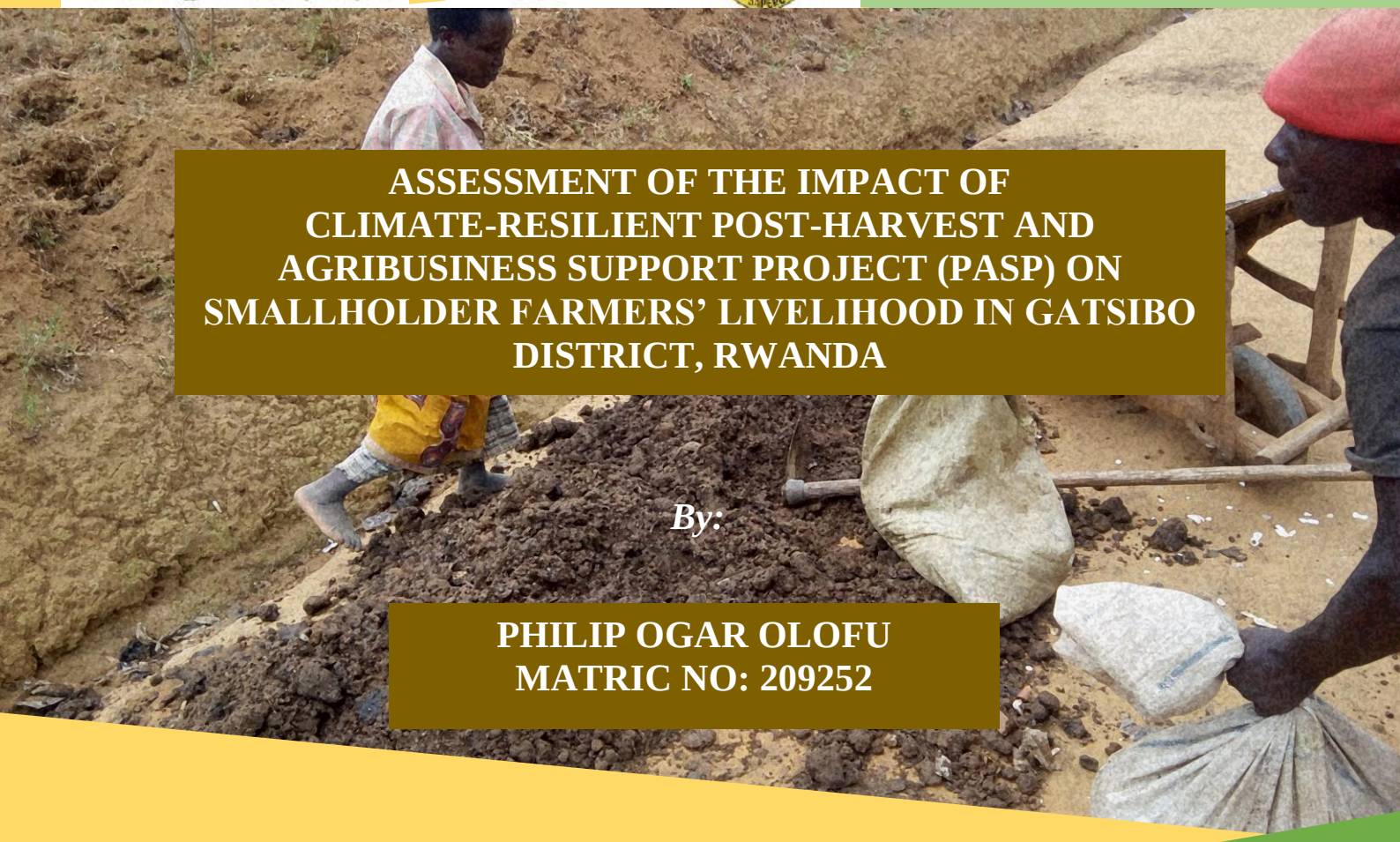
MDP-IFAD RESEARCH REPORT



# ASSESSMENT OF THE IMPACT OF CLIMATE-RESILIENT POST-HARVEST AND AGRIBUSINESS SUPPORT PROJECT (PASP) ON SMALLHOLDER FARMERS' LIVELIHOOD IN GATSIBO DISTRICT, RWANDA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## ABBREVIATIONS AND ACRONYMS

CIP – Crop Intensification Programme

CSA – Climate Smart Agriculture

DfID – Department for International Development

FGD – Focus Group Discussion

IFAD – International Fund for Agricultural Development

IPCC – Intergovernmental Panel on Climate Change

KII – Key Informant Interview

LRA – Lord's Resistance Army

MINAGRI – Ministry of Agriculture and Animal Resources

NEPAD – New Partnership for Africa's Development

NGO – Non-governmental Organisation

PASP – The Climate Resilient Post-Harvest and Agribusiness Support Project

PRA – Participatory Rural Appraisal

SLF – Sustainable Livelihood Framework

SROs – Social Research Officers

UNDP – United Nations Development Programme

## ABSTRACT

Agriculture constitutes an integral part of the economies of all African countries, as it contributes towards the achievement of major priorities in the continent which include among others the eradication of poverty and hunger, boosting intra-Africa trade and investments and sustainable resource and environmental management. Rwanda's agriculture like many other African countries, is largely dependent on smallholder farmers. The Climate Resilient Post-Harvest and Agribusiness Support Project has the goal of alleviating poverty, increasing the incomes of smallholder farmers and rural labourers including women, youth and vulnerable groups and to contribute to the overall economic development in Rwanda. Thus, the need for adequate structures to be put in place for smallholder farmers in Rwanda to reduce post-harvest losses, make good profit from the sale of their produce, and increase their income.

Purposive sampling method was used to select 400 beneficiaries who belonged to four different cooperatives that farmed maize and beans in Gatsibo district. Focus group discussions (FGD), observations and key informant interviews (KII) with representatives of the International Fund for Agricultural Development (IFAD), Ministry of Agriculture and Animal Resources and selected beneficiaries were also used. Also, descriptive statistics was used to present the data in frequencies, percentages and charts.

The results show that PASP had a positive impact on the livelihood of the farmers. Farmers productivity increased after the introduction of the project. The percentage of farmers who harvested above 150kgs for maize and beans rose from 77.3% for maize and 66.8% for beans to 96.5% and 89.5% respectively after they benefitted from PASP. Also 98.5% of the smallholder farmers that had benefitted from PASP had access to new markets to sell their produce. Also with regards to their financial comfort, 84.8% of the farmers said they were barely comfortable before PASP. But after they benefitted from PASP, 60.1% admitted that they were financially very comfortable.

However, a majority of the farmers still farm in small capacities due to small land sizes. Though there is an obvious improvement in the quality of yield gotten due to the adoption of PASP post-harvest systems like harvesting in due time to avoid aflatoxin, the farmers will not be able to grow beyond their current income until they expand their land sizes in order to increase their income. The government would have to provide this infrastructure for them.



**Keywords: Climate Resilience, Post-Harvest, Smallholder Farmers, Livelihood, Climate Smart Agriculture.**

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background Of The Study

Agriculture constitutes an integral part of the economies of all African countries, as it contributes towards the achievement of major priorities in the continent. Adoption of modern agricultural practices is expected to facilitate the eradication of poverty and hunger, boosting intra-Africa trade and investments, rapid industrialization and economic diversification, sustainable resource and environmental management, among a host of other benefits (NEPAD, 2013). In the words of Dr Nkosazana Dlamini Zuma, the immediate past Chairperson of the African Union Commission; "Our continent has enormous potential, not only to feed herself and eliminate hunger and food insecurity, but also to be a major player in global food markets. This potential lies in her land, water and oceans, in its men and women, in its knowledge and huge markets."

There is need to make sure that food security for a population that is increasing and becoming more urbanised, helps to create wealth for farmers and jobs for the teeming unemployed youths, in rural areas in particular, while reducing inequalities and vulnerability and protecting environmental and human capital.

Despite higher levels of urbanisation, the agricultural and rural population is also growing. Small farms are tending to shrink with generation. Small farms that are dependent on family labour, with very little machinery and several activities, reflect the dominant type of agriculture in Africa. Subsistence farming remains important. However, a significant portion of that produce from such farms are sold through informal channels capable of accommodating non-standardised products delivered in small quantities. Non-agricultural revenue generated locally, in cities or abroad, provides a significant and growing share of income for most families working in the agricultural sector.

Rwanda's long-term development goals are encapsulated in its Vision 2020 (2000), with focus on good governance, development of human resources, a private-sector led economy, infrastructure development, market-led agriculture and regional economic integration. This development goals aim at transforming the country from a low-income, agriculture based economy into a service driven economy by the year 2020 (IFAD, 2013). A limited skill base and increasing vulnerability to climate risks are some of the factors that poses a constraint to accelerating growth, investments and exports in Rwanda (IFAD, 2013).

For over 30 years, IFAD has been strongly committed to rural poverty reduction in Rwanda. Since 1981, the organization has contributed US$283.8 million in loans on highly concessional terms to finance 16 programmes and projects with the objective of empowering poor people and improving food security in the country's rural areas.

### 1.1.1 The Climate Resilient Post-Harvest and Agribusiness Support Project (PASP)

The Climate Resilient Post-Harvest and Agribusiness Support Project has the goal of alleviating poverty, increasing the incomes of smallholders and rural labourers which include women, youth and vulnerable groups and to contribute to the overall economic development in Rwanda. PASP seeks to demonstrate pro-poor and climate-resilient approaches too post-harvest activities undertaken even in the face of rising climate variability (IFAD, 2013).

The Project's overall goal is to alleviate poverty, increase rural income and contribute to the overall economic development of Rwanda. Its development objective is to increase the incomes of smallholders and rural labourers (including women, youth and vulnerable groups) from CIP (Crop Intensification Programme) crop and dairy businesses, especially those related to aggregating production for markets, supporting transformation and creating value-added to enable smallholders to capture a higher share of the value.

The project is expected to facilitate and support organized smallholders and small and medium-sized enterprises (SMEs) in setting up and managing aggregation and post-harvest market chain businesses and partnerships with the financial sector, private entrepreneurs and service providers for the priority CIP crops and dairy.

PASP's primary target group involves poor smallholder farmers either engaged in production and primary processing in the priority value chains. The target for the project is 32,400 rural households in 12 districts (Musanze, Nyabihu, Rubavu, Kayonza, Nyagatare, Gatsibo, Ngoma, Kirehe, Kamonyi, Muhanga, Nyanza and Ruhango) where the project is intervening. Its target group includes poor farmers with some production potential, members of cooperatives who own small land plots, and smallholder farmers who supplement their income through agricultural wage work (IFAD, 2013). Its component are:

- Capacity development and business coaching for cooperatives, farmers' organizations and small and micro-enterprises involved in delivering produce to market

- Support for agribusiness investment in climate-resilient drying, processing, value addition, storage, logistics, distribution and other post-harvest activities that reduce product losses and increase incomes.

PASP focuses on six priority crops: maize, wheat, rice, Irish potato, beans and cassava. However for the sake of constraint on resources, this study will be limited to the impact of PASP on the livelihood of smallholder farmers engaged in maize and beans in Rwanda using Gatsibo as a case study.

### 1.1.2 PASP Support Activities

The Climate Resilient Post-harvest and Agribusiness Support Project (PASP) has been formulated as an instrument for implementation of the National Post-harvest Staple Crop Strategy (PHSCS) with the Post-harvest and Handling Task Force (PHHTF) as key counterpart. PHSCS aims to develop an efficient post-harvest system driven by the private sector to reduce post-harvest losses and ensure food security of staple crops.

PASP is concerned with the improvement of post-harvest handling and infrastructure (harvesting, cleaning, drying and storing) as the infrastructure developed for the traditional cropping practices is insufficient for the current volumes of production. Reducing post-harvest losses is expected to generate additional income and off-farm employment in activities such as product storing, processing, packaging and marketing. Because before now there has been low level of engagement of private sector in processing, marketing and trading of farm outputs, PASP support activity includes: facilitation and supporting of organized smallholders and SMEs to set up and manage aggregation and post-harvest market chain businesses (e.g., grain drying and handling facilities, potato cleaning/packaging, cassava preparation or milk collection centres) and partnerships with private sector, MFIs and other service providers in the priority Crop Intensification Project crops and dairy development.


Figure 1.1: Picture of PASP instructional material (with writings in Kinyarwanda)

## 1.2 Problem Statement

Majority of Africa's population is resident in the rural areas and they are predominantly smallholder farmers. These smallholder farmers often make decisions in an economic environment in which markets do not work optimally and susceptible to risks ranging from adverse weather conditions to price instability which have great impacts on their living conditions, that is, their livelihoods (George, 2015).

Farmers' livelihood is an issue of concern in development in Rwanda especially when majority of the farmers operate as smallholders. There is inadequate structures for smallholder farmers in Rwanda to make a good profit from their harvest. Smallholder farmers in Rwanda have little

access to domestic and export markets to be able to increase their sales, make more income and reduce post-harvest losses (Willoughby *et al*, 2012).

## 1.2 Justification of the Study

The justification for this study is anchored on the centrality of the improvement of rural livelihoods to the reduction of poverty in the world and in Africa particularly. A great number of the poor resides in rural areas. About 70 per cent of the Rwanda's total population reside in rural areas and 72 per cent of the working population employed in agriculture.

The project which started 28 March 2014 is expected to run until March 2019 but was extended to March 2020 in this study will be accessed to ascertain its impact on the smallholder farmers and also identify areas where IFAD might need to make improvements in order to ensure the sustainability and scaling up of the project. Through this study, beneficiaries of the project will have the chance of sharing areas of strengths and weaknesses of the project to provide solutions to future interventions from IFAD and the Ministry of Agriculture and Animal Resources (MINAGRI).

## 1.4 Research Questions

i. To what extent has the Post-Harvest and Agribusiness Support Project contributed in increasing the productivity of smallholder farmers in Rwanda?
ii. Do smallholder farmers in Rwanda now have access to more domestic and export markets?
iii. What impact has the Post-Harvest and Agribusiness Support Project on the income of smallholder farmers in Rwanda?

## 1.5 Objectives of the Study

The overarching objective of this study is to perform an independent assessment of PASP on smallholder farmers' livelihood. The specific objectives are:

1. To examine the effect of PASP on the productivity of the beneficiary smallholder farmers in Rwanda.
2. To investigate the degree of accessibility of the beneficiary farmers to more domestic and export markets.
3. To evaluate the impact of PASP on farm-related incomes of the beneficiary smallholder farmers in Rwanda.

1.5.1 Analysis of Objectives

| S/N | Objectives | Data Collection | Method Of Analysis |
|---|---|---|---|
| **1.** | Examine the effect of PASP on the productivity of the beneficiary smallholder farmers in Rwanda. | Questionnaire, Focus Group Discussion and Key Informant Interview. | Means, frequency, percentages, charts and histogram. |
| **2.** | Investigate the degree of accessibility of the beneficiary farmers to more domestic and export markets. | Questionnaire, Focus Group Discussion and Key Informant Interview. | Means, frequency, percentages, charts. |
| **3.** | Evaluate the impact of PASP on farm-related incomes of the beneficiary smallholder farmers in Rwanda. | Questionnaire, Focus Group Discussion and Key Informant Interview. | Means, frequency, percentages and charts. |

Table 1: Table of Analysis of Objectives

## 1.6 Definition of Concepts

**Livelihoods:** This can simply be defined as a means of securing the necessities of life. It is the way someone earns the money he/she needs to pay for food, a place to live, clothing, and other necessities of life.

**Climate Resilience:** For the sake of this study, the definition of IPCC on the concept will be adopted. And it is the capacity for a socio-ecological system to absorb stresses and maintain function in the face of external stresses imposed on it by climate change and adapt, reorganize and evolve into more desirable configurations that improve the sustainability of the system, leaving it better prepared for future climate change impacts.

**Climate Smart Agriculture:** The capacity of the agricultural systems to support food security, incorporating the need for adaptation and the potential for mitigation into sustainable agriculture development strategies.

**Smallholder Farmers:** Those farmers who own small plots of land where they grow subsistence crops and/or a combination of one or two cash crops depending solely on family labour.

**Development:** The process of economic and social advancement in the quality of life of a people.

**Rural Development:** The process of improving the quality of life and economic wellbeing of people living in rural areas, most times relatively cut off and sparsely populated.

**Sustainable Development:** Development that meets the need of the present without hindering future generations from meeting their own needs.

# CHAPTER TWO

# MATERIALS AND METHODS

## 2.1 Study Area

The study area was Gatsibo District in Rwanda. This was within the confines of how the Post-Harvest and Agribusiness Support Project has affected the beneficiaries resident in Gatsibo District in the Eastern region of Rwanda (Figure 2.1). Rwanda is a landlocked country bordered by Uganda, Tanzania, Burundi and the Democratic Republic of the Congo. The climate is temperate to subtropical, with two rainy seasons and two dry seasons each year.

Majority of the 10.8 million people inhabiting the country are mainly involved in subsistence agriculture. Rwanda has a population density of 416 persons per kilometre, making it the highest in Africa. About one in four rural households live in extreme poverty. Poverty is highest (76.6 per cent) among households who obtain more than half their income from working on other people's farms.


Figure 2.1: Map of Rwanda

Source: Office of the High Commissioner for Human Rights, 2019

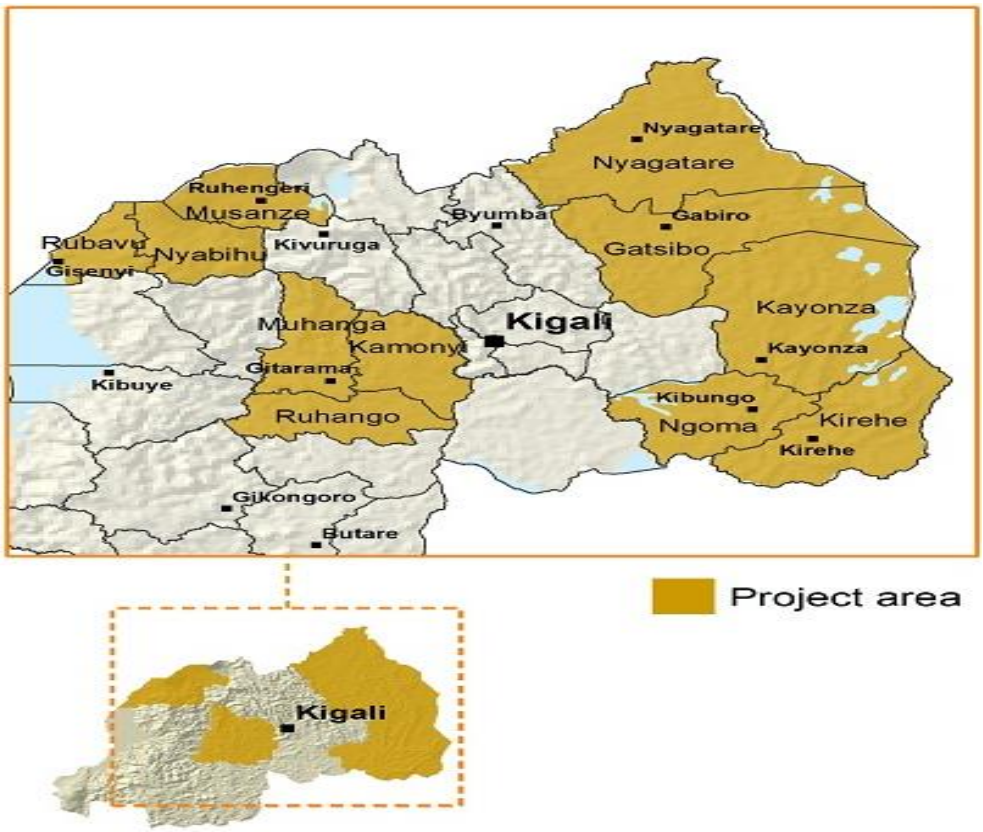


Figure 2.2: PASP Project Area

Source: IFAD, 2017

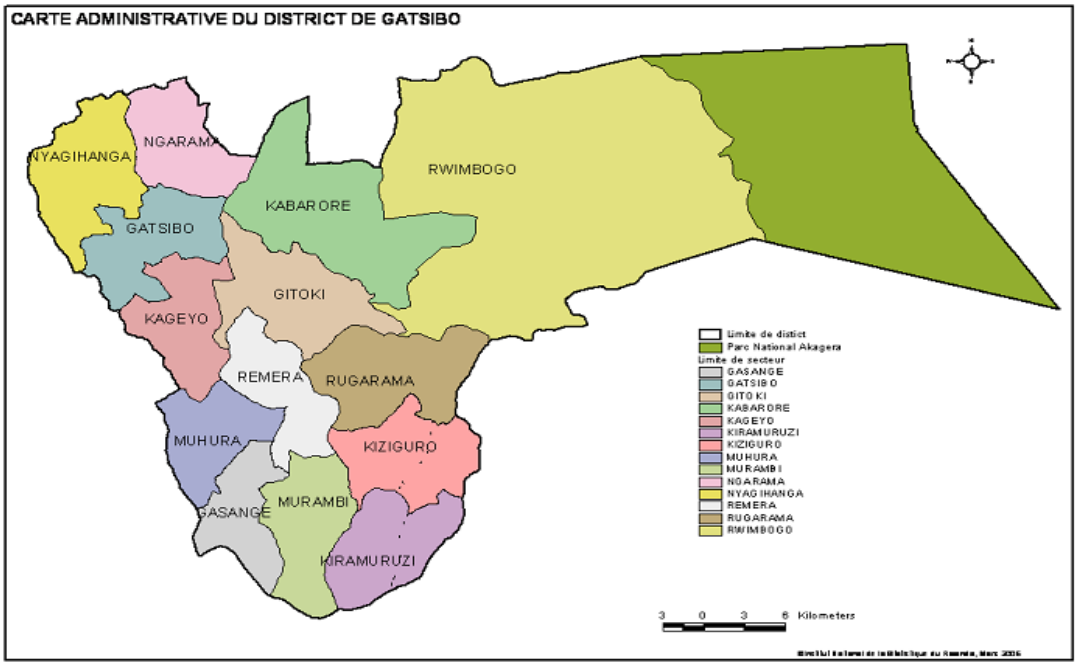


Figure 2.3: Map of Gatsibo District

Source: therwandan.com

## 2.2 Nature and Sources of Data

The study used both primary and secondary data. Primary data was sourced from the administration of open ended and structured questionnaires to smallholder farmers who were beneficiaries of the PASP, observations on the field, focus group discussions (FGD) with the beneficiaries of the project and key informant interviews (KII) with representatives of IFAD, Ministry of Agriculture and Animal Resources and selected beneficiaries. The secondary data on the other hand was sourced from newsletters, internet sources, journals and appropriate authorities like the Ministry of Agriculture and Animal Resources and IFAD.

## 2.3 Method of Data Collection

In order to achieve the research objectives of the study, the following data collection devices was utilised:

A. Questionnaire Administration: The questionnaire was used in collecting general information about opinions, attitudes and perceptions on the Impact of PASP on Smallholder farmers. Information on PASP's impact on smallholder farmers' productivity, income and access to local and export market was harnessed.

   The questions were closed and open-ended and was administered one-on-one to the target respondents by the help of a research assistant who was an indigene that understands the Kinyarwanda language and the sectors and cells (settlements) of the study area.

B. Key Informant Interview

   A cooperative head from each of the four cooperative involved in the study was interviewed to provide further information on the impact of PASP of their members vis-à-vis their standards of living.

   The questions were semi-structured and as well conducted one-on-one. This helped in not limiting the respondent from baring their minds on the information he provided.

C. Observation: On the spot observation was done to ascertain the accuracy of the responses provided by respondents (Bryman, 2004). There was a trip to one of the markets (particularly farm market) in Mugera cell, Gitoki sector. The facilities PASP provided storage of the cooperatives' harvest was also inspected. Other vital verifications were informally carried out while taking a transect walk around some of the locations. Below are represented in pictures the methods used in data collection:

Figure 2.4: Researcher (third from left) and members of Koairu Ganza Cooperative during data collection, Rubira cell, Gitoki sector.

Figure 2.5: Researcher with the Vice-President of Koaiga Indatwa Cooperative, Cyabusheshe, Mr. Theonest, during a Key Informant Interview with him.

Figure 2.6: Mr. Francis Mugaberi (standing and in red) translating the questionnaire from English to Kinyarwanda to the farmers who are members of Cooperative Indatwa.

Figure 2.7: Researcher interviewing PASP Gatsibo District Officer, Mr Emmanuel Gisagara in his office at the Single Project Implementation Unit (SPIU), Ministry of Agriculture and Animal Resources, Kigali.

Figure 2.8: President of Koairu Ganza Cooperative standing close to the site where PASP has earmarked for the construction of the Cooperative's storehouse. The bricks, gravel and tipped sand lying to his right.

### 2.3.1 Sampling Method

According to the 2013 President's Report before the commencement of PASP, a target population of 32,400 rural households were expected to benefit from the project bringing the number of individual beneficiaries to 155,518 (IFAD, 2013). However, the particular number of beneficiaries in Gatsibo District is 3916. Using the Slovin's formula of sample size determination, the sample size was calculated as:

$n = \frac{N}{(1 + Ne^2)}$ Where: n = desired sample population

N = the total population of the area of study

e = error margin at 95% confidence level (which is 5% error tolerance)

Therefore,

$$n = \frac{3916}{1+3916\ X\ 0.05^2} = \frac{3916}{9.79} = 400$$

## 2.4 Analytical Methods/Techniques

The analytical techniques used for this study was descriptive statistics which included frequencies, means, percentages, charts and contingency tables utilised to perform content analysis of responses from questionnaires, focused group discussion and key informant interviews.

# CHAPTER THREE

# RESULTS AND DISCUSSION

## 3.1 Introduction

This study was undertaken to assess the impact of the Climate Resilient Post-harvest and Agribusiness Support Project (PASP) on the livelihood of smallholder farmers in Rwanda, using Gatsibo in the eastern region as a case study. This chapter will help present the general findings as carefully analysed and then the results discussed.

## 3.2 Socio-Economic Characteristics of the Respondents

The result of the socio-economic distribution is presented the table below and shows the age and gender distributions, marital status, educational levels and size of household of respondents.

### 3.2.1 Gender of Respondents

As shown in Table 3.1, 65.7% of the respondents were male while 34.3% were female farmers. This is close to the global average participation of women in agriculture put at 43% (FAO, 2014). This is so because majority of the farm is owned by men who are assisted by their wives.

Table 4.1: Gender distribution

| **Characteristics** | **Frequency** | **Percentage** |
|---|---|---|
| Male | 226 | 65.7 |
| Female | 118 | 34.3 |

Source: Field survey, 2019

### 3.2.2 Age Group of Respondents

Table 3.2 shows that 31% of the respondents are less than the age of 40, 56.1% are between the ages of 41 and 60% and the remaining 12.9% represent farmers above the age of 61. Age as known is a vital factor in contributing to the sustained productivity in farming. The youthful age distribution at 31% is good but will call for more participation of the youths so as to ensure its sustainability. Tang and MacLeod (2006) in a study carried out in Canada suggested that older workers are, on average, less productive than younger workers and that aging labour force has a negative direct impact on the growth of productivity.

Table 3.2: Age distribution of respondents

| Characteristics | Frequency | Percentage |
|---|---|---|
| <= 40 years | 106 | 31.0 |
| 41 – 60 years | 192 | 56.1 |
| >= 61 years | 44 | 12.9 |
| Mean | 47.23 | |
| Standard deviation | 11.83 | |

Source: Field survey, 2019

### 3.2.3 Marital Status

From the information represented in Table 3.3, 79.1% of the respondents were married as against the remaining 20.9% who were either single, divorced or widowed. That majority of the beneficiaries were married could be a problem if the household is large. This will reduce the per capita income of the households concerned. On the other hand, the majority of the respondents who are married can leverage on their status to expand their productivity and invariably contribute positively to their income and living condition as a household.

Table 3.3: Marital status of respondents

| Characteristics | Frequency | Percentage |
|---|---|---|
| Single | 18 | 5.2 |
| Married | 272 | 79.1 |
| Divorced/separated | 16 | 4.7 |
| Widowed/widower | 38 | 11.0 |

Source: Field survey, 2019

### 3.2.4 Level of Education

As shown in Table 4.4, 66.6% of respondents had primary education while 26.5% had no formal education at all. 5.2% and 1.7% of the respondents had secondary education and vocational/tertiary education alone. This result conforms with the range of the Rwanda adult literacy rate of 68% as reported by the National Institute of Statistics of Rwanda (NISR) in the fourth Population and Housing Census in 2012. From observation on the field and through interview, majority of Rwandan adults have had primary education but are only unable to communicate fluently in English because French, used to be the country's lingua franca and Kinyarwanda the nationally used indigenous language of the people. This is the reason why

PASP provides its instructional materials in Kinyarwanda. The Kinyarwanda language is also widely used in communication by the Government of Rwanda (GoR).

Just like other sectors of the economy, a high level of education will amount to a higher expertise and skill that can be put into the farming process to bring about innovation especially in the value chain. Luh (2017) explained the need for placing priority on human capital investment in the agriculture sector in order to help its development in developing economies. With 66.6% of the respondents having their primary education, the basic education necessary to communicate and use the intervention products such as irrigation, improved seeds, etc.

Table 3.4: Level of education of respondents

| **Characteristics** | **Frequency** | **Percentage** |
|---|---|---|
| **Level of education** | | |
| None | 91 | 26.5 |
| Primary education | 229 | 66.6 |
| Secondary education | 18 | 5.2 |
| Vocational/tertiary education | 6 | 1.7 |

Source: Field survey, 2019

### 3.2.5 Members of Household

As shown in Table 4.5, 59.7% of the respondents had a household size of 3 and below while the remaining 40.3% had a household size of 4 and above. This shows that more than half of the respondents had a small family size and stand the chance of enjoying a better standard of living than their counterparts with a larger family size or household.

Table 3.5: Members of household

| **Characteristics** | **Frequency** | **Percentage** |
|---|---|---|
| **Members of households** | | |
| <= 3 members | 203 | 59.7 |
| >= 4 members | 137 | 40.3 |

Source: Field survey, 2019

### 3.2.6 Heads of Household

From the frequency distribution shown in Table 3.6, 77.3% of the households are headed by men while 21.2% of them are headed by women. Just a fragment of the population making up about 0.9% and 0.6% are headed by male and female youths.

Table 3.6: Household leadership

| **Characteristics** | **Frequency** | **Percentage** |
|---|---|---|
| Man | 266 | 77.3 |
| Woman | 73 | 21.2 |
| Male youth | 3 | 0.9 |
| Female | 2 | 0.6 |

*Source: Field survey, 2019*

### 3.2.6 Land Ownership

Figure 4.1 shows the land possession status of the beneficiaries. While 92% own their lands, 8% of the other beneficiaries leased their lands. Based on to the interview with PASP Gatsibo District officer at the Ministry of Agriculture and Animal Resources, the farmers practise communal land system. There are two methods of land ownership recognized by PASP, individual land ownership and government ownership. Under the individual ownership of land which is classified under the crop intensification programme (CIP), each farmer is allowed to own his/her own land, registered individually and then their harvest collectively brought to the cooperative at the end of the season. In the second method, a cooperative may own a big plot of land allocated to them by the government and then shared amongst the cooperative members. Here, the approach is that they agree to grow a particular crop within a season, either of maize or beans per time.

The Food and Agriculture Organisation of the United Nations (FAO) encourages that smallholder farmers should be empowered to own assets as this will help promote their individual self-reliance and that of their communities too. Poor people's endowment of assets will help them enjoy sustainable livelihoods.

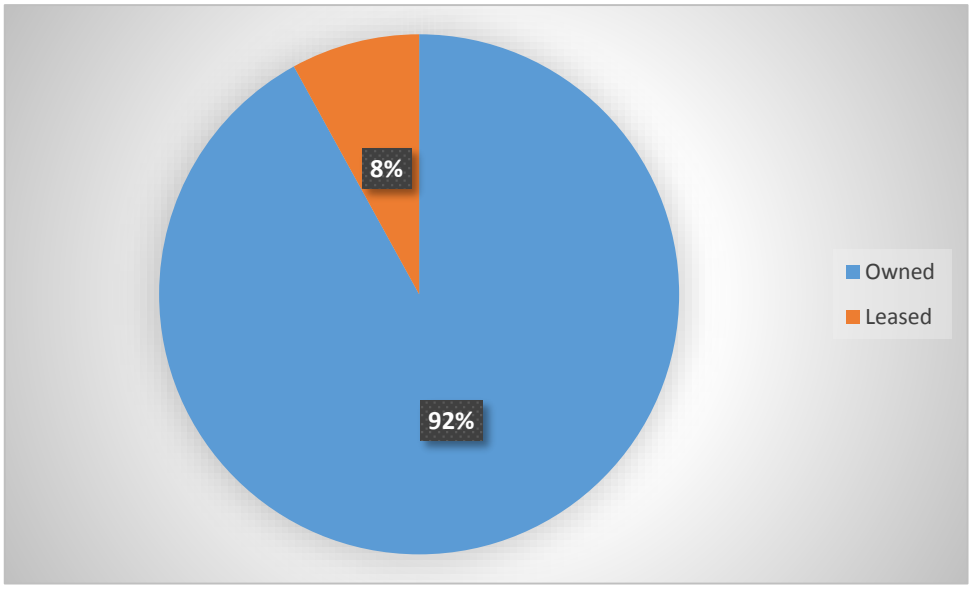


Figure 3.1: Land ownership

### 3.3 PASP Impact on Smallholder Farmer's Productivity

#### 3.3.1 Beneficiary of PASP

Figure 3.2 shows that 96.8% of the respondents involved in the farming of the two major crops under study had benefitted from PASP, while the remaining 3.2% had not benefitted. This result shows that the activities of PASP has been widely carried out in different sectors of the study area.

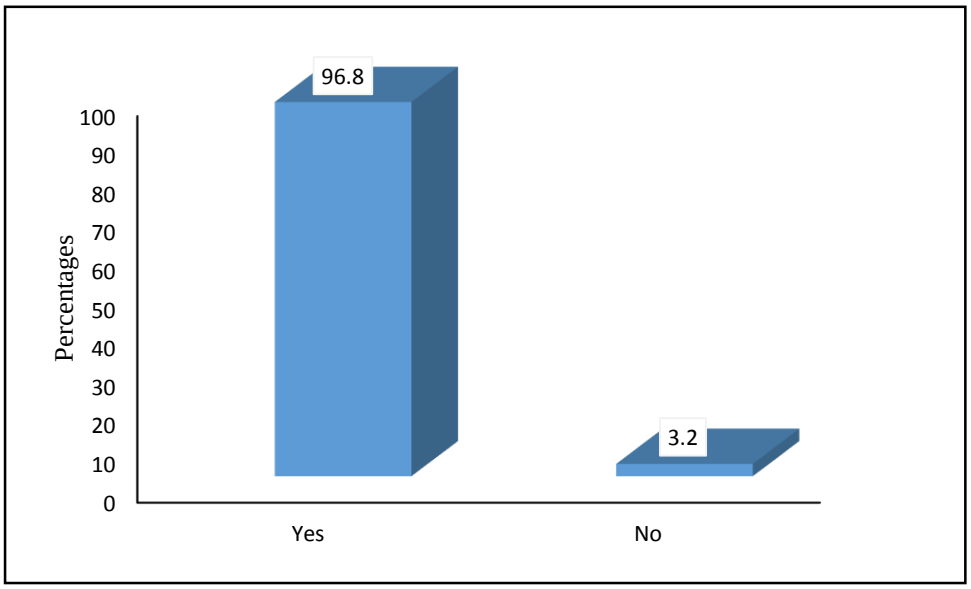


Figure 3.2: Beneficiary of PASP

### 3.3.2 Years Farmers have benefited from PASP

Figure shows how long (in years), farmers had benefitted from PASP starting from 2014 when it was introduced. On the field it was discovered that there a number of similar projects that the farmers had benefited from, some before others alongside PASP, funded by different organisations such as the World Bank and implemented by the Ministry of Agriculture and Animal Resources, Rwanda. For instance, the Cooperative Koigwi Indatwa had benefitted from the Land husbandry, Water harvesting and Hillside irrigation Project Rural Sector Support Project (LWH-RSSP) project sponsored by the World Bank. Through this project, a big storehouse was built for the cooperative. The cooperative under discussion benefited from PASP in the area of capacity building and postharvest handling of crops. However, a cooperative like Koairu Ganza that did not have a storehouse from any other project before won a grant for storehouse construction from PASP.

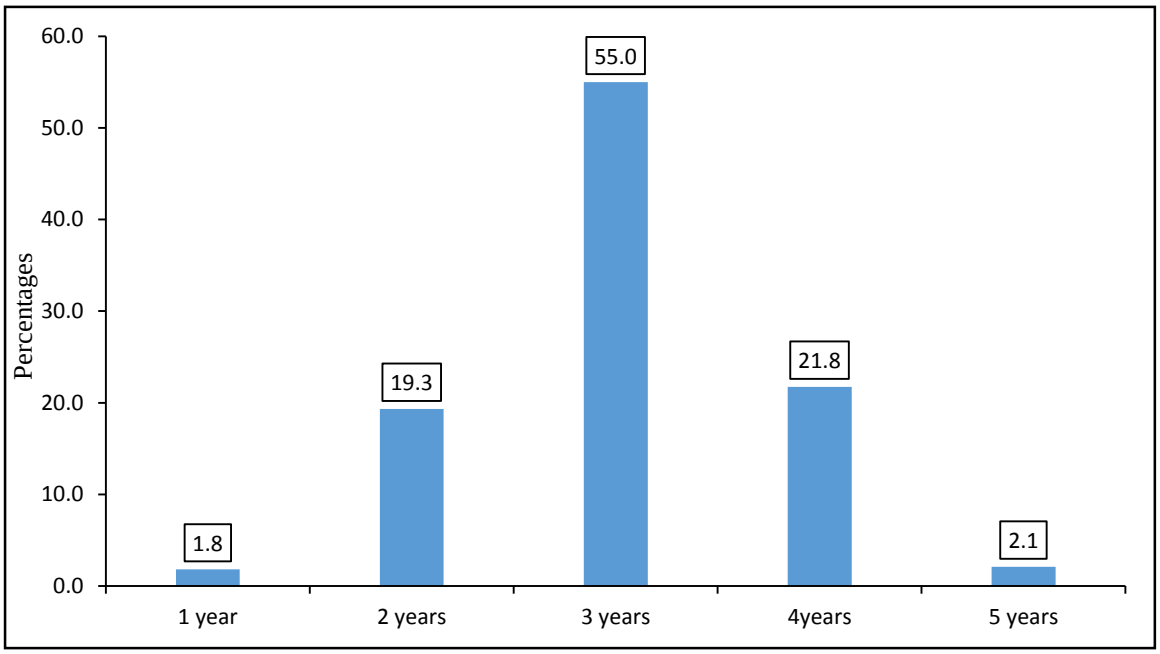

Figure 3.3: Years of PASP beneficiary

### 3.3.3 Quantity of Harvest

Before the respondents benefitted from PASP, 11.7% of them who farmed maize and 18.3% beans realised not more than 100kgs each in annual harvest. This number was decreased to 1.8% and 8.8% each for maize and beans respectively. Similarly, the number of farmers who harvested between 101-150kg of maize (11.1%) and beans (14.9%) also reduced to 1.8% for maize and 1.8% for beans. Also, farmers who harvest beyond 150kgs of maize (77.3% of

respondents) and beans (66.8% of respondents) before they benefitted from PASP had an increase in the amount of annual harvest up to 96.5% for maize and 89.5% for the beans. These trends show clearly that there is a positive impact of the PASP on the productivity of smallholder farmers.

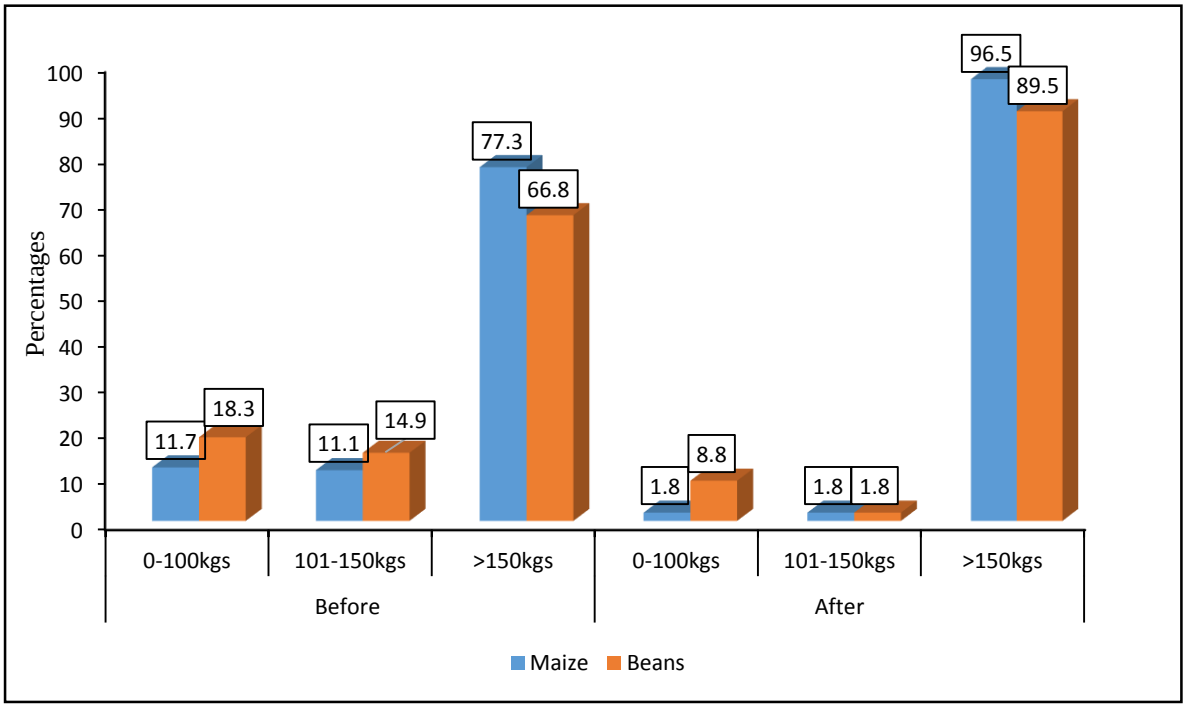


Figure 3.4: Quantity of harvest

### 3.3.4 Inputs Before and After PASP

As shown in Figure 3.5, the percentage of farmers that used fertiliser and improved seeds increased after the receipt of PASP. Before PASP, 1.5% and 52% of the farmers used fertilizer and improved seeds each as part of their inputs in the farming or production process. After benefiting from the project, the percentage the respondents who used fertilizer and improved seeds increased to 65.1% and 60.9% respectively. This proves the positive impact of the project on the farmers with respect to their productivity. And increase in productivity in agriculture is key to increase in income which also impacts on improvement in the level of living of the beneficiaries, that is, livelihood.

The increase in the use of fertilizer is encapsulated in the Government of Rwanda's vision 2020 and part of the strategy to increase agricultural productivity (USAID, 2012). The result on input use also shows the priority of the government in providing fertilizers especially and other inputs to farmers of staple crops of which maize is one as part of government's priority to promote food security (USAID, 2012).

Alongside the use of fertilizers, smallholder farmers also used compost manure gotten from cow dung and other animal wastes. This practice helps to reduce costs for the farmers, reduce waste and reduce their contributions to the national ecological footprint.

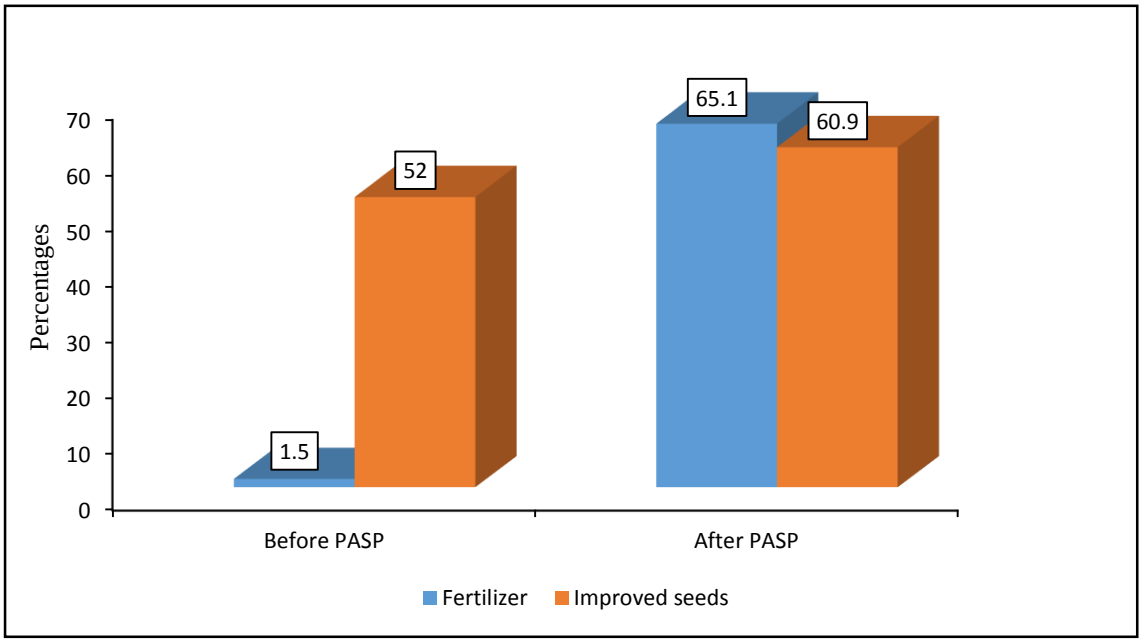


Figure 3.5: Inputs before and after PASP

### 3.3.5 Use of Climate Resilient Methods in Farming

The use of climate resilient methods in farming such as irrigation and GIS devices was very low with farmers using them at 30.1% only as against a higher 69.9% not using climate resilient methods at the moment. This is shown in Table 3.7 below. From field observations, the respondent smallholder farmers were using less of climate resilient methods.

Figure 3.6: Smallholder farmers applying compost manure to their farms.

However, particular climate resilient method pertaining to the use of crop diversification and new variety of seed had a high use among the responding farmers up to 97.8% while irrigation is 2.2% only.

Table 3.7: Use of climate resilient methods in farming

| Response | Frequency | Percentage |
|---|---|---|
| Yes | 103 | 30.1 |
| No | 239 | 69.9 |

Table 3.8: Climate resilient methods used in farming

| Response | Frequency | Percentage |
|---|---|---|
| Crop diversification and new variety | 89 | 97.8 |
| Irrigation | 2 | 2.2 |

### 3.3.6 Benefits from PASP

Majority of the respondents had benefited from PASP in capacity building and building of storage facilities. For both of capacity building and building of storage facilities, 99.5% and 93.3% of the respondents beneficiaries had benefitted respectively as shown in Table 3.9.

Table 3.9: Areas of benefit from PASP

| Response | Yes | No |
|---|---|---|
| Capacity building | 204(99.5%) | 1(0.5%) |
| Building of storage facilities | 83(93.3%) | 6(6.7%) |

## 3.4 Market for selling produce before PASP

About 9% of the respondents were selling their produce across towns, while 15% were selling in distant markets located in the town, particularly Kigali. The markets in Kigali included:

1. Africa Improved Food (AIF), Kigali
2. East African Exchange (EAX) Kigali,
3. Sarura Commodities Limited, Kigali and
4. Rwanda Grain and Cereals Corporation (RGCC) Limited,

The remaining 76% of the respondents sell their produce at local markets around where they farm.

The link between the farmers and the markets in Kigali listed above were established after the introduction of the programme. About 98.8% of the respondents agreed that through PASP, new markets were introduced to the smallholder farmers through the various cooperatives they belonged to. This was disclosed during the key informant interview (KII) sessions with the leaders of the four cooperatives, that is:

1. Coopromasa Cooperative
2. Koiga Imitoma Cooperative
3. Koiga Indatwa Cooperative
4. Koairu Ganza Cooperative

This result is consistent with that of a similar study by Rapsomanikis (2015) which showed that most smallholder farmers sell their produce in small markets. Many smallholder farmers remain marginalised and have access to food markets that function poorly or very locally. Well-functioning markets are not just a method for income generation but also a mechanism that allows the smallholder farmers the choice of exchanging their own goods –in monetary value- other goods and services that they do not have but are in need of.

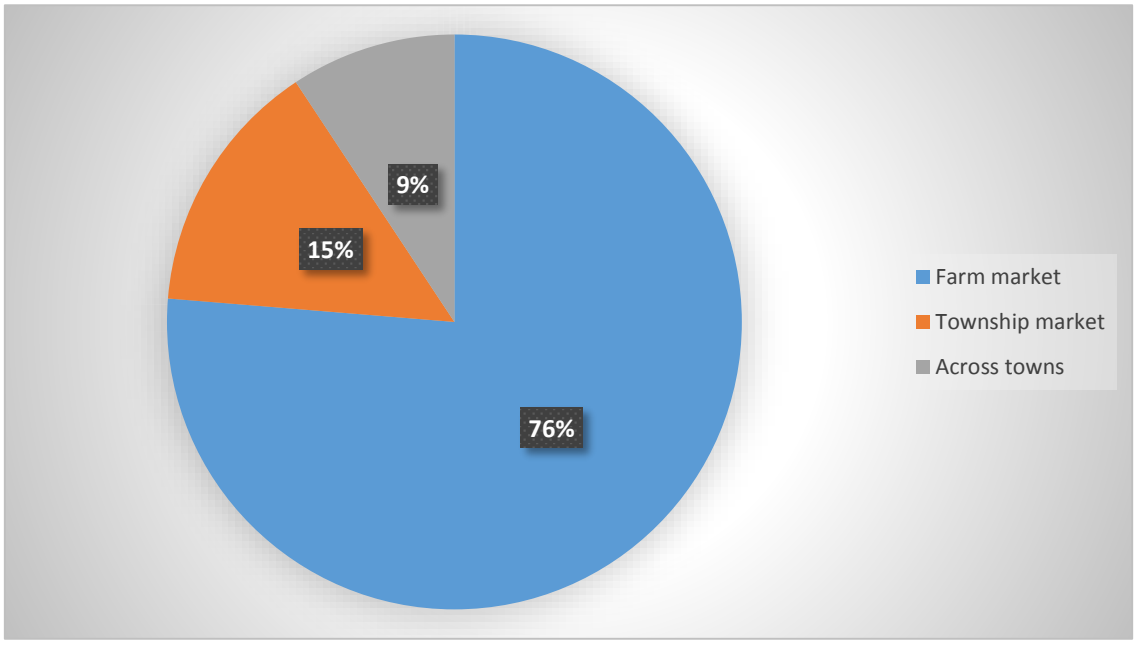

Figure 3.7: Market for selling produce before PASP

### 3.4.1: New markets introduced after PASP

Table 3.10 shows a mix of the market that the respondent farmers had access to within and outside their immediate locations. Table 3.11 shows that 98.5% of the benefiting farmers had access to these markets. The major markets the cooperatives had access to after their local farm markets were located in Kigali, the nation's capital. Most of the farmers though practicing contract farming were not aware of it. They were harvesting and supplying to companies in Kigali as a cooperative. This mechanism was strengthened through PASP.

This process of supplying their produce collectively to target markets (buyers) has significantly reduced postharvest lost and lost due to fluctuating market prices.

Table 3.10: New markets introduced after PASP

| Response | Frequency | Percentage |
|---|---|---|
| AIF Kigali | 139 | 43.2 |
| AIF Kigali, EAX Kigali | 112 | 34.8 |
| AIF Kigali, EAX Kigali Sarura Kigali | 17 | 5.3 |
| RGCC Kigali. AIF Kigali, EAX Kigali | 53 | 16.5 |

Table 3.11: Access to new markets

| Response | Frequency | Percentage |
|---|---|---|
| Yes | 320 | 98.5 |
| No | 5 | 1.5 |

### 3.5 Share of produce smallholder farmers sell

As shown in Table 3.12, 79.8% of respondents were selling most of their harvest and keeping the rest for consumption at home. The reason is because their membership with the cooperatives gave them access to bigger markets than they had before the intervention of PASP which enabled them sold more quantity than they previously did. The incentives that exist in the market is also a motivating factor for the reason that the respondents sold of their harvest. Interview with the head of Koaiga Indatwa Cooperative showed that PASP provided the cooperatives with trucks to haul their produce to the various markets in Kigali at a subsidized rate. The smallholder farmers only contribute 30% of the total transport cost.

Table 3.12: Share of produce sold

| Response | Frequency | Percentage |
|---|---|---|
| We sell nearly everything | 12 | 3.5 |
| We sell most | 272 | 79.8 |
| We sell about half | 27 | 7.9 |
| We sell less than half | 30 | 8.8 |

### 3.6 Market Incentives for Farmers

As shown in Table 3.13, about 85% of the beneficiaries of PASP agreed to had benefitted from the market incentives introduced through the intervention. These incentives as revealed through key informant interview showed that the farmers were provided with subsidized transportation service for their produce to different market locations in Kigali.

Table 3.13: Incentives for farmers who sell in new markets

| Response | Frequency | Percentage |
|---|---|---|
| **Yes** | **278** | **85.0** |
| **No** | **49** | **15.0** |

### 3.7 PASP Impact on Smallholder Farmers' Income

As shown in Fig. 3.8, the respondent smallholder farmers who made less than Rwf 50,000 before PASP were 62.7% for beans and 64.9% for maize respectively however, after the introduction of PASP it dropped to 13.9% each for beans and maize. Also, the percentage of smallholder farmers who made above Rwf 100,000 increased from 14.8% and 10.3% to 69.8% and 68.7% for beans and maize respectively after they benefitted from PASP. Isaac *et al.*, (2013) in a study on the analysis of the impact of Agricultural Input Subsidies Voucher Programme on the Livelihoods of Maize Producers in Kirehe District, Eastern Rwanda found that the programme had a positive impact on the income of the people with the annual profit from maize cultivation for the average farmer being Rwf158,746.

This means that beans and maize production under PASP generated income enough to sustain rural livelihood for the smallholder farmers that benefitted from it, helping them to meet their daily needs.

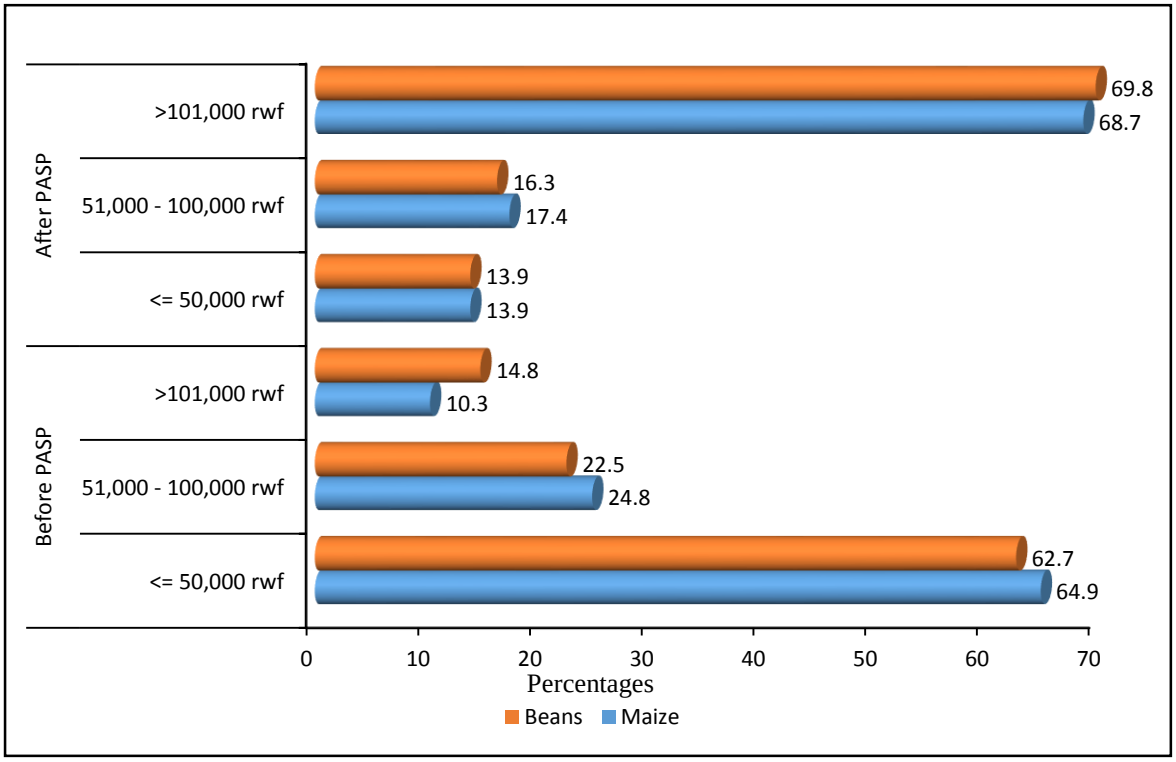


Figure 3.8: Sales realized before and after PASP program

### 3.7.1 Financial comfort of the Smallholder farmers before and after PASP

As shown in Table 3.14, 60.1% of the respondents were very comfortable after benefiting from PASP though 84.8% of them were barely financially comfortable before the intervention. This perception is attributable to stability in the price of produce in the market set by the government. So long as the farmers supply goods that meet the required quality to the market, they are assured of the market from the buyers. Price stability has led to increased and sustained income that has also led to improvement in the standard of living of the beneficiaries. The financial comfort ratio of 60.1% reported in Table 4.8 shows that PASP had a positive impact on the smallholder farmers' income and this will in turn have a great impact on their livelihood.

Table 3.14: Financial comfort of the smallholder farmers before and After PASP

| Response | Before | After |
|---|---|---|
| Very comfortable | 10 (2.9%) | 205 (60.1%) |
| Comfortable | 41 (12.0%) | 98 (28.7%) |
| Barely comfortable | 289 (84.8%) | 36 (10.6%) |
| I cannot say | 1 (0.3%) | 2 (0.6%) |

### 3.7.2 General Perception of the Impact of PASP by Smallholder Farmers

From the responses of the smallholder farmers gathered on the field, 74.6% of them perceived the programme to be very positive. This is a very reliable number to conclude that the Climate Smart Post-harvest and Agribusiness Support Project (PASP) had a very positive impact on the livelihood of the farmers generally ranging from productivity to income.

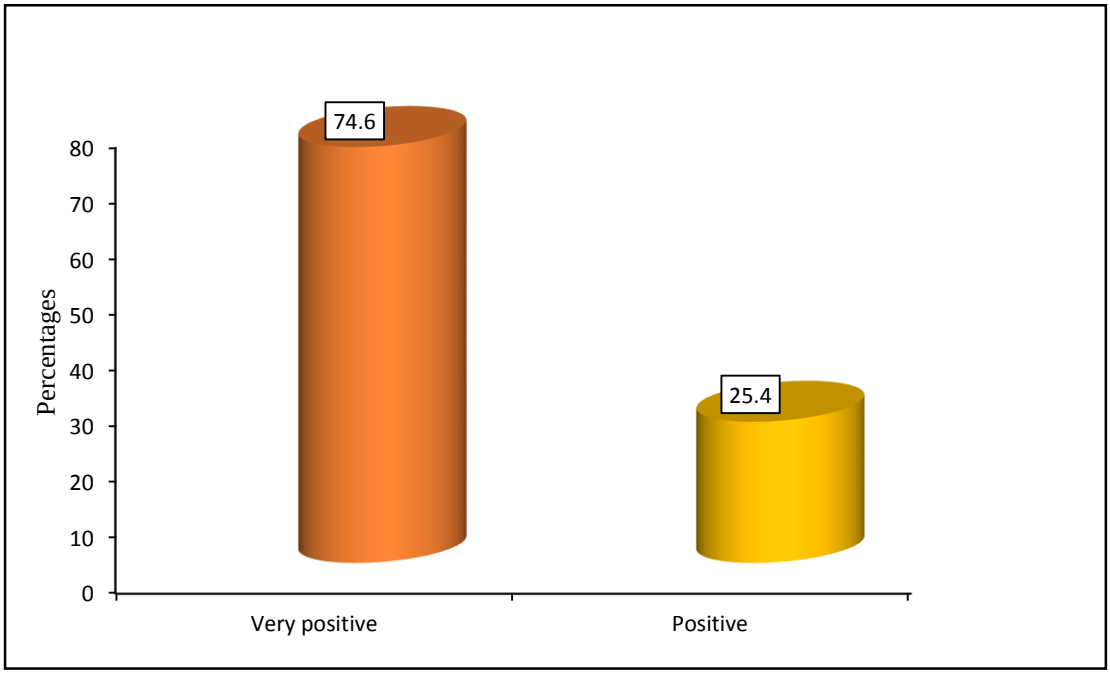


Figure 3.9: General Perception of PASP on Smallholder Famers' Livelihood

# CHAPTER FOUR

# CONCLUSIONS AND RECOMMENDATION

## 4.1 CONCLUSIONS

From the study it can be concluded that the Climate Resilient Post-harvest and Agribusiness Support Project (PASP) has had a positive impact on the smallholder farmers in Rwanda. The project which started in 2014 has impacted the productivity of the farmers, their income and livelihood positively. The productivity of the farmers has witnessed an increase of 96.5% for maize and 89.5% for the beans each and causing a drastic reduction in the percentage of farmers who were harvesting below a 100 kilograms before they benefitted from the project. This productivity is due to the beneficiaries' application of PASP smart agricultural practices that the farmers are trained on including knowing when to harvest the maize for instance in due time to avoid the growth of aflatoxins. This has increased the yield of the farmers and also the quality of their harvest.

From the knowledge of basic economics, the higher the demand, the higher the price. And the higher the price, the higher the income realised for the supplier. This has increased the farmers' confidence in the system because they know that once they harvest their produce and they meet the market's standard as trained through PASP, they will be sold and income made.

Income has a positive relationship with livelihood (Diener *et al.*, 2013) as it gives the smallholder farmer access to the basic necessities of life including good nutrition and quality education. Thus, the more the disposable income available to a farmer, the better the standard of living that he will be able to afford. The smallholder farmers as presented in this study now have increased income because they have higher productivity to access such income increased as shown in the analysis. By increasing the income of the farmers through increased productivity, PASP has fulfilled one of its objectives of improving the livelihood of the beneficiaries.

## 4.2 RECOMMENDATIONS

1. The smallholder farmers benefit from PASP through one of the different ways or a combination of areas which include capacity building, building of storage facilities, and provision of tarpaulins for the drying of maize when harvested. Overall, farmers have

benefitted more from capacity building in which trainings on the adoption of climate smart agricultural practices is inclusive. Though much has been done in this area, secondary data collected and field observations showed that majority of the farmers are yet to fully apply this methods to their farming practices. To help increase farmers' use of these methods, there should be massive sensitization in the project areas about the various climate smart agricultural methods that are available and how they can be used. These trainings should not end at the end life of the project but should be sustained to ensure a long term impact on the farmers.

2. There should be continuous manpower support for the different cooperatives in Rwanda to ensure the sustainability of the objectives of PASP. Because most of the cooperative members have limited education, there are little or no professionals who can handle some vital parts of their operation. Through key informant interview it was gathered that through PASP, the cooperatives were provided with an agronomist and an accountant but towards the termination of the project, they were disengaged leaving the cooperatives without professionals to handle these crucial roles. This will hamper the progress of the cooperatives unless professionals are recruited by the government to fill up these spaces and adequately remunerated considering the fact that some of the cooperatives are weak in nature and cannot support a yearlong salary structure for additional and professional staff.

3. Since the aim of PASP is to help increase the income of smallholder farmers, attention should also be channelled towards value chain addition to maize and beans products especially as considered by this study. Cooperatives should be trained on how to device and benefit from the value chain processes available to the maize and beans farming. This will increase their income, further better their livelihood as well as ensuring food security and minimizing waste.

**References**

FAO, (2002). Land Tenure Studies 3. http://www.fao.org/3/y4307e/y4307e04.htm

FAO, (2014). Retrieved from http://www.fao.org/gender/resources/infographics/the-female-face-of-farming/en/

FAO, (2019). Economics and policy innovations for climate-smart agriculture. http://www.fao.org/climatechange/epic/activities/what-is-climate-smart-agriculture/en/#.XHFhsxIo_IU

IFAD. (2013). Climate Resilient Post-Harvest and Agribusiness Support Project (PASP). President's Report.

IFAD. (2017). Climate Resilient Post-Harvest and Agribusiness Support Project (PASP). Mid-Term Review

IFAD. (2019). IFAD Operations in Rwanda. https://www.ifad.org/en/web/operations/project/id/1497/country/rwanda.

Luh, YH. (2017.) The Impact of Education On Agricultural Productivity: Evidence from East Asian Economies. International Journal of Food and Agricultural Economics (IJFAEC), Alanya Alaaddin Keykubat University, Department of Economics and Finance, vol. 5(4). DOI: 10.22004/ag.econ.266460

NEPAD. (2013). African agriculture, transformation and outlook. p.72.

NISR (2012), RPHC4 Thematic Report: Educational Characteristics of the Population. http://statistics.gov.rw/node/1086.

Republic of Rwanda, (2012). *Vision 2020*. http://www.minecofin.gov.rw/fileadmin/templates/documents/NDPR/Vision_2020_.pdf

Tang, J, MacLeod C. (2006). Labour force ageing and productivity performance in Canada. Canadian Journal of Economics/Revue canadienne d'économique. *39*(2): 582-603.

Willoughby, Robin and Forsythe, Lora (2012). Farming for impact: a case study of smallholder agriculture in Rwanda. Technical Report. Concern Worldwide.

## APPENDIX

## APPENDIX A: QUESTIONNAIRE

**SUSTAINABLE DEVELOPMENT PRACTICE**

**CENTRE FOR SUSTAINABLE DEVELOPMENT**

**UNIVERSITY OF IBADAN**

**SURVEY INSTRUMENTS FOR RESEARCH ON THE IMPACT OF THE CLIMATE RESILIENT POST-HARVEST AND AGRIBUSINESS SUPPORT PROJECT (PASP) ON SMALLHOLDER FARMERS' LIVELIHOOD IN RWANDA**

**RESEARCH QUESTIONNAIRE FOR SMALLHOLDER FARMERS WHO HAVE BENEFITED FROM PASP**

Dear Respondent;

My name is Philip Ogar Olofu, a postgraduate student of the Centre for Sustainable Development, University of Ibadan. I am currently carrying out an assessment on the Impact of The Climate Resilient Post-Harvest and Agribusiness Support Project (PASP) on Smallholder Farmers' Livelihood in Rwanda. This questionnaire is to help me gather data for the study.

Please, be rest assured that all information provided will be treated with confidentiality and your anonymity will be maintained. However, you will be required to fill out all sections in the questionnaire.

Thanks for your response.

Name of Cooperative …….  Questionnaire No……..

**Section A: Demographic Data (Please do tick (√) as appropriate)**

1. Gender:
   Male ☐  Female ☐
2. Age …… (years)
3. Level of education completed:
   None ☐  Primary school ☐  Secondary school ☐
   Vocational/technical ☐  Diploma ☐  Degree ☐
   Masters ☐  Ph.D. ☐
4. Marital status:
   Single ☐  Married ☐  Divorced/separated ☐  Widowed ☐
5. How many members do you have in your household?
   2 ☐  3 ☐  4 ☐  5 ☐
   6 ☐  Above 6 ☐
6. Who is the head of your household?

Man ☐ Woman ☐ Male Youth ☐ Female Youth ☐

7. What is the occupation of the household head?
   Farming ☐ Off-farm activities ☐
8. What is the size of the land owned by the household?
   …….(ha)
9. Is the land owned or leased?
   Yes ☐ No ☐

**Section B: PASP's Impact on Smallholder Farmers' Productivity**

10. Are you a beneficiary of the Post-Harvest and Agribusiness Support Project (PASP)?
    Yes ☐ No ☐
11. If Yes, for how long?
    1 year ☐ 2 years ☐ 3 years ☐ 4 years ☐
    5 years ☐
12. If no, are you aware of its activities?
    Yes ☐ No ☐
13. What kind of instrument do you use for storing your harvest/produce?
    Metric tonnes ☐ Bag ☐
14. What was the quantity of your annual harvest before you benefitted from PASP?
    (*Please indicate the quantity realised from each or all of the crops you planted)*
    ☐ Maize …….
    ☐ Beans ……..
    ☐ Others (please specify) ……..
15. What is the current quantity of your annual harvest since you received PASP? (*Please indicate the quantity realised from each or all of the crops you planted in metric tonnes or kilogram)*
    ☐ Maize …….
    ☐ Beans …….
    ☐ Others …….
16. What are the major inputs you use in the cultivation of your maize before you benefited from PASP?
    Fertilizer ☐ Improved seeds ☐ Others ……...
17. Are there new inputs that you are now using differently to cultivate your maize and other produce?
    Yes ☐ No ☐
18. If answer to question 17 is yes, list these new inputs.
    ……..
19. If answer to question 17 is no, give reasons.
    …….....
20. Do you use any climate resilient methods in your farming?
    Yes ☐ No ☐
21. If yes, can you specify these methods? (*tick as many as applied*)
    Crop diversification and new varieties ☐

Irrigation ☐
Remote sensing and GIS ☐
Precision agriculture ☐
Irrigation efficiency and information systems ☐
Others…….

22. What is the value of the PASP grant you received and in which year?
Amount……
Year……..……

23. Which other way have you benefited from PASP?
Capacity building ☐ Building of storage facility ☐ Others ……

**Section C: PASP's Impact on Smallholder Farmers' Access to Local and Export Market**

24. Before PASP was introduced, in which markets were you selling your produce? (*please tick as many options as are appropriate to you)*
Farm market ☐ Township market ☐ Across towns ☐
Export market ☐ Others (please specify) ……...
…….

25. After PASP was introduced, have new markets been established for you to sell your produce?
Yes ☐ No ☐

26. If your answer to question 25 is yes, please list the market(s) with their names and locations
…….
…….

27. Do you currently have access to all these new markets?
Yes ☐ No ☐

28. If yes, what is the quantity of the produce you supply to the market or these markets?
Maize……
Beans ……...
Others (please specify)……

29. If answer to question 27 is no, what are the reasons?
Distance ☐ Cost of participating e.g. tax ☐ Non availability of relevant infrastructure ☐ Violation of contracts ☐
Others (please specify) ……..

30. What share of your production do you and your family sell (and not consume yourselves)?
We sell nearly everything ☐
We sell most ☐
We sell about half ☐
We sell less than half ☐

31. Are there incentives for farmers who sell in these markets?
Yes ☐ No ☐

32. If answer to question 31 is yes, kindly tick the incentives that are obtainable in these markets (*tick as many as applies to you*)
Government purchase of excess supply ☐ Regulation of prices ☐
Provision of spaces for the sale of farm produce ☐
I do not know ☐
Others (Please specify) ……
33. Do you know about contract farming?
Yes ☐ No ☐
34. Do you have contract farming?
Yes ☐ No ☐
35. If yes, does your current capacity support your ability to meet the contract obligation?
Yes ☐ No ☐

**Section D: PASP's Impact on the Income of Smallholder Farmers**

36. How much were you realising from the sale of your produce before you were selected as a beneficiary of PASP?
Rwf…….. maize
Rwf…….. beans
37. How much are you currently realising from the sale of your produce after your selection as a beneficiary of PASP?
Rwf……... maize
Rwf …….. beans
38. How financially comfortable were you before you benefited from PASP?
Very comfortable ☐ Comfortable ☐ Barely Comfortable ☐
Strongly Comfortable ☐ I cannot say ☐
39. How financially comfortable are you now after benefiting from PASP?
Very comfortable ☐ Comfortable ☐ Barely Comfortable ☐
Strongly Comfortable ☐ I cannot say ☐
40. What is your perception on the impact of PASP on your level of productivity and financial comfort?
Very positive ☐ Positive ☐ Negative ☐
No effect ☐ I cannot say ☐

## APPENDIX B: FOCUSED GROUP DISCUSSION GUIDE FOR PASP BENEFICIARIES

| Focused Group Discussion | | Responses From Focus Group Discussion Participants |
|---|---|---|
| **1** | **Contact Details** | |
| | Address of the Respondent<br><br>Phone Number of the Contact | |
| **2** | **Selected Farmers Market Association Rwanda** | |
| 2a<br><br>2b<br><br><br>2c<br><br>2d<br>2e<br>2f | Name of the cooperative<br><br>Location of the market (District, sub-county)<br>Membership details of traders<br><br>Brief history of the cooperative<br>What does this cooperative do mainly?<br>What do members benefit from joining? | |
| **3** | **Assessing the Impact of PASP on Access to Local and Export Markets** | |
| 3a<br><br>3b<br>3c<br><br>3d<br>3e | Mention some achievements of PASP so far<br>What areas have you benefited most?<br>Are there new markets created for you to sell your produce?<br>Where are they located?<br>What is the distance to the market location? | |
| **4** | **General Perception of Beneficiaries on the Impact of PASP on them** | |

| | | |
|---|---|---|
| 4a<br><br><br><br>4b<br><br>4c<br><br>4d | What are the areas of PASP's success? E.g., capacity building, construction of post-harvest facilities etc. (mention them)<br>What are the areas PASP needs improvement?<br>What are your suggestions to help PASP make these improvements?<br>Do you think that by 2020, PASP must have changed the lives of its beneficiaries? | |

## APPENDIX C: KEY INFORMANT INTERVIEW FOR MINAGRI STAFF

| QUESTIONS | |
|---|---|
| **1** | What is your position in this ministry? |
| **2** | What is the total number of households that PASP seek to reach? |
| **3** | How many have so far benefited from it? |
| **4** | Does PASP still accept new beneficiaries? |
| **5** | What are the specific requirements expected from individuals before they can benefit from PASP? |
| **6** | Are there value chain addition programmes being implemented by the government to help increase the income of smallholder farmers? |
| **7** | Would you say PASP has contributed in reducing poverty in the country? |

## APPENDIX D: KEY INFORMANT INTERVIEW FOR COOPERATIVE HEADS

| QUESTIONS | |
|---|---|
| **1** | What is your position in this cooperative? |
| **2** | Can you give a brief history of your cooperative? |
| **3** | How has PASP helped this cooperative? |
| **4** | Is PASP directly involved in getting markets for the cooperatives? |
| **5** | What are the specific requirements expected from individuals before they can benefit from PASP? |
| **6** | Are there value chain addition programmes being implemented by the government to help increase the income of smallholder farmers? |
| **7** | Would you say PASP has contributed in reducing poverty in this sector? |