



## **A Research to Analyze Barriers Facing Small Scale Farmers to Access Agro inputs Versus Nkunganire Programme**

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## **Acronyms**

CCOAIB	Conseil de Concertation des Organisations d'Appui aux Initiatives de Base
CSPRO	Census and Survey Processing
EICV	Integrated Household and living condition Survey
EU	European Union
FEWS NET	Famine Early Warning Systems Network
FTP	File Transfer Protocol
FFS	Field farmer School
GoR	Government of Rwanda
NGO	Non-Governmental organization
KII	Key Informant Interviews
LSF	Large Scale Farmers
MINAGRI	Ministry of Agriculture and Animal Resources
NISR	National Institute of Statistics of Rwanda
NST	National Strategy for Transformation
PPS	Probability Proportional to Size Sampling
PSTA	Strategic Plan for Agriculture Transformation
RAB	Rwanda Agriculture Board
RDHS	Rwanda Demographic Health Survey
SAS	Seasonal Agriculture Survey
SDA	Secondary Data Analysis
SSFs	Small Scale farmers
SNS	Smart Nkunganire Service
ToT	Training of Trainers



## **Executive Summary**

The Conseil de Concertation des Organisations d'Appui aux Initiatives de Base (CCOAIB) is an umbrella organization of Rwandan local NGOs working in various sectors of development. Established in 1987 by 12 local NGOs, Today, CCOAIB boasts a membership of 43 local NGOs working in various development domains including: agriculture and environment, governance, socioeconomic empowerment and civic participation. The member organizations' operate across all 30 districts of Rwanda.

CCOAIAB commissioned an analytical study on barriers facing small scale farmers against NKUNGANIRE Program. This analytical is part of several actions aimed at assessing and accumulating data for various projects and programmes necessary for evidence based advocacy. The research contributes to CCOAIB's core strategic pillars number One: Lobbying and advocacy<sup>1</sup>. The research again responds to the pillar number three (3) "Agriculture for Wealth Creation" of the Rwanda's Vision 2050 in its second and third specific priorities<sup>2</sup>. It is an advocacy actions with a national wide impact. However, the focus was put on 5 districts Nyanza, Rulindo, Nyagatare, Nyamagabe and Nyaruguru with majority of the population in the districts rely on agriculture as their primary livelihood and source of income. They are as well characterized by high population density and the majority are women. The districts are among of intervention areas of Trócaire partners and CCOAIB member organizations.

### ***Objectives***

The main objective of the research study was to assess barriers facing small scale farmers to take advantage of Nkunganire in accessing agro inputs and propose strategies to overcome them in the five districts (Nyagatare in Eastern province, Rulindo in Northern province and Nyanza, Nyaruguru & Nyamagabe in Southern province).

Under this research, the opportunities and gaps related to Nkunganire program vis a vis to the small scale farmers were identified and analyzed; Recommendations towards responsive of Nkunganire program to different needs and priorities has been formulated to inform the decision-makers and implementers of the program.

### ***Methodology***

The overall approach in the entire data collection process was participatory through engaging various stakeholders on various aspects pertaining to barriers facing smallholder farmers to access agro-inputs. The targeted audience included small scale farmers, farmer cooperatives, agriculture scientists, policy-makers in the agriculture sector, and other local actors in the agriculture sector. In addition, a content analysis of relevant strategic documents helped

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<sup>1</sup> <https://ccoaib.rw/about/>

researchers to understand the context and the scope of this study, which, in turn, informed the design of data collection tools along the terms of references proposed by CCOAIB.

### ***Smallholder Farmers***

Smallholder farmers are those with limited resource endowment relative to other farmers in the sector. (DCED 2012), defined smallholder farmers as those farmers holding small plots of land on which they grow subsistence crops and one or two cash crops relying almost exclusively on family labour.

The Seasonal Agricultural Survey (NISR, 2020 season B) indicate that area by cropping system and farmer type small scale farmers constitute the largest percentage 98.2% against about 2% of the large scale farmers.

The survey further indicate that although the small scale farmers cultivate the bigger portion of land still the large scale farmers are the one who have a bigger production in crops. For instance the average yield of maize in season B of 2020 was 1,258 kilograms per hectare for small-scale farmers and 3,136 kilograms per hectare for Large-scale farmers (See district details in Tables 5 ,8,9,10,11 and 12)<sup>3</sup>. This is twice as much yield of small scale farmers.

### ***Nkunganire programme***

Nkunganire programme was established in 2008 by the Government of Rwanda (GoR) through the Rwanda Agriculture Board (RAB). Nkunganire programme is one of the strategies the GoR has put in place in order to drive the agricultural sector by motivating small scale farmers to increase production by means of supporting them through subsidies in agricultural inputs including fertilizers, improved seeds and pesticides. The Smart Nkunganire System (SNS) is **a supply chain management system that** has digitalized Rwanda's agro-input subsidy program. By removing obstacles such as leakages, late delivery of inputs, and resource diversion, SNS has helped reduce the economic and operational deficiencies of the manual system.

Beside, the programme has expanded its services to cover for Irrigation support subsidy of up to 50% and agri-insurance of up to 40%, support to training of Social and Economic Development Officers (SEDO) at cell levels, promoters and agronomists on how best to use the agro-inputs when provided and the right timing of farming.

After thirteen (13) years of existence the programme's efforts are not in vain. According to RAB it has enrolled so far 1.5 million SSFs who are actively using the Smart Nkunganire Service (SNS). RAB reports again that there is success achieved since the establishment of the programme such as; Provision of fertilizer started as promotional activity by giving out fertilizer for free, now people (SSFs) are contributing to the cost of the agro-inputs; The GoR is

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<sup>3</sup> National Institute of Statistics of Rwanda, Seasonal Agricultural Survey, 2020

graduating from implementing the programme and hand it over to private sector, the government will remain with the role of a facilitator; The productivity has increased among individual SSFs in terms of crop productions and asset development; The walking distance to get agro-inputs has been reduced due to a growing network of agro-dealers; The programme has introduced a multiplier effect by providing jobs and employment among SSFs and other local people in the rural area.

### ***Key findings***

The research study was conducted in five districts of Nyanza, Nyaruguru, Nyamagabe, Rulindo and Nyagatare all with total sample of SSFs 309 of which men's participation in farming was higher (56.7%) than women (43.3%) which literary translates into men prefer using NKUNGANIRE program than women.

The average household size of the farmers under the study (n=309) is around 5 people which confirms what was reported by RDHS VI of 2019/20.

Farmers prefer farming in Cooperatives (47%) than in other modes but followed very closely by those who farm individually (46%). However, women participation is higher in individual farming in districts of Rulindo (62%, n=60) and Nyamagabe (55%, n=60). Almost all of these farmers have basic education required to help them undergo soft skills training for their farming activities. Over 70% of all farmers from all districts except Nyagatare have had primary school education. Very few farmers between 5% and 8% in Nyagatare showed during the survey that have reached upper secondary education and tertiary education.

There is no doubt that Nkunganire has benefited farmers to a considerable level. On average over 8 out of 10 farmers reported to have benefits from Nkunganire programme by achieving productivity of up to between 15kg and 40kg per acre. Although most farmers had difficulties in estimating their production because they harvest and consume, but overall 65% said their productivity was increased, 26% mentioned knowledge of using agro-inputs and 9% said through Nkunganire they attained new knowledge and farming technologies.

Small scale farmers showed satisfaction (72% to 80%) with Nkunganire services in terms of selection of crops to be supported, quality of seeds and fertilizers, and also the storage facilities.

Despite boasting of this achievement the data show about a half (44%) of the surveyed SSFs (n=309) said there are barriers facing them to access Nkunganire services against (56%) who are not. Though the difference is statistically significant but in reality when you have 4 out of 10 having problems it triggers attention. In Nyagatare and Nyamagabe district the number is even higher than the total average whereby those facing barriers are 81% and 60% respectively

The most barriers mentioned by farmers by district are: Lack of affordability to buy agro-inputs by 78%, Delay of delivery of agro-inputs in Rulindo district by 82%, Nyanza district by 80%, and Nyamagabe 52%, High interest rates of bank loans (52%). Other barriers are distance travelled to meet an agro-dealer whereby Nyaruguru mentioned by 68% and in

Nyagatare 45% mentioned untimely information receipt. Farmers don't get information in time, the channels of communication which most mentioned i.e., agro-dealer and agronomy officials are not functioning properly

Another revelation which is a challenge to the community of farmers is reluctant of youths to join farming. This is evidenced by the data whereby two age groups middle-aged (35-54 yrs) and elderly (55-64 yrs) dominate the farming in all districts. Youths (16-34 years) participation in agriculture is just below 5% down to no participation in some other districts. This might be a serious issue when you measure numbers of would be income earners in a household and the amount of what is earned.

Both farmers and key interviews by local authorities proposed modalities with which if implemented by the programme is expected to improve its services and overcome the barriers altogether. Seventeen (17) modalities were mentioned but the most frequently mentioned are; To reducing prices that are imposed on NKUNGANIRE (44%); Increase of agro-inputs delivery point (15%); provide training on modern farming skills (10.4%); increase the agro-dealer network (5.4%); Market linkages for their production (4.3%) and provision of seeds who are appropriate to the land (3%).

The interestingly all farmers based on sample selected per each district (n=60) have basic education required to help them undergo soft skills training for their daily activities. The implication will be to increase productivity and so become able to pay the subsidy percentage to supplement the government.

***Other challenges which were captured during KI interviews are:***

- The purchasing power of the farmers, they cannot afford buying or paying the percentage to supplement the amount the government has covered.
- Land preparation needs money
- Mindset of the SSFs; people need to change the way they think about Nkunganire. For instance they tend to save seeds from their production while it is not recommended as this tendency reduces their production. Each time the cultivate they are required to purchase new seeds.
- Using fertilizer in the right way and rate
- Right investment
- Markets; linking producers and consumers.
- Bank loan interest rates are high

## 1 - Introduction

### 1.1 Background

The Conseil de Concertation des Organisations d'Appui aux Initiatives de Base (CCOAIB) is an umbrella organization of Rwandan local NGOs working in various sectors of development. Established in 1987 by 12 local NGOs, CCOAIB officially began its operations in 1988. Today, CCOAIB boasts a membership of 43 local NGOs working in various development domains including: agriculture and environment, governance, socioeconomic empowerment and civic participation. The member organizations' operate across all 30 districts of Rwanda.

CCOAIAB conducted an analytical study on barriers faced by small scale farmers against NKUNGANIRE Program. This analytical research was commissioned by CCOAIB in as part of several actions aimed at assessing and accumulating data for government projects and programmes necessary for evidence based advocacy.

The research study came as a contribution to CCOAIB's core strategic pillars number One: Lobbying and advocacy<sup>4</sup> : The Umbrella has the responsibility to defend the interests of citizen in general and of its member organizations in particular through evidence based advocacy. This research again responds to the pillar number three (3) "Agriculture for Wealth Creation" of the Rwanda's Vision 2050 in its second and third specific priorities<sup>5</sup>;

- Scaled up use of modern inputs and technologies to maximize productivity;
- Increased access to agriculture finance and risk sharing facilities;

Which among other things contribute to drive the goals of "Economic growth and prosperity" and High quality and Standards of Life of Rwandans. Furthermore, the research is in line with NST1<sup>6</sup> under Macroeconomic Framework whereby is stating that "...growth will be accompanied by robust performance in the agriculture sector with 5.7% average growth per year during the NST1 period. On average, agriculture will contribute 1.4%.

CCOAIB secured funding from Trocaire to implement this research *Analysis of barriers faced by small scale farmers to access Agro inputs versus Nkunganire programme* in five districts namely; Nyaruguru, Nyamagabe and Nyanza in southern province, Rulindo in North Province and Nyagatare in East Province.

CCOAIB has member organizations represented in all areas of the country and work with stakeholders at all levels from national to local level. The Analysis of barriers facing small scale farmers to access Agro inputs versus Nkunganire programme is an advocacy actions to be

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<sup>4</sup> <https://ccoaib.rw/about/>

<sup>5</sup> Rwanda Vision 2050

<sup>6</sup> National Strategy for Transformation (NST1) 2017-2024

implemented by CCOAIB and that has a national wide impact. The focus was put on 5 districts Nyanza, Rulindo, Nyagatare, Nyamagabe and Nyaruguru being among of intervention areas of Trócaire partners and CCOAIB member organizations.

CCOAIB facilitated the work with partners based in field areas in assessing the changes and analyzing the situation around Agro inputs chains, especially Nkunganire program as well as sustaining a good collaboration with other partners towards the achievement of results.

Majority of the population in the districts of this research rely on agriculture as their primary livelihood and source of income. They are as well characterized by high population density and the majority are women.

## **1.2 Objectives**

The main objective of the research study was to assess barriers facing small scale farmers to take advantage of Nkunganire in accessing agro inputs and propose strategies to overcome them in the five districts (Nyagatare in Eastern province, Rulindo in Northern province and Nyanza, Nyaruguru & Nyamagabe in Southern province).

Under this research, the opportunities and gaps related to Nkunganire program vis a vis to the small scale farmers were identified and analyzed; Recommendations towards responsive of Nkunganire program to different needs and priorities has been formulated to inform the decision-makers and implementers of the program.

## **2 – Research Methodology.**

### **2.1 Design, study area and sources of data.**

This research study was conducted in five districts, namely Nyamagabe, Nyaruguru and Nyanza in the South Province, Rulindo in North Province and Nyagatare in the East Province. A series of research initiatives which have used mixed method, comprising qualitative and quantitative approaches for data collection. Quantitative data were obtained from a structured survey administered among 309 smallholder farmers during November 2021, while qualitative data are views of 30 key informants, including officials of both central and local administration, FFS facilitators, Agro-dealers and promoters. Besides we reviewed the literature information intensively to capture data on the Nkunganire programme including current performance, gaps and challenges.

The overall approach in the entire data collection process was participatory through engaging various stakeholders on various aspects pertaining to barriers facing smallholder farmers to access agro-inputs. The targeted audience included smallholder farmers, farmer cooperatives, agriculture scientists, policy-makers in the agriculture sector, and other local actors in the agriculture sector. In addition, a content analysis of relevant strategic documents helped researchers to understand the context and the scope of this study, which, in turn, informed the design of data collection tools along the terms of references proposed by CCOAIB

This research study was designed to have three phases as illustrated in the figure below;

**Figure 1: research roadmap**



## 2.2 Sampling

The minimum sample size was 300 **smallholder farmers from across five districts**. Nonetheless, the research included some key informants from the key partners like Rwanda Agriculture Board (RAB), Ministry of Agriculture and Animal Resources (MINAGRI), Ministry of Trade and Industry (MINICOM) Financial Institutions, Farmer Field School (FFS) facilitators, Promoters, Local leaders and Agro-dealers.

The sample size by district and sector was allocated as follows:

**Table 1: interviewed respondents**

Province	District	Sectors	Respondents/ sample size
Southern	Nyamagabe	Cyanika	60
		Gasaka	
	Nyaruguru	Kibeho	60
		Rusenge	
	Nyanza	Kigoma	60
		Busasamana	
Eastern	Nyagatare	Rukomo	60
		Nyagatare	
Northern	Rulindo	Shyorongi	60
		Murambi	

## **2.3 Limitations**

Measures to contain the spread of Covid 19 pandemic have been in place since its first outbreak in Rwanda in mid-march 2020. Their severity has been changing depending on what comes out of government's bi-monthly assessments. Field data collection started when the government had released movement within districts. But slightly impacted our work where local leaders and respondents in areas of field work were in the first place reluctant to cooperate with enumerators with fear of getting into contact with people from other districts (the enumerators). In addition to this data were collected in off agriculture season and enumerators could not observe how services of NKUNGANIRE are performed on the field apart from what He/She was told.

## **3 - Context Analysis**

### **3.1 Overview of agriculture sector**

Agriculture is the biggest contributor to Rwanda's economy and is tasked with leading the country to become a middle-income economy by 2050 (Vision 2050). The agricultural sector is predominately administered by the Ministry of Agriculture and Animal Resources (MINAGRI), whose role is to develop and increase the potential and productivity of the sector to reduce poverty and ensure food security. At the technical and operational level, Rwanda Agriculture and Animal Resources Development Board (RAB), is charged with developing the agriculture sector into a knowledge-based, technology driven and market-oriented industry, using modern methods in crop, animal, fisheries, forestry, soil and water (RAB 2017).<sup>7</sup>

At local government level, the implementation of agricultural policies is carried out by both District and Sector authorities. Service charters have been established to provide services, such as agronomists and veterinarians to farmers, and they outline the type of services provided at the different levels, those eligible for such services, the title of staff providing services, the service requirements, the cost, the time taken, as well as the days on which the services are provided.

Agriculture accounts for just under half of export goods (PSTA 4<sup>8</sup>, 2018), and provides employment for over two thirds of the working population. In 2017-2018, agricultural production increased by 8 % and contributed 2.2% points to the overall GDP growth rate

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<sup>7</sup> Trocaire Rwanda/USAID Final Research Report, the involvement of citizens, particularly women, in local agricultural governance, policy and budget monitoring in Rwanda, January 2020

<sup>8</sup> Strategic Plan for Agricultural Transformation version 4, 2018-2024

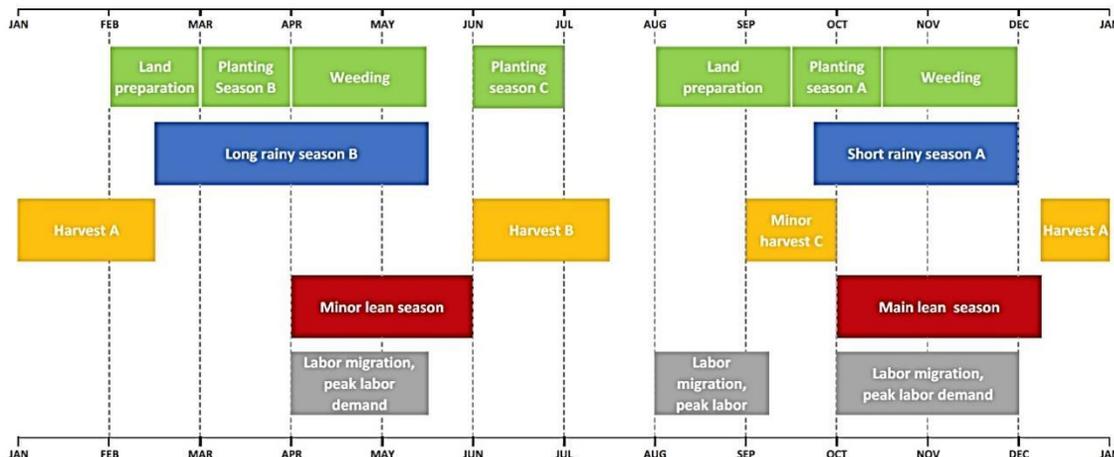
(NISR, 2017). Food crops increased by 8 % and export crops increased by 14 %. (MINECOFIN16, 2017).

Despite the above achievements, statistics from the 2013/14 Integrated Household Living Conditions Survey (EICV5) has shown that 38.2% of Rwandans still live in poverty and 16.0% in extreme poverty. Therefore, the structural transformation of the economy is happening at a slower pace meaning the majority of the population continues to rely on subsistence agriculture. Consequently, food and nutrition security remain critical for the country's development, especially for households headed by women, in order to address the high stunting level, which is currently estimated at 33% (RDHS\_6,2019/20). Going forward, given the development challenges and significant role agriculture continues to play in Rwanda's economy, addressing food insecurity and malnutrition through coordinated nutrition and agriculture interventions will be critical to Rwanda's ability to sustain growth and reduce poverty. This is also consistent with the 2015 World Bank report stipulating that agriculture and extensive social protection systems are critical in reducing poverty. It is in this regard that Rwanda has considered food and nutrition security as foundational in the ongoing national planning process including the new National Strategy for Transformation

### 3.2 Agriculture seasonal calendar

Farming in Rwanda is characterized by three agricultural seasons; namely, season A from October to December, season B, from February to May and season C (mainly for rain-fed vegetable growing) from June to mid-July. This season goes concurrently with harvest period of the preceding season B.

**Figure 2: Agriculture seasonal calendar**

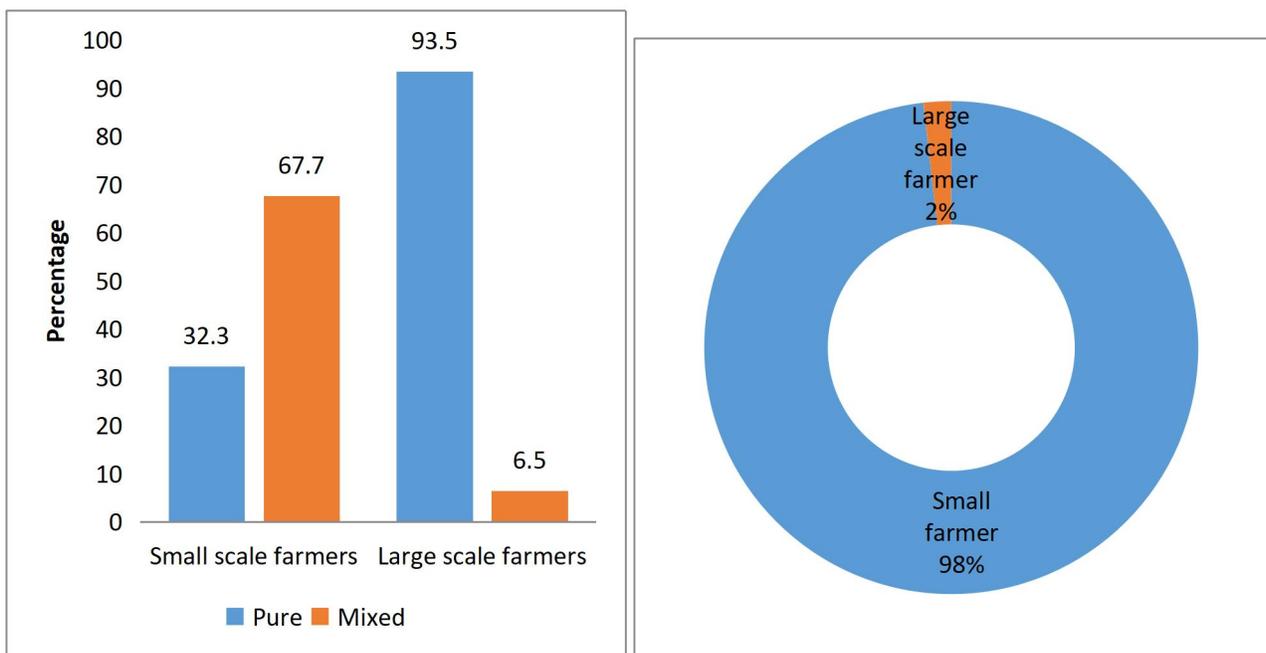


**Source: FEWS NET, 2012**

### 3.3 Smallholder Farmers,

Smallholder farmers are defined depending on the context, for example, country, region or even ecological zone. Limited resource endowment relative to other farmers in the sector can also be used to define smallholder farmers in general terms. (DCED 2012<sup>9</sup>), defined smallholder farmers as those farmers holding small plots of land on which they grow subsistence crops and one or two cash crops relying almost exclusively on family labour. The Seasonal Agricultural Survey (NISR, 2020 season B)<sup>10</sup> indicate that area by cropping system and farmer type smallholder farmers constitute the largest percentage 98.2% against about 2% of the large scale farmers.

**Figure 3: Percentage Distribution of pure and mixed farmers according to their size**



source: NISR, SAS\_2020

The survey further indicate that although the small scale farmers cultivate the bigger portion of land still the large scale farmers are the one who have a bigger production in crops. For instance the average yield of maize in season B of 2020 was 1,258 kilograms per hectare for small-scale farmers and 3,136 kilograms per hectare for Large-scale farmers<sup>11</sup>. This is twice as much yield of small scale farmers.

<sup>9</sup> Donor Committee for Enterprise Development, 2012

<sup>10</sup> National Institute of Statistics of Rwanda, Seasonal Agricultural Survey, 2020

<sup>11</sup> National Institute of Statistics of Rwanda, Seasonal Agricultural Survey, 2020

The situation is the same for Irish potatoes, whereas the average yield of Irish potato was 8,019 kilograms per hectare. This is 7,952 kilograms per hectare for small-scale farmers and 18,198 kilograms per hectare for Large-scale farmers(NISR, SAS, 2020).

### 3.4 Nkunganire programme

Nkunganire programme was established in 2008 by the Government of Rwanda (GoR) through the Rwanda Agriculture Board (RAB). The programme provides services in terms of agro-inputs support to SSFs around the country. The services are mineral fertilizer and improved seeds for all farmers. However, some selected SSFs are eligible to get Irrigation support subsidy amounting to 50% and agri-insurance of up 40%. The eligibility is measured according to the capacity of the individual SSF to pay the difference of percentage of the price to supplement the government subsidy. Likewise the agri-insurance is given to SSFs who are able to cover the difference of the price after subsidy.

Nkunganire programme is one of the strategies the GoR has put in place in order to drive the agricultural sector by motivating smallholder farmers to increase production by means of supporting them through subsidies in agricultural inputs including fertilizers, improved seeds and pesticides. The Smart Nkunganire System (SNS) is **a supply chain management system that** has digitalized Rwanda's agro-input subsidy program. By removing obstacles such as leakages, late delivery of inputs, and resource diversion, SNS has helped reduce the economic and operational deficiencies of the manual system.

Nkunganire programme provides other services, like training of SEDOs, promoters and agronomists on how best to use the agro-inputs when provided and the right timing of farming. Also Nkunganire provides Radio programme awareness packages to sensitize about the existence of the programme and on on-set of agriculture seasons.

After thirteen (13) years of existence the programme has enrolled so far 1.5 million SSFs who are actively using the Smart Nkunganire Service (SNS). RAB reports that there is success achieved since the establishment of the programme such as; Provision of fertilizer started as promotional activity by giving out fertilizer for free now people (SSFs) are contributing to the cost of the agro-inputs; The GoR is graduating from implementing the programme and hand it over to private sector, the government will remain with the role of a facilitator; The productivity has increased among individual SSFs in terms of crop productions and asset development; The walking distance to get agro-inputs has been reduced due to a growing network of agro-dealers; The programme has introduced a multiplier effect by providing jobs and employment among SSFs and other local people in the rural area.

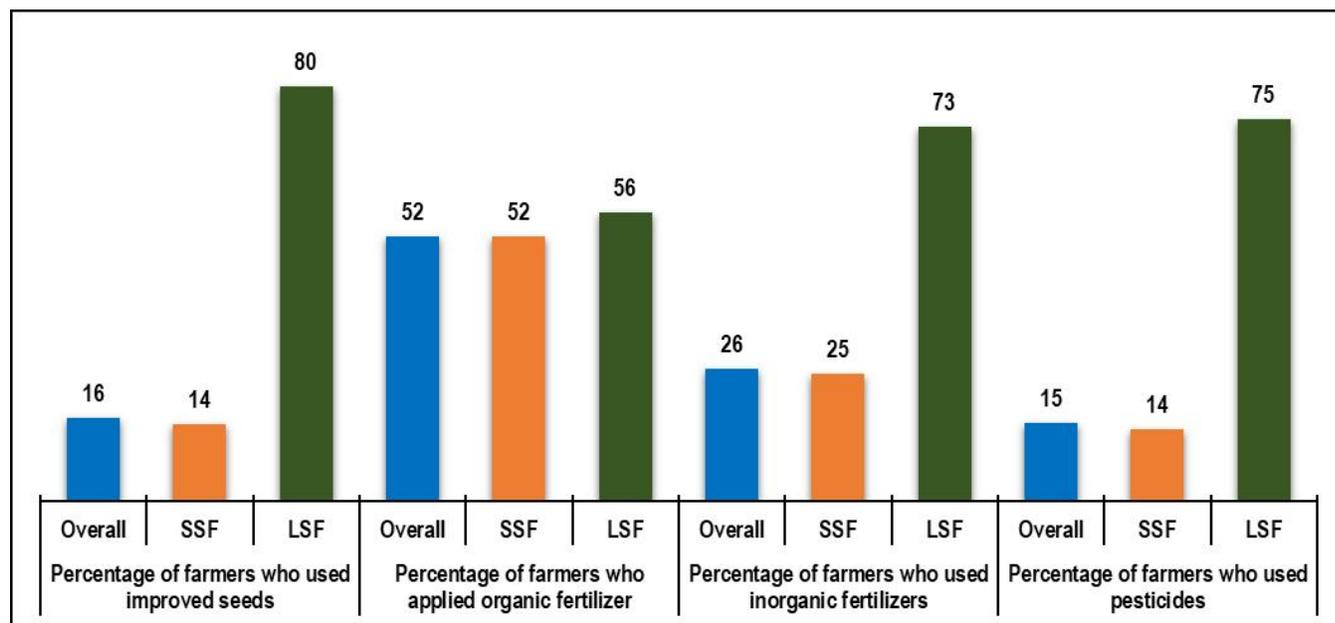
According to the SAS\_NISR 2020, the use of inputs was characterized by supply of improved seeds, fertilizers and pesticides.

The use of seeds in Season B of 2020, 16 % of farmers used improved seeds. According to farmer type, 14 % of small-scale farmers (SSF) and 80% of Large-scale farmers (LSF) used

improved seeds (See Figure 2). Improved seeds came from agro-dealers (41.6%), NGOs/companies (20.0%), government (13.1%), seeds multipliers (9.6%), market (9.4%), and 14 cooperatives (5.3%). Improved seeds were used mostly for crops such as paddy rice, vegetables, fruits, maize and wheat (See details in Tables,17,18,19 and 20). Survey further has shown that in season B of 2020, 52 % of farmers applied organic fertilizer in their farms. According to farmer type, 52 % of small-scale farmers and 56% of Large-scale farmers applied organic fertilizer.

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

**Figure 4: Use of inputs in Season B 2020 (in percentage)**



Source: NISR, SAS 2020

The figures in the graph suggest that small scale farmers are still far behind in terms of using both improved seeds and inorganic fertilizer at overall percentage of 14 and 25 for respectively when compared to the large scale farmers where this proportion stands at 80% and 73% respectively. This data raises concern on the performance of the Nkunganire programme where they are attaining their expected outcomes.

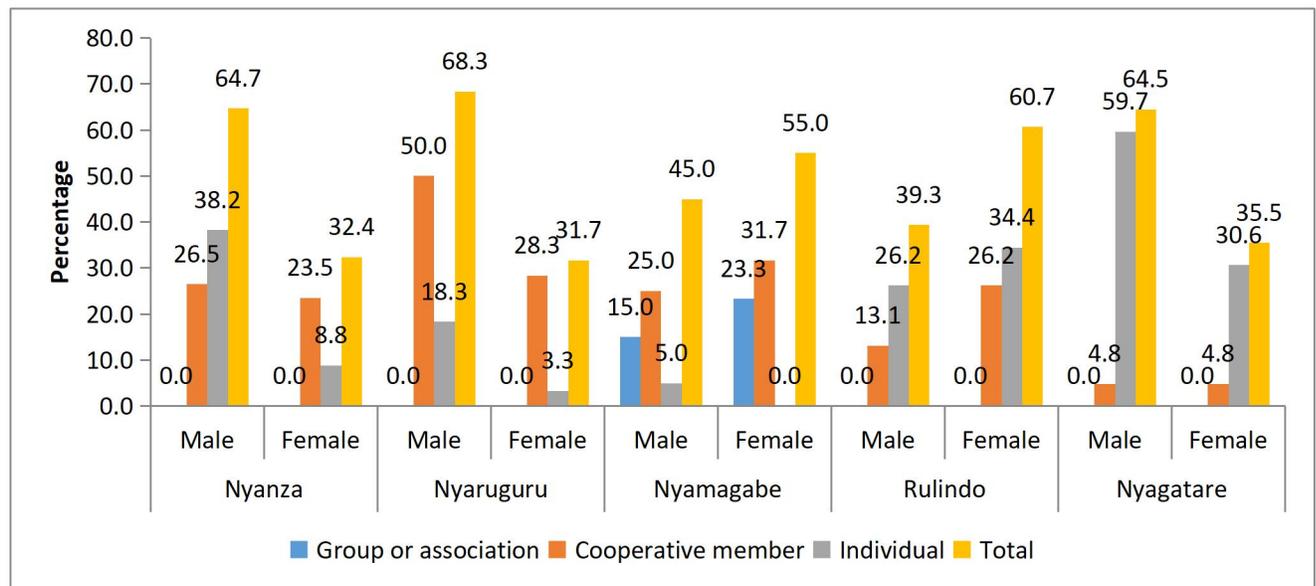
## 4 – Key Findings

### 4.1: Demographic characteristics of small scale farmers

#### 4.1.1 Distribution of SSF by Gender

The distribution of small scale by district are based on the total sample (n=309) respondents estimated to represent others from five districts of the research study.

**Figure 5: SSF by district and gender**

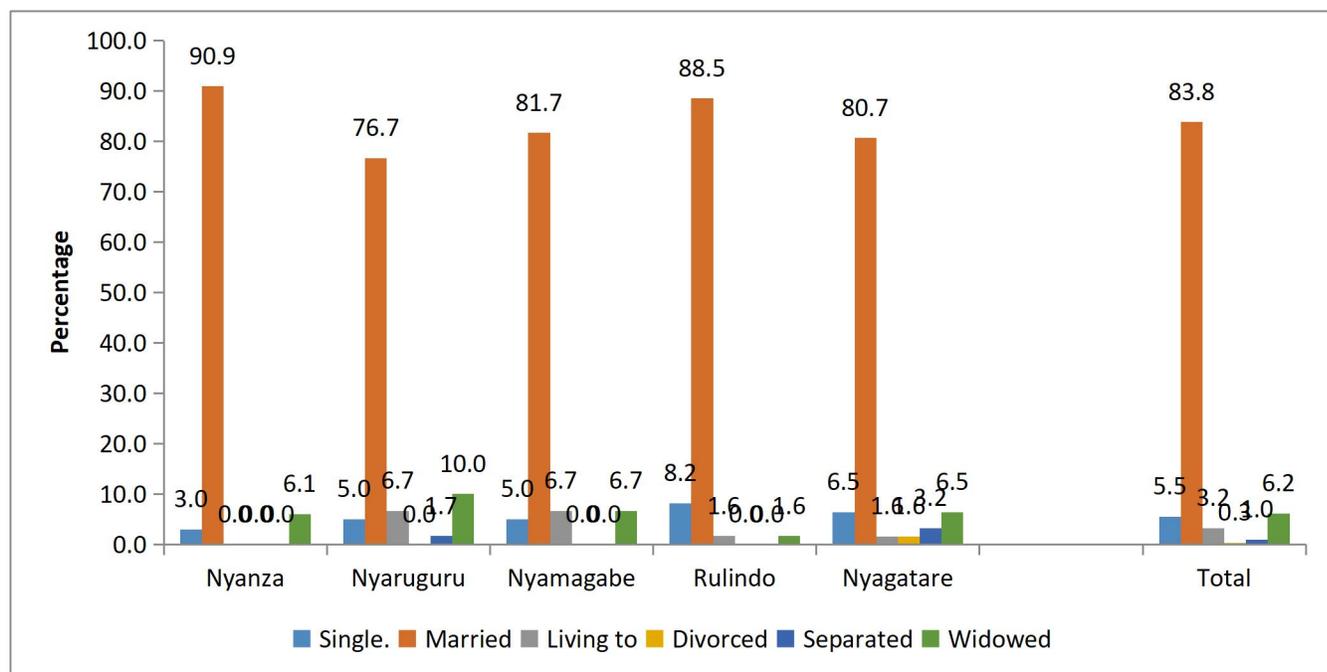


The data indicate that there were more females in Nyamagabe and Rulindo districts with 60.7% and 55.0% while males dominated the sample in Nyaruguru, Nyagatare, and Nyanza with 68.3%, 64.5% and 64.7 respectively. However, in general terms males participation is higher (56.7 %) in the sample as compared to females (43.3%) which translates into more men prefer using NKUNGANIRE program than females.

#### 4.1.2 Marital status of SSF

The proportion of small scale farmers enrolled in the Nkunganire programme by marital status across five districts (n=309) shows couples who live together without any official engagement leading

**Figure 6: Marital status of SSFs (n=309)**

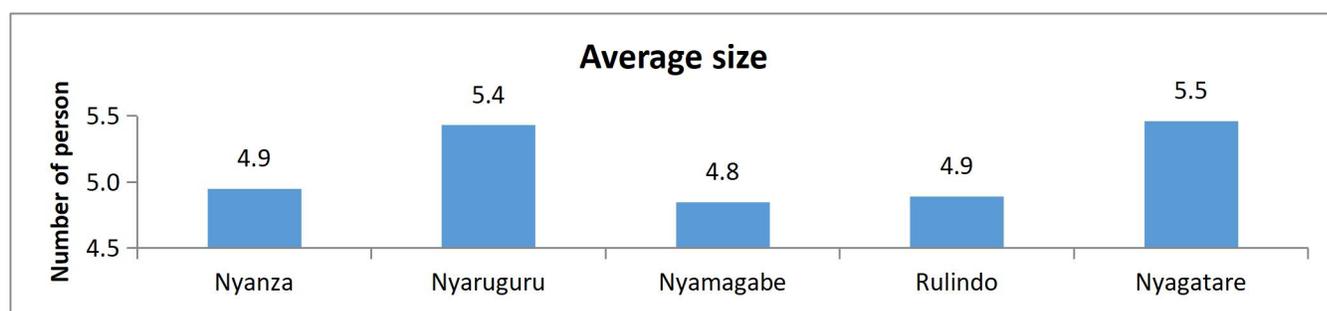


Almost all farmers in agriculture are married (84%) which is a good indication that even the farm produces are shared utilized by the individual households in harmony. There are about 6% of widowed and separated farmers.

#### 4.1.3 Household size

On average, the SSF households were composed of slightly above 5.5 members, Fig.6, (a household is defined as people typically eating together), which is a typical size of the Rwandan household size as per the most recent Rwanda Demographic and Health Survey (RDHS 2019/20) where this indicator was found at 5.3 person per household at national level

**Figure 7: Household size**



NISR, RDHS\_VI \_2019/20

#### 4.1.4 Categories of farming groups by gender and district

Farmers were grouped in categories of individual, members of associations and cooperatives. Farmers prefer farming in Cooperatives (47%) than in other modes but followed very closely by those who farm individually (46%). In gender wise (table3) male SSFs out-numbers female counterpart whereby in every 10 farmers 6 are males (n=309). However, further analysis indicate that women participation is higher in individual farming in districts of Rulindo (62%, n=60) and Nyamagabe (55%, n=60)

**Table 2. Sampled Categories of farmers per district per sex**

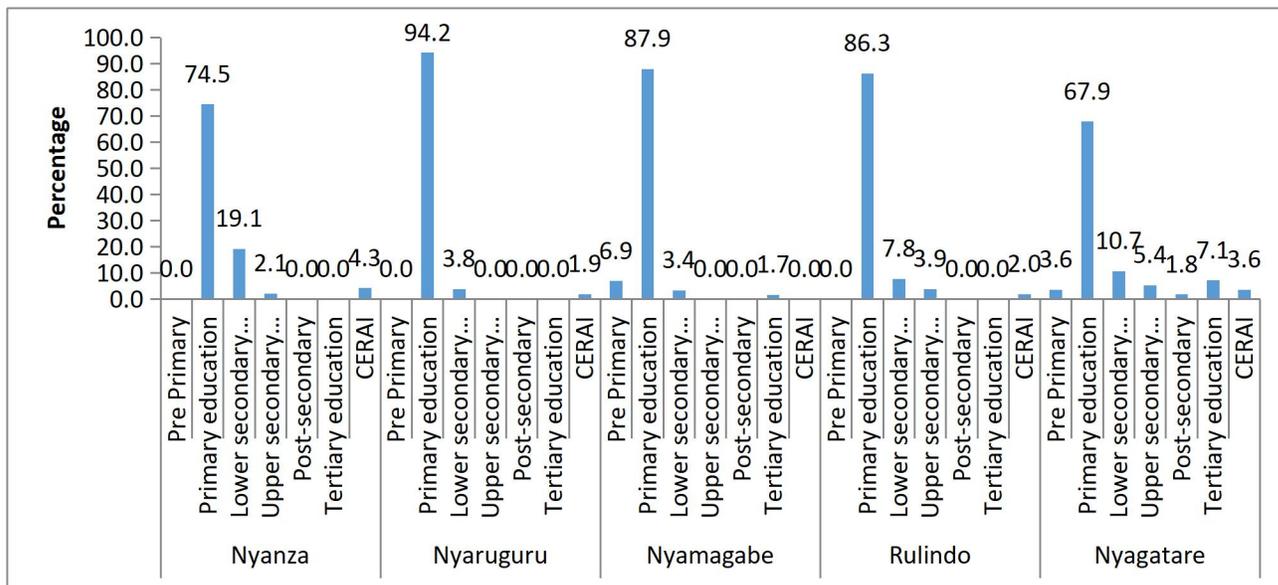
Categories/ District /sex	Nyanza		Nyaruguru		Nyamagabe		Rulindo		Nyagatare		Total
	M	F	M	F	M	F	M	F	M	F	
Group or association					9	14					23
Cooperative member	18	16	30	17	15	19	8	16	3	3	145
Individual	26	6	11	2	3		16	21	37	19	141
Total	44	22	41	19	27	33	24	37	40	22	309

#### 4.1.5 Education levels by district

The findings (figure 5) suggest that all farmers based on sample selected per each district have basic education required to help them undergo soft skills training for their farming activities. Over 70% of all farmers from all districts except Nyagatare have had primary school education. In Nyanza about 20% farmers of all groups attained lower secondary education followed by Nyagatare and Rulindo farmers with 10% and Rulindo. There is no significant difference It seems that level of education is not playing part in farmers decision of whether to join a cooperative or not for there is no significant difference between numbers of who farmer under cooperatives and individual farmers.

Very few farmers between 5% and 8% in Nyagatare showed during the survey that have reached upper secondary education and tertiary education

**Figure 8: Education level of SSF by group of farming**

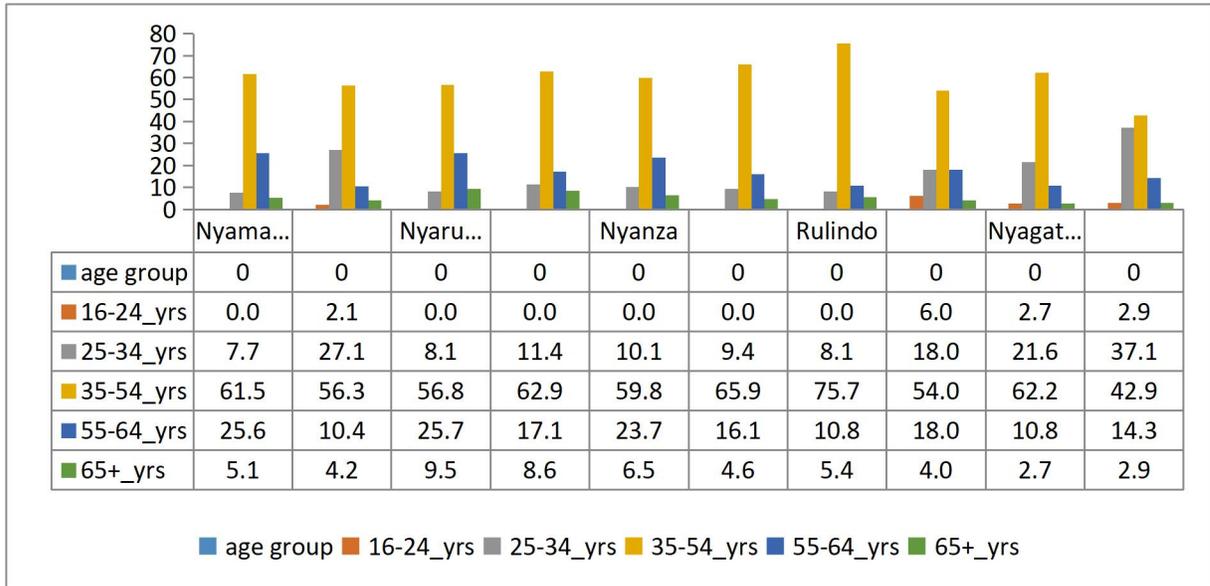


**4.1.6 Proportional participation of SSF in farming by age group and district.**

The assessment found that two age groups <sup>12</sup>middle-aged (35-54 yrs) and elderly (55-64 yrs) dominate the farming in all districts. Youth participation in agriculture is just below 5% down to no participation across all districts. The figures suggest that youths do not like farming rather they prefer off-farm work. This might be a serious issue when you measure numbers of would be income earners in a household and the amount of what is earned.

<sup>12</sup> Age groups adopted from EICV4, National Institute of Statistics of Rwanda, 2018

**Figure 7: Proportion of farmers by age group by district by gender**

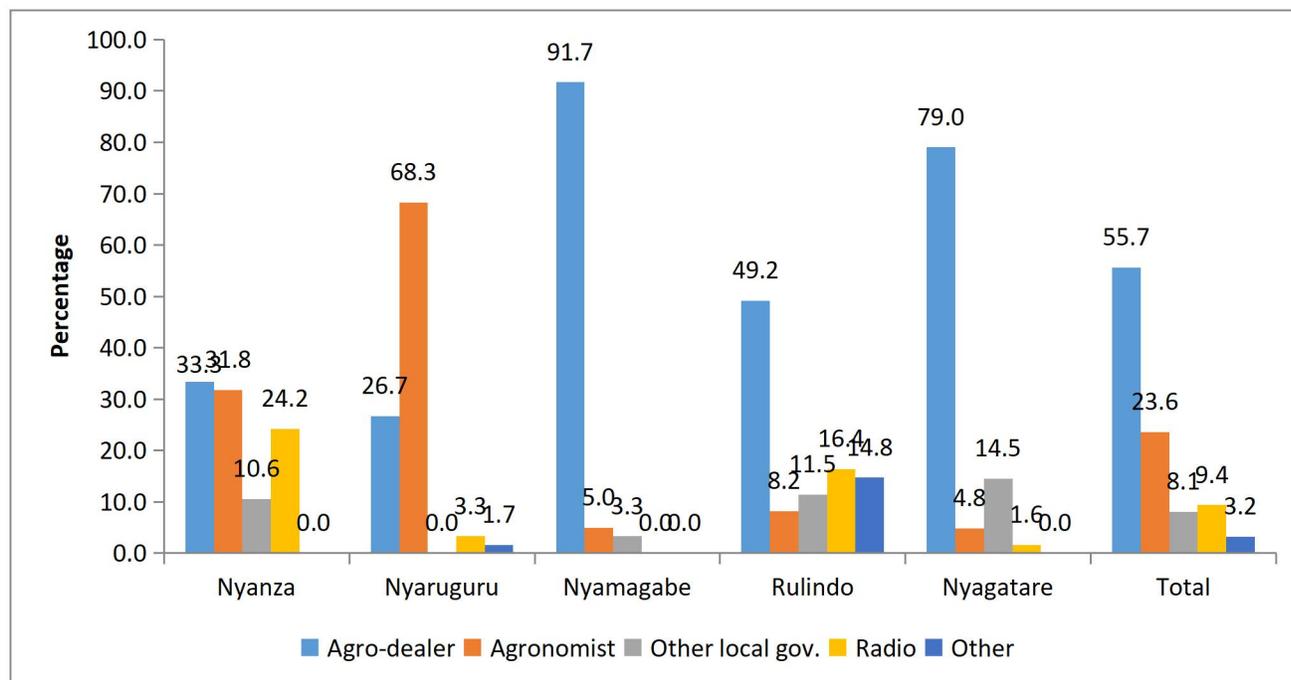


Gender wise both men and women participate in agriculture at the almost the same level in terms of numbers with Nyaruguru district having the higher share of the (n=309) proportions (M=9.5% and F=8.6%) compared to other districts.

## 4.2 Key products and services under Nkunganire programme

### 4.2.1 Channels of communication for Nkunganire

**Figure 9: Channels of communication for Nkunganire by District**

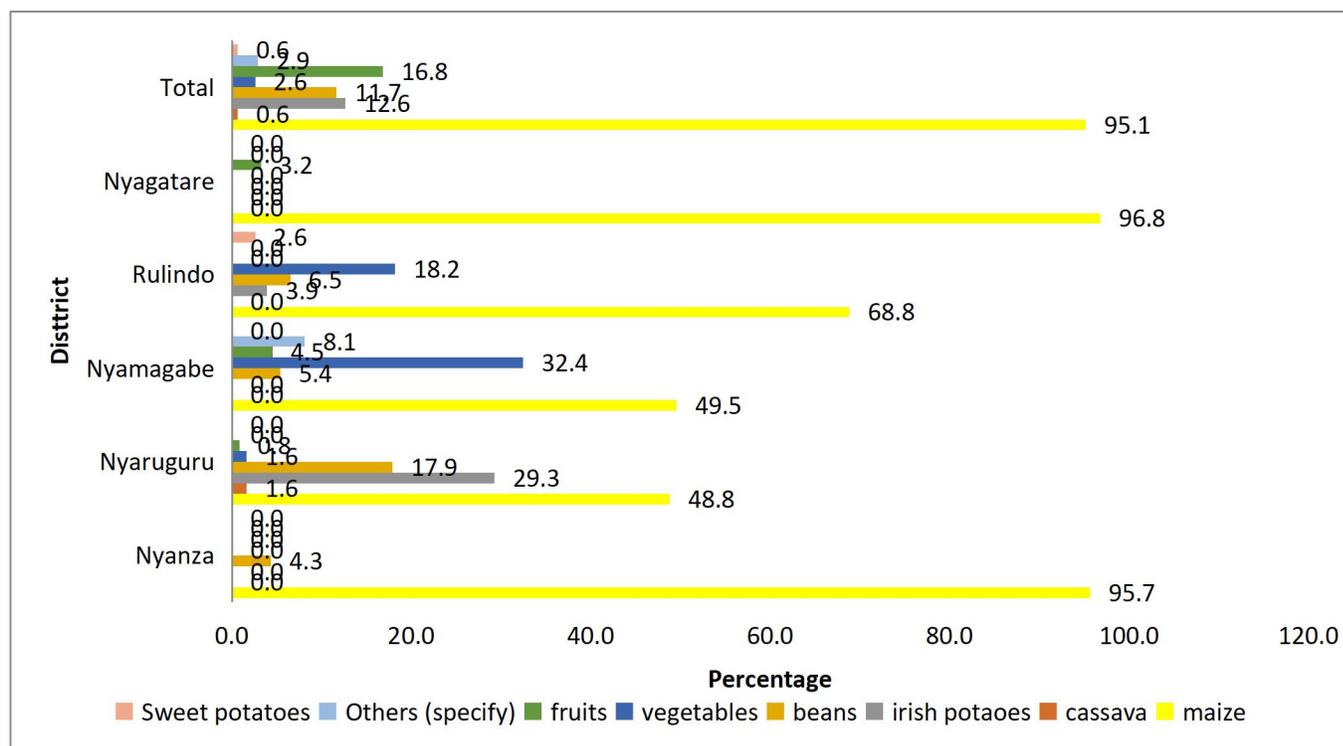


The agro-dealers are the main point of contact and communication for services provided by Nkunganire and the SSFs in almost all selected districts with about 56%, followed by agronomist 23.6% Radio by 9.4% and Local Leaders by 8.1%.

When disaggregated by district the data shows that the SSFs got information mainly through agro-dealers in Nyamagabe 92%; in Nyanza 33%, Rulindo 49%, and Nyagatare 79%. The agronomist channel mostly used in Nyaruguru district 68%, 31.8 % in Nyanza district, 92% in Nyamagabe, Rulindo 49%, and Nyagatare 79%. Nyaruguru districts has shown a difference where most of the farmers got information through Agronomist by 68%. Some other channels like through local government officials meetings, radio programmes, other channels like through a friend also help to communicate Nkunganire but at very minimal level.

#### 4.2.2 Nkunganire crops by districts

Figure 10: Nkunganire supported crop by District



The most supported crop in all district of study was Maize with 95% of the responses, followed by fruits (17% ), Irish potatoes and beans with 13% and 12% respectively. The type of crops may be different according to the district. For example except for maize irish potatoes is more supported in Nyaruguru than other districts. Some districts support crops which are not recognized by RAB as eligible crops such fruits.

#### 4.2.3 Nkunganire members in a district vs possession of smart Nkunganire

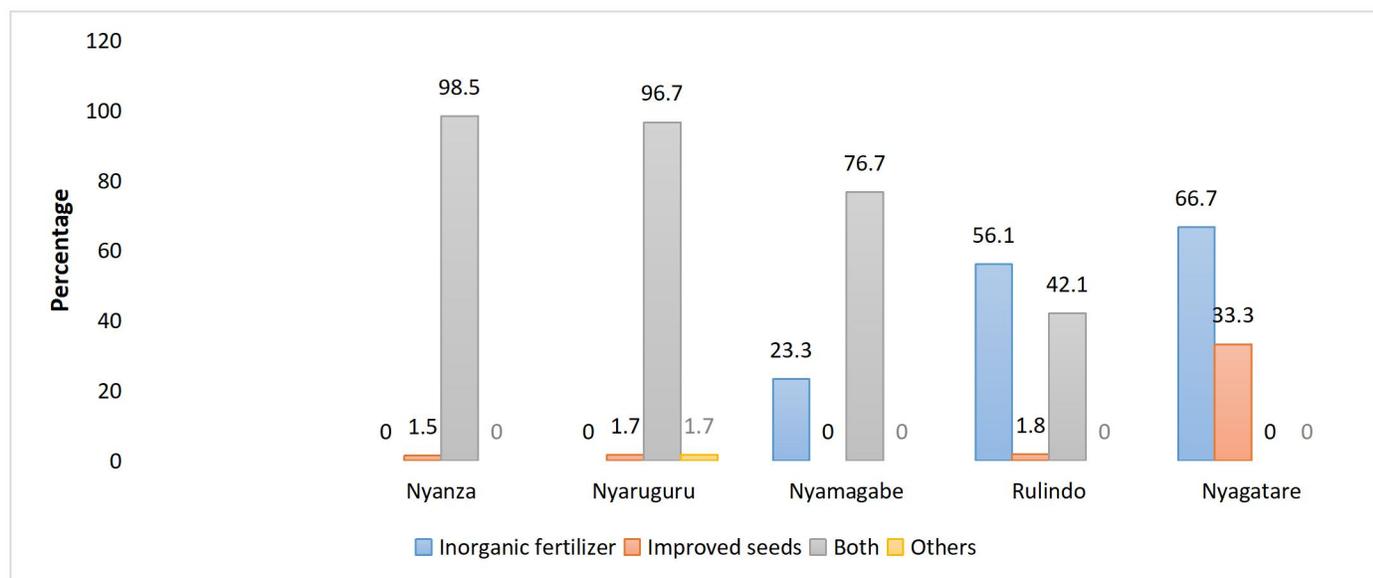
Table 3: Possession of Smart Nkunganire by district

District	Yes	No	Total
Nyanza	100	0	100
Nyaruguru	100	0	100
Nyamagabe	100	0	100
Rulindo	93.4	6.6	100
Nyagatare	100	0	100
Total	98.7	1.3	100

The interesting thing is that almost all farmers enrolled in Nkunganire programme have the Smart Nkunganire System installed in their phones for reliable use. Out of 309 sampled farmers who were interviewed across the five districts only 4 farmers found in Rulindo district don't have smart Nkunganire system.

#### 4.2.4 Distribution of Nkunganire services by district

**Figure 11: Distribution of Nkunganire services by district**

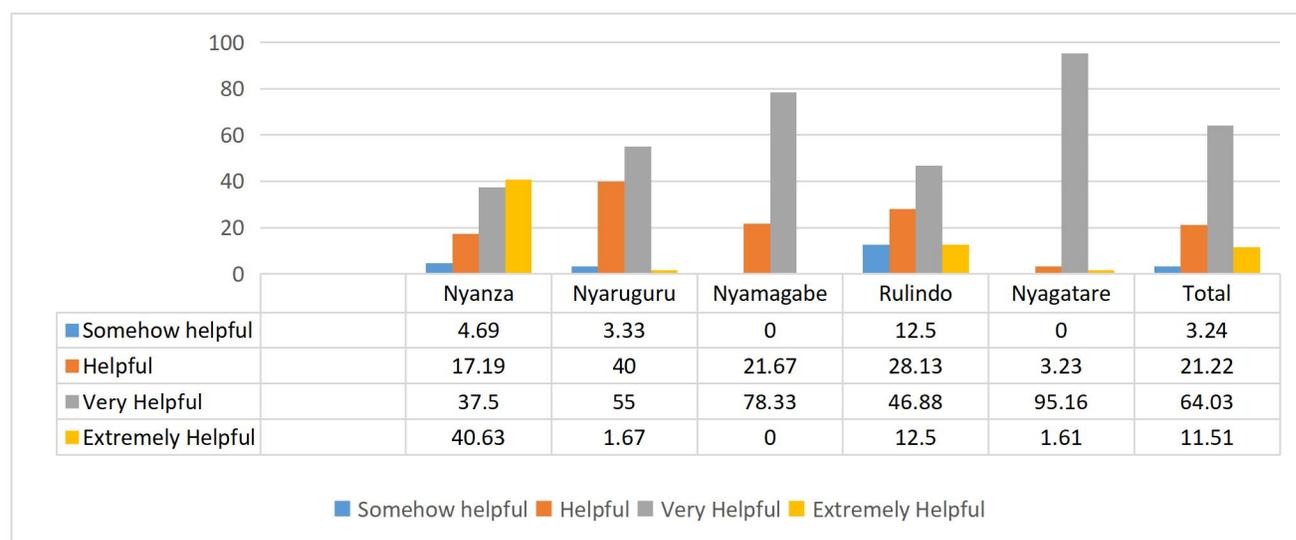


Around 78.5% of SSF in four districts mentioned to have accessed both services of Nkunganire that's fertilizer and improved seeds with Nyanza and Nyaruguru having the highest percentage, 98.5% and 96.7% respectively. In Nyagatare district some of the SSFs use either fertilizer(66.7%) or improved seeds (33%). In Rulindo and Nyamagabe districts though they have farmers who use both services but there are pockets of farmers said they use only fertilizer with (56.1%)and (23.3%) respectively. Some minute number said to have used only one of the service. The study revealed that where the use of fertilizer is down is because the farmers have an alternative of using organic fertilizer – manure. The KII interviews on the other hand disclosed that the low use of improved seed raises the speculation that farmers may be doing what is called “SAVING” whereby farmers save part of their production to be used as seeds in the next season. This practice is not allowed by RAB as it tends to reduce production.

The considerable big number of farmers accessing Nkunganire service as indicated in figure 11 of Nkunganire services (graph 11) is reflected on how it contributed to their farming in figure 12 below, whereby farmers perceived that the services from Nkunganire programme have been Very helpful (64%, n=309) and Extremely helpful (12%, n=309).

#### 4.2.5 Nkunganire contribution to agriculture

**Figure 12: Contribution of Nkunganire to agri-farmers**

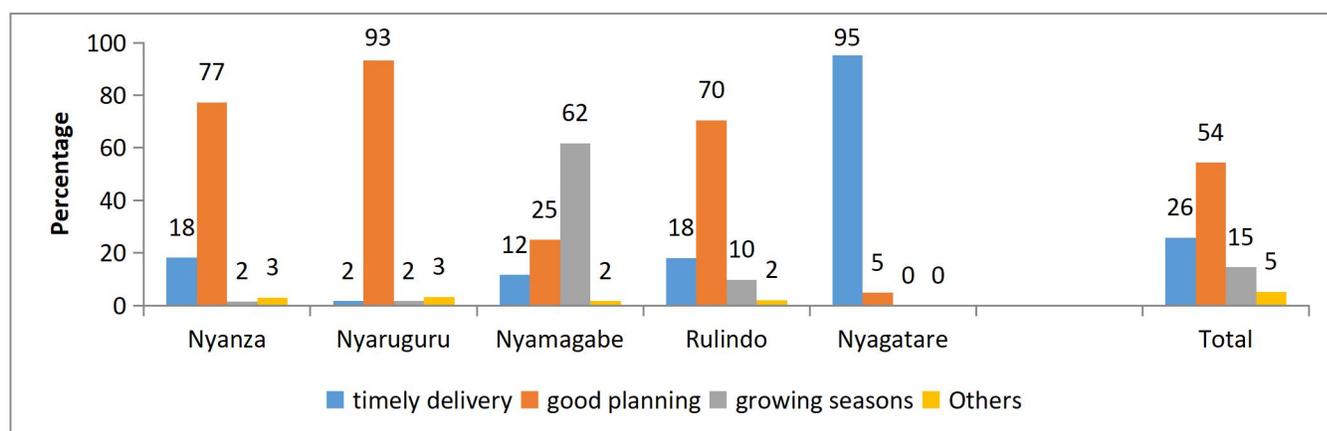


Over 8 out of 10 farmers mentioned to have benefited a lot from Nkunganire programme. It was presented when they perceived that the programme has been very helpful to extremely helpful.

Those who said the programme has been merely helpful and somehow helpful also pointed out the underlying causes of their failure as lack of proper information about using the agro-inputs as well as lacking information on the on-set of the agricultural season which in turn caused them to miss the planting period.

#### 4.2.6 Ways to improve the supply chain

Figure 13: ways to improve the supply



Farmers reiterated to a proper planning as the primary factor to improve the supply chain of agro-inputs whereby 5 farmers out of 10 mentioned it. Timely delivery was as well mentioned to be important with about 3 out of 10 farmers going for it. According to this study proper planning carries all factors and if is adhered to the rest of the factors will be solved

#### 4.2.7 Productivity per district per category of farming

The study related the information on the perception of farmers regarding the contribution of the programme Nkunganire in table 12 and what actually they got in terms of farming productivity. Farmers were asked about the increment of production in kg per acre by district. The study estimated an acre as the smallest unit measure of land for SSF may have or possess.

Table 4: Productivity per district per crop per category of farming

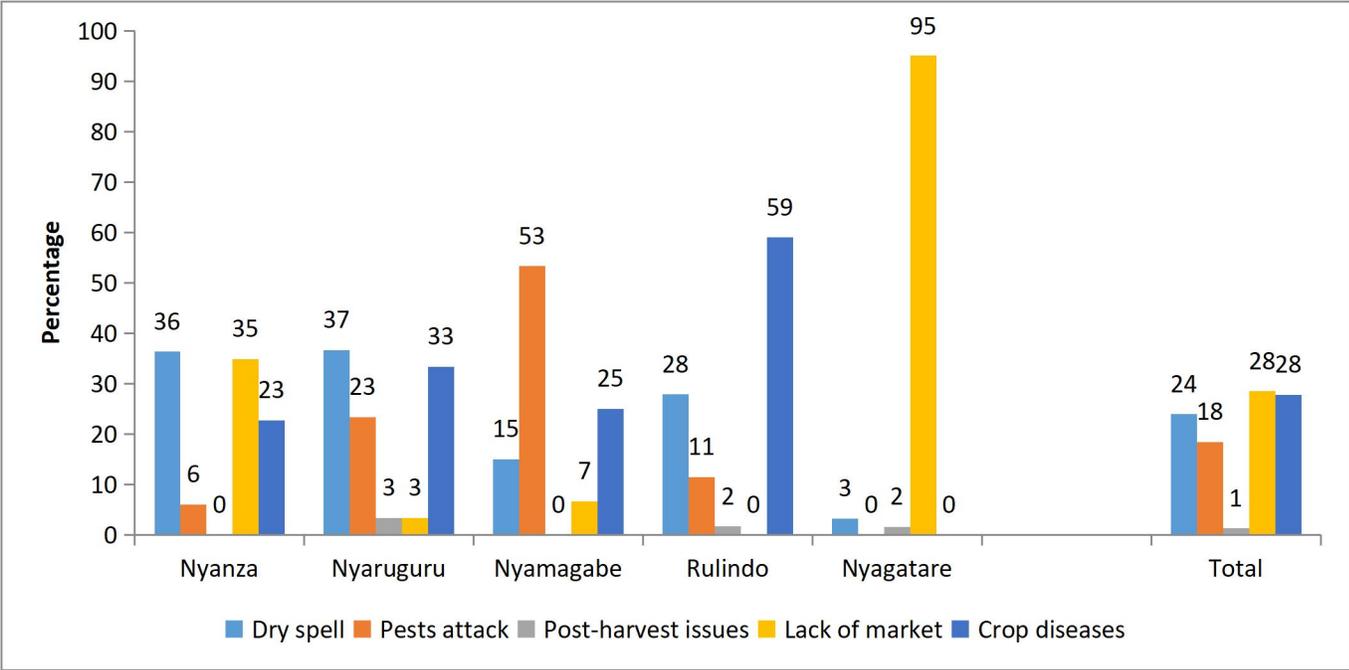
		Group association	or	Cooperative member	Individual	Total
		%		%	%	
<b>Nyanza</b>	10-20	0.0		64.7	53.1	59.1
	20-30	0.0		29.4	37.5	33.3
	30+	0.0		5.9	9.4	7.6
	Total	0.0		100.0	100.0	100.0
<b>Nyaruguru</b>	10-20	0.0		95.7	100.0	96.6
	20-30	0.0		4.3	0.0	3.4
	30+	0.0		0.0	0.0	0.0
	Total	0.0		100.0	100.0	100.0
<b>Nyamagabe</b>	10-20	100.0		100.0	100.0	100.0
	20-30	0.0		0.0	0.0	0.0
	30+	0.0		0.0	0.0	0.0

	Total	100.0	100.0	100.0	100.0
<b>Rulindo</b>	10-20	0.0	91.3	97.3	95.0
	20-30	0.0	8.7	2.7	5.0
	30+	0.0	0.0	0.0	0.0
	Total	0.0	100.0	100.0	100.0
<b>Nyagatare</b>	10-20	0.0	16.7	12.5	12.9
	20-30	0.0	83.3	85.7	85.5
	30+	0.0	0.0	1.8	1.6
	Total	0.0	100.0	100.0	100.0

Table 5 above represents that most farmers their production increased by 10 to 20 kg per acre with Nyaruguru, Nyamagabe, Rulindo districts recorded 95% to 100% of farmers having experienced that increase. In Nyanza district 6 out of 10 reported increases. The exception is for Nyagatare district where most of the farmers 86% their production increased by 20 to 30 kg per acre. This is contributed mostly by the size of land the SSFs own.

Nonetheless, some farmers across the five districts reported low productivity per acre. Apart from Nyamagabe district where 100% of farmers reported increase in production the rest of the districts had some pockets of households who had low productivity.

**Figure 14: Causes of Low productivity.**

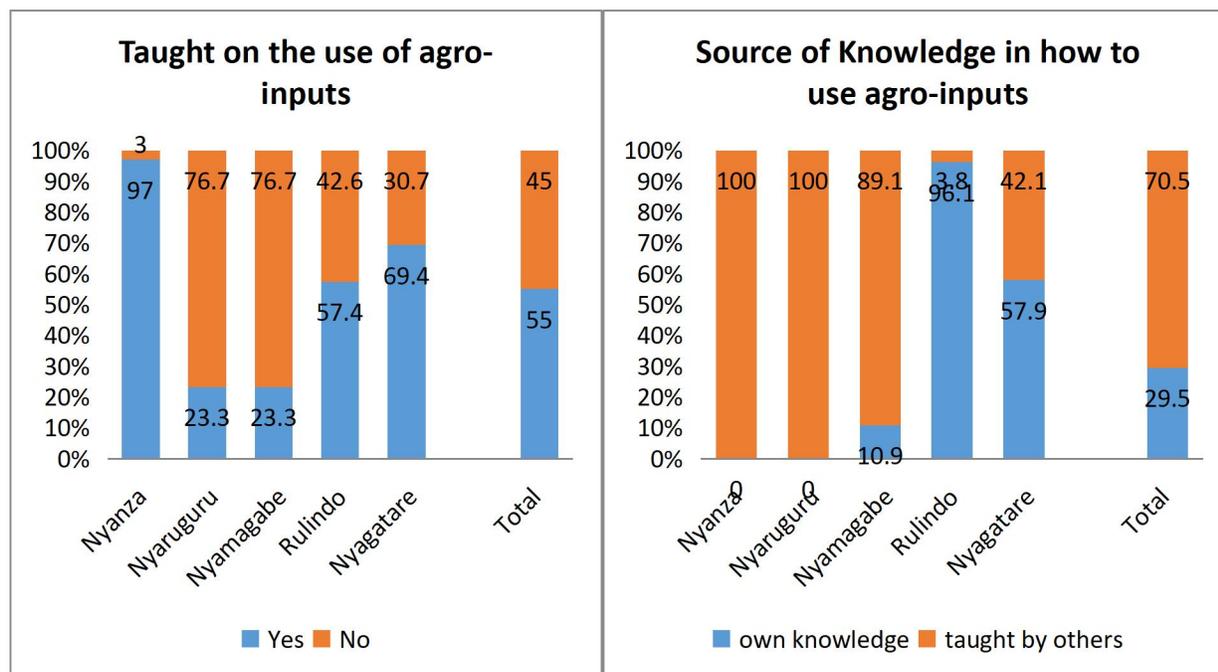


The data presented here indicate the causes of low productivity for those households by district. Generally lack of markets, crop diseases and dry spell were the most causes identified for low productivity with 28, 27.8 and 24 percent respectively. When disaggregated SSFs in Nyagatare

lowered their production due to lack of market (95 percent), while those in Rulindo were affected most by crop diseases (59 percent) and Nyamagabe due to Pests attack (53 percent)

#### 4.2.8 Usage of agro-inputs

**Figure 15: Usage of agro-inputs**

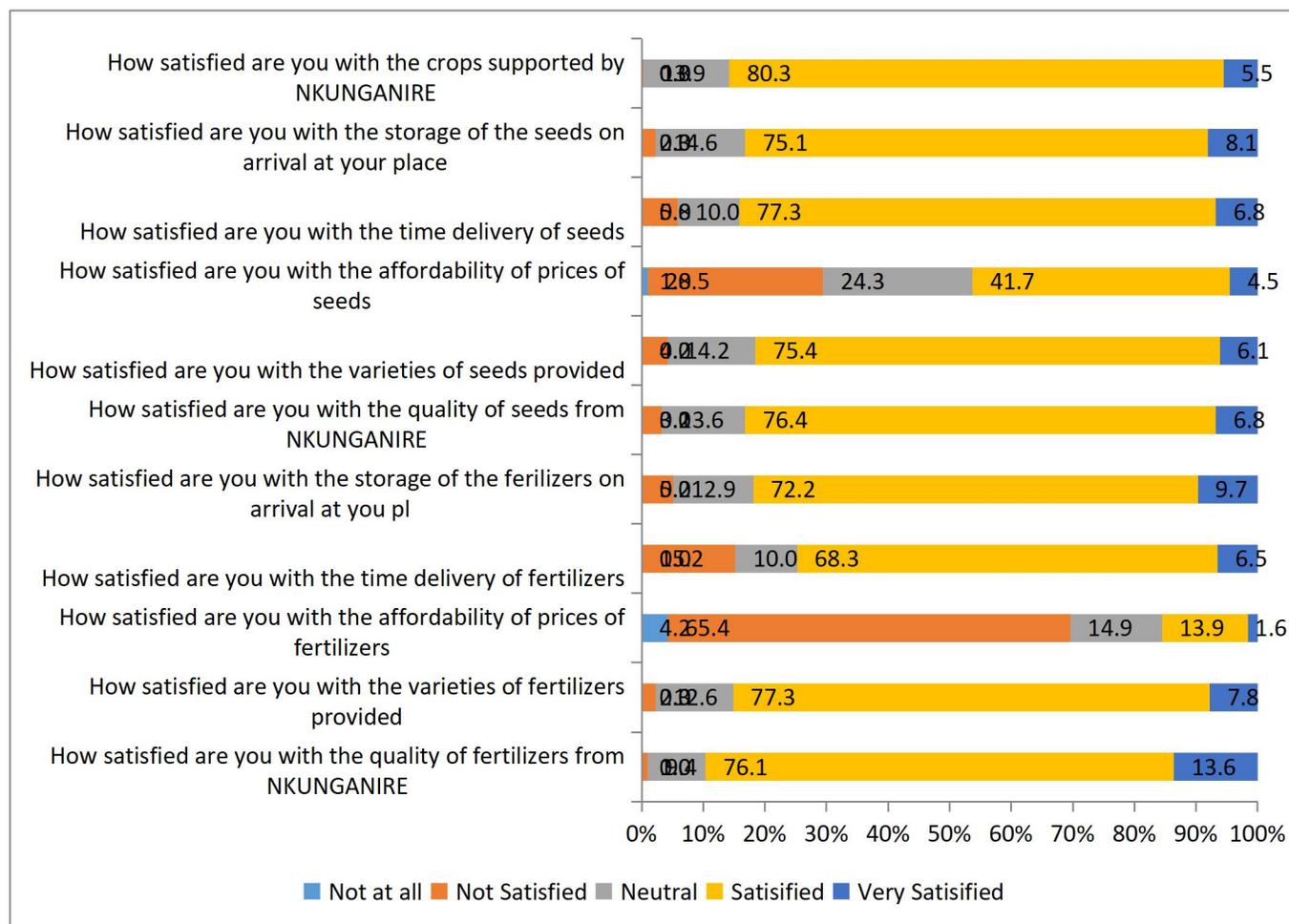


Generally farmers who got training and who do not on how to use the agro-inputs are more or less the same with the former recording 55% and the latter 45%. However this proportion is much lower in Nyamagabe and Nyaruguru, both with 23.3%. Other district seemed to be above the average. When farmers asked on the sources of knowledge they used to get skills on application of the agro-inputs most (71%) mention to have used the knowledge acquired from others or their colleagues and only 29% used their own self taught knowledge. This can have an impact of the production since there is no consistence.

#### 4.2.9 The level of satisfaction on NKUNGANIRE services by district and crop

The following section illustrates the satisfaction of SSFs on NKUNGANIRE services by crop for the District.

**Figure 16: Satisfaction of SSFs**



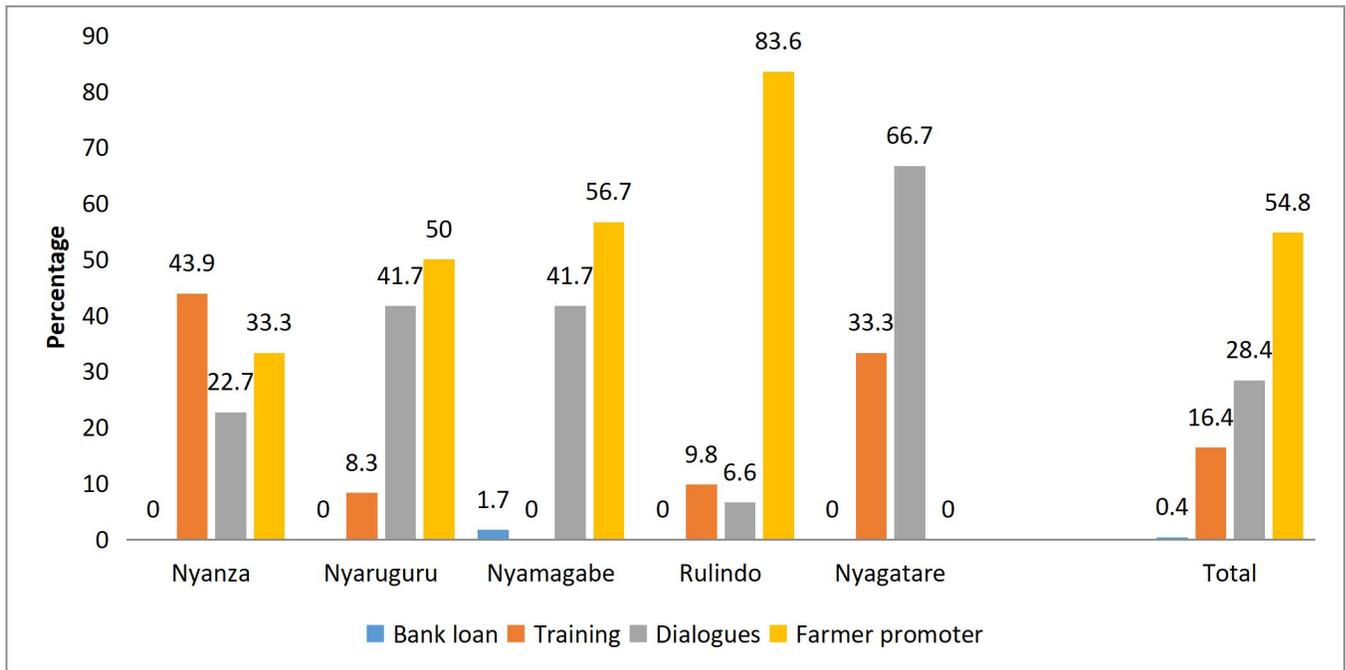
The findings has shown that beneficiaries of NKUNGANIRE program are satisfied on almost all factors as were asked on them related to the services offered except for the prices of agro-inputs whereby 85% said are not satisfied. The KII analysis also highlighted that the increase in price of the agro-inputs has been a big hindrance to the farmers.

RAB reported that due to importation costs by the suppliers who also were affected by among other factors, the transportation cost and the consequences of the covid-19 pandemic the new prices for farmers have increased by 15% for NPK and 23% for UREA.

#### 4.2.10 Services to the SSF

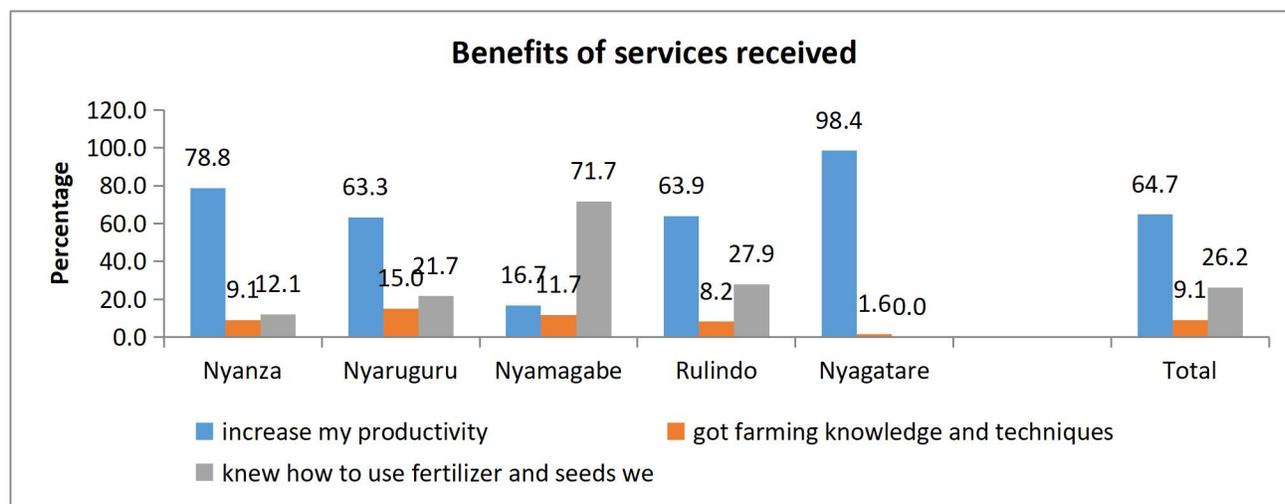
The survey on barriers faced by small scale farmers via NKUNGANIRE has show different prospective on services obtained from NKUNGANI RE and other outcome .

**Figure 17: Services farmers get vs outcome per district**



In the Nkunganire programe there are other services that farmers have access to apart from fertilizer and improved seeds. Generally, among services that SSFs get access to, we can mention meeting with farmers promoters (55%) who sensitize them on agriculture inputs and other modern ways like the agricultural techniques. In addition farmers has dialogues among them and can help them improving their agriculture practices. Further more 16 percent of the respondent confirmed receiving trainings on modern agriculture way and the use of agriculture as it is indicated in the figure below.

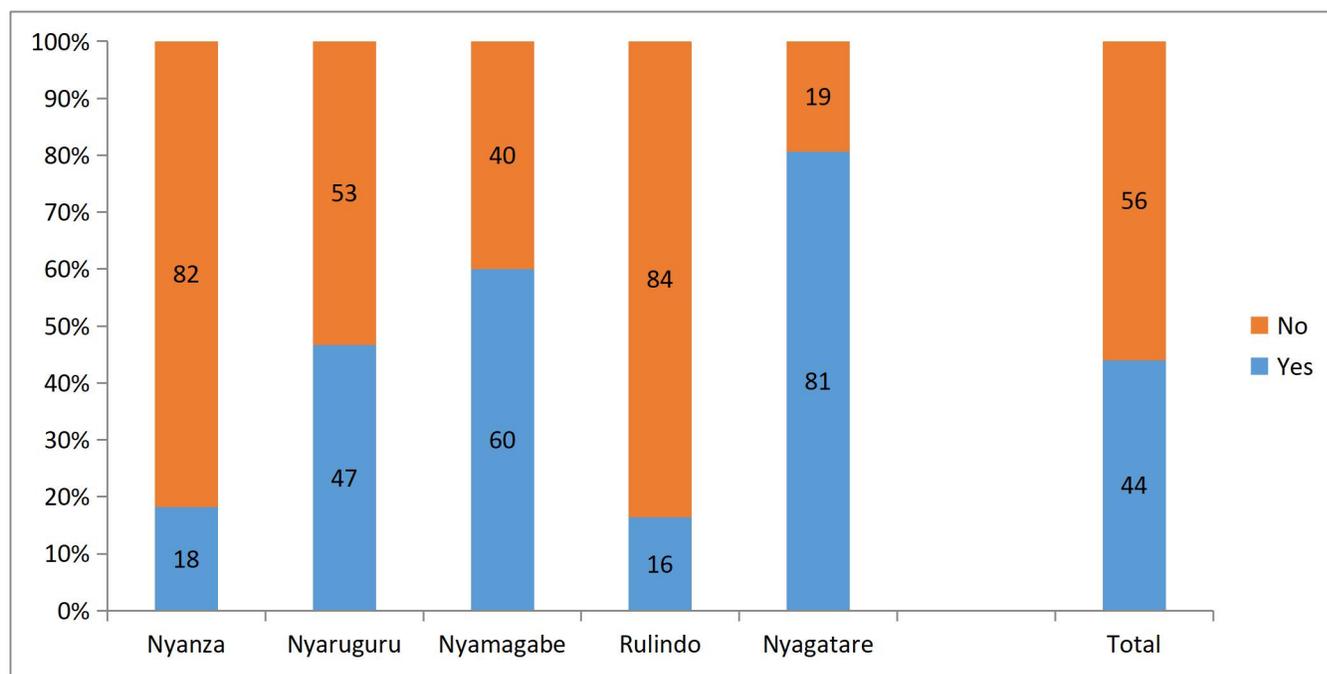
**Figure 18: Benefits of services received**



The increase in productivity was the mostly mentioned benefit among farmers coupled with the gaining of the technical know-how on the use of the agro-inputs.

**4.2.11 Percentage of SSFs facing barriers to access Nkunganire per district**

**Figure 19: Percentage of people facing barriers to access Nkunganire per district**

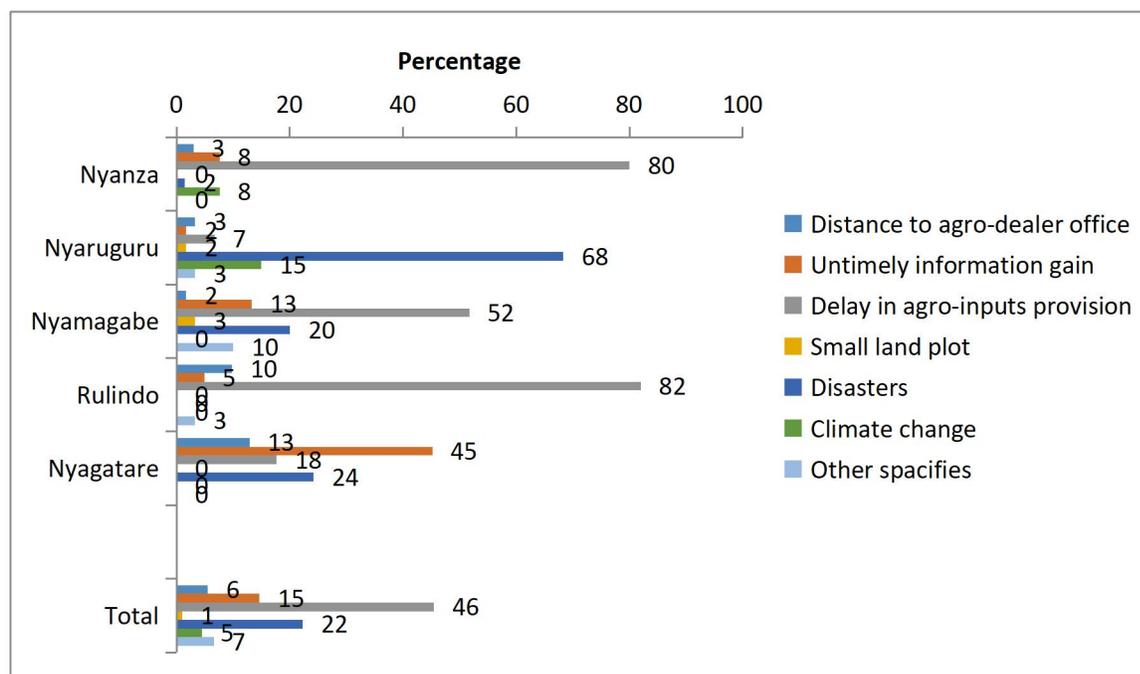


The number of farmers facing barriers to access Nkunganire services and who are not, is literally not significantly different. Which means those who face barriers are slightly fewer (4 farmers out 10) than who are not facing (6 out of 10) . The statistic suggest that there is

problem because the 40% being facing barriers is a big number. In Nyagatare and Nyamagabe is even higher the total average whereby those who complain are 81% and 60% respectively.

The findings further disclosed barriers facing farmers to access Nkunganire services. The figure 13 illustrates that there are six main barriers which were mentioned by farmers. Generally the major constraint according to farmers delay in delivering the agro-inputs to their areas of vicinity (46%), and the second major cause is the distance walked to where the agro-dealers are. Farmers also complained about untimely information about the agro-inputs leading to in turn a delay in collection and consequently delay in land preparation. Some other farmers mentioned climate change as a cause.

**Figure 20: Types of barriers mentioned by farmers per district**



In disaggregate the most mentioned cause of barriers to access Nkunganire services in Rulindo district farmers mentioned delay of delivery of agro-inputs in Rulindo by 82%, Nyanza district by 80%, and Nyamagabe 52%. Other cause are distance travelled to meet an agro-dealer whereby Nyaruguru 68% mentioned it and in Nyagatare 45% mentioned untimely information receipt. Farmers don't get information in time, the channels of communication which most mentioned i.e., agro-delaer and agronomy officials are not functioning properly. During the KII sessions it was also revealed that there are some other barriers which hinder farmers to access Nkunganire services including lack of markets to sell their surplus, mind-set problem with taboo elements, saving seeds, not using right or recommend measurement of seeds and fertilizers.

**4.2.13 Ways to improve Nkunganire per district**  
**Table 5: Ways to improve Nkunganire per district**

	Nyagatare	Nyamagabe	Nyanza	Nyaruguru	Rulindo	Grand Total
<b>Crops/Seeds appropriate to the land</b>	4.8	3.4	3.2	3.4	0.0	3.0
<b>Field visits</b>	0.0	0.0	0.0	0.0	3.5	0.7
<b>Follow-up of implementation</b>	1.6	0.0	0.0	0.0	0.0	0.3
<b>Government intervention</b>	0.0	0.0	0.0	0.0	5.3	1.0
<b>Reducing price imposed on Nkunganire</b>	43.5	47.5	55.6	50.0	22.8	44.1
<b>Increase the number of agro-dealers</b>	1.6	5.1	6.3	3.4	10.5	5.4
<b>Loan provision</b>	4.8	0.0	0.0	0.0	1.8	1.3
<b>Market of the production</b>	12.9	0.0	1.6	6.9	0.0	4.3
<b>Other agriculture support</b>	3.2	0.0	0.0	0.0	0.0	0.7
<b>Pay after harvesting</b>	0.0	0.0	0.0	0.0	1.8	0.3
<b>Pesticide provision</b>	0.0	3.4	23.8	22.4	0.0	10.0
<b>Provide Trainings</b>	11.3	10.2	3.2	5.2	1.8	6.4
<b>Provide Trainings/ Technology</b>	0.0	0.0	0.0	0.0	28.1	5.4
<b>Sensitization</b>	0.0	0.0	0.0	0.0	10.5	2.0
<b>Timely delivering Nkunganire product</b>	16.1	30.5	6.3	8.6	14.0	15.1
<b>(blank)</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Grand Total</b>	100.0	100.0	100.0	100.0	100.0	100.0

Farmers across the five districts (n=309) were asked to mention modalities of ways in which the Nkunganire programme could use to improve their services they offer to farmers. Seventeen (17) modalities were mentioned but the most frequently mentioned are; To reducing prices that are imposed on NKUNGANIRE (44%); Timely delivering Nkunganire product (15%); provision of pesticides (10%); provide training on modern farming skills (6.4%); increase the agro-dealer network (5.4%); Market linkages for their production (4.3%) and crops and or seeds who are appropriate to the land (3%).

## 5.2.6 Percentage of access to financial institution per district by gender

**Table 6: Percentage of access to financial institution per district by gender**

<b>District</b>	<b>Male</b>			<b>Female</b>		
	Yes	No	Total	Yes	No	Total
<b>Nyanza</b>	15.9	84.1	100.0	9.1	90.9	100.0
<b>Nyaruguru</b>	26.8	73.2	100.0	26.3	73.7	100.0
<b>Nyamagabe</b>	85.2	14.8	100.0	81.8	18.2	100.0
<b>Rulindo</b>	79.2	20.8	100.0	73.0	27.0	100.0
<b>Nyagatare</b>	40.0	60.0	100.0	31.8	68.2	100.0
<b>Total</b>	43.2	56.8	100.0	51.1	48.9	100.0

Among females 51 percent of them had accessed any financial services to cope with agriculture where this proportion is about 43 percent among males. The data has shown that females are more likely to join financial services than males. Comparison on the district level shows that female of Nyamagabe have accessed financial services (82 percent) at a high rate compared to other selected district. The same has been observed also among males of the same district.

## **5 – Conclusions**

The willingness and efforts of the GoR to empower the small scale farmers is not in vain. Tangible results have been achieved in terms of numbers; that now 1.5 million SSFs are enrolled in Nkunganire programme benefiting from various services the programme offers. In the last two agricultural seasons 2021A and 2021B the programme has distributed a total amount of 27,915,339, 20,495,451 and 19,715,918 kilograms of mineral fertilizer mainly being DAP, NPK and UREA, respectively and 1,461,7871 Kg of improved seed of wheat, 206,488 kg of improved seed of Soya, 3,279,447 Kg of improved seed Maize improved seed; especially maize, Soybean, and Wheat to all 30 districts in the country.

The GoR through RAB has expanded the Nkunganire programme in order to cater for other services Irrigation support subsidy amounting to 50% and agro-insurance of up to 40% which is offered to SSFs as well depending on their ability to cover the difference. Provision of fertilizer and improved seeds started as promotional activity by giving out the products for free but now people (SSFs) are able to contribute to the cost of the agro-inputs which is an achievement. The productivity has increased among individual SSFs in terms of crop productions and asset development. After thirteen (13) years of existence the programme has continuously supported the farmers due to the fact it is achieving this goals and objectives of providing the agricultural inputs subsidy program to increase agricultural productivity among smallholder farmers in Rwanda.

Over 8 out of 10 farmers mentioned that Nkunganire programme has been very helpful in their lives in terms of farming. The perception was confirmed by increase in productivity per acre as the smallest unit of land a SSF might have where all SSFs across the surveyed area reported an increase of production of on average between 10 kg to 30 kg per acre. Additionally, the programme has introduced a multiplier effect by providing jobs and employment among SSFs and other local people in the rural area.

Despite these achievements which have been attained the SSFs are still facing barriers to access Nkunganire services around the surveyed five districts (n=309).

Farmers who said they do face barriers to access the programme's services are close to half of the surveyed population (n=309). This shows that the hypothesis of this analytical study was true and relevant.

Generally, the major constraint according to farmers is a delay in delivering the agro-inputs to their areas of vicinity (46%), and the second major barrier is the distance

walked to where the agro-dealers are. Farmers also complained about untimely information about the agro-inputs.

The most barriers mentioned by farmers by district are: Delay of delivery of agro-inputs in Rulindo district by 82%, Nyanza district by 80%, and Nyamagabe 52%. Other barriers are distance travelled to meet an agro-dealer whereby Nyaruguru mentioned by 68% and in Nyagatare 45% mentioned untimely information receipt. Farmers don't get information in time, the channels of communication which most mentioned i.e., agro-dealer and agronomy officials are not functioning properly.

Nonetheless, the findings revealed the modalities with which if implemented by the programme is expected to improve its services and reduce the barriers or remove them altogether. There are Seventeen (17) modalities were mentioned but the most frequently mentioned are; To reducing prices that are imposed on NKUNGANIRE (44%); Timely delivery of Nkunganire product (15%); provision of pesticides (10%); provide training on modern farming skills (6.4%); increase the agro-dealer network (5.4%); Market linkages for their production (4.3%) and provision of seeds who are appropriate to the land (3%).

Furthermore, the data indicate that all farmers based on sample selected per each district (n=60) have basic education required to help them undergo soft skills training for their farming activities. Over 70% of all farmers from all districts except Nyagatare have had primary school education. In Nyanza about 20% farmers of all groups attained lower secondary education followed by Nyagatare and Rulindo farmers with 10%.

Very few farmers between 5% and 8% in Nyagatare showed during the survey that has reached upper secondary education and tertiary education. This education status is enough to allow farmers undergo skills training for their better farming practices. Besides, the soft trainings will enable them overcome the mind-set problem which hinders them from attaining other levels of farming or graduating from where they are now to another high level of livelihoods.

Participation of youths in the agriculture activities is still a problem bearing in mind that agriculture is the main livelihood strategy in the rural areas where these youths live. The youth aged 16-24 years are those entering the labour market after completing school and the age group 25-34 are those who are in their prime working hours. The two age groups are both youths and are in the working age population according to NISR. Their active participation in agriculture is lower compared to their elders especially men at as low as 7% while their sisters women showed to participate in agriculture by 21%. More women youth engage in farming in Nyagatare by 37% and Nyamagabe by 27%.

## 6 – Key Insights

- The report describes selected factors regarding NKUNGANIRE services in the five districts and how farmers are satisfied with their activities. According to the findings it small scale farmers' are unsatisfied with the price of agricultural inputs and the way that they requested to pay before harvesting.
- There is a tendency of farmers avoiding to buy new seeds each growing season instead the use the so called “saving” whereby a farmer keeps some amount of produce to use it as seeds in the following season. This is not acceptable as per RAB rules because it lowers production.
- Farmers in certain time don't use the agro-inputs in the right way in terms of recommended quantities per land size .
- Bank loans interest rates are very high to SSFs. Some crops such as cassava have long gestation period and the banks don't consider this to grant a grace repayment period for it long and could not be accommodated in their credit rules.
- The government in intending to graduating from implementing the programme and hand it over to private sector. The government will remain with the role of a facilitator
- Enrollment of farmers into the SMART NKUNGANIRE is a progression activity so that farmers' level of education, age, technical know-how in SMART NKUNGANIRE, and even ownership of land is different depending on when the individual farmer was recruited. This fact makes a bit cumbersome barriers of all together regardless of their time of enrollment in the program.
- List or database of farmers in each sector and eventually district must be regularly updated in order to have accurate information of who is actually in and active in the programme.
- In an effort to understand the state of markets available for SSFs and also to easy the issue of knowing land size of each farmer, RAB is expecting to conduct market profiling and capturing of Biodata of each farmer in collaboration with Rwanda Land Management and Use Authority for UPIs. This will help farmers during securing bank loans.
- The system intends to bridge the communication gaps between all stakeholders involved in the “Agriculture Subsidies Management Program”.
- Lack of markets sometime discourages farmers to increase production for they know they have nowhere to sell their surplus.

Some key points to include in the report based on information we discussed with various personnels involved in the sector (our member organizations working with farmers day to day & our farmer beneficiaries). They informed us that:

- Seeds produced in Rda are giving less compared to those imported (in quantity/ productivity and quality of produces). Producing seeds inside the country is a very great initiative to support, but it should be insisted on improving the seeds' quality in terms of production per area and quality of final production.
- Seeds cultivated "once" is not a practice to support! Scientifically, it is possible to produce seeds allowing farmers to save seeds for next season. Why still forcing them to purchase seeds every season while they are expensive?
- Some seeds provided to farmers are not well adapted to their lands/ regions, resulting in poor or late production. Testing seeds to each region will be needed before wide dissemination (Good enough they are being produced locally, it will be easy and good to be tested by region).
- Irrigation toolkits that have been put into NKUNGANIRE package, farmers are allowed to buy them once recently. It's a challenge, because they are expensive (compared to the purchasing power of farmers) and their some accessories do not last longer (Ex: Pipes need to be replaced 6-12 months, period that a farmer has not earned enough to buy others by his/ her own funds alone).
- Pesticides: Pests & diseases are increasing, making farmers spending a lot on pesticides & insecticides, while they are not part of NKUNGANIRE.
- Post harvest facilities: More efforts were put on Maize alone, while there are other crops facing the challenges, like cassava, potatoes, perishable fruits & vegetables, beans,
- Any information captured about "LIME", especially in Nyaruguru & Nyamagabe? It was promised that the Gvt will see all possibilities to include it in Nkunganire & we need to point the progress & the magnitude of the need.

## 7 – Specific Actionable and Prioritized Recommendations.

In order to improve production and income as well as scaling up the beneficiaries to reach the project target population, the following are key recommendations from this study:

<i>Issue</i>	<i>Rationale</i>	<i>Recommendation</i>
<i>1.To increase farmers' productivity: performance of production and its related factors; land, inputs, skills and financial support</i>	<ul style="list-style-type: none"> <li>• Improper use of agro-inputs due to lack of training on the recommended farming methods.</li> </ul>	<ul style="list-style-type: none"> <li>• The CSOs should invest in advocacy to the government and donors to implement structured training to improve the SSFs level of understanding on how to use the agro-inputs properly.</li> </ul>
	<ul style="list-style-type: none"> <li>• Delayed delivery of agro-inputs to farmers leads to improper planting which does not match the growing season well. Frustrations brought about by any delays costs the industry a lot in terms of time and money.</li> </ul>	<ul style="list-style-type: none"> <li>• Districts and sector authorities should put in place and reinforce a mechanism to ensure sufficient and timely supply of inputs to farmers is guaranteed to meet with particular growing seasons.</li> <li>• Rwanda Agriculture Board should increase the network of agro-dealers and improve the supply chain of the inputs</li> </ul>
	<ul style="list-style-type: none"> <li>• High ban loan interest rates to farmers with no payment grace period</li> </ul>	<ul style="list-style-type: none"> <li>• The government through central bank should formulate financial policy on SSFs which favors their conditions and type of livelihoods to ensure that they are able to acquire loans and payback swiftly.</li> </ul>
	<ul style="list-style-type: none"> <li>• Long walking distance to find agro-dealers is reported among the major</li> </ul>	<ul style="list-style-type: none"> <li>• RAB should increase the network of agro-dealers across the districts to reduce the walking distance.</li> </ul>

<i>Issue</i>	<i>Rationale</i>	<i>Recommendation</i>
<i>2. Low level of youth participation in farming</i>	<p>barriers to access Nkunganire services</p> <ul style="list-style-type: none"> <li>• In all respondents from four districts (n=309) , there were only 22% of youth (both women and men). And there were 43% of women in all respondents (n=309). Although the selection was a statistical probability method, yet, the chances of youth to be selected was small because their participation in the NKUNGANIRE is still low.</li> </ul>	<ul style="list-style-type: none"> <li>• The local government authorities should create an enabling environment to attract youth to join agriculture activities. The establishment of training centres for youth on farming skills and technologies.</li> <li>• CSOs should organize special educational programmes for youth on the role of cooperatives and advantages on a routine and continuous basis.</li> <li>• CSOs should ensure a nexus is built with between cooperatives and youths for the promotion of their participation in cooperatives and introduced the concept of youth membership.</li> <li>• CSOs should organize and conduct a comprehensive research and evidence base for best practices to inform development partners on youth participation in cooperatives, gaps and their barriers.</li> </ul>
<i>3. Markets and market linkages</i>	<ul style="list-style-type: none"> <li>• Key informants pointed out that lack of markets affects farming by reducing the will of farmers to increase production and hence bar them from accessing the Nkunganire products.</li> </ul>	<ul style="list-style-type: none"> <li>• CSOs should continue advocacy for MINICOM and RAB establish proper market information channels for producers to use for sale of their produces. This will help them pay for bank loans and plan for future development of their livelihoods.</li> </ul>
<i>4. Timely Information sharing regarding NKUNGANIRE services and growing</i>	<p>Four farmers out ten (n=309) mentioned Untimely information receipt as a major barrier to access Nkunganire services. Also they said their main channels for</p>	<ul style="list-style-type: none"> <li>• The RAB should invest more on awareness raising and sensitization using radio programmes; drama, advertising and talk-shows to ensure the information is reached to farmers as much as it may be required.</li> </ul>

<i>Issue</i>	<i>Rationale</i>	<i>Recommendation</i>
seasons	information are through agro-dealers and agronomists.	This will make farmers always aware of what is happening as far their farming is concerned.
<i>5.Challenges for farmers' mind-set which needs change</i>	<ul style="list-style-type: none"> <li>• The key informants interviews have highlighted the conservative mind-set of farmers of reluctance to change. For example farmers still think fertilizer will in the long run will affect their health, they save seeds from their produce instead of buying new seeds,</li> </ul>	<ul style="list-style-type: none"> <li>• Implementing partners as a consortium CCOAIB and local leaders should undertake a joint awareness campaign to inform the beneficiaries and their local leadership or policy-makers on the concept of mind-set change towards NKUNGANIRE Services.</li> </ul>
<i>6.Advantages of citizen participation</i>	<ul style="list-style-type: none"> <li>• Citizen participation is very beneficial and worth investing in. Based on the findings, the main advantage is increased farmers' ownership over agriculture programmes. Moreover, farmers' involvement in the process allows government to set good and realistic plans, which are effectively implemented by farmers through collective actions. As a result, farmers' livelihoods are improved. This works like a contingency planning. In the outbreak of covid19 farmers lost crops due to lack of market.</li> </ul>	<ul style="list-style-type: none"> <li>• There is a need to exploit and benefit more from the existing mechanisms of engagement between government, private sector, civil society organisations and citizens, such as the Joint Action Development Forum (JADF), towards more citizen participation and integration of community needs into the overall national planning process.</li> <li>• Farmer promoters and FFS facilitators should strengthen their mobilisation processes to increase farmers' registration in the NKUNGANIRE programme.</li> </ul>

## Appendices :

### References

MINAGRI; *Strategic Plan for Agricultural Transformation 4 (PSTA4)*, Kigali

RDB; *Export report*, 2020

Oxfam; *Baseline survey of the project “sustainable livelihoods in horticulture value chains 2020-2024)” report*, 2020

NAEB; *Strategic Plan 2019 – 2024*

NISR, *Demographic and Health Survey report 2019/20*, Kigali 2021

NISR, *Labour force Survey annual report 2019*, Kigali 2019

NISR, *Equete integrale e sur les conditions de vie des ménages*, 2017

[www.fews.net](http://www.fews.net)

NISR, SAS, 2020

## Data Collection Tools

**Consent:** Greetings! My name is ....., I working for KISS Investment in partnership of CCOAIB. We are conducting a study to assess barriers facing small holder farmers to access agro inputs versus Smart NKUNGANIRE Programme. KISS is collecting information from farmers through questionnaires, interviews and focus group discussions and we are kindly requesting you, as a farmer, to answer the following questions based on your knowledge and experiences. Please feel free to ask for any clarity while responding to this questionnaire. You are also able to stop answering the questions at any point.

Do you agree to participate in the survey?

Yes	1	Proceed with interview
No	2	Thank the respondent and move to next interview

DOMICILE PLACE	CODE
A01. Province/Kigali City(Intara):..... .....	__
A02. District(Akarere):..... .	__
A03. Sector(Umurenge): .....	__ __ _
A04. Cell(Akagari): .....	__ __ _
A05. Village(Umudugudu):..... .....	__ __ _
A06. Names of the Interviewer:	__ __ _



## B. Knowledge of Key Products & Services under Nkunganire

Question	Code	Answer
B2. Do you know what Nkunganire is?	1=Yes 2=No	____
B2. Where did you get information on NKUnganire?	1=Agro-dealer 2=Agronomist 3=Other local authorities 4=NGOs 5=Radio 6=Other (specify)	____
B3. Have you ever worked with Smart NKUNGANIRE.	1=Yes 2=No	____
B4. Please explain in which area?	1= agriculture Fertilizer 2= Improved seeds 3=Others (name them)	____
B5. What type of crops you grow that benefit from nkunganire support  (you can circle more than one)	1. maize 2. cassava 3. irish potaoes 4. rice 5. beans 6. banana 7. vegetables 8. fruits 9. Sweet potatoes 10. Soya beans 11. Wheat 12. Sorghum 13. Others (specify)	____   ____

B6. Have you ever meet with the Agro dealer in your sector	1= Yes 2=No	____
B7. What kind of information they shared with you on NKUNGANIRE	1. 2. 3. 4.	____
B8. Do you think the information shared with on NKUNGANIRE was helpful.	1= Yes 2=No 3= don't know	____
B9. Rank your view on the contribution of NKUNGANIRE in agriculture?	1=Not Helpful 2=Somehow helpful 3=Helpful 4=Very Helpful 5=Extremely helpful	____
B10. How do you access the services of NKUNGANIRE	1=Through Local leaders 2= Through agro-dealers 3= Through friends 4=Other means 5= Na	____
B11. If the answer in B8 is 1 and 2, what do you think was the hindrance?	1. Delayed supply 2. admin issues 3. missing in the list 4. transport issues	____

	<ul style="list-style-type: none"> <li>5. don't have phone for nkunganire app</li> <li>6. Other (specify)</li> </ul>	
B12. What do you think should be done to improve?	<ul style="list-style-type: none"> <li>1. Timely delivery</li> <li>2. Good planning</li> <li>3. Knowing the growing seasons</li> <li>4. Others</li> </ul>	____
B13. If the answer in B8 is 3,4, or 5 did your crops increase in productivity?	<ul style="list-style-type: none"> <li>1 Yes &gt;&gt;&gt;B13</li> <li>2 No &gt;&gt;&gt;&gt;B14</li> </ul>	
B14. What was the increase in Kg per acre?	<ul style="list-style-type: none"> <li>1. 1- 2</li> <li>2. 2-3</li> <li>3. 3+</li> </ul>	
B15. Why you did not get increase in productivity?	<ul style="list-style-type: none"> <li>1. dry spell</li> <li>2. pests attack</li> <li>3. post-harvest issues</li> <li>4. lack of market</li> </ul>	
B16. Apart from fertilizer and improved seeds, what else do you get from agro-dealers as a service?	<ul style="list-style-type: none"> <li>1....</li> <li>2....</li> </ul>	
B17. Do you get any training or briefing sessions with extensionists to understand on utilization of the inputs?	<ul style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ul>	
B18. If you don't get any, how do you use the inputs?	<ul style="list-style-type: none"> <li>1. own knowledge</li> <li>2. taught by others</li> <li>3. didn't use it</li> </ul>	

### C1 Satisfaction of beneficiaries

No	Question	Not at all	NS	N	S	VS
<b>C1</b>	How satisfied are you with the quality of fertilizers from NKUNGANIRE					
<b>C2</b>	How satisfied are you with the varieties of fertilizers provided					
C3	How satisfied are you with the affordability of prices of fertilizers					
C4	How satisfied are you with the time delivery of fertilizers					
C5	How satisfied are you with the storage of the fertilizers on arrival at you place?					
C6	How satisfied are you with the quality of seeds from NKUNGANIRE					
C7	How satisfied are you with the varieties of seeds provided					
C8	How satisfied are you with the affordability of prices of seeds					
C9	How satisfied are you with the time delivery of seeds					
C10	How satisfied are you with the storage of the seeds on arrival at your place					
<b>C11</b>	How satisfied are you with the crops supported by NKUNGANIRE					

### D. services for SHFs: Finance, Regulatory

Question	Code	Answer
D1. What other services do you have access to in your farming activities?	<ol style="list-style-type: none"> <li>1. bank loan</li> <li>2. training</li> <li>3. dialogues on farming</li> <li>4. farmer promoter</li> </ol>	___
D2. What has been the benefit of the services you mentioned in D1?	<ol style="list-style-type: none"> <li>1. increase my productivity</li> <li>2. increased my land size</li> <li>3. got farming knowledge and techniques</li> <li>4. knew how to use fertilizer and seeds well</li> </ol>	___
D3. How do you get communication from about farming events like start of growing season or new improved seeds or market information.	<ol style="list-style-type: none"> <li>1. agronomist</li> <li>2. farmer promoter and facilitator</li> <li>3. Sector Executive secretary</li> <li>4. Cell executive secretary</li> <li>5. SEDO</li> </ol>	___
D4. Did you face any barrier in accessing NKUNGANIRE Services?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	___
D5. If yes what are those barriers?  (let them mention all they know)	<ol style="list-style-type: none"> <li>1. ....</li> <li>2. ....</li> <li>3. ....</li> <li>4. ....</li> <li>5. ....</li> </ol>	___
D6. Were you obliged to have and meet any condition in order to work with NKUNGANIRE?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	___
D7. What were the conditions?	<ol style="list-style-type: none"> <li>1. _____</li> </ol>	

(let them mention all)	2. _____ _____	
D8. What do you think could be improved in NKUNGANIRE Program to make it better?	1. _____ 2. _____ _____	
D9. Do you access financial institutions very easily?	1. Yes 2. No	____
D10. Have you ever requested any agriculture loan?	1. Yes 2. No	____
D11. Does getting a loan requires you to have collaterals or security to use as assets?	1. Yes 2. No	____

## **Key Informants questions Guide**

### **Local authorities, Agro-dealers, farmer promoters and FFS facilitators**

- 1) When does the Nkunganire program started in (name of the district)
- 2) What are the main products/services of Nkunganire in (name distric/sector)
- 3) I would like to know about the management of the inputs and utilization: How is this done in here in (district/sector). Explain with respect to suppliers and users/farmers
- 4) How many small holder farmers have been enrolled since then?
- 5) How are small holder farmers get enrolled? is the method convenient to use or not? Why?
- 6) Are there dropouts of the programme? can you tell why they dropped out?
- 7) What are the main products or services Nkunganire programme provide in (name of the district/sector)
- 8) Does farmers like Nkunganire programme?
- 9) What changes has Nkunganire made so far to small holder farmers since it was introduced in (name of district)
- 10) Briefly explain the changes that have happened; if were negative or positive WHY?
- 11) Can you tell the whole process of the agro-inputs value chain? from arrival onwards
- 12) In general and on your opinion what can you tell about Nkunganire programme and how farmers say about it?
- 13) Who is responsible for bringing Nkunganire products/service to the (name districts)
- 14) How are the products/service brought here ?
- 15) Do you have any comment on the transportation and distribution? explain.
- 16) Do you think Nkunganire products are easily accessible? what about their affordability?
- 17) Now let talk about the management and utilization of the inputs: who is responsible for that?

## **Key Informants -RAB/MINAGRI**

- 1) When does Nkunganire started?
- 2) What are the products provided by the programme?
- 3) Are there any services like trainings that the program offer? if Yes which type of training?
- 4) Give some examples of the outcomes that those training have had on small holder farmers if any.
- 5) Do you think the programme has recorded success or not?
- 6) What are the hindrances to reaching success or expected goals
- 7) Mention any challenge encountering the Nkunganire programme and the way you are planning to address it/them
- 8) How much inputs (in terns of weight and money-value) Nkunganire has supplied since it was started. Give estimates or actual if there are.
- 9) Are you satisfied with the amount the programme is currently supplying?
- 10)I want to know about the status of accessibility and affordability of the products by Nkunganire to the small holder farmers
- 11) Is there any plan to improve the programme, maintain it or replace it with other strategic instruments? if yes when is this expected to happen?
- 12)I would like to ask you about the environmental impact as far as the utilization of the fertilizers is concerned. Are there any anticipated underlying causes of the products?

## Annex B: Interviewee List

### Interview Rukomo sector

	AMAZINA	TELEPHONE
1	MANIRAKIZA EMMANUEL	783052344
2	RUTABAHUNGA LEONARD	783851497
3	KARABOSHYA JACKSON	783201976
4	MUKANOHERI JEANETTE	789499657
5	UWAMBAJIMAN ALINE	785305205
6	MUHAWENIMANA ESTHER	788366031
7	NTABANGANYIMANA ALOYS	782893703
8	NTIHABOSE J. DE LA CROIS	783345840
9	M BONIGABA MANASSE	783588686
10	MPOZEMBIZI THEOGENE	783327442
11	NDAYISENGA INNOCENT	783331096
12	NTEGEREJUMUKIZA EZECHIEL	785484941
13	NAHIMANA ALEXANDRE	785156420
14	TUYISHIMIRE ERIC	781098938
15	NSABIMANA EVARISTE	783562568
16	HAGENIMANA J. CLAUDE	788934795
17	UWAMAHORO PATRICIE	782151587
18	GASASIRA J. FELIX	784003214
19	MUGARAGU J. BAPTISTE	785797687
20	BUTARE PAUL	785253537
21	BIZUMUTIMA J. DE DIEU	726733260
22	NYIRARUKUNDO JEANETTE	787280754
23	UWAMAHORO CLAUDINE	782226089
24	UWANYIRIGIRA THEODOSIE	780453916
25	TUNEZERWE LEOPOLD	783350290
26	MUREKATETE HENRIETTE	784595118
27	HAGUMAKUBAHO CELESTIN	786770470
28	MUKAPEREFÉ CLEMENTINE	789229598
29	MWUMVANEZA WELLARS	785796604
30	NDAYAMBAJE MARTIN	785252386

## Interviews Nyagatare sector

NO	NOMS	TELEPHONE
1	KABAHIZI KENEDY	780380156
2	YAMBABARIYE FRANCINE	786439027
3	RUSINE JAMES	786683826
4	KANDERA ANNONCIATA	788662365
5	UWAMAHORO VIRGINIE	782725855
6	NTABARESHYA JUSTIN	782346807
7	SENZOGA DONATH	783291321
8	NSENGIMANA FRODOUARD	784511005
9	NIZEYIMANA J.DAMASCENE	786762641
10	NTEZIREMBO JONAS	788878486
11	MUJAWINGOMA ALEXIA	783665683
12	NSABIMANA PASCAL	786648267
13	MUHAYIMANA CLAUDINE	784301618
14	NYIRADENDE JOSELYNE	785397626
15	NTAWUHORAKIZE PASCAL	782766679
16	TWIZERIMANA ALEX	781359349
17	NYIRAMAKUBA SIFA	784040365
18	SHYIRAMBERE LAURENT	785569830
19	MPAGAZEHE DAMIEN	782590261
20	MUKINISHA ALPHRED	783512226
	NYIRANDORIMANA	
21	LAURENCE	782481160
22	NDAYAMBAJE MUHAMED	784538946
23	MUTESI ROSINE	786506662
	MUKARUGENGAMANZI	
24	JACQUELINE	783803670
	MUHAWENIMANA	
25	CLEMENTINE	788680672
26	MUNYAKAZI FELICIEN	785460051
27	GASANA EMMANUEL	788562175
28	KOMAYOMBI FAUSTIN	785339478
29	BUNANI EMMANUEL	786741945
30	MUSABARANA LAURENCE	783665683

**LISTE D'AGRICULTEURS QUI ONT PARTICIPE/ REPONDU DANS CETTE ENQUETE**

**1 SECTEUR GASAKA**

- 1 MUKAGATERA ESPERANCE 0783314794
- 2 MUKESHIMANA VENERANDA 0782251415
- 3 NDAKIRIYE ANATHALIE 0785652931
- 4 UWIHOREYE CLAUDE 0783325367
- 5 NSHIMIYIMANA JEAN 0787256234
- 6 MUHIRE NIYOMUGABO 0728131029
- 7 GAHAMANYI FAUSTIN 0782173143
- 8 HAKIZIMANA FABIEN 0789488407
- 9 RWAGASORE FIDELE 0783954976
- 10 UWIZEYIMANA ANNONCIATA 0783557209
- 11 MUKANKURANYABAHIZI DOMINA 0785762427
- 12 MUKARUKUNDO GORETTI 0734021886
- 13 NDAYISHIMIYE JEAN CLAUDE 0725684154
- 14 MUKANYANDWI LAURENCE 0724910625
- 15 NYIRAHABIMANA HELENE 0721390876
- 16 MUKANGENZI MARIE ROSE 0729387627
- 17 MUKAGAKWANDI CELINE 0782301785
- 18 BANKUNDIYE GRACE 0787020425
- 19 UWAMAHOHO FRANCINE 0781116502
- 20 MUSABYEMARIYA JACQUELINE 0787285547
- 21 UWIZEYIMANA JEANNETTE 0789324977

- 22 NYAMINANI FAUSTIN 0727283483
- 23 HABIMANA SINDIKUBWABO 0784220373
- 24 NYANDWI FAUSTIN 0739246082
- 25 MUGEMANGANGO JEAN 0724211824
- 26 MUKAKARISA ESPERANCE 0781013248
- 27 RWAGASORE FIDELE 0783954976
- 28 DUSENGIMANA CLAUDINE 0724503507
- 29 MUSABYEMARIYA SCHOLAS 0780565809
- 30 UWIMANA FOEBE 0725713506

#### **SECTEUR CYANIKA**

- 01 NSENGIYUMVA SERUGAMBWA EMMANUEL 0788359689
- 02 UWIMANA MARIE CHANTAL 0788965854
- 03 NTEGEYIMANA ANASTASE 0781302627
- 04 BARINDA JEAN BOSCO 0783316210
- 05 NZABAHIMANA JEAN MARIE 0721080307
- 06 UZAMUSHAKA JULIENNE 0789446600
- 07 MUKANTEGEYE DROCELLA 0786516331
- 08 MUKABARERA ANNONCIATA 0786629718
- 09 NTAWUMENYUMUNSI MODESTE 0786297675
- 10 NIYIFASHA JUVENAL 0783316160
- 11 MUGENZI NAPHTAL 0781331777
- 12 HAKIZIMANA JOSEPH 0783621113
- 13 TURABUMUKIZA SYLVAIN 0782430611

- 14 MUKAMANA ALPHONSINE 0725496323
- 15 MUHORAKEYE FRANCOISE 0786725515
- 16 NYIRAHABIMANA PATRICIE 0786702801
- 17 ISHIMWE MARIE CLAIRE 0728024443
- 18 MUTUYIMANA VIOLETTE 0783638618
- 19 MUREKATETE FRANCOISE 0782228154
- 20 NYIRAHABIMANA VESTINE 0728396960
- 21 NGIRUMPATSE FAUSTIN 0782486677
- 22 MUKAMIHIGO AURELIE 0781340910
- 23 IYAKAREMYE SALATHIEL 0786228505
- 24 MUKANDAYISABA APPOLLINARIE 078788097
- 25 HITIMANA SYLVESTRE 0785973025
- 26 HABINSHUTI JEAN DAMASCENE 0785030552
- 27 BIZIMANA JEAN BOSCO 0789187226
- 28 SEBANANI RIEL 0782904277
- 29 NIYIRORA ALPHONSINE 0727158356
- 30 NISHYIREMBERE CONSOLEE 0725694218

**INTERVIEWEE LIST ON NKUNGANIRE PROGRAM/ NYANZA DISTRICT**

<b>NO</b>	<b>NAMES</b>	<b>SECTOR</b>	<b>CONTACT</b>	<b>Observation</b>
1	NTIRIVAMUNDA SAMUEL	KIGOMA	785161513	
2	HITIMANA ASSUMANI	KIGOMA	786942889	
3	BUREGEYA BONIFACE	KIGOMA	789414839	
4	MWUMVANEZA FRANCOIS	KIGOMA	725606042	Umujoyanama

5	MUNYANEZA AIMABLE	KIGOMA	725635565	
6	MUKAKAYIGEMA JUVENTINE	KIGOMA	726037714	
7	KARANGWA EDOUARD	KIGOMA	725606042	Umujyanama
8	SEKAMANA TELESOPHORE	KIGOMA	725680861	
9	MUREKATETE JEANNE	KIGOMA	786676959	
10	RWABUHAYA FIDELE	KIGOMA	725606042	Umujyanama
11	URIMUBENSHI PASCAL	KIGOMA	726392235	
12	MUKAMPARAYE VILGINIE	KIGOMA	782910549	
13	NDAHIMANA ATHANASIE	KIGOMA	726401131	
14	NZANZIMANA SETH	KIGOMA	784322436	
15	NKIKO ELIE	KIGOMA	725606042	Umujyanama
16	NTAMWEMEZI JEAN PIERRE	KIGOMA	725606042	Umujyanama
17	HABIMANA SAMUEL	KIGOMA	785341610	
18	BIZIMUNGU INNOCENT	KIGOMA	783610005	
19	NKUBITO SHADRACK	KIGOMA	725606042	Umujyanama
20	MUKANYARWAYA THACIENNE	KIGOMA	725606042	Umujyanama
21	NYIRIMINEGA IGNACE	KIGOMA	784594266	
22	MISAGO ISMAEL	KIGOMA	783315863	
23	HABYARIMANA NARCISSE	KIGOMA	728187390	
24	NTIGURIRWA ANDREE	KIGOMA	783600834	
25	HABYARIMANA JONATHAN	KIGOMA	727782163	
26	HARELIMANA NATHANAEL	KIGOMA	722612336	
27	HABIMANA EMMANUEL	KIGOMA	728073641	

28	BOSCO	KIGOMA	723992059	
29	MANZI INNOCENT	KIGOMA	788626694	
30	MUKAKALISA THEODOSIE	KIGOMA	725265249	
31	TWAGIRAYEZU SAMUEL	BUSASAMANA	785431485	
32	INGABIRE DEVOTHA	BUSASAMANA	782588188	
33	NTIRANDEKURA COLLETTE	BUSASAMANA	722557133	
34	MUKANEZA THERESE	BUSASAMANA	785905158	
35	MUKASHYAKA VERDIANNE	BUSASAMANA	783334400	
36	NZABAKENGA LEMON	BUSASAMANA	786213962	
37	MUKARMERA JACQUELINE	BUSASAMANA	728832600	
38	MUKAMUGEMA FROLIDE	BUSASAMANA	782749961	
39	MUKARUGANWA SPECIOSE	BUSASAMANA	728832600	Presidente
40	KANKINDI APOLINARIE	BUSASAMANA	728832600	Presidente
41	MUKARULINDA BEATRICE	BUSASAMANA	728832600	Presidente
42	MUKESHIMANA ANTOINETTE	BUSASAMANA	728832600	Presidente
43	MUKARUGANWA EUGENIE	BUSASAMANA	728832600	Presidente
44	NIYOMUGABO JEAN PAUL	BUSASAMANA	780273942	
45	DUSABIMANA NARCISSE	BUSASAMANA	724307955	
46	BIHIBINDI JEAN CLAUDE	BUSASAMANA	727766487	
47	KAYINAMURA VIANEY	BUSASAMANA	786703637	
48	MUKAMAGERA ARIVERA	BUSASAMANA	787735478	
49	NDAHIMANA CLAVERT	BUSASAMANA	728832600	Presidente
50	UWAMAHORO ALPHONSINE	BUSASAMANA	782847090	

51	HARELIMANA ABIYA	BUSASAMANA	788719636	
52	AKIMANIMPAYE VENANTIE	BUSASAMANA	785560722	
53	MUKAMWEZI JULIENNE	BUSASAMANA	781953262	
54	NIYOMUGABO SPECIOSE	BUSASAMANA	785748030	
55	MUNEZERO ERIC	BUSASAMANA	784057612	
56	MUNYANDINDA PHENIAS	BUSASAMANA	788403883	
57	NSHIMIYIMANA DAMASCENE	BUSASAMANA	721216210	
58	GAKUBA GERARD	BUSASAMANA	785425816	
59	HAGUMA VINCENT	BUSASAMANA	787190182	
60	MUKASHYAKA SPECIOSE	BUSASAMANA	789285573	
61	NSHIMIYIMANA JOHN	BUSASAMANA	789276549	
62	GASHUGO CELESTIN	BUSASAMANA	780273942	
63	BUHUNGIRO EMMANUEL	BUSASAMANA	789270422	
64	NSABIMANA MAURICE	BUSASAMANA	726862118	

### **Rulindo SSFs interviewees**

	<b>AMAZINA</b>	<b>UMURENGE</b>	<b>Tel</b>
1	MUKAKARISA Antonette	Murambi	0787600506
2	SURAIMAN Neretse	Murambi	0788802283
3	MUKAKANIMBA Dancille	Murambi	0783417190
4	NIYIGENA Gelome	Murambi	0787868382
5	MUKANSANGA Cecile	Murambi	0784917341
6	TWAGIRIMANA andrea	Murambi	0789561054
7	NSENGIYUMVA JEAN NEPO	Murambi	0784642550
8	TWAGIRAYEZU Aboubakar	Murambi	0781678990
9	UWIRAGIYE Jean Pierre	Murambi	0783645197
10	NSHIMIYIMANA Damascene	Murambi	0783808922
11	MUKAMWIZA Enatha	Murambi	078-

12	TWAGIRUMUKIZA Liberathe	Murambi	078-
13	TORIZANE Odetha	Murambi	078-
14	MUKASHIMIRE CONstante	Murambi	0787932987
15	HABIYAREMYE Jean Bosco	Murambi	0780556397
16	NYIRANSENGAMUNGU Jacqueline	Murambi	0788737246
17	HABAKWIHA LEONARD	Murambi	0786831283
18	UMWARI UWASE Dative	Murambi	078656503
19	GAHUTU Jean Bosco	Murambi	07883745395
20	AKINGENEYE Oliva	Murambi	07806411813
21	IRADUKUNDA Valence	Murambi	0785113491
22	NDAKAZA Laurent	Murambi	0784992546
23	HABIYAREMYE Bosco	Murambi	07805563977
24	NDIRAMIYE Girdas	Murambi	-
25	NIMUGIRE Betty	Murambi	0784112435
26	CYUMA Theogene	Murambi	0788858050
27	ABIMANA Laurent	Murambi	0783984702
28	UWINEZA Canance	Murambi	0780641490
29	NYIRAHAGENIMANA Esperance	MURAMBI	0784891676
30	MWITENDE Cecile	MURAMBI	-
31	MUKANDAMUTSA Budensiana	MURAMBI	-
32	MUKAMUSONI Valelie	MURAMBI	-
33	NSANZABAGANWA Valens	Shyorongi	0784170459
34	HAKIZIMANA Daniel	Shyorongi	0787047631
35	MANIRABARUTA Fidelisse	Shyorongi	0786044430
36	MUHAWENIMANA Esperance	Shyorongi	0789052827
37	BIZIMUNGE Alphonse	Shyorongi	[0782652686
38	NDAYISENGA David	Shyorongi	07823582506
39	NIYONSABA RACHEL	Shyorongi	0786250959
40	TWIZEYIMANA Theodose	Shyorongi	0785558603
41	KABANYANA Pelagie	Shyorongi	-
42	UKWIZABIGIRA Cesile	Shyorongi	0781989778
43	NYIRAMANA Marie Goreth	Shyorongi	-
44	MASHIMPANGU Jean Baptiste	Shyorongi	0724607020
45	MUNYEKAZI Vedaste	Shyorongi	0786656057
46	NYIRANSABIMANA Rolence	Shyorongi	0781666565
47	NGIRUWONSANGA Celeman	Shyorongi	0785115014
48	UWAMARIYA Ephanie	Shyorongi	0783247397

49	UWIMANA Julienne	Shyorongi	0726567732
50	MUGABOWIBANZE Felcien	Shyorongi	0784872457
51	NYIRAKAMANA Venerande	Shyorongi	-
52	AKIMANIZANYE Beathe	Shyorongi	0790483024
53	NYIRANSENGIYUMVA Innocente	Shyorongi	0781025294
54	MUHORAKEYE Angelique	MURAMBI	-
55	NYIRANZEYIMANA Chadia	MURAMBI	0781040405
56	MUSABYIMANA Immaculee	MURAMBI	0702353560
57	KASINE Theresie	MURAMBI	0789538334
58	MUKAMWIZA DONATHILE	MURAMBI	-
59	MUKAKIMENYI Claudine	MURAMBI	0786049256
60	UWINGABIRE Seraphine	MURAMBI	-
61	NDACYAYISENGA Grace	MURAMBI	0786180196
62	NYIRAMBARUSHIMANA Beth	MURAMBI	