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Vicent Stanslaus, Francis William Mmari

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Financial Inclusion and Youth Agriculture Involvement in Tanzania: A Case of Misenyi District, Kagera Region.

¹Vicent Stanslaus-Assistant Lecturer (BA-Economics, MIB, MSc Economics), ²Francis William Mmari- Assistant Lecturer (Finance)

The Open University of Tanzania, Faculty of Business Management, Department of Marketing and Entrepreneurship, The Open University of Tanzania, Faculty of Business Management, Department of Accounting and Finance.

Abstract

The paper investigated the effects of financial inclusion on youth agriculture involvement in Tanzania. Specifically the study was conducted in Kagera region, Misenyi district with the specific objectives of examining the effects of branch penetration, credit penetration, deposit penetration, interest rate and finding out the effects of education on financial service usage and youth agriculture involvement.

The study was supported by the institution theory. Data were collected using questionnaires and they were analysed using linear regression with the help of SPSS software. Descriptive statistics, pairwise correlation and regression analysis was used to present the findings and the results indicated that a huge level of financial inclusion is needed to achieve a sizable effect on agricultural involvement. This is due to the minimal effect magnitudes on the dependent variable resulting from financial inclusion variables. Financial inclusion and agricultural involvement policies need to consider women and middle-aged individuals, deposit penetration need to be explored and credit penetration need to be extended to maximize its effects on agricultural involvement.

Keywords: Financial Inclusion, Youth Agriculture Involvement, Institutional Theory

Introduction

This study will begin by quoting Shultz, (1979) who stated that “Most of the people in the world are poor, so if we knew the economics of being poor we would know much of the economics that really matters. Most of the world's poor people earn their living from agriculture, so if we knew the economics of agriculture, we would know much of the economics of being poor”. Financial inclusion and its components are among the variables that according to the literature can reduce these problems and many others.

Mundra, (2016) defines financial inclusion as the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable

groups such as weaker sections and low income groups in particular at an affordable cost in a fair and transparent manner by mainstream institutional players.

The literature has identified different banking-service indicators used to measure the extent of financial inclusion both at individual and cross country level. Banking sector indicators such as branch penetration, credit penetration and deposit penetration has been suggested as important indicators of financial inclusion, (Sarma, 2008; Arora, 2010; Sarma and Pais, 2011; Chattopadhyay, 2011; Ghosh, 2011; Allen et al., 2012; Sarma, 2012; Gupte et al., 2012; Sharma, 2016; Sethy, 2016).

Since 2000, Africa has been experiencing a remarkable economic growth accompanied by improving democratic environment (FinScope Tanzania, 2017). Real GDP growth has risen by more than twice its pace in the last decade. Telecommunications, financial services and banking, construction and private-investment inflows have also increased substantially (FinScope Tanzania, 2017). However, most of the benefits of the high growth rates achieved over the last few years have not reached the rural poor. Agriculture is the main sector of the economy as it employs about 60% of the population, thereby reducing poverty (UNECA-SA, 2009). This calls for efforts to improve the sector, (Simões & do Rio, 2020)

In addition, Africa's population is expected to increase from 1.01 billion in 2009 to 2 billion by 2050 if current demographic conditions remain constant indicating that future demand for agricultural production will be immensely larger than it is at present.

According to National financial inclusion framework (Tanzania), 2018-2022, Tanzania has progressed in expanding the opportunities for people to access and use financial services. Uptake of formal financial services has reached 65% in 2017 compared to 57.7% in 2013. Accessibility, measured by the proportion of the population living within 5 kilometres from where financial services are provided, has grown from 45% to 86% nationally and is at 78% for those living in rural areas. Notable is also the growth in active mobile wallets reaching over 21 million (75% of the adult population) while those actively using mobile financial services reached 16.6 million as reported by FinScope Tanzania in 2017. Following developments in the market, this Framework proposes a shift of emphasis from access to usage.

In recent years (2007 to 2018), Tanzania has recorded a significant growth in the level of financial inclusion. However, the level of usage of informal financial services narrowed from 29% to 7%, while the percentage of the adult population using formal financial services has quadrupled in the same period. The increase in financial inclusion usage is a result of the rapid adoption and usage of electronic platforms, offering financial services, mostly mobile money services; a flexible regulatory environment and massive investments by the private sector in distribution ecosystems and promotion. Despite these achievements, the level of financial exclusion is still high, at 28%, with the majority of those excluded being people living in rural areas, smallholder farmers, youth and women, (FinScope Tanzania, 2017)

The national financial inclusion 2018-2022 framework has identified key success factors, which can improve financial inclusion and usage. These factors include education, improving the business environment, continued government commitment to financial inclusion and continued support to the agriculture sector, (Simões & do Rio, 2020)

Youth agricultural involvement in Tanzania just like in the rest Africa is limited by many factors. Youth usually do not possess the collateral needed to make them eligible for loans

from the formal banking sector. Informal mechanisms such as savings clubs which in some ways seem useful (and often the source of funding for small capital investments), have very limited impact on youth access to capital. In Tanzania like in many other African countries, rural youth moves out of agriculture due to the lack of access to land (Bezu and Holden, 2014). Another obstacle to the youth is that they do not possess formal land titles, do not have access to steady employment, and are not endowed with mobile assets, such as cars, motorcycles or furniture which can be accepted by formal financial service, (Simões & do Rio, 2020)

Some of the key factors that influence youths' access to agrifinance include: the perception of financial service providers regarding youth and agriculture, financial services providers' capacity, youth's financial literacy, ICT innovations in finance, and the policy and regulatory Environment (Donou-Adonsou & Sylwester, 2016).

Tanzania rural depends on agricultural extension services in the provision of knowledge, information, experiences and technologies to farmers to enable them to increase and sustain productivity and for their improved wellbeing and livelihoods. The delivery of quality agricultural extension services in Tanzania has been a center of attention for a long time. Given the fact that the majority of Tanzanians live in rural areas and depend on small-scale agriculture for their livelihood and employment (URT, 2010). The Government's efforts have been geared towards improving production and productivity so as to attain food security and sufficiency at household and national levels. These efforts are in line with the targets of the National Development Vision 2025 which envisages achieving a high quality livelihood through, among other things, food self-sufficiency and food security, (Nkebukwa, 2018)

According to FinScope Tanzania 2017, there are high levels of dependency amongst the youth. In Tanzania, the youth account for 52% of the adult population (with age between 16 and 35 years); opening up opportunities for young people to effectively engage in economic activities to earn a living and prosper is fundamental to development.

Beyond relevance, there are important drivers that can cause people not to use a service which include affordability, inappropriately sized, inconvenient or not well understood. Usage of financial services is the key driver to deepen uptake and adoption of formal financial services. Mainly, adults use financial services through savings, borrowing, transacting and mitigation of financial risks

Missenyi District is one of the eight districts of the Kagera Region of Tanzania. It is bordered to the north by Uganda, to the east by Bukoba Rural District, to the south by Karagwe District and to the west by Kyerwa District.

According to the 2012 Tanzania National Census, the population of Missenyi District was 202,632. The main economic activities are agriculture and grazing and most youths are involved in those activities while others are involved in other informal and formal activities. The regional geographical condition is so favourable due to the presence of heavy rainfall twice a year of about 800 and 1,500 millimetres making the region evergreen. Missenyi district Missenyi 2,708.75 square kilometres, of these 99,726 kilometres are suitable for agriculture, but only 58,840 kilometres are utilized which is only 59%. Financial inclusion in Missenyi is very limited as there are only three banks (NMB, NBC and CRDB) at Bunazi which is the district headquarter. Other wards such as Bugandika, Ishozi, Kassambya, Minziro, Bugorora, Ishunju, Kilimilile, Mushasha, Buyango, Kakunyu, Kitobo, Mutukula, Kanyigo, Kyaka, Nsungu, Bwanjai, Kashenye, Mabale and Ruzinga has neither bank branches nor ATM which makes it difficult for the youth to access financial services.

The study examined the effects of financial inclusion on youth involvement in the agriculture sector at Misenyi district.

Theory and Empirical Literature Review

This study is backed up by the institutional theory. The theory refers to the deeper and more resilient aspects of social structure. It considers the processes by which structures, including schemes; rules, norms, and routines, become established as authoritative guidelines for social behavior. Different components of institutional theory explain how these elements are created, diffused, adopted, and adapted over space and time; and how they fall into decline and disuse. According to Scott (1987) the theory was updated by recent institutional theorists such as DiMaggio, 1988 & Zucker, 1987). According to Meyer and Rowan, (1977) institutional theory is a research tradition that traces its origin back to foundational articles that discussed how organizational founding and change were driven less by functional considerations and more by symbolic actions and external influence.

The theory has three frames, namely construct regulative (formal rules), normative (informal norms), and cultural-cognitive as explained by Bongomin *et al* (2016)

Access to financial services by individuals can alter their production and employment choices and thereby can reduce poverty. Financial inclusion happens within a regulatory framework, which affects the poor's inclusion into formal financial streams. Hence, existing regulation must create the right "rules of the game" that reinforce responsible practices and product design by financial intermediaries so that the poor can trust them enough to choose and use their products and services over informal financial service providers. The laws and rules about credit rights, bank fees, and confidence by the poor promote or limit their behaviours and actions to deal with the financial intermediaries. Lack of trust and assurance by the poor for the safety of their savings in case of collapse of any financial service provider is a major challenge to financial inclusion in rural Uganda (Okello *et al.*, 2016).

This theory is relevant to the study as the study examines how the financial services can lead to youth agricultural involvement and thereby provides employment and reduce poverty. Youth agriculture involvement behavior and actions largely depend on institution frames that either promote or limit their financial inclusion or exclusion from access and use of basic financial services.

Empirical literature shows that most of the researchers have written about financial inclusion and economic growth with few focusing on agriculture and especially youth agricultural involvement. Recently, several important empirical studies have shown that both poverty and inequality are negatively associated with access to formal financial services.

Subrahmanyam and Acharya (2017) analytically demonstrated that financial inclusion can clearly create faster growth. The study used a multiplier model to show that financial inclusion creates more output than in case of a demand following model of financial development.

Moreover, greater access to formal credit increases self-employment and reduce the unemployment problems in an economy.

Cull *et al.*, (2014) stresses that financial inclusion can increase growth through the reduction of poverty. They argue that when people have access to banking services, it benefits them to keep their money in the formal financial institutions. This results in high economic growth through multiplier effect and increases per capita GDP (Ghosh, 2011).

Sahay *et al.*, 2015 argues that greater access of firms and households to various banking services, as well as increasing women users of these services has a strong positive impact on economic growth. Financial inclusion contributes to economic growth through value creation of small business with positive spillover effects on human development indicators such as health, education and the reduction of inequality and poverty. This is also supported by Park & Mercado (2015); as well as Nanda & Kaur (2016).

In a study by Ellis and Lemma (2010), they pointed out that access to financial services encourages household investment in the future income activity which produces economic growth. It is through employment creation in the agriculture sector, especially to the youth.

Another study conducted by Bruhn and Love (2014) revealed that access to financial services has a positive impact on poverty and income level of the poor. Also Park and Mercado (2015) found out that the financial inclusion in Asia significantly reduces poverty and lowers income inequality. The extent to which this can be caused by youth agriculture involvement is yet to be found out and this is the main aim of this study.

In a study conducted by Sharma (2016), it was found that indicators such as number of loan accounts and deposit accounts, demographic outreach of ATMs have unidirectional causation with economic growth. They can also lead to youth agriculture involvement and employment creation.

Another study was carried out by Olaniyi (2017) to find out if rural financial inclusion can enhance agricultural growth in Nigeria. Using annual data over the period 1981-2014 and the ARDL bounds testing approach to capture the long run as well as the short -run dynamics of the relationship between financial inclusion and agriculture in Nigeria the study found out that usage of financial services has significant impacts on agriculture both in the short and the long run. This means that, improving financial inclusion is critical for sustainable agricultural development in rural areas. The fundamental benefits are also expected to be extended to the rural youth.

The study by Obilor (2013) show that the Agricultural Credit Guarantee Scheme Fund and Government fund allocation to agriculture has a significant positive impact on agricultural productivity. The results imply that extending credit to rural agriculturalists and especially the youth can improve their standard of living through employment creation and income generation.

The literature has shown that most authors support the notion that financial inclusion lead to economic growth provide employment and improves agricultural value chain. Other authors have on the other hand shown a negative relationship between financial inclusion and economic growth and or agriculture development (Donou-Adonsou & Sylwester, 2016; Banerjee *et al*, 2017; Toby & Peterside, 2014).

Financial inclusion and youth agriculture involvement is very important as the agriculture sector a greater percentage of the population, Kumeh & Omulo (2019).It is known that the agricultural value chains tend to have seasonal financial needs due to the nature of crop and livestock maturing, and seasonal restrictions on fishing. Due to the production cycle, farmers are often cash-constrained, limiting their ability to make improvements or upgrades. Firms in

the value chain, such as growers, inputs dealers, buyers, traders and processors typically need considerable working capital for land leasing, inputs, buying crop for onward sale or processing, and or arranging transport.

The link between young entrepreneurs in agriculture and formal financial institutions need to be strengthened by improving youth's financial literacy and the capability of institutions to assess agricultural sector opportunities.

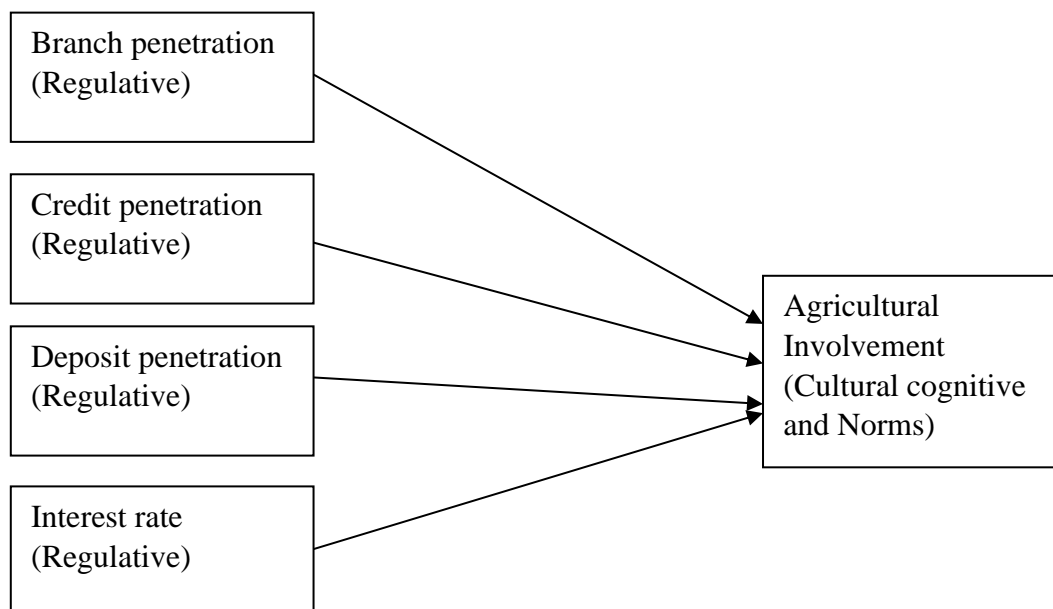
Young wishing to engage in agricultural activities, but having fewer assets, should benefit from forms of finance that do not require fixed collateral such as contract farming, leasing, warehouse receipt finance or factoring.

Also the provision of financial education, especially on the importance of business formalization can improve the existing gap between financial inclusion and financial usage.

It should be noted that rural youth has the potential to contribute to food security, economic development, social inclusion and stability. But according to the African Economic Outlook 2013, three of every four youths in Africa live on less than USD 2/day. Securing youth access to credit, savings, and insurance will not only unveil their talent for entrepreneurship, but also boost their self-esteem and allow them to have a positive transformative role in their society. As suggested by Sethiand Acharya (2018), financial inclusion can be improved by the government involvement through better policy formulation.

Fig 1.1. Proposed conceptual model.

FINANCIAL INCLUSION AGRICULTURAL INVOLVEMENT



Source: Own developed model (2020)

Financial inclusion is a key to youth employment, poverty reduction, income, standard of living and to the overall economic growth. This study will enlighten on the key factors for financial inclusion and youth agriculture involvement in Misenyi district. It will also show alternative ways that can improve financial inclusion to the rural youth. This will enable policy

makers formulate better and practical policies, mostly aiming at the formalization of youth involvement in the agricultural sector. Access to financial education is vital for the youth hence the study will also find out its effects to youth agricultural involvement.

This study will also enable youth to understand the best ways to access formal financial assistances and thereby commercialize their agricultural activities.

Methodology

Despite most studies which used panel and time series data, this study has used both secondary and primary data collection methods to explore the relevant information needed. A simple structured questionnaire is used to collect data from 131 respondents, including financial service employees and the youth through a simple random sampling method from the selected individual and institutions.

Using regression and a Five point Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to measure responses. To solve the problem of language barrier, some of the questionnaires were translated to Swahili which is the national language. This method was also used by Ahmed and Jianguo (2014) on the study, which looked at Financial Inclusion and Challenges in Tanzania.

The study also used a cross-sectional research design and data were collected from the youth residing in Misenyi, Kagera Tanzania. Descriptive statistics, correlations and regression analyses were generated.

Reliability which is an assessment of the degree of consistency between multiple measurements of a variable were checked using Cronbach's alpha and the reliability for the entire questionnaire 0.894 which is good. Validity was also ensured by retesting the instruments so that the data collection instruments would bring results would represent the phenomenon intended. Therefore face, construct and content validity were taken into consideration in designing the instrument.

Results and Discussion

The total sample used in the analysis was 131 individuals. The mean and standard deviation alongside the minimum and the maximum for each variable are reported in Table 1. The data indicated a sufficient variability across individuals as indicated by standard deviations that ranged from 0.436 and 1.547.

Table 1: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Agricultural Involvement (cultural cognitive and norms)	131	1.748	.436	1	2
Branch Penetration (regulative)	131	1.969	1.234	1	5
Credit Penetration (regulative)	131	3.557	1.111	1	5
Deposit Penetration (regulative)	131	2.916	.724	1	4
Interest Rate (regulative)	131	2.389	1.547	1	5

Initial multi-variate analysis through the analysis of pairwise correlations indicates that agricultural involvement, which is the dependent variable in this study was negatively related

to all independent variables, except interest rate, but these results were not statistically significant. Of interest are two indications as portrayed in Table 2; that credit penetration and deposit penetration were positively correlated and the results were statistically significant, as well as the magnitude was big implying economic significance. That means these two aspects of the financial inclusion move in tandem. One would expect higher credit penetration where there is high deposit penetration, which make sense, credits happens due to presence of deposits. The second correlation of interest is that of interest rate and deposit rates, these again are positively correlated, the results are statistically significant, as well as big implying economic importance of this connection. It makes sense that higher deposit interest rates may attract high deposit penetrations, by creating incentives to save than to invest elsewhere in the economy. Other relationships were not statistically significant and not economically significant as well due to their small magnitudes. The negative values close to zero could also be attributed to marginality of the effects size themselves as they are around zero and not big on either side of the continuum, that means they are insignificant at this stage of analysis due to lack of statistical evidence.

Table 2: Pairwise Correlations

Variables	1	2	3	4	5
(1) Agricultural Involvement	1				
(2) Branch Penetration	-0.072	1			
(3) Credit Penetration	0.416	0.086	1		
(4) Deposit Penetration	-0.121	0.169	0.346*	1	
(5) Interest Rate	-0.141	0.871	0	0.181*	1
	0.055	0.159	0.097	0.039	
	0.53	0.069	0.272		

* shows significance at the 0.05 level

In Table 3: the analysis moves into multivariate analysis and several models are compared varying with the level of inclusion of variables, one of the reasons was to avoid multicollinearity in the regression process. The regression estimator that was used is ordinary least squares (OLS) with a suppression of constants in the regression. This estimator fitted the data well as evidenced by the values of root mean square errors (RMSE) which are approaching zero as expected and these are supported by the small standard errors in parenthesis. The *F* statistics were also sufficiently large, indicating that the models were statistically significant. The *R-squares* and *adjusted R-squares* are also large accounting for large proportions of effects or explanatory effects on the dependent variable of our interest, they range from 70.1% and 73.2% to 97.2% and 97.0% respectively compared among the models.

Branch penetration consistently shows a positive relationship to agricultural involvement, the effects are small, indicating small economic importance, however, in some models, particularly model_2a (Female sample), model_3a (with sex interaction in the model) and model_3b (with age interactions in the model) have indicated positive effects to agricultural involvement and these results were statistically significant but economically small (i.e. 8.5%, 6.8% and 7.7% change on agricultural involvement for each 100% change in branch

penetration), these results have become statistically significant due to the combination roles of being a woman and having a mature age (middle age) which is vibrant and energetic and possibly determined towards agricultural involvement. These effects can be substantiated by the positive effects of sex and age in these models. Therefore, there is high promise of women and middle-aged people for them to be involved into agricultural production. Policy and strategies should gear towards facilitating and supporting these groups in the economy.

Credit penetration is positively related to agricultural involvement and the results are statistically significant. In model 1 (full sample), model_2a (female sample), model_3b (with age interactions in the model) and model_3c (with education interactions in the model). The effects again are economically a bit higher (i.e. 12.4%, 17.3%, 7.5% and 11.0% on agricultural involvement for each 100% change in credit penetration), separating the sample into female versus male indicates surprising results; that in the female only sample credit penetration has a comparatively positive effect on agricultural involvement (17.5%), while the male only sample indicates a negative effect (though not statistically significant). That would mean that women are consciously deploying credit in agriculture, thus credits should be directed to women as they are more likely going to use it into agricultural activities, the same arguments can be made for middle aged individuals as evidenced by age interactions in model_3b. Again, not necessarily all type of credits, but agricultural credit policies should be gendered and age sensitive, by putting more emphasis on women and middle-aged individuals, because these are most likely to apply their credits in agriculture.

Deposit penetration in most models is positively affecting agricultural involvement and the results are comparatively economically large. In all models except the last, these effects (32.0%, 26.5%, 37.4%, 25.0%, 18;1% and 35.4% change on agricultural involvement for each 100% change in deposit penetration), depending on the role of deposit penetration in agricultural involvement, higher deposits could be accounted by agricultural production, nevertheless since these types of regression used here do not necessarily imply causation, but relationships. Thus, savings for agriculture may be implied, but also saving as a result of agriculture could as well be implied, a mutual relationship is entailed in this case. The economy and policy strategy need to consider how deposit rates could be improved to create mutual benefits between savers and investors as well within this symbiotic transaction.

Interest rate seems to positively affect agricultural involvement, for model 1 and model_3c. The effects are small and marginally statistically significant. Interest rates marginally affect agricultural involvement. Higher deposit rates would imply higher agricultural involvement at a rate that is about 6.1% and 6.7% respectively. From the perspective of deposit rates, we can easily explain this relationship, but from a credit rates, it does not make sense, unless if in the general interest rates deposit rates outweighs credit rates in effects of magnitudes.

The interaction variables; namely sex, age and education indicate varying degrees level of the economic effects and are variously statistically significant. For instance, being a male has a positive effect on involvement in agriculture, probably because it is necessary for support of livelihood. Being middle age and young has more impact on agricultural involvement probably due to being energetic and healthy which is a requirement in the agricultural industry. At last education seems to be non-linear and exhibits changes towards lower education level with negative effects on agricultural involvement when education interactions are considered

separately (model_3c). The findings are similar to those of Bongomin *et al* (2016) who found the presence of regulative, normative and procedural and declarative cognitive institution frames, which affect financial inclusion of poor households in rural Uganda.

Table 3: Regression Results

	Model_1: Full_Sample	Model_2 a: Male_Sample	Model_2a: _ FeMale_Sample	Model_3a: i. Sex	Model_3b: i. Age	Model_3c: i.educ	Model_3d: i. All
Branch Penetration	0.066	0.095	0.085***	0.068**	0.077**	0.064	0.008
	(0.043)	(0.094)	(0.029)	(0.032)	(0.039)	(0.042)	(0.024)
Credit Penetration	0.124**	-0.012	0.173***	0.048	0.075*	0.110**	-0.030
	(0.048)	(0.085)	(0.037)	(0.037)	(0.044)	(0.046)	(0.029)
Deposit Penetration	0.324** *	0.265**	0.374***	0.250** *	0.181** *	0.354** *	-0.037
	(0.063)	(0.115)	(0.048)	(0.048)	(0.067)	(0.061)	(0.042)
Interest Rate	0.061*	0.114	0.004	0.033	0.048	0.067*	0.014
	(0.036)	(0.074)	(0.025)	(0.027)	(0.032)	(0.034)	(0.020)
2.SEX: Male				0.855** *			1.524** *
				(0.088)			(0.164)
2.AGE: 26-35					0.880** *		0.574** *
					(0.158)		(0.134)
3.AGE: 36-45					0.481** *		0.788** *
					(0.143)		(0.151)
2.EDUC: Diploma						- 0.349** *	0.614** *
						(0.113)	(0.177)
3.EDUC: Masters						0.217	0.195**
						(0.137)	(0.089)
4.EDUC: Sec_Educ						0.118	0.640** *
						(0.279)	(0.204)
Obs.	131	46	85	131	131	131	131

R-squared	0.887	0.735	0.972	0.936	0.911	0.902	0.970
r2_a	0.884	0.710	0.970	0.933	0.906	0.897	0.967
rmse	0.614	0.732	0.344	0.465	0.551	0.578	0.326
rss	47.901	22.519	9.568	27.297	37.924	41.469	12.882
F	249.952	29.134	699.362	367.146	212.640	163.832	387.104
Standard errors are in parenthesis							
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$							

Conclusion and Recommendations

Overall, the results suggest that you need a huge level of financial inclusion to achieve a sizable effect on agricultural involvement. This is due to the minimal effect magnitudes on the dependent variable resulting from financial inclusion variables which are regulative, normative and cultural cognitive originating from the institution theory. Financial inclusion and agricultural involvement policies need to consider deposit penetration need to be explored and credit penetration need to be extended to maximize its effects on agricultural involvement. Also branch penetration and interest rate need to be looked upon in order to increase the size of youth agriculture involvement in the area.

The findings of this research are crucial to financial inclusion theories as it adds another area where the theory can be applied and the varying variables. The paper also provides empirical contribution to the existing current researchers on the area of financial inclusion. Other researchers can apply the same techniques but with an additional theory so as to establish the similarity or differences in the empirical findings.

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