	NGOs	Other place	Government (MINAGRI/RAB/ NAEB/ District)	Market	Government & Market	NGOs	Other place
Nyarugenge	29.5	61.6	6.9	-	4.8	23.0	64.4	9.7	0.0	7.8
Gasabo	33.1	55.6	16.0	-	1.9	27.6	52.1	22.4	0.6	4.0
Kicukiro	27.8	45.8	29.2	-	-	34.9	39.4	30.8	0.0	2.7
Nyanza	23.2	30.9	1.7	40.3	5.9	25.1	29.4	6.0	37.0	7.7
Gisagara	12.2	15.0	18.4	27.8	27.7	6.2	15.5	7.0	18.4	53.3
Nyaruguru	61.6	17.4	5.3	14.9	4.7	58.9	20.8	3.2	11.7	9.0
Huye	20.3	29.2	17.3	8.3	27.8	21.8	25.7	13.6	13.2	28.1
Nyamagabe	48.8	9.6	-	39.9	4.9	49.9	11.6	0.0	35.6	5.4
Ruhango	32.0	32.5	16.4	10.4	8.7	35.3	41.2	12.6	5.3	5.5
Muhanga	53.5	19.4	10.5	5.2	11.3	35.8	33.8	18.1	3.1	15.1
Kamonyi	54.1	44.7	2.9	-	1.5	63.1	36.9	0.0	0.0	0.8
Karongi	4.1	7.6	25.9	59.5	6.7	4.0	14.1	21.2	58.1	5.0
Rutsiro	20.9	23.0	26.8	37.6	15.5	6.9	24.0	21.6	40.0	13.5
Rubavu	26.6	20.1	51.9	-	3.4	29.4	21.1	45.6	0.0	4.1
Nyabihu	77.0	10.7	19.7	-	-	71.6	8.6	23.3	0.0	0.0
Ngororero	29.6	5.3	31.3	31.7	4.5	33.9	9.2	29.8	27.1	1.4
Rusizi	11.8	22.1	25.7	40.8	6.3	12.8	20.3	26.4	37.4	8.0
Nyamasheke	20.0	15.4	19.5	50.2	4.2	16.4	12.9	18.5	50.0	7.7
Rulindo	39.2	24.9	39.5	-	2.8	50.8	16.8	35.0	0.0	3.6
Gakenke	55.8	9.9	33.7	1.6	1.6	66.9	12.0	20.9	0.0	2.7
Musanze	55.9	25.0	20.1	-	0.4	64.7	18.5	17.4	0.0	1.9
Burera	18.8	76.3	4.6	-	1.5	12.7	83.3	2.5	0.0	1.6
Gicumbi	33.4	18.4	48.7	-	1.7	27.9	31.2	42.9	0.0	1.8
Rwamagana	19.9	17.0	44.8	7.5	11.0	19.9	17.7	39.8	11.3	12.1
Nyagatare	34.7	29.1	23.6	9.2	5.9	25.5	34.8	27.3	6.6	8.8
Gatsibo	36.0	13.2	30.4	17.6	5.6	32.8	16.1	28.1	18.7	8.7
Kayonza	37.5	28.2	15.2	10.9	10.3	29.4	34.2	18.7	9.3	9.3
Kirehe	35.8	13.1	21.1	6.6	29.4	24.7	10.1	24.6	5.8	36.3
Ngoma	26.2	19.2	22.9	6.2	28.5	20.9	22.2	24.0	0.4	34.9
Bugesera	59.2	13.6	23.4	-	6.6	53.7	14.8	24.9	0.0	8.7
Rwanda	**34.6**	**20.4**	**22.8**	**18.4**	**8.5**	**35.3**	**21.8**	**20.0**	**17.4**	**8.5**

Source: NISR, AHS 2017

Appendix A: 40 Percentage of households during 2017 agricultural season by pesticide type and district

District	Season A								Season B							
	Dithane	Ridomil	Dimethoate	Cypermethrin	Dursiban	Tilt	Rocket	Other Pesticide	Dithane	Ridomil	Dimethoate	Cypermethrin	Dursiban	Tilt	Rocket	Other Pesticide
Nyarugenge	50.0	-	3.8	33.0	2.8	-	57.9	22.9	55.2	1.4	1.9	25.5	1.9	-	63.8	19.6
Gasabo	57.6	4.9	8.2	34.6	-	-	55.8	17.8	43.7	5.8	6.1	27.4	-	-	53.7	16.2
Kicukiro	15.1	-	5.2	31.5	-	-	49.5	37.1	5.0	-	-	30.2	2.6	-	59.6	28.3
Nyanza	0.5	-	3.0	18.5	-	-	78.8	6.4	6.9	0.5	-	18.9	-	-	81.9	7.0
Gisagara	3.7	-	-	51.5	0.3	-	52.2	6.1	2.9	-	-	70.9	0.6	-	35.1	8.9
Nyaruguru	23.5	1.9	-	91.1	-	-	4.8	3.2	34.5	-	-	73.1	-	-	4.0	6.8
Huye	20.4	-	0.5	47.0	6.5	-	46.9	8.2	28.7	2.7	-	30.3	8.3	-	46.7	6.2
Nyamagabe	42.9	2.8	-	67.3	-	-	10.1	6.0	53.0	2.7	-	79.0	-	-	1.9	5.4
Ruhango	10.7	4.9	5.0	63.9	-	-	37.6	-	28.7	7.2	7.2	31.9	-	-	50.2	-
Muhanga	5.1	-	0.5	47.5	5.0	-	56.9	-	-	-	3.2	45.7	-	-	51.2	3.2
Kamonyi	20.9	12.5	-	48.6	-	-	67.9	13.7	3.7	9.2	-	33.1	-	-	64.8	32.1
Karongi	15.4	-	6.8	82.7	-	-	3.6	3.4	22.9	-	2.6	68.7	0.3	-	10.4	7.6
Rutsiro	49.1	7.3	2.4	36.8	20.0	-	5.5	-	59.4	12.6	4.2	18.7	2.9	-	16.8	5.3
Rubavu	81.3	52.9	2.6	77.4	-	0.3	6.5	2.4	80.9	46.1	0.9	78.9	-	0.6	5.5	2.1
Nyabihu	86.9	62.8	9.6	48.6	-	-	2.0	0.7	71.0	51.3	6.0	48.2	-	-	13.5	1.1
Ngororero	12.8	4.9	0.2	57.6	-	-	30.5	-	8.8	-	0.7	40.9	-	-	55.6	0.3
Rusizi	14.5	-	1.5	51.9	2.7	-	32.7	22.4	21.8	-	1.2	52.4	4.5	-	19.6	27.8
Nyamasheke	7.0	3.2	8.1	43.9	-	-	18.7	38.6	14.1	3.8	15.0	32.1	-	-	14.1	41.7
Rulindo	18.2	2.1	4.3	35.6	-	-	55.1	2.5	31.9	-	10.8	22.4	-	-	52.2	17.1
Gakenke	2.8	1.5	37.0	46.7	-	-	15.1	-	8.3	3.3	38.5	47.0	-	-	8.1	1.5
Musanze	56.9	25.2	15.6	52.1	-	0.2	3.6	0.7	59.2	32.5	15.0	42.1	-	0.2	4.3	1.3
Burera	65.0	12.3	9.0	75.0	-	-	-	-	84.3	10.3	0.6	70.0	-	-	-	-
Gicumbi	69.5	3.8	-	28.3	-	-	14.2	8.3	46.4	3.3	-	19.7	-	-	38.4	7.8
Rwamagana	22.4	1.9	-	39.7	-	-	46.4	19.7	17.9	-	-	32.7	-	-	60.4	13.1
Nyagatare	24.0	3.5	9.2	40.8	6.9	-	47.7	17.2	19.4	2.5	4.8	38.3	0.9	-	47.5	20.6
Gatsibo	18.4	3.2	-	71.3	-	-	33.8	30.5	8.9	1.8	-	60.2	-	-	41.5	21.7
Kayonza	13.0	1.6	4.9	42.1	-	-	32.9	23.4	3.7	-	3.2	20.8	0.7	-	76.4	5.6
Kirehe	13.3	3.2	34.5	32.7	2.2	-	25.1	26.5	4.7	3.3	7.2	51.2	2.2	-	22.4	37.6
Ngoma	10.2	-	-	47.8	-	-	46.1	31.9	17.0	-	6.8	51.2	-	-	34.8	35.6
Bugesera	6.6	1.7	-	29.3	-	-	74.8	13.2	9.1	0.5	-	16.8	4.5	-	77.9	13.3
Rwanda	**35.6**	**12.3**	**7.2**	**52.8**	**1.8**	**0.0**	**24.0**	**7.6**	**38.4**	**14.0**	**5.9**	**45.8**	**0.6**	**0.1**	**27.9**	**8.7**

Source: NISR, AHS 2017

Appendix A: 41 Percentage of agricultural households during season 2017 agricultural season by source of pesticides and district

District	Season A					Season B				
	Government (MINAGRI/RAB/NAEB/ District)	Market	Government & Market	NGOs	Other place	Government (MINAGRI/RAB/NAEB/District)	Market	Government & Market	NGOs	Other place
Nyarugenge	10.1	84.1	-	-	5.8	6.6	86.9	1.8	-	4.7
Gasabo	2.8	94.2	2.1	0.9	-	9.1	89.9	1.7	-	-
Kicukiro	16.4	68.1	8.6	-	8.7	8.1	84.4	7.5	-	-
Nyanza	7.2	83.6	3.0	3.7	3.5	17.1	70.2	3.7	3.2	6.9
Gisagara	2.6	64.9	4.3	4.0	28.5	2.9	62.0	4.8	0.6	32.6
Nyaruguru	12.5	79.5	0.3	1.3	11.2	10.3	74.3	0.5	0.9	14.0
Huye	20.1	67.4	-	-	15.3	19.6	65.4	-	-	15.0
Nyamagabe	66.3	28.9	-	0.6	6.3	64.1	35.6	-	1.7	4.3
Ruhango	16.5	74.8	8.6	0.9	4.9	9.0	80.8	9.6	-	0.6
Muhanga	23.2	70.8	2.6	0.5	8.0	19.1	76.0	0.6	-	4.3
Kamonyi	20.6	75.1	0.7	-	3.6	37.6	62.4	-	-	-
Karongi	8.4	46.5	41.5	-	6.9	7.8	42.1	42.3	5.1	5.1
Rutsiro	13.9	55.1	9.4	9.2	15.7	9.5	80.5	5.6	1.4	3.0
Rubavu	13.0	53.5	37.5	-	4.4	18.0	54.2	28.6	0.2	4.4
Nyabihu	2.7	89.3	19.0	-	-	8.2	79.8	20.2	-	-
Ngororero	7.2	60.2	25.7	0.2	6.7	8.2	49.5	39.0	0.2	4.8
Rusizi	8.1	61.2	25.6	2.6	2.6	4.5	63.7	31.8	-	-
Nyamasheke	44.8	39.9	10.3	1.2	9.0	38.0	34.1	8.9	3.6	15.4
Rulindo	25.0	60.4	10.3	-	4.2	32.2	61.5	6.2	-	5.3
Gakenke	13.5	78.0	7.0	-	1.4	11.0	82.7	6.3	-	-
Musanze	15.0	78.2	8.3	-	0.7	19.0	75.1	5.9	-	1.4
Burera	3.3	91.1	4.3	0.3	1.1	4.3	91.4	4.0	0.3	-
Gicumbi	6.5	72.2	20.0	-	3.0	14.5	69.4	16.6	-	1.8
Rwamagana	5.7	64.1	18.7	3.9	8.2	11.5	63.8	18.5	2.0	4.8
Nyagatare	2.0	86.9	7.2	-	5.4	1.4	87.4	6.1	-	6.8
Gatsibo	17.9	41.1	28.6	3.8	15.5	15.3	50.5	22.1	4.6	10.8
Kayonza	15.2	60.6	19.3	-	6.5	53.5	26.5	8.9	2.3	9.5
Kirehe	9.5	54.7	18.4	3.8	17.3	10.8	56.4	10.2	4.4	18.3
Ngoma	12.9	44.3	18.9	-	24.0	19.4	42.2	20.2	-	21.6
Bugesera	11.9	81.4	3.3	-	3.3	23.3	67.7	4.8	-	6.7
Rwanda	**14.1**	**67.7**	**12.8**	**1.3**	**7.2**	**16.8**	**66.9**	**12.6**	**0.8**	**5.2**

Source: NISR, AHS 2017

Appendix A: 42 Percentage of agriculture households during seasons 2017 by type of seeds used and district

District	Season A		Season	
	Traditional seeds	Improved seeds	Tradition al seeds	Improved seeds
Nyarugenge	97.1	19.5	97.5	28.5
Gasabo	98.3	14.0	99.0	25.8
Kicukiro	98.6	18.0	98.9	23.0
Nyanza	98.9	23.8	99.8	47.6
Gisagara	99.5	27.7	100.0	33.4
Nyaruguru	99.5	22.9	99.9	36.6
Huye	99.6	15.4	99.9	33.0
Nyamagabe	98.9	24.7	99.2	35.7
Ruhango	99.2	5.1	99.6	33.0
Muhanga	99.5	16.4	100.0	47.6
Kamonyi	99.7	8.5	99.7	27.9
Karongi	99.9	43.2	99.9	40.3
Rutsiro	98.9	33.2	95.8	49.6
Rubavu	92.8	33.1	92.9	34.0
Nyabihu	99.2	17.5	92.3	32.7
Ngororero	99.6	31.9	99.1	62.0
Rusizi	96.8	32.1	98.7	29.2
Nyamasheke	99.8	15.2	99.6	27.9
Rulindo	98.6	33.4	98.0	21.8
Gakenke	98.9	59.0	100.0	35.4
Musanze	97.3	32.0	97.3	20.6
Burera	96.4	24.1	98.8	11.5
Gicumbi	100.0	11.9	99.9	28.9
Rwamagana	98.3	32.1	99.4	28.1
Nyagatare	98.6	11.5	99.6	17.2
Gatsibo	98.1	26.3	99.2	32.2
Kayonza	99.0	12.8	99.6	34.2
Kirehe	97.8	12.2	98.6	20.4
Ngoma	98.7	36.1	99.1	31.5
Bugesera	99.7	22.9	99.7	35.1
Rwanda	**98.7**	**23.9**	**98.8**	**31.7**

Source: NISR, AHS2017

Appendix A: 43 Percentage of agricultural household during 2017 agriculture season by source of improved seeds and district

District	Season B					Season B				
	Government (MINAGRI/ RAB/NAEB /District)	Market	Government & Market	NGOs	Other place	Government (MINAGRI/ RAB/NAEB /District)	Market	Government & Market	NGOs	Other place
Nyarugenge	48.9	33.7	12.2	3.5	2.7	20.6	20.5	1.8	1.2	3.0
Gasabo	43.1	53.9	5.2	0.8	2.3	7.3	14.1	0.4	-	0.8
Kicukiro	51.8	20.2	23.6	4.3	6.8	9.4	8.9	5.5	1.6	4.0
Nyanza	27.1	20.8	1.9	44.2	7.9	11.4	8.9	-	10.6	2.9
Gisagara	14.7	8.6	24.4	29.1	25.5	7.0	2.4	1.0	3.2	5.8
Nyaruguru	51.0	14.9	4.7	24.2	13.5	8.1	7.0	-	2.6	1.3
Huye	33.9	14.8	28.6	12.5	14.5	4.7	5.4	0.8	5.1	0.4
Nyamagabe	56.9	2.1	-	39.6	3.2	10.8	3.3	-	4.8	2.2
Ruhango	21.9	2.8	28.5	37.2	9.5	5.3	12.2	2.7	2.5	-
Muhanga	61.9	5.8	12.9	10.0	12.1	5.1	4.2	4.8	-	0.9
Kamonyi	53.8	33.4	10.4	-	5.7	14.7	1.9	-	1.0	4.1
Karongi	6.5	5.3	25.1	61.5	2.8	2.8	5.6	11.1	18.9	2.9
Rutsiro	32.6	9.6	22.3	33.9	4.2	33.7	4.9	9.0	17.9	5.5
Rubavu	20.8	43.4	29.1	0.8	8.3	17.3	37.0	27.0	0.5	8.1
Nyabihu	47.2	25.5	27.4	-	-	49.7	16.3	21.8	1.8	1.2
Ngororero	36.8	8.0	27.0	24.9	6.1	16.7	4.2	15.4	6.1	1.9
Rusizi	14.4	14.7	33.9	38.9	2.4	10.5	10.7	6.0	7.6	2.0
Nyamasheke	20.8	14.7	15.5	44.1	7.5	4.5	3.0	2.7	4.3	1.5
Rulindo	31.0	32.9	34.9	0.9	3.0	20.7	11.4	6.3	-	1.6
Gakenke	58.1	11.7	28.4	-	1.8	30.5	2.1	1.9	0.1	3.3
Musanze	62.3	17.4	16.1	0.8	7.6	28.4	18.4	13.0	0.4	2.2
Burera	41.4	57.3	1.3	-	1.1	11.2	25.2	-	-	5.1
Gicumbi	11.5	36.7	51.6	2.8	-	5.6	10.0	15.4	0.2	1.1
Rwamagana	22.2	17.4	40.9	12.9	9.0	9.2	9.5	14.1	5.2	5.6
Nyagatare	40.3	17.2	25.8	9.5	10.2	9.1	5.1	9.3	2.6	2.1
Gatsibo	25.9	11.3	41.0	16.4	9.5	15.9	3.6	16.5	6.9	4.4
Kayonza	51.4	15.3	11.3	12.1	13.7	9.1	3.1	1.7	2.0	3.4
Kirehe	35.3	2.5	28.9	3.6	31.7	8.0	2.1	2.4	2.6	11.7
Ngoma	34.2	18.6	18.4	6.9	23.3	10.3	3.4	8.8	-	9.5
Bugesera	55.3	4.5	29.9	3.6	9.2	22.3	4.4	13.2	0.2	4.1
Rwanda	**36.3**	**18.0**	**23.6**	**16.2**	**8.5**	**14.2**	**7.4**	**7.6**	**4.2**	**3.4**

Source: NISR, AHS 2017

Appendix A: 44 Percentage of agricultural households by type of irrigation technique and district

District	Percentage of households who practiced irrigation	Surface irrigation	Flood irrigation (for paddy)	Drip irrigation	Sprinkler irrigation	Traditional technique
Nyarugenge	15.1	22.2	2.1	-	5.8	86.5
Gasabo	8.8	48.3	2.3	-	-	56.2
Kicukiro	9.7	72.4	5.5	-	-	40.7
Nyanza	23.6	37.9	10.9	-	1.9	56.7
Gisagara	13.0	19.3	37.9	-	-	49.8
Nyaruguru	24.1	4.8	-	-	2.0	97.6
Huye	19.0	51.4	5.7	1.3	-	45.7
Nyamagabe	17.4	1.9	-	-	-	98.1
Ruhango	22.0	29.3	5.4	-	-	80.5
Muhanga	15.8	18.2	4.5	-	4.6	87.0
Kamonyi	9.8	5.7	34.7	-	-	65.3
Karongi	23.2	46.3	-	0.3	-	60.6
Rutsiro	5.3	28.0	-	-	-	88.5
Rubavu	1.2	33.7	-	-	-	66.3
Nyabihu	0.6	-	-	-	-	100.0
Ngororero	6.6	24.4	-	-	-	81.7
Rusizi	11.2	14.1	43.2	3.6	1.5	44.7
Nyamasheke	17.5	15.7	12.3	-	0.4	76.4
Rulindo	4.8	6.3	1.1	-	-	92.6
Gakenke	6.1	-	-	0.8	23.4	87.9
Musanze	2.4	24.5	-	-	-	75.5
Burera	1.9	43.2	-	-	-	56.8
Gicumbi	10.0	5.7	-	-	-	97.2
Rwamagana	5.5	55.1	4.8	-	3.1	43.6
Nyagatare	4.0	38.8	15.8	-	3.6	47.1
Gatsibo	8.0	10.1	43.4	-	0.7	50.1
Kayonza	5.3	47.5	35.3	-	1.4	28.2
Kirehe	9.4	4.0	23.3	3.0	26.2	48.8
Ngoma	8.7	1.9	53.3	8.4	-	37.1
Bugesera	11.2	77.3	11.3	-	-	25.9
Rwanda	**10.1**	**24.3**	**13.5**	**0.7**	**2.2**	**66.2**

Source: NISR, AHS 2017

Appendix A: 45 Percentage of agricultural households by type of erosion control measures and district

District	Percentage of households who practiced anti-erosion control measures	Radical terraces	progressive terraces	Trenches (imiringoti)	Trees/Wind break/ Shelterbelt	Cover plants/grasses	Water drainage	Mulching	Beds/ ridges	Other type
Nyarugenge	61.5	3.6	13.0	44.9	5.4	75.7	4.6	11.2	8.8	0.9
Gasabo	68.2	3.5	11.2	33.4	4.7	83.3	4.1	1.1	5.0	0.4
Kicukiro	44.2	11.8	22.1	43.0	5.7	73.9	2.8	5.2	1.4	0.5
Nyanza	51.2	11.1	0.9	67.4	6.7	67.2	5.8	2.7	7.0	-
Gisagara	77.3	9.5	1.8	71.0	2.5	72.0	9.3	0.6	11.3	0.1
Nyaruguru	58.2	15.1	10.0	80.8	0.2	51.8	1.1	0.2	-	3.4
Huye	61.3	10.2	1.0	72.2	2.6	51.5	13.2	0.3	3.5	0.1
Nyamagabe	64.8	16.9	0.3	39.9	11.6	87.7	1.3	1.7	5.9	4.0
Ruhango	59.7	2.4	-	64.1	7.0	65.9	1.4	2.8	14.9	-
Muhanga	68.8	17.0	4.2	67.0	2.8	89.2	5.0	8.8	3.7	0.6
Kamonyi	93.7	1.1	29.8	48.9	5.3	94.0	4.2	3.5	1.2	0.1
Karongi	69.0	6.6	29.4	21.7	4.7	85.8	2.7	2.3	-	2.3
Rutsiro	75.9	12.6	12.8	29.4	12.9	85.5	1.9	20.0	0.8	1.1
Rubavu	69.8	3.5	3.4	22.3	15.7	37.0	0.1	1.9	62.6	0.5
Nyabihu	93.0	22.1	17.3	22.8	18.8	78.3	0.3	-	23.8	0.3
Ngororero	74.0	10.5	9.3	50.0	0.6	94.0	-	6.6	-	0.5
Rusizi	70.9	2.4	-	40.1	26.9	76.4	5.9	2.1	2.9	1.4
Nyamasheke	55.7	16.6	1.7	67.7	7.6	78.1	5.5	8.7	3.8	0.6
Rulindo	62.4	9.6	12.0	34.5	12.5	89.2	5.7	4.4	0.6	0.4
Gakenke	65.8	5.9	1.6	30.2	14.2	84.8	5.2	3.9	12.8	0.5
Musanze	78.8	11.0	0.6	12.4	10.7	48.5	1.4	0.2	71.2	0.3
Burera	88.3	14.0	6.3	3.8	10.4	57.0	1.1	0.3	52.0	0.4
Gicumbi	86.0	24.4	39.0	21.9	5.4	94.6	3.7		-	0.7
Rwamagana	60.1	7.4	1.7	47.9	1.1	87.2	1.6	4.0	1.8	0.3
Nyagatare	40.2	1.5	7.2	57.2	15.6	77.5	4.0	2.8	1.7	0.4
Gatsibo	42.9	2.3	3.3	54.7	11.4	76.1	3.7	12.4	2.9	-
Kayonza	46.0	9.1	1.8	50.1	2.9	56.3	7.9	11.2	8.0	1.3
Kirehe	37.4	0.7	1.3	77.8	7.8	66.4	5.0	6.3	2.7	0.4
Ngoma	67.0	1.5	0.8	60.1	2.8	82.1	3.8	11.7	1.0	1.0
Bugesera	55.3	1.4	23.5	67.8	9.7	65.8	1.1	5.6	0.3	1.3
Rwanda	**65.7**	**9.4**	**9.9**	**43.9**	**8.5**	**76.0**	**3.8**	**4.4**	**11.8**	**0.7**

Source: NISR, AHS 2017

Appendix A: 46 Percentage of households by source of water used for irrigation and district

District	rainwater harvesting	water treatment plant	Underground water	Lake/stream water	Valley dam	Hillside dam	Other source
Nyarugenge	7.6	7.6	19.2	42.1	14.2	0.0	9.2
Gasabo	2.6	12.6	44.0	25.7	9.8	0.0	5.3
Kicukiro	3.7	13.5	31.5	48.5	0.0	0.0	2.7
Nyanza	1.9	2.2	48.6	43.4	3.7	0.0	0.3
Gisagara	5.4	3.4	37.1	38.6	11.7	1.7	2.1
Nyaruguru	1.9	0.0	0.0	88.1	0.0	0.0	9.9
Huye	0.0	1.5	51.6	41.0	5.9	0.0	0.0
Nyamagabe	0.0	5.6	40.2	26.4	11.1	14.0	2.6
Ruhango	0.0	1.8	47.3	46.9	2.1	0.0	1.8
Muhanga	0.4	2.7	51.6	35.6	7.4	0.0	2.3
Kamonyi	0.0	0.5	47.7	48.5	0.0	0.0	3.3
Karongi	0.0	2.2	0.0	83.7	0.0	0.0	14.1
Rutsiro	0.0	0.0	15.8	79.1	0.0	0.0	5.2
Rubavu	14.8	28.3	7.4	31.9	0.0	0.0	17.7
Nyabihu	33.4	0.0	33.2	0.0	0.0	0.0	33.4
Ngororero	0.0	0.0	17.6	57.3	24.5	0.7	0.0
Rusizi	3.3	24.6	18.7	52.8	0.6	0.0	0.0
Nyamasheke	0.8	13.3	11.1	71.4	2.5	0.4	0.4
Rulindo	7.9	1.5	67.9	22.7	0.0	0.0	0.0
Gakenke	0.0	26.9	51.5	20.9	0.6	0.0	0.0
Musanze	9.1	3.1	2.7	85.1	0.0	0.0	0.0
Burera	23.3	0.0	62.0	11.8	0.0	2.9	0.0
Gicumbi	0.0	0.3	49.7	36.7	0.0	3.3	10.0
Rwamagana	6.2	9.6	52.2	32.1	0.0	0.0	0.0
Nyagatare	0.0	2.4	17.0	74.6	3.6	0.0	2.4
Gatsibo	0.0	3.0	17.2	42.2	37.6	0.0	0.0
Kayonza	1.2	1.2	24.5	39.8	23.3	5.1	5.0
Kirehe	0.9	1.7	33.1	54.7	1.7	0.9	7.0
Ngoma	3.7	3.9	34.4	23.5	26.8	0.0	7.7
Bugesera	0.7	3.3	19.5	75.7	0.0	0.7	0.0
Rwanda	**1.7**	**4.8**	**33.1**	**48.7**	**6.7**	**1.3**	**3.7**

Source: NISR, AHS 2017

Appendix A: 47 Percentage of agricultural households by agricultural season, type of market the crop production was sold and district

District	Season A								Season B						
	Farm-gate	Local market	District market	Regional market	Contract farming	Contract with	other market		Farm-gate	Local market	District market	Regional market	Contract farming	Contract with	other market
Nyarugenge	26.6	66.9	9.0	-	1.8	-	4.5		27.1	68.9	7.0	-	0.7	-	3.8
Gasabo	19.2	82.9	2.8	-	0.4	-	0.7		15.7	84.6	1.6	-	1.0	-	0.8
Kicukiro	39.6	57.1	8.9	-	0.6	0.6	1.1		49.5	46.6	8.2	-	0.7	1.5	1.4
Nyanza	22.8	72.2	10.2	-	4.0	-	3.2		26.7	73.5	5.8	-	6.7	-	3.7
Gisagara	9.6	88.6	0.8	-	16.3	-	0.5		8.8	90.5	0.8	-	12.8	0.1	0.5
Nyaruguru	22.6	80.6	-	0.2	1.7	-	9.0		20.1	85.2	0.8	0.2	-	-	6.8
Huye	30.8	70.7	2.2	-	5.3	-	5.5		32.1	69.6	2.4	-	5.4	-	6.8
Nyamagabe	16.5	86.5	1.3	-	-	-	0.2		26.0	85.0	0.3	-	0.8	-	1.4
Ruhango	14.5	82.2	5.0	-	2.0	-	4.5		15.5	81.3	7.2	-	1.9	-	5.3
Muhanga	14.5	76.4	6.8	-	15.1	-	0.3		11.1	80.2	8.7	-	5.6	-	-
Kamonyi	28.7	77.8	1.5	-	1.6	-	6.2		29.5	77.1	0.5	-	2.9	-	5.6
Karongi	32.7	68.5	0.8	-	-	-	2.3		34.9	64.4	0.9	-	0.8	-	6.0
Rutsiro	38.2	65.9	-	-	-	-	7.8		28.6	58.3	-	-	12.5	-	24.5
Rubavu	31.3	54.9	10.3	-	18.7	-	1.8		32.2	46.3	11.8	-	19.0	0.4	2.7
Nyabihu	5.0	94.2	0.7	-	4.2	-	0.5		2.5	89.2	-	-	5.9	-	3.8
Ngororero	15.4	88.4	0.9	-	0.7	-	0.1		14.9	83.0	1.1	-	3.5	-	-
Rusizi	11.0	76.1	2.2	-	19.8	0.8	-		8.8	67.2	2.8	0.2	28.0	1.0	0.8
Nyamasheke	45.4	60.3	0.2	-	11.0	0.2	0.2		41.7	50.1	0.3	-	21.3	0.8	5.0
Rulindo	12.8	84.6	6.5	-	3.5	-	0.6		10.9	80.9	7.0	-	4.8	-	2.7
Gakenke	11.5	86.0	13.5	-	0.4	-	-		10.6	84.1	8.0	-	0.4	-	-
Musanze	16.8	83.7	1.3	0.1	5.1	-	-		20.2	76.6	2.0	-	9.2	-	-
Burera	6.9	94.6	0.5	-	1.0	0.1	0.6		5.9	94.6	0.9	-	1.4	-	0.6
Gicumbi	15.4	83.7	1.7	1.4	0.5	-	6.9		18.1	84.2	2.9	0.9	-	-	5.6
Rwamagana	24.9	75.8	0.4	-	2.4	-	2.2		24.1	75.5	0.4	-	2.3	1.4	2.0
Nyagatare	21.3	81.5	2.6	0.3	0.9	-	0.4		19.9	80.2	2.0	0.7	0.9	-	0.5
Gatsibo	38.5	68.4	0.1	-	4.5	0.3	0.4		36.5	65.5	0.7	-	4.2	0.3	1.3
Kayonza	48.9	48.3	3.1	-	3.6	-	4.7		51.6	46.1	1.9	-	5.1	-	4.2
Kirehe	63.1	30.2	1.0	-	3.1	-	10.7		71.3	25.1	1.7	-	2.7	0.1	5.5
Ngoma	57.3	45.3	0.6	-	5.8	-	5.2		48.2	50.3	1.1	-	8.2	-	6.7
Bugesera	19.7	84.3	2.1	-	0.4	-	2.0		17.8	82.2	2.1	-	1.0	-	3.6
Rwanda	**25.0**	**75.2**	**2.8**	**0.1**	**4.1**	**0.0**	**2.6**		**26.3**	**71.6**	**2.5**	**0.1**	**5.3**	**0.1**	**3.9**

Source: NISR, AHS 2017

Appendix A: 48 Percentage of agricultural households who used storage facilities during 2017 agricultural seasons by district

District	Percentage of households who used storage facility	
	Season A	Season B
Nyarugenge	13.8	28.3
Gasabo	25.2	55.5
Kicukiro	7.2	13.2
Nyanza	8.7	18.4
Gisagara	3.1	15.7
Nyaruguru	11.5	7.8
Huye	2.2	1.8
Nyamagabe	20.6	0.4
Ruhango	9.6	18.2
Muhanga	11.2	26.8
Kamonyi	17.3	23.0
Karongi	14.8	10.7
Rutsiro	24.1	19.9
Rubavu	8.5	15.0
Nyabihu	7.8	6.2
Ngororero	6.1	30.9
Rusizi	10.9	27.6
Nyamasheke	21.4	28.2
Rulindo	11.5	10.1
Gakenke	14.2	12.4
Musanze	8.8	7.6
Burera	4.5	41.9
Gicumbi	19.9	26.4
Rwamagana	17.9	39.2
Nyagatare	21.8	32.4
Gatsibo	15.6	7.7
Kayonza	9.6	20.1
Kirehe	18.9	63.4
Ngoma	19.2	15.9
Bugesera	11.6	26.0
Rwanda	**13.8**	**21.7**

Source: NISR, AHS 2017

Appendix A: 49 Percentage of agricultural households who engaged in agricultural activities during 2017 agricultural year by district

District	Total households who engaged in crop production	Percentage of households who engaged in livestock
Nyarugenge	21.5	11.9
Gasabo	32.3	20.4
Kicukiro	19.3	12.0
Nyanza	86.7	65.5
Gisagara	93.4	75.8
Nyaruguru	97.2	87.9
Huye	80.1	62.3
Nyamagabe	90.8	79.7
Ruhango	89.8	73.7
Muhanga	85.4	76.7
Kamonyi	82.0	64.5
Karongi	85.7	77.7
Rutsiro	88.9	76.3
Rubavu	58.6	42.1
Nyabihu	89.6	65.5
Ngororero	97.1	84.8
Rusizi	81.2	65.8
Nyamasheke	88.3	78.3
Rulindo	90.3	71.7
Gakenke	95.1	87.6
Musanze	78.0	56.0
Burera	92.6	71.4
Gicumbi	90.1	77.3
Rwamagana	78.7	58.6
Nyagatare	85.1	58.1
Gatsibo	90.7	70.4
Kayonza	82.0	58.4
Kirehe	84.2	66.0
Ngoma	91.5	77.5
Bugesera	74.2	58.5
Rwanda	**78.6**	**62.6**

Source: NISR, AHS 2017

Appendix A: 50 Percentage of agricultural households possessed small tools during agricultural year 2017, by district

District	Basket	Crops sprayer	Hoe	Jerry-can	Machete	Pick	Sack	Sheeting	Sickle	Watering	Wheel barrows	Bucket
Nyarugenge	29.8	13.2	78.5	63.9	74.6	15.6	72.8	22.5	30.5	20.5	4.5	38.8
Gasabo	39.7	11.2	80.2	71.4	75.2	12.3	81.6	23.1	40.8	15.6	7.1	50.9
Kicukiro	22.1	11.3	76.1	72.1	65.7	17.4	71.5	25.1	24.4	18.5	12.5	39.7
Nyanza	57.0	6.1	95.9	37.6	74.9	11.3	74.1	15.4	53.0	14.7	1.3	14.5
Gisagara	51.0	6.1	91.4	39.5	73.6	5.1	70.7	11.1	37.8	7.5	0.3	8.1
Nyaruguru	71.6	8.9	98.5	41.1	87.9	6.4	92.3	10.1	67.7	11.0	0.6	37.0
Huye	56.8	11.9	96.2	49.1	79.1	7.7	72.0	18.4	49.1	15.5	3.0	18.3
Nyamagabe	75.2	23.0	97.7	65.7	88.3	8.5	90.8	18.7	67.6	11.5	1.0	26.2
Ruhango	63.6	5.5	98.6	37.3	76.6	12.4	82.3	10.0	62.8	13.6	1.3	18.1
Muhanga	53.6	4.3	96.3	78.1	85.0	9.2	81.4	6.7	69.2	13.2	0.9	20.8
Kamonyi	34.9	2.8	88.9	62.5	67.9	5.9	55.6	8.8	51.5	8.3	2.5	31.0
Karongi	60.2	3.9	88.6	81.0	78.0	7.6	78.6	6.9	54.1	12.2	1.6	44.2
Rutsiro	46.2	7.6	95.8	70.7	83.6	6.6	86.9	10.7	51.4	7.8	0.6	31.3
Rubavu	23.7	16.7	82.8	73.2	76.1	4.4	77.4	11.7	18.3	2.7	1.8	52.0
Nyabihu	46.6	22.2	92.6	82.6	73.3	3.7	85.4	8.3	41.5	0.4	1.2	37.7
Ngororero	66.4	1.3	98.8	53.2	83.8	5.2	86.5	2.4	70.6	6.4	0.0	27.7
Rusizi	23.9	4.1	94.2	59.7	84.5	5.2	76.1	11.9	26.0	7.1	0.6	41.9
Nyamasheke	32.1	6.9	92.4	71.2	80.2	4.8	84.1	9.3	49.8	9.5	1.7	46.4
Rulindo	46.1	4.4	89.0	79.1	77.5	18.5	80.2	11.5	55.7	10.4	2.8	48.5
Gakenke	75.0	7.2	98.9	87.5	93.9	30.0	93.4	14.0	63.2	25.9	2.5	43.1
Musanze	44.2	20.4	88.4	67.6	78.9	6.6	90.2	11.9	36.8	8.7	1.6	43.1
Burera	46.2	6.5	94.9	86.8	83.5	3.7	68.9	12.4	48.9	2.4	0.9	38.3
Gicumbi	50.4	6.3	91.4	88.1	87.8	10.8	83.6	20.7	75.4	12.8	2.5	49.2
Rwamagana	28.9	8.4	89.4	40.9	84.0	4.4	76.1	19.6	35.3	12.9	4.8	15.9
Nyagatare	17.7	7.0	97.3	74.2	81.6	8.8	91.6	25.7	30.6	5.1	1.7	33.2
Gatsibo	42.3	6.3	93.2	89.4	84.5	7.1	89.4	22.4	46.1	5.9	1.0	44.2
Kayonza	22.7	6.7	84.9	14.7	73.5	7.7	80.1	17.9	20.9	7.4	1.1	14.4
Kirehe	22.2	7.6	91.8	87.8	81.3	6.5	86.4	23.2	36.0	7.9	1.6	41.3
Ngoma	23.7	7.9	88.6	92.7	90.1	9.0	85.3	18.5	57.2	16.6	1.3	34.5
Bugesera	35.9	7.7	92.9	53.1	72.0	5.2	77.7	18.6	31.8	17.6	3.4	33.5
Rwanda	43.5	8.4	92.3	67.2	80.7	8.6	81.2	15.0	47.9	10.4	1.9	33.9

Source: NISR, AHS 2017

Appendix A: 51 Percentage of agricultural households who used durable equipments during agricultural year 2017 by district

District	Drying ground	Animal shed facilities	Motor cycle	Bicycle	Vehicle used for agriculture	Pealing machine	Motor - pump	Barn	Milking machine	Bike
Nyarugenge	0.6	7.7	1.4	0.3	0.7	0.3	0.8	16.7	-	7.7
Gasabo	0.3	4.3	3.7	0.3	0.6	-	-	19.4	-	13.7
Kicukiro	0.9	13.4	4.3	-	0.9	-	0.4	13.3	0.2	16.1
Nyanza	1.3	2.0	0.5	-	-	0.1	-	30.7	0.4	9.6
Gisagara	2.2	6.4	0.2	-	0.1	-	0.1	18.4	-	9.3
Nyaruguru	-	0.2	-	-	-	-	-	41.0	-	1.6
Huye	1.4	21.6	-	0.5	0.2	-	0.5	35.2	0.2	5.8
Nyamagabe	0.4	29.7	0.1	-	-	-	-	53.1	-	2.7
Ruhango	1.2	8.3	1.2	-	-	-	0.4	35.3	-	7.5
Muhanga	7.0	30.5	1.1	-	0.3	0.8	-	54.7	-	4.2
Kamonyi	-	9.1	0.5	-	-	-	-	33.9	-	1.9
Karongi	-	3.0	-	-	-	-	0.5	39.6	-	-
Rutsiro	-	6.6	1.1	-	-	-	-	27.4	-	0.8
Rubavu	0.1	6.3	0.7	-	0.2	-	-	3.1	0.1	5.4
Nyabihu	-	1.2	-	-	-	-	-	3.7	-	3.0
Ngororero	-	30.0	0.0	-	-	-	-	55.6	-	0.5
Rusizi	1.0	16.1	0.1	0.1	0.1	-	0.3	26.3	-	3.1
Nyamasheke	1.3	30.4	1.1	-	-	0.4	0.3	52.0	-	0.9
Rulindo	0.6	7.2	0.6	0.3	0.1	-	-	30.8	-	3.9
Gakenke	0.2	17.5	-	-	-	-	-	64.4	0.3	4.1
Musanze	-	3.7	0.1	-	-	-	-	9.0	0.1	4.7
Burera	-	7.8	0.4	-	-	-	-	17.1	0.3	6.0
Gicumbi	0.1	8.6	1.6	-	0.1	0.3	0.1	57.3	0.3	10.3
Rwamagana	0.1	6.3	0.9	0.1	-	-	0.3	20.4	0.3	16.8
Nyagatare	0.7	5.5	3.3	0.1	0.2	0.6	1.1	7.1	0.3	34.2
Gatsibo	0.1	3.4	1.7	-	0.3	0.1	0.1	18.7	0.4	25.3
Kayonza	1.0	5.3	1.5	-	0.1	-	0.1	6.2	-	25.1
Kirehe	1.2	4.9	1.3	0.5	0.2	-	0.9	16.8	-	22.1
Ngoma	2.1	20.8	0.4	-	-	-	0.1	35.7	0.3	23.5
Bugesera	0.8	3.5	0.5	-	-	0.4	1.0	15.3	0.1	33.5
Rwanda	**0.8**	**10.8**	**0.9**	**0.1**	**0.1**	**0.1**	**0.2**	**29.2**	**0.1**	**11.0**

Source: NISR, AHS 2017

Annex A: Persons who contributed to the Agricultural Household Survey 2017

AHS technical coordination
- MWIZERWA Jean Claude, Acting Director of Economic Statistics Unit
- BURAMBA Eric, Agriculture & Environmental Statistics Acting Team Leader
- BIGIRIMANA Florent, Geographic Information Systems Team Leader
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