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MICROCREDIT AND SOCIO-ECONOMIC IMPROVEMENT OF SMALL FARMERS IN RWANDA: AN EMPIRICAL STUDY

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Abstract:

Microcredit has been utilized as a mechanism to increase economic growthand have made considerable progress over the past decade in sub-Saharan –Africa especially in Rwanda. Thestudy sought to describe the socio-economic characteristics of microcredit beneficiaries and to determine factors the factors affecting small farmers to access microcredit. Instrument of data collection was through a set of structured and pre-tested questionnaire. The survey was conducted on 300 small farmers of which 136 are microcredit users and the rest 164 are microcredit non-users.The study employed descriptive statistics and Regression Model to analyze the data. Results from descriptive analysis show that small farmers who used microcredit programs had increased their agricultural production and their wellbeing. Results from descriptive analysis show also that lack of collateral, lack of knowledge and high interest rate are the major constraints faced by small farmers to access microcredit programmes. Results from regression analysis revealed that education, cooperative membership, total annual income, distance, household size and source of credit were statistically significant factors affecting small farmers to access microcredit.Access to microcredit could view as in improving the agricultural production of small farmers. The study recommends that small farmers should be trained and should use microcredit provided by microfinance banks in order to enhance their economic improvement and to increase their agricultural production.

Index Terms: Microcredit, Small Farmers, Socio-Economic Improvement, Regression Analysis & Rwanda

1. Introduction:

Microcredit is a better ways for poverty reduction and further agricultural development of sub-Saharan African countries including Rwanda. Effective strategy for poverty reduction is to promote the productive use of farm inputs. This can be done by creating opportunity for raising agricultural productivity among small farmers (Muhammad Alam*et.*al. 2014). Access to microcredit is the most priorities of small farmers where agriculture is the main economic activity (Dittoh, 2006; Benjamin Anang et.al, 2015).

Therefore, the impact assessment of microcredit conducted in many countries indicates dramatic improvement in small farmers' household's income levels. Microcredit could be good providers of agriculture finance and services to small producers. Agricultural credit accelerates agricultural innovation and economic growth. It also creates adequate flow of inputs thus rising efficiency in farm production (Nouman et al., 2013).According to Omonona*et* al. (2010), access to credit enhances the production efficiency of small scale farmers thereby reducing rural poverty and food insecurity. Agricultural credit provides financial resources to the farming community particularly for the purchase of primary inputs such as fertilizers, seeds, machines, and pesticides. Credit requirements of the farming community have shown an increasing development over in recent decade (Khan et al, 2007). Okon*et.*al. (2012) stated that through acquisition of loans from microfinance banks, small scale farmers are able to

increase the number of children enrolled in school, increase their household consumption, increase income and provide better nutrition. Yasmeen*et*. al. (2011) have reported that agricultural credit plays an important role in raising the agricultural productivity that translated into income does raise the consumption expenditure implying rise in living standard. Microcredit presents the poor with income, food, education and health and can have immediate and long term consequences (Adams and Bartholomew, 2010).In Rwanda, several microfinance institutions have been established towards resolving the credit access problem of the poor. Microcredit is useful for poor households to take advantage of new business opportunities, expand income generating activities and cope with chocks and life cycle events (Straton (2007). In Rwanda, access to agricultural microcredit remains a critical challenge to small farmers.This is because small farmers lack the needed collateral to be able to borrow from financial institutions. Consequently, small farmers have been marginal participants in the microcredit markets and the supply of credit for agricultural activities was poorly adapted. Despite the important contribution of the Government of Rwanda to agricultural development, the supply of microcredit to small farmers still limited. However, the Government of Rwanda should have a special focus on agricultural sector for the development of farmers and poverty alleviation. Providing credit to small farmers will enhance the productivity which will lead to the betterment in their economic conditions, their improvement in their children's education, health status and living standards.This study examines the effect of microcredit on small farmers' socio-economic improvement and to analyze the factors affecting small farmers' to access microcredit in Rwanda and especially in Huye District.

2. Material and Methods:

The study was carried out in Huye District, Southern Province of Rwanda. Agricultural is the main activity in the area include production of crops like banana, rice, maize, sorghum, soya beans, cassava, beans and others include sweet potatoes and coffee. Data were collected using structured questionnaires that were administered to the sample of households' heads via person-interviews. The simple random sampling technique was applied to select 300 small farmers in three sectors of Huye District.The present study used both quantitative and quantitative methods and procedures.The data was analyzed by using both Statistical Package for Social Sciences (SPSS) software version 18 and STATA 11. The socio- economic characteristics of the respondents were analyzed using descriptive statistics.

3. Statistical Method:

The factors affecting small farmers to access microcredit were analyzed using Regression model.The linear regression model used can be specified as follow:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + ... + \beta i X_i + \varepsilon$$

Where;

Y is the dependent variable "*Access to microcredit programme*"

β_0 = the intercept

β_1 = the parameter associated with X_1

β_2 = the parameter associated with X_2

β_3 = the parameter associated with X_3 and so on.

$\boldsymbol{\varepsilon}$ is the Error term

Dependent Variables: Gender, education, cooperative membership, total annual income, Distance from the homestead to microcredit sources office, Annual Interest Rate, Household size, and source of credit .

X_1 is gender of respondent (0= Female, 1= male)
X_2 is Education level of respondents
X_3 is cooperative membership (0= non-member and 1 = member)
X_4 is total annual Income (in Rwandan Francs)
X_5 is distance between homestead and microcredit sources offices
X_6 is annual interest rate (in percentage)
X_7 is Household sizes of respondents
X_8 is Source of credit

4. Results and Discussion:

Descriptive Statistics:

Effect of Microcredit on Small Farmers' Socio-Economic Improvement:

The effect of microcredit on small farmers' socio-economic improvement in two ways: *"Effect on agricultural production"* and "*Effect on Farm Household".*

Table1: Effect of microcredit on small farmers' economic improvement

Effect on agricultural production	Frequency	Percentage
Purchase of Farm inputs(seeds, fertilizers)	48	35.3
Hiring farm tools	27	19.9
Increase in agricultural production	61	44.9
Total	**136**	**100**
Effect on Farm Household		
Increased purchase of house assets	31	22.8
Improvement in children's Education	34	25
Improvement in health status	42	30.9
Starting business	29	21.3
Total	**136**	**100**

Sources: Author Field survey, 2015

Effect on Agricultural Production: Table 1 shows that the majority of the respondents (44.9 percent) have increased in their agricultural production due to the microcredit accessibility while 35.3 percent of respondents reported that they have purchased farm inputs such as seeds, fertilizers, pesticides and only 19.9 percent of respondents reported that they hire farm tools to increase agricultural production.

Effects on Farm Household: Table 1 show that (22.8 percent) of respondents have reported that access to microcredit has increased the purchase of household assets while (25 percent) have reported the improvement in children's education. Access to microcredit has by small farmers has increased their income which has been very supportive for them to fulfill the educational expenditures. (30.9 percent) of respondents were reported the improvement in their health status. Small farmers with safe life conditions should achieve better economic status through the development of their agricultural business and increasein their crop production. 21.3 percent of respondents reported that having accessibility to microcredit programmes, they were able to start their business which led to the increase of their income and livelihoods.

Constraints faced by Small Farmers to access microcredit in Huye District:

Table 2: Constraints faced by Small Farmers to Access Microcredit

Constraints	Frequency	Percentage
Lack of collateral	86	28.7
High interest rate	60	20
Financial institutions do not provideagricultural loans in my area	54	18
Lack of knowledge	37	12.3
Amount given is too small	22	7.3
Delay in approval of the Loans	21	7
Short repayment period	20	6.7

Sources: Field survey, 2015

Table 2 shows the major constraints facing by small farmers to access microcredit programmes in Huye District. The table 2 shows the major constraints faced by small farmers to access microcredit programmes in Huye Disrtict. In this case, 28.7 percent of the households reported that major constraint to access microcredit programme is the lack of collateral, while 20 percent of the households reported high interest rate, 18 percent reported that the financial institutions in their areas do not provide agricultural loan,12.3 percent reported lack of knowledge, 7.3 percent reported that the amount given is too small, 7 percent reported the delay in the approval of loan, and 6.7 percent reported that the repayment period is too short for them the pay back their received.

Regression Analysis:

Table 3: Regression analysis of factors affecting small farmers' access microcredit

Dependent variable: ''*Access to microcredit*''

Indep. Variables	Regression Coefficient	Std. Err	T -Value	P-Value
Gender (X_1)	.0564247	.0719039	0.78	0.434
Education (X_2)	.0907406	.0390563	2.32	0.021**
Coop_Membership(X_3)	.1656507	.0701006	2.36	0.019**
Tot_Ann_Incom (X_4)	1.33e-07	5.61e-08	2.38	0.019**
Distance (X_5)	-.1129894	.0397019	-2.85	0.005***
Annual_Int_Rate (X_6)	.0050099	.0138369	0.36	0.718
HHsize(X_7)	.0349341	.0178724	1.95	0.052*
Source credit (X_8)	.0389662	.0166387	-2.34	0.020**
_cons	.2556029	.2283645	1.12	0.265

Number of obs =300
F (8, 290) = 7.44
Prob> F = 0.0000
R-squared = 0.187
Root MSE = .45638

***, **, * Represent level of significance at 1%, 5% and 10 %, respectively

Source: Computed from Field Survey, 2015

This section is committed to the factor affecting the access to microcredit by the small farmers. From the result, out of eight variables, six are statistically significant such as education, cooperative membership, total annual income, distance, household size and source of credit.

Therefore, Education, cooperative membership, total annual income and source of credit were significant at 5 %, Distance was significant at 1 %, and household size was significant at 10%.

Education:

Education was significant at 5% and there is a positive relationship between education and the access of microcredit. There is evident that a one percent change in education, the probability of access microcredit will increase by 9 percent.However, small farmers with higher education might require more credit for increasing agricultural production and income compared to uneducated small farmers.Educated small farmers may affect the decision to borrow.The likelihood in the accessibility to microcredit programme should increase with knowledge and better educated household heads.

Cooperative Membership:

Cooperative membership was significant at 5% and there is positive relationship between access to credit and cooperative membership. Therefore to be a member of cooperative it will help small farmers to access microcredit very easily. There is evident

that a one percent change in cooperative membership, the probability to access microcredit will increase 16.56 percent.

Total Annual Income:

Total Annual income was significant at 5 percent and there is positive relationship between access to microcredit and the total annual income. Therefore, the accessibility of microcredit by small farmers has increased their economic performance and their income. There is evident that a one percent change in total annual income will increase the probability to access microcredit programmes.

Distance:

Distance was significant at 1 percent and affects negatively the small farmers' access microcredit programme. There is evident that one kilometer change in distance will decrease the probability to access microcredit by 11.29 percent. Therefore, household located far from microcredit sources office is less likely to access microcredit programme than those located nearby because of highest transport costs.

Household Size:

Household size was significant at 10 percent and affects positively the access microcredit programmes. There is evidence that one percent change in household size will increase the probability to access microcredit programmes by 3.49 percent. Therefore, higher household sizes could have various needs to consumption.

Sources of Credit:

The different of sources of credit in which small farmers should obtain loans were significant at 5% and there is a positive relationship between it and the access of microcredit. Therefore, there is evident that a one percent change in sources of credit will increase the probability to access microcredit by 3.98 percent.This may be due to the fact that small farmers will be willing to take loan from different sources of credit in order to improve in their agricultural production and their economic performance.

5. Conclusion and Policy Implications:

The study examined the effect of microcredit on socio-economic improvement of small farmers and determined the factors affecting small farmers to access to microcredit in Huye District. Results show that small farmers who used microcredit programs had increased their agricultural production and their economic improvement. The study also shows that lack of collateral, high interest rate and to obtain agricultural loans are the major constraints faced by small farmers to access microcredit programmes. The study revealed that education, cooperative membership, total annual income, distance, household size and source of credit were statistically significant factors affecting small farmers' access to microcredit in the study area.The study concluded that accessibility of microcredit by small farmers led the improvement of the agriculture production and to the betterment in economic conditions, improvement in their living standards, in children's education, and in health status.

Therefore, with reference to the results of the study, following recommendations have been given:

- ✓ The agricultural loan facility may be expanded to the rural areas where microcredit credit facility is not available in order to improve the agricultural production and to adopt agricultural innovation
- ✓ Small farmers should be trained and should use microcredit provided by microfinance banks in order to enhance their economic improvement and to increase their agricultural production.
- ✓ The government of Rwanda should work together with both Commercial Banks and Microfinance Institutions to implement agricultural financing policy and new

measures should be taken in order to increase the provision of microcredit to small farmers at a very low interest rate.

- ✓ There is a need to increase of the accessibility of the loans to rural farmers for improving agricultural productivity.
- ✓ Small farmers should be trained and should use microcredit provided by microfinance banks in order to enhance their economic improvement and to increase their agricultural production.

6. References:

1. Adams, S. and Bartholomew, T. (2010). The Impact of Microfinance on Maize Farmers in Nkoranza (BrongAhafo Region of Ghana), Journal of Management Research, 2(2).
2. Benjamin T. Anang, Timo Sipiläinen, S. Bäckman and Jukka Kola (2015).Factors influencing smallholder farmers' access to agricultural microcredit in Northern Ghana ,African Journal of Agricultural Research, Vol. 10(24), pp. 2460-2469
3. Dittoh S (2006). Effective Aid for Small Farmers in Sub-Saharan Africa: Southern Civil Society Perspective. Ghana Case Study
4. Khan, Naushad., Inayatullah, Jan., Mujib Ur Rehman., Mahboobul Latif., &Akhtar, A. (2007). The Impact of microcredit on livestock enterprise development in district Abbottabad: A Case of SRSP Microcredit Programme. Sarhad Journal of Agriculture. Vol. 23, No. 4
5. Muhammad Alam, Raza Ullah, Ali Iqtidar Mirza, Waqar Saleem, Mehboob Elahi, Hamid Sultan (2014). Impact of Microcredit Scheme on Socio-economic Status of Farmers: A case study of PRSP in District Gujranwala. A Research Journal of South Asian Studies Vol. 29, No. 1, pp. 161-169
6. Nouman M, Siddiqi MF, Asim SM, Hussain Z (2013). Impact of Socio-Economic Characteristics of Farmers on Access to Agricultural Credit. Sarhad J. Agric. 29(3):469-476.
7. Okon D. P and Nsikakabasi A., Etim and Anthony A.Affiong (2012).Impact of Microcredit Scheme on Rural Farmers in AkwaIbom State, Nigeria. Journal of Agriculture & Social Sciences ISSN print: 1813–2235
8. Omonona BT, Lawal JO, Oyinlana AO (2010). Determinants of Credit Constraint Conditions and Production Efficiency among Farming Households in Southwestern Nigeria. Paper presented in the Third African Association of Agricultural Economists (AAAE) Conference/AEASA 48th Conference, September 19-23, 2010, Cape Town, South Africa.
9. Straton, H., (2007). Access to Finance through Value Chains: Lessons from Rwanda SNV, Rwanda. Working paper, World Bank
10. Yasmeen, K., Sarwar, S. and Hussain, T. (2011). Government Policy Regarding Agricultural Loans and Its Impact upon Farmers' Standards of Living in Developing Countries. Journal of Public Administrationand Governance, 1(1)