AGRICULTURAL PROJECT INTERVENTIONS AND LIVELIHOODS OF BENEFICIARIES IN RWANDA: A CASE OF SUSTAINABLE AGRICULTURE INTENSIFICATION AND FOOD SECURITY PROJECT (SAIP) IN RWAMAGANA DISTRICT

UMUTONI Alice
Email: mutonalicy@gmail.com
Reg. Number: MBA/ PM/18/09/2564
Postgraduate Studies in Partial Fulfilment of the Requirements for the Award of Master of Business

Administration in Project Management (MBA/PM) of University of Kigali

Corresponding author: Dr. KALIMBA Peter

ABSTRACT

The study entitled **"**Agricultural project interventions and Livelihoods of Beneficiaries in Rwanda, Case of Sustainable Agriculture Intensification and Food Security Project (SAIP) in Rwamagana District**".** The purpose of this study is to investigate the relationship between agriculture project interventions and livelihoods of beneficiaries in Rwanda, case of SAIP project in Rwamagana District. The study is guided by the following objectives: To determine the effect of training services offered by SAIP project on livelihoods of beneficiaries in Rwamagana District, to assess the effect of agriculture input services offered by SAIP project on livelihoods of beneficiaries in Rwamagana District, to examine the effect of agriculture loans services offered by SAIP project on livelihoods of beneficiaries in Rwamagana District. The study used descriptive research design and analytical research design. The sample size of the study is 378 beneficiaries of SAIP project in Rwamagana District. The study used stratified sampling technique and purposive sampling technique. Questionnaire, interview and documentary review will be used to collect data, the study used descriptive statistics and inferential statistics. The results revealed that an increase of one unit in training services; agriculture input, agriculture loans and market linkages would lead to increase of $\beta_1 = 0.131$, $\beta_2 = 0.417$; $\beta_3 = 0.386$ and $\beta_4 = 0.212$ in on livelihoods of beneficiaries of SAIP project in Rwamagana District respectively .The findings of this study suggest that, agricultural credit is productive, but its outreach is limited to a small proportion of the population. Its outreach should therefore be expanded and collateral requirements relaxed so that credit has its desired impact.

Key words: Project interventions and Livelihoods, Beneficiaries and Rwanda

INTRODUCTION

Globally, the purpose of every government is to provide services to its people that would enhance the standard of living and livelihoods of the people through different strategies like agribusiness projects intervention. According to International Fund for Agricultural Development (IFAD), the largest segment of the world's deprived is the 800 million poor women, children and men who live in rural areas. These are the subsistence farmers and herders and indigenous peoples whose daily struggles seldom capture world attention. Empowering rural people through agribusiness project intervention is an essential first step to eradicating poverty (UNDP, 2014).

Agribusiness project across the world can support agribusiness for rural development through building social capability for the local community to take up responsibilities for development after devolution of power, support producers lobby groups, support to improve market access and develop the agricultural exports further, improving negotiation capacity in international treaties, increase the Ministry of Agriculture's capacity in policy analysis and legal personnel, support and accelerate legal reform, strengthen the management of coffee cooperatives by supporting and financing new management models. Others include: support of an agricultural credit system that is operated in an MSE model, support development and multiplication of seeds and other planting materials because they are key to reducing costs of production, support technology development through encouraging the private sector and the dissemination of technical information particularly by encouraging participation of other providers (Warinda, 2016).

In china, agriculture project intervention is recognized as having been the major source of poverty reduction in the initial stages of China's rural reforms in the 1980s, when the household responsibility system, combined with supportive policies, public investments in infrastructure, and research and development, unleashed massive gains in agricultural productivity. A related aspect of agricultural growth in China is that it reduced urban–rural income disparities, whereas industrial growth accentuated them. Some estimates suggest that, if the same aggregate growth rate had been balanced across China's economic sectors, the same reduction in poverty rates could have been achieved in half the time 10 years rather than 20 years (Ravallion, 2014).

In South Africa and in many other developing countries, different agriculture project has been established with aims of transfer of technology practice for developing and spreading innovations among

smallholder's famers. It assumes that a transfer of technology and knowledge from scientists to farmers will trigger development and alleviate poverty in the rural areas where most of them live. Agricultural activities range from intensive to extensive crop production, of cattle rearing in the grasslands and sheep farming in the arid regions utilizing both winter and summer rainfalls. An estimated million people in South Africa engage in smallholder agriculture for various reasons, and most of these people are in the former homeland areas (Baiphethi, 2014).

In Eastern African countries like Tanzania, NGO established in Tanzania is the World Vision Tanzania (WVT). The WVT fights poverty through intervening in Agriculture, water, education, health and small income generating activities. The WVT provides different types of assistance to the communities' subject to the areas of interventions in which it is committed. The WVT implements its activities through Area Development Programmes (ADPs). World Vision Tanzania (WVT) has actively been involved in facilitating community focus interventions in Iramba District Council since 1994 when Kinyangiri ADP was incepted in one of the Division of Iramba District i.e Kinyangiri division (Makala *et al*., 2015)

In Rwanda, agribusiness development program has been introduced in Rwanda with main goal of increasing agricultural production and productivity in high potential food crops to ensure national food security for all through to support the private sector to invest in strengthening the competitiveness of the staple crop, to improve efficiency and decrease marketing costs along the staple crop value chain and to enhance producers' access and linkages to the markets, to provide farm inputs such as improved seeds and fertilizers were imported and distributed to farmers through public-private partnerships, and extension services on the use of inputs and improved cultivation practices are rendered to farmers by Ministry of Agriculture(MINAGRI, 2015)

MINAGRI introduced the Sustainable Agricultural Intensification and Food security Project (SAIP) project with the aims to increase agricultural productivity, market access, and food security of the targeted beneficiaries in the project intervention areas. Currently, SAIP is implemented in eight Districts: Rulindo, Rwamagana, Karongi, Rutsiro, Kayonza, Nyanza, Gatsibo, and Nyabihu, however, the project implementation will expand to other areas during implementation as required by the Government of Rwanda and in agreement with the World Bank Group. Therefore, the study seeks to analyze the

relationship between agriculture project interventions on livelihoods of their beneficiaries in Rwanda with reference SAIP project interventions

2. Problem statement

Over years poverty and food insecurity have been serious problems among rural resource poor in Rwanda. Considering effects of poverty, the Ministry of Agriculture recognizes the importance of eliminating hunger and ensuring sustainable food security within the region as a necessary first step to poverty eradication. In collaboration with FAO, the Ministry of Agriculture takes the initiative called SAIP project to help the poor farmers in Rwanda to tackle the problem of poverty. The project was introduced in 2018 and was designed to provide five small ruminants to poor households who typically lack collateral, steady employment and a verifiable credit history (MINECOFIN, 2018).

However, the Ministry of Agriculture has a low insight in the outcomes of the agriculture project and want to find out if the development project has actually helped the poor. Poverty is still mostly a rural phenomenon: 49 percent of the poor live in rural areas compared to 22 percent in urban areas. Poverty is highest (76.6%) among households (often landless) who obtain more than half of their income working on other people's farms. Agriculture is crucial for Rwanda's economic growth and reduction of poverty (NISR, 2018).This research was done in order to assess the extent in which the project has assisted poor households to improve their livelihood assets . Hence, this study seeks to investigate the role of Agriculture project intervention on livelihoods of beneficiaries in Rwanda with reference to SAIP project in Rwamagana District**.**

2.1. Objectives of the study

The general objective of the study was to investigate the relationship between agriculture project interventions and livelihoods of beneficiaries in Rwanda, case of SAIP project in Rwamagana District , specifically the study aimed:

1) To determine the influence of training services offered by SAIP project on livelihood of beneficiaries in Rwamagana District

2) To establish the influence of agriculture input services offered by SAIP project on livelihood of beneficiaries in Rwamagana District

3) To examine the influence of agriculture loans services offered by SAIP project on livelihood of beneficiaries in Rwamagana District

4) To find out the influence of market linkages services offered by SAIP project on livelihood of beneficiaries in Rwamagana District

3. LITERATURE REVIEW

This chapter discusses literature which is associated with the study. The chapter reveals theoretical and conceptual framework

3.1. Theoretical literature

This study was based on two theories of poverty such Marxian Theory of Poverty and Participatory development theory.

Marxian Theory of Poverty

This is a theory based on the fact that poverty comes about as a result of the situation a poor person finds himself or herself in. The poor person is therefore a victim of circumstances resulting from a number of factors, critical of which is the production system. Karl Marx pointed out those entrepreneurial practices of the owners of means of production (capitalists) to move away from labour to capital intensive means of production in order to boost production and increase profits lead to massive unemployment (Miller, Mastuera & Sadowski, 2004).

A series of structural failures give rise to an increase in the number of the poor. Goering, *et.al*, (2003) identify these structural failures as racial and gender discrimination and nepotism resulting in deprivation of certain groups of peoples' opportunities for jobs, education and social assistance. Albrecht and Milford (2011) contribute to this theory by pointing out that massive restructuring of economic systems leads to increased economic and social marginalization of an entire group of people. Such groups end up poorer due to the lake of access to opportunities.

The Marxist theory recommends poverty alleviation through improved structures of production and increased education and training to those rendered irrelevant by technological improvement to adapt through change of environment to change of profession(Goering, *et al*.,2003). This theory was used in the context of the study because the level of poverty of people in Rwamagana District is the results of using

poor agriculture methods like mixed cropping, non use of chemical fertilizer, traditional seeds of maize and soybeans, lack of market information of their maize production, poor knowledge regarding to planting maize and soybeans in favor condition, lack of proper storage facilities, insufficient of household income, poor quality of education and poor housing condition. This Marxist theory recommends poverty alleviation and livelihoods is achieved through improved structures of production and increased education and training to those rendered irrelevant by technological improvement to adapt through change of environment to change of profession
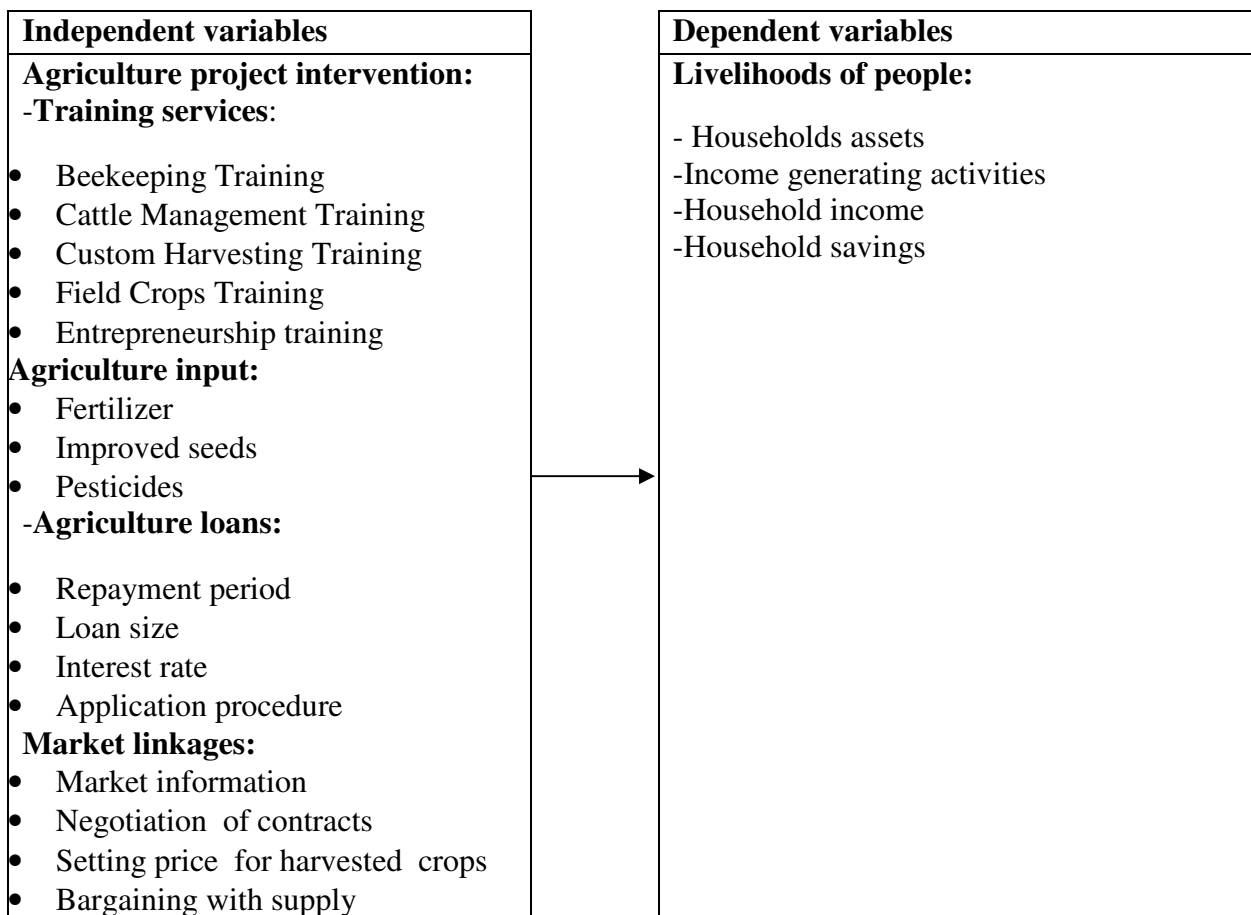
Participatory development theory

Participatory development theory recognizes that different regions are differently in terms of resource endowments as well as the problems that confront them. It therefore seeks to promote indigenous knowledge by embracing community participation, environmental sustainability, domestically-induced growth and good governance. In participatory development, the development process is both a process for and by the people for their own sustained growth and therefore requires that the priorities of the poor be put first (Chambers, 2012). In this case, it is essential to realize the need for transformation of communities into dynamic and self-reliant entities, with effective organization and development capacities and internal momentum, capable of solving most of their development problems on their own on a continuing basis (Egyir, 2013).

In this context of this study, the researcher used participatory development theory since Agriculture project interventions provide welfare services to marginalized communities, they are appreciated by the general public, who see them as working for poverty alleviation, the empowerment of people, the improvement of livelihoods through the provision of income earning opportunities, as well as the improvement of access to health and food, education and the basic necessities of life, including healthy environmental. Agriculture project interventions encourage people's participation in their projects for several reasons, one of which is that they take it as a sign of their success that their project has been accepted by the locals. Secondly, participation leads to people's empowerment the two factors being inter-related. When people participate they acquire knowledge, skills and confidence, which in turn increase their ability to control their own lives. Further they need to communicate clearly the nature, time duration and benefits of the project with the local people, to ensure their approval and active participation.

3.2. Conceptual framework

Conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinction and organize ideas (Kenneth, 2005). The independent variable is SAIP project intervention such as trainings services to farmers, market linkages services to farmers. However, the degree of association between SAIP project intervention such as trainings services to farmers, market linkages services to farmers, agriculture project services to farmers and agriculture loans services on livelihoods of beneficiaries in Rwamagana as dependent variable is unknown. The figure below showed the relationship between independent variable and dependent variable of this study

Independent variables	Dependent variables
Agriculture project intervention: -**Training services**: • Beekeeping Training • Cattle Management Training • Custom Harvesting Training • Field Crops Training • Entrepreneurship training **Agriculture input:** • Fertilizer • Improved seeds • Pesticides -**Agriculture loans:** • Repayment period • Loan size • Interest rate • Application procedure **Market linkages:** • Market information • Negotiation of contracts • Setting price for harvested crops • Bargaining with supply	**Livelihoods of people:** - Households assets -Income generating activities -Household income -Household savings

Source: Researcher, 2021

Figure 1: Conceptual Framework

4. MATERIALS AND METHODOLOGY
4.1. Research design

Research design refers to the way a study was planned and conducted, the procedures and techniques employed to answer the research problem or question (Saunders, 2009). The study used correlation research design and explanatory research design. Correlation research design was used to determine the degree of association between training services offered by SAIP project on livelihoods of its beneficiaries in Rwamagana District. Explanatory research design was used to determine the degree of association between trainings, agriculture input services; agriculture loans services ; market opportunities services offered by SAIP project on livelihoods of beneficiaries in Rwamagana District .

4.2.Population of the study

According to Kothari (2013), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. The population of interest of this study will be comprised by beneficiaries of SAIP project. According to SAIP project, the total beneficiaries of SAIP project are 6,859 smallholders' farmers grouped in different cooperative in Rwamagana District and 2 employees of SAIP project.

4.3.Sampling design

Sampling techniques is a process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group (Kombo and Tromp, 2006). This section dealt with sample size and sampling technique. The sample size is determined using the Slovin's formula is given as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size= 6,859, and e is the level of precision= 5. The sample size is 6,859 beneficiaries of SAIP project in Rwamagana District.

All those

$$\boldsymbol{n} = \frac{6,859}{1 + 6,859 \ \boldsymbol{(0.05)^2}} == 377.9$$ ≈378 beneficiaries of SAIP project in Rwamagana District.

Table 3.2:Sample size

Sector	Cooperative name	Sample size
MWULIRE	TWITEZIMBERE MWULIRE	(1,305 *378)/6859=72
MWULIRE	URUMURI MWURIRE	(379*378)/6859=21
MUHAZI	ISUKA IRAKIZA	(320 *378)/6859=18
MUSHA	URUMURI RWA MUSHA	(350 *378)/6859=19
MUSHA	TWITEGANYIRIZE EJO HAZAZA	(165 *378)/6859=9
MUHAZI	JYAMBERE MUHAZI	(154 *378)/6859=8
KIGABIRO	KOHUNYA	(167 *378)/6859=9
KIGABIRO	COCOMAKI	(142 *378)/6859=8
MUYUMBU	HIRWA35	(3,187 *378)/6859=176
KARENGE	KOTUIKA	(208 *378)/6859=11
NZIGE	KOTUABIKI	(504 *378)/6859=28
GAHENGERI	GWIZA 34	(690 *378)/6859=38
RUBONA	KOPERATIVE KARAMBI	(198 *378)/6859=11
Sample size		**378**

Source: SAIP project report, 2021

This study collected data on 378 beneficiaries of SAIP project in Rwamagana District by using stratified sampling technique and 2 employees of SAIP project were selected among other employees by purposively

4.4.Data collection procedures and instruments
Primary data was collected from respondents using questionnaires and interview guide as the main instrument of data collection while   documentation techniques were used to collect secondary data

The questionnaire

This section dealt with questionnaire, interview guide and documentary reviews as data collection instruments

Questionnaires

Questionnaire was used in order to fully collect information on the impact of agricultural project on livelihoods of its beneficiaries. The questionnaire was aimed at a representative sample of beneficiaries of SAIP project on agriculture project interventions on livelihoods of its beneficiaries.Questions were directed towards the variables as brought out in the conceptual framework. Variables in this study was measured using closed questions and open ended questions and this assisted in measuring the extent to which the role played by agriculture project interventions such as training, market linkages, agriculture input and agriculture loans on livelihoods of their beneficiaries.

Documentation

This method helped the researcher to get supportive information that has complemented primary data obtained through use of questionnaire techniques. Different books, journals, newsletters, electronic information and other forms of documented materials were perused.

Interviews

The researcher carried out a direct conversation with 2 top managers of SAIP project which include: program manager of SAIP project and enterprises development officer. The interviews contained questions needed to fill the gaps that could not be filled by the questionnaires. Appointments for interviews with respective officers was not be made in advance, but rather depend on the availability of ample time interviewees could get within their tight schedules at work.

4.5. Reliability and Validity

A pilot study was conducted on 10 beneficiaries of World Vision to evaluate the validity and reliability of the research instrument.

Validity of research instrument

The study used content validity because it measures the degree to which the sample of the items represents the content that the test is designed to measure. Before processing the data, the questionnaires were checked for completeness and consistency. The validity of the data collection instruments was done with the help of an Expert (the Researcher's Supervisor) to edit the questionnaire and the interview guide. The researcher forwarded the structured questionnaire and the interview guide to supervisor who is an expert in the area covered by the research for editing and reviewing. The following formula was used to test validity index. According to Sekaran (2006) content validity index should not be less than 0.7.

$$CVI = \frac{\text{No. of items regarded relevant by judges}}{\text{Total No. of items}} = \frac{48}{54} = 0.888.$$ This implies that research instruments had internal validity because CVI computed is great than 0.7. This confirmed the dimensions of the concepts under study which were operationally defined to ensure appropriateness of results.

Reliability of the research instrument

Estimation of reliability of the instrument was done by pilot-testing the questionnaire and applying Cronbach's Alpha coefficient to ascertain the internal consistency of the research tool, namely, questionnaire. Should the Alpha Coefficient be ≥0.70, then the instrument would be considered reliable for use to collect actual data. The researcher pilot tested the instrument and applied Cronbach's Alpha coefficient to ascertain the internal consistency of the research tool, namely, questionnaire.

Table 3.3: Reliability Statistics

Cronbach's Alpha	N of Items
.890	48

Source: Primary data, 2021

The table 3.3 above displays the reliability indices/coefficients for all constructs used in the study. Alpha reliabilities (α) for all scales were 0.890. This being greater than 0.7, it indicates that there is

greater internal consistency of the items in the scale, and that the research instrument used was very reliable.

4.6. Data analysis Procedure

The primary data collected was analyzed using descriptive statistics such as mean, frequency, percentage and standard deviation, inferential statistics such as correlation analysis and multiple regression analysis. The analysis applied the statistical package for social sciences (SPSS) to compute the measurements of the multiple regressions for the study.

Correlation analysis: Correlation analysis was developed to measure the strength and closeness of the relationship between each independent variable to dependent variable which is the relationship between SAIP project intervention and livelihoods of beneficiaries in Rwamagana District.

Multiple regression analysis: Based on other models that used to test the impact of project intervention and livelihoods of beneficiaries in Rwamagana District, the present study adopted the following model: The multiple regression models were as laid below.

$$Y = \beta 0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + e$$

Where: Y = livelihoods of beneficiaries in Rwamagana District {βi; i=1,2,3 and 4} = The coefficients representing the various independent variables. B0 = the Y intercept

{Xi; i=1,2,3 and 4} = Values of the various independent (covariates) variables.

e = the error term which is assumed to be normally distributed with mean zero and constant variance

X_1= Training, X_2= Agriculture input, X_3=Agriculture loans and X_4 = Market linkages

5. FINDINGS

To achieve the objectives of the study which is to determine the influence of training services ; agriculture input services ; agriculture loans services and market linkages services offered by SAIP project as independent variable on livelihood of beneficiaries in Rwamagana District as dependent variable/ The study used correction method and multiple linear regressions

Correlation's analysis

Spearman correction method which is known as a statistical technique to measure the relationship between variables was used. Simply it is said that if the correlation value is positive the relationship between variables is said to be positive and vice-versa. After that, the following task is to confirm whether the correlation is statistically significant or not. To this, two famous p-alphas (0.01 and 0.05) are used where the calculated or tabulated p-value is compared to the/m. If the tabulated p-value is below to one among of them the relationship is said to be statistically significant and if it is above the relationship is said to be not statistically significant.

Table 3: Correlation analysis

			X_1	X_2	X_3	X_4	Y
Spearman's rho	Training services	Correlation Coefficient	1				
	Agriculture input	Correlation Coefficient	.070	1			
	Agriculture loans	Correlation Coefficient	.053	.035	1		
	Market linkages	Correlation Coefficient	.244**	.131*	.359**	1	
	Livelihoods of beneficiaries of SAIP project	Correlation Coefficient	.754**	.715**	.515*	.549**	1
		Sig. (2-tailed)	.001	.000	.026	.000	.

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The results from table 3, indicate that there is significant high positive correlation between training services and livelihoods of beneficiaries of SAIP project in Rwamagana District at (r=0.754**, p-value=0.001<0.01). This implies that an increase of training services leads to the positive change to livelihoods of beneficiaries of SAIP project in Rwamagana District .

The results from table 3, indicate that there is significant high positive correlation between agriculture input and livelihoods of beneficiaries of SAIP project in Rwamagana District at (r=0.715**, p-value=0.000<0.01). This implies that an increase of agriculture input leads to the positive change of livelihoods of beneficiaries of SAIP project in Rwamagana District .

The results from table 4, indicate that there is significant moderate positive correlation between agriculture loans and livelihoods of beneficiaries of SAIP project in Rwamagana District at (r=0.515*, p-

value=0.026<0.05). This implies that an increase of agriculture loans leads to the positive change to livelihoods of beneficiaries of SAIP project in Rwamagana District .

The results from table 3, indicate that there is significant moderate positive correlation between market linkages and livelihoods of beneficiaries of SAIP project in Rwamagana District at (r=0.549[**], p-value=0.000<0.01). This implies that an increase of market linkages leads to the positive change to livelihoods of beneficiaries of SAIP project in Rwamagana District.

Multiple linear regression analysis

Multiple linear regression analysis is used to determine whether SAIP project activities such as training services, agriculture input services; agriculture loans services and market linkages services have an impact on livelihoods of its beneficiaries. The regression models were run to test whether the model is significant or not. The statistical significance was verified by the Coefficient (β), t-statistic and Prob. In additional, statistically significant relationship between the dependent variable and independent variable from the model were accepted at 5% significance level. Based on the model summary, the coefficient of determination (R squared) shows the overall measure of strength of association between independent and dependent variables.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.708[a]	.501	.462	.1567

a. Predictors: (Constant), Market linkages, Agriculture input, Training services, Agriculture loans

The results from the table 4, indicated that the value of r squared was 0.501(50.1%) an indication that there was variation of 50.1% in livelihoods of its beneficiaries was due to changes in training services, agriculture input services; agriculture loans services and market linkages services at 95% confidence interval. Additionally, this therefore means that factors not studied in this research contribute 49.9% of livelihoods of its beneficiaries.

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.977	4	2.494	11.933	.000[a]
	Residual	77.805	373	.209		
	Total	87.782	377			

a. Predictors: (Constant), Market linkages, Agriculture input, Training services, Agriculture loans

b. Dependent Variable: Livelihoods of Beneficiaries in Rwanda

Source: Computed by researcher from Field data, 2021

The findings in the table 5, indicate that the overall model was significant. The overall model was significant because calculated F statistic of 11.933 was large than the critical $F(V_1=4, V_2=373) = 2.24$ and also because p-value calculated $=0.000$ is less than Critical p-value $=0.05$ level of significant. Therefore, this implies that the combined effort activities of SAIP project such as training services, agriculture input services; agriculture loans services and market linkages services was statistically significant in explaining the variations in livelihoods of its beneficiaries. This is supported by a p value of 0.000 which is less than the acceptance critical value of 0.05. This implies that there was a goodness of fit of the model fitted for this study.

Table 6: Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.882	.233		12.366	.000
	Training services	.131	.027	.056	2.132	.038
	Agriculture input	.417	.027	.209	4.272	.000
	Agriculture loans	.386	.034	.126	2.481	.014
	Market linkages	.212	.033	.176	3.453	.001

a. Dependent Variable: Livelihoods of Beneficiaries in Rwanda

Source: Computed by researcher from Field data, 2021

The equation ($Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$) becomes:

Livelihood of beneficiaries of SAIP project $= 2.882 + 0.131X_1 + 0.417X_2 + 0.386 X_3 + 0.212X_4$

The regression equation above has established that taking all factors into account (training services, agriculture input services; agriculture loans services and market linkages services) constant at zero; Livelihoods of beneficiaries of SAIP project in Rwamagana District will be 2.882

The regression results revealed that training services have significance positive effect on livelihoods of beneficiaries of SAIP project in Rwamagana District as indicated by β_1= 0.131, p=0.038<0.05, t= 2.132. The implication is that an increase of one unit in training services would lead to an increase in livelihoods of beneficiaries of SAIP project in Rwamagana District by 0.131 units.

The regression results revealed that agriculture input have significance positive effect on livelihoods of beneficiaries of SAIP project in Rwamagana District as indicated by β_2=0.417, p=0.000<0.05, t=4.272. The implication is that an increase of one unit in agriculture input would lead to an increase in livelihoods of beneficiaries of SAIP project in Rwamagana District by 0.417units.

The regression results revealed that agriculture loans have significance positive effect on livelihoods of beneficiaries of SAIP project in Rwamagana District as indicated by β_3= 0.386, p=0.014<0.05, t= 2.481. The implication there is sufficient evidence that an increase of unit in agriculture loans would lead to an increase in livelihoods of beneficiaries of SAIP project in Rwamagana District by 0.386 units. These findings are in line with Nzomo and Muturi(2014) who opines that, Agricultural credit can move farmers along the production surface more efficiently: firstly, credit influences the efficient resource distribution by overcoming constraints to purchase inputs and use them optimally which shifts the farmer along a given production surface to a more intensive input use; secondly, credit may help to purchase a new technological package (including high yielding hybrid seeds, drip or sprinkler irrigation system etc.) that will shift the production surface; and thirdly it may help to use more intensively the use of fixed inputs

The regression results revealed that market linkages has significance positive effect on livelihoods of beneficiaries of SAIP project in Rwamagana District as indicated by β_4= 0.212, p=0.001<0.05, t= 3.453. The implication is that an increase of unit in market linkages would lead to an increase in livelihoods of beneficiaries of SAIP project in Rwamagana District by 0.212 units. These findings are consistent with Obulinji (2013)) posited that access to market for the agricultural products impacted positively on agricultural productivity and in turn economic empowerment of small scale holders is enhanced

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on the findings of this study, the study concluded that there is positive effect on activities of SAIP project on livelihoods of beneficiaries of SAIP project in Rwamagana District where the variation of 50.1% in livelihoods of beneficiaries of SAIP project in Rwamagana District due to changes in training services, agriculture input services; agriculture loans services and market linkages services. Firstly, the study concludes that training services has a significant and positive influence on and livelihoods of beneficiaries of SAIP project in Rwamagana District. These findings hence imply that by increasing training services can enhance better livelihoods of beneficiaries of SAIP project in Rwamagana District. Secondly, the study concludes that agriculture input have a significant influence on livelihoods of beneficiaries of SAIP project in Rwamagana District. These results imply that though agriculture input had a positive effect on livelihoods of beneficiaries of SAIP project in Rwamagana District, this influence was significant and hence changing agriculture input would lead to any significant change in livelihoods of beneficiaries of SAIP project in Rwamagana District. Thirdly, the study concludes that agriculture loans services have a significant influence on livelihoods of beneficiaries of SAIP project in Rwamagana District. These results imply that though agriculture loans services had a positive influence on livelihoods of beneficiaries of SAIP project in Rwamagana District, this influence was significant and hence changing agriculture loans services would lead to any significant change in livelihoods of beneficiaries of SAIP project in Rwamagana District. Lastly, the study concludes that market linkages services have a significant influence on livelihoods of beneficiaries of SAIP project in Rwamagana District.

Recommendations

Based on the research findings, the researcher came up with the following recommendations:

Findings indicated that agriculture trainings have positive relationship with socioeconomic development. Therefore management of SAIP project should also be trained on value adding tactics as they also improve the cash flow in the projects and increase profit. This can be done by providing training and workshops on how to increase productivity using the same amount of land allocated to them.

SAIP project should sensitize and train farmers groups on importance on use of improved seeds and value addition to their produce as well as acquiring information on markets for their produce

Findings indicated that agriculture inputs have positive relationship with socioeconomic development and also findings indicated that some farmers did not received agriculture inputs. Therefore management of SAIP project should assist the farmers to obtain more agricultural inputs such as quality seeds, fertilizers as well as tractors at reasonable price and on time for those agricultural interventions supported by government or SAIP project.

Results showed that longer repayment period and more number of installments led to motivate the desired investment in agriculture. So, the management of SAIP project can investigate the financial situation of farmers and profitability of farm production to set a financial profile and ranking customers to pay the loans with longer repayment period and more of installments that are suitable for agricultural investment

The farmers need to be linked to agri-food value chains, while institutional innovations for vertical and horizontal coordination among these farmers need bolstering. Among the targeted innovations include booster capital for group lending, establishment and/or strengthening of rural marketing cooperatives and farmer groups, and facilitation of producer associations to access low-cost equipment

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