



## **SOCIO-ECONOMIC FACTORS DETERMINING PARTICIPATION IN FINANCIAL INCLUSION BY FARMERS IN CASSAVA PRODUCTION IN RIVERS STATE, NIGERIA**

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### **ABSTRACT**

This study was conducted to assess the socio-economic factors that determined participation in financial inclusion among small holder cassava farmers in Rivers State, Nigeria.. Specifically, the study described the socio-economic characteristics of the farmers, assessed the socio-economic factors that determined their participation in financial inclusion, and identified the constraints they faced in participating in financial inclusion. A multi-stage sampling procedure was used to sample 357 cassava producers, data were collected through structured questionnaire and analyzed using both descriptive and logit Regression models. The results of the study showed that majority of the respondents, (45.1%) were above the age of 50 years. About 56% of them were male and 44% of them were female and over 83% of them were married. All of them had formal education with average annual income of N408,473.39 and family size of 6 members. The results equally showed that socio-economic factors of the farmers determined 17% of their participation in financial inclusion/ with the farmers' sex and farm size showing significant impact at 1% significant level. the conditions demanded by providers of financial services were rated the most serious constraint faced by the farmers in participating in financial inclusion in the study area, among other constraints. The study therefore recommended that providers of financial inclusion services/products should develop and introduce specialized services/products tailored to the needs and socio-economic characteristics of the farmers in order to enhance higher participation from them.

Key Words: Socio-economic factors, Financial Inclusion, Participation, Productivity.

### **INTRODUCTION**

In Nigeria, cassava cultivation plays a vital role in the agricultural sector, contributing immensely to the nation's economy and the livelihood of most households (FAO. 2018). Cassava farming is vital to Rivers State economy and rural livelihoods. Small holder farmers are the major producers of cassava in Rivers State and their productivity level is low despite the huge potentials available in the state for improved production of the crop.

Financial inclusion has been identified as one of the means of achieving high productivity that gives rise to economic development of any nation. According to Central Bank of Nigeria CBN (2018) financial inclusion is the process of making all adults have access to a wide range of formal financial products and services that meet their needs and at less expensive costs. Araba (2020) and Ozili (2018), have posited that financial inclusion has helped small holder farmers to save for the future, access credits and make investment that improve their productivity. It was on the basis of the above contributions of financial inclusion that measures were taken by the government to achieve greater participation in financial inclusion by the greater percentage



of the nation's population including small holder cassava farmers (Central Bank of Nigeria Financial Inclusion Newsletter, 2020)

Despite efforts to promote financial inclusion, small holder cassava farmers in Rivers State exhibit low participation, resulting in persistently low productivity and income.

Available literatures show that some studies have been carried out on participation in financial inclusion (Gbalam *et. al.*, 2020, Mutamuliza *et. al.*, 2021, Zulfigar *et. al.*, 2016, Mhlanga *et. al.* 2022, Dzado, *et al.*, 2021, Ugwuja and Attah, 2020 and Mhlanga *et. al.*, 2020). However, none of such studies have been done on socio-economic factors influencing participation among small holder cassava farmers in the study area. The study by Ugwuja and Attah (2020) which is similar to this study considered farmers generally and not small holder cassava farmers in particular. There is limited research focusing specifically on smallholder cassava farmers in Rivers State, despite their significant role in agricultural production.

Therefore, this study filled this research gap by providing detailed and comprehensive information on the socio-economic factors influencing participation among small holder cassava farmers in the study area in order to understand how the dynamics play out in this sector.. The specific objectives of the study were to describe the socio-economic characteristics of the small holder cassava farmers, to assess the socio-economic factors influencing their participation in financial inclusion, and to identify the constraints faced by them in participating in financial inclusion in the study area. This study is therefore justified because its findings have revealed to policy makers what drive participation in financial inclusion among small holder cassava farmers in the study area which can inform the policies, efforts and measures to be taken in this area to achieve greater percentage of financial inclusion.

## **METHODOLOGY**

### **The Study Area.**

This study was conducted in Rivers State. Rivers State is one of the states in the Niger Delta Region of Nigeria. The state has abundant fertile land as well as rivers and these enable the people to make a living from both fishing and farming activities. The major crops cultivated include cassava, yam, plantain, banana, oil palm. Crude oil and natural gas are also the major mineral resources of the state. The state has both upland and riverine local government areas. A total of twenty three (23) local government areas exist in the state. Nine (9) local government areas are riverine, while fourteen (14) are upland. However, the study was conducted in 12 local government areas. The selected local government areas are upland communities where cassava farming is a predominant activity, and smallholder cassava farmers are widely present.

### **.Population and Sampling**

The population of the study comprised of 5029 cassava farmers registered with the Ministry of Agriculture, Rivers State. Taro Yamane formula was used to get a sample size of 371 respondents who were randomly selected using a multi-stage sampling technique. Twelve Local Government Areas were purposively selected from the twenty three Local Government Areas in the State due to the predominance of small holder cassava farmers in these areas.

### **Method of Data Collection**

Primary data were collected using structured questionnaire administered to 371 respondents in the study area. Out of the 371 questionnaire administered, 357 questionnaire were completed and returned, giving a response rate of 96.22%.



**Analytical Technique**

The data were analyzed using both descriptive and inferential statistics. Descriptive statistics like mean, frequency, percentage, and Logit Regression model were used.

Thus, in general term, the model is stated as:

$$Y = \ln(P_{1/1} - P_1) = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}) \dots \dots \dots (1)$$

In specific term and putting in econometric form, equation 1 is written as:

$$Y = \ln(P_{1/1} - P_1) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + u \dots \dots \dots (2)$$

Where:

Y = Participation in financial inclusion, operationalized as utilization of formal bank services.

X<sub>1</sub> = Age measured in years

X<sub>2</sub> = Level of education measured in number using dummy

X<sub>3</sub> = Annual income level measured in naira

X<sub>4</sub> = Gender in number using dummy

X<sub>5</sub> = Family Size measured in number

X<sub>6</sub> = Experience in cassava farming measured in number

X<sub>7</sub> = Marital Status measured in number using dummy

X<sub>8</sub> = Farm Size measured in number

X<sub>9</sub> = Annual off farm income in naira

X<sub>10</sub> = Membership of farmers co-operative measured in number using dummy

X<sub>11</sub> = Ownership of mobile phone measured in number using dummy

X<sub>12</sub> = Sources of income measured in number using dummy

Y, β<sub>0</sub>, β<sub>1</sub>, β<sub>2</sub>, β<sub>3</sub>, β<sub>4</sub>, β<sub>5</sub>, β<sub>6</sub>, β<sub>7</sub>, β<sub>8</sub>, β<sub>9</sub>, β<sub>10</sub>, β<sub>11</sub>, β<sub>12</sub> = parameters to be estimated

u = the error term

The a priori expectation is that: β<sub>0</sub> > 0, β<sub>1</sub> > 0, β<sub>3</sub> > 0, β<sub>4</sub> > 0, β<sub>5</sub> > 0, β<sub>6</sub> > 0, β<sub>7</sub> > 0, β<sub>8</sub> > 0, β<sub>9</sub> > 0, β<sub>10</sub> > 0, β<sub>11</sub> > 0, β<sub>12</sub> > 0.

**RESULTS AND DISCUSSION**

**Socio-Economic Characteristics of the Small holder Cassava Farmers in the study area.**

Variables	Frequency(357)	Percentage(100)	Mean
<b>Age (years)</b>			
1-10	0	0	
11-20	0	0	
21-30	0	0	
31-40	61	17.1	
41-50	135	37.8	
51-60	161	45.1	48
Total	357	100	
<b>Sex Male</b>			
	200	56.0	
Female	157	44.0	
Total	357	100	



<b>Marital status</b>			Table 1 presents the result of the socio- economic
Married	298	83.5	
Single	30	8.4	
Widow	29	8.1	
Total	357	100	
<b>Educational Level</b>			
Primary	78	21.8	
Secondary	153	42.9	
Tertiary	126	35.3	
Total	357	100	
<b>Annual income</b>			
N1,000.00-N200,000.00	74	20.7	
N201,000.00-N400,000.00	77	21.6	

characteristics of the cassava producers.. **Table 1: Socio-economic characteristics of the respondents**

N401,000.00-N600,000.00	193	54.1	N408,473.39
N601,000.00-N800,000.00	9	2.5	
N801,000.00-N1,000,000.00 Total	4	1.1	
	357	100	
<b>House size</b>			
1-3 persons	58	16.2	
4-6 persons	133	37.3	
7-9 persons	140	39.2	6
10-12 persons	26	7.3	
Total	357	100	
<b>Years of Experience</b>			
1-6 years	52	14.6	23.5
7-12 years	84	17.6	
13-18 years	63	12.9	
19-24 years	46	31.4	
25-30 years	112	100	
Total	357		17
<b>Income Sources</b>			
Farming only		38.1	
Farming and Salary	136	29.4	
Farming and Trading	105	24.1	
Farming and Artisanal services	86	5.0	
All sources	18	3.4	
Total	12	100	
	357		
<b>Monthly off farm Income</b>			
N11,000.00-N30,000.00		14.6	
N31,000.00-N50,000.00	52	10.6	
N51,000.00-N70,000.00	38	42.0	
N71,000.00-N90,000.00	150	4.5	
N91,000.00-N110,000.00	16	12.3	
N111,000.00-N130,000.00	44	16.0	
<b>Farm Size</b>			
1-2 ha	57	45.7	37.3
3-4 ha	163	17.1	
5-6 ha	133		N67,950.98
<b>Co-operative Membership</b>			
No	61	51.5	
Yes		48.5	
<b>Mobile Phone Ownership</b>			
	184		
	173	100	



Yes

357

2.9

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### **Field Survey, 2024**

From Table 1, majority of the respondents, 161 (45.1%) were between the age bracket of 51-60 years, followed by those who were in the age bracket of 41-50 years, 135 (37.8%) and 61 (17.1%) were between 31-40 years.

The mean age was 48 years. This implies that the majority of the respondents were adults who were approaching the end of their active years, thus they were careful and calculative of participation in financial inclusion. This finding agrees with Edriss, (2013) who found that the age of the farmers determined the kind of relationship and contract or transactions that the farmers can enter into. The financial and economic implications of the age range is that their participation in financial inclusion will be highly selective and restrictive which may adversely affect their cassava productivity because of the kind of financial services/ products they may prefer to utilize.

The result in Table 1 showed that 200 (56.0%) of the respondents were males and 157 (44.0%) of the respondents were females. The implication is that majority of the respondents could actively participate in financial inclusion because male are quicker and easier to embrace new innovations and to take financial risks than female. This is in line with the finding of CBN, (2020) that most females are financially excluded for the above reason. The financial and economic implication of this is that most of the cassava farmers will be able to utilize financial services/products in their cassava production to boost productivity for enhanced income and welfare.

The result of marital status of the respondents as indicated in Table 1 shows that 83.5% of the small holder cassava farmers were married. Also, 8.4% of them were single and 8.1% of them were widow. This implies that most of the small holder cassava farmers in the study area were



married. This could be as a result of the need to provide family labour for the cassava production that is main staple food in the areas and thus reduced the cost of hired labour. This agrees with the finding of Ebukiba and Anthony (2019) who reported that majority of small holder farmers in broiler farming were married in Nassarawa State, Nigeria. The levels of education attained by the respondents were also investigated. Table 1 presents the result of this. From Table 1, it was shown that 21.8% of the respondents had attended primary school, 42.9% had attended secondary school and 35.3% had attained tertiary education.

This implies that majority of the respondents had good basic educational qualifications. The financial implication is that most of the respondents could participate in financial inclusion because of their level of literacy. This agrees with the finding of Fakere and Ayoola(2018) that the level of educational qualifications significantly influenced participation in community project like financial inclusion project. The result of annual income of small holder cassava farmers in the study area was also presented in Table 1 which shows that 20.7% of the respondents had monthly income range of N1,000.00-N200,000.00, 21.6% were in income bracket of N201,000.00-N400,000.00, and 54.1% had income range of N401,000.00-N600,000.00, while 2.5% had income range of N601,000.00-N800,000.00 and only 1.1% were within income range of N801,000.00-N1,000,000.00 with a mean annual income of N408,473.39. This implies that small holder cassava farmers in the study area were low income earners. This is in line with the findings of Taiye et al (2017) which showed that low income status is one of the characteristics of small holder farmers because of their limited access to financial resources. The financial and economic implication of this is that they will have limited income to effectively participate in financial inclusion which will adversely affect their level of productivity. Microfinance interventions or government support programs is therefore necessary to enhance financial inclusion of farmers in order to empower them with financial services like access to micro credits that will improve their income and productivity.

Table 1 also showed the result of the family size of the respondents. The result of the family size in Table 1 shows that 16.2% of the respondents had family size of 1-3 persons, while 37.3% had family size of 4-6, 39.2% had family size of 7-9 and only 7.3% had family size of above 10-12 persons with a mean family size of 6. The majority (39.2%) of the small holder cassava farmers in the study area had large family size. This is in line with the findings of Dzever, et al (2023) which states that small holder farmers have large household size which is necessary for labour supply to serve as insurance in the event of shortage of labour. The financial and economic implication of this on small holder cassava farmers' productivity is that there will be heavy burden on the family income which will in turn affect productivity adversely because of low financial investment in cassava production.

On the other hand, it could bring about reduction in the cost of labour if they were used as family labour in the cassava production activities. Another socio-economic characteristic of the small holder cassava farmers considered was their years of experience in cassava production. This as presented in Table 1 showed that 14.6% of the farmers had 1-6 years experience, 23.5% had experience of 7.12 years and experience of 13-18 years had been acquired by 17.65 of them. While 12.6% and 31.4% of them had experiences of 19-24 years and 2-30 years respectively. The mean year of experience is 17 years. The implication of this



is that most of the farmers were experienced enough to have acquired the necessary knowledge and resources to utilize financial inclusion services/products for improved productivity. Also, presented in Table 1 is the result of the farmers sources of income. As expected, majority of them 136 (38.1%) had farming as their only source of income. Farming and salary were the sources for 29.4% of them and 24.1% of them indicated that they made their income from farming and trading. About 5% of them made their income from farming and rendering of artisan services. While only 3.4% of them made their income from all of the above sources. That is farming, salary, trading and artisan services. The implication of this is that most of the small holder cassava farmers in the study area made their income from multiple sources and this is expected to give them advantage in participating in financial inclusion for increased cassava production.

Table 1 equally showed the monthly off farm income status of the small holder cassava farmers in the study area. The result showed that 14.6% of the respondents made off farm income ranging from N11,000.00 to N30,000.00 in a month. Off farm income range of N31,000.00-N50,000.00 is made by 10.6% of them and 42% of them made off farm income of N51,000.00-N70,000.00 in a month. Only 4.5% of them made off farm income of N71,000.00-N90,000.00 and the remaining 12.3% earned income of N91,000.00-N110,000.00 from off farm activities with a mean monthly off farm income of N67,950.98. The implication of this is that it can facilitate or hinder participation in financial inclusion and achievement of higher productivity by the farmers depending on the farmers' reaction to it. Higher off farm income can increase the farmers' aggregate income and help them to save or invest more in cassava production. Higher off farm income can also make the farmers to divest from cassava production into other lines of businesses.

The result of the farm size of the small holder cassava farmers in the study area as presented in table 1 showed that 45.7% cultivated 1-2 hectares, 37.3% of them cultivated 3-4 hectares and only 17.1% of them cultivated between 5-6 hectares with a mean of 2.9 hectares cultivated. This confirms that they were small holder farmers in agreement with the finding of Adegbite (2021) who found that small holder farmers are farmers who cultivated not more than five hectares of land maximum. The implication of farm size on financial inclusion is that the small farm size can limit the farmers' participation in financial inclusion because of low income from low volume of output from the small farm size. On the other hand, it can spur the farmers to seek participation in financial inclusion in order to raise fund to increase the farm size. On cooperative membership, 51.5% of smallholder farmers were not part of any cooperative, while 48.5% were members. Finally, all the small holder cassava farmers in the study area had a mobile phone. This is so because phone number is necessary to participate in financial inclusion through opening of bank accounts.

### **Socio-Economic Factors that Determined Participation in Financial Inclusion by Small Holder Cassava Farmers in the Study Areas**

Logit Regression Analysis was used to assess the socio-economic factors that influenced participation in financial inclusion by small holder cassava farmers in the study area. Table 2 summarized the Logit regression analysis result on this.

**Table 2: Summary of Logit Regression Analysis on the Socio-economic factors that determined participation in financial inclusion by Small Holder Cassava Farmers in the Study area.**

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<u>Variables</u>	<u>B</u>	<u>S.E.</u>	<u>Wald</u>	<u>df</u>	<u>Sig.</u>	<u>Exp(B)</u>
			www.ijaams.org			
Sex	-0.986	0.262	14.204	1	0.000	0.373
MS	0.098	0.222	0.195	1	0.659	1.103
Age	-0.377	0.294	1.651	1	0.199	0.686
Education	0.089	0.176	0.257	1	0.612	1.094
Experience	0.073	0.119	0.38	1	0.538	1.076
HS	-0.247	0.187	1.755	1	0.185	0.781
Income	-0.09	0.19	0.226	1	0.635	0.914
Farm Size	-0.903	0.22	16.807	1	0.000	0.405
Off Farm Income	0.063	0.063	1.015	1	0.314	1.065
Constant	4.321	1.264	11.682	1	0.001	75.249
Cox & Snell R-square	127					
Chi-Square Nagelkerke	48.687					
R-square	0.170					
2Loglikelihood	445.993					

a. Variable(s) entered: Sex, MS, Age, Education, Experience, HS, Income, Farm Size, of farm Income.

### Field Survey, 2024

The result of the logistic regression analysis shown in Table 2 was used to explain the socioeconomic factors that influenced participation in financial inclusion by the small holder cassava farmers in the study area. The result showed a Nagelkerke R-Squared( $R^2$ ) value of 0.17 indicating that the variables tested determined 17% of the participation in financial inclusion by small holder cassava farmers in the study area. Although, the Nagelkerke R-Squared( $R^2$ ) value is only 0.17, some coefficients in the model were still statistically significant, meaning that there is a statistically reliable relationship between socio-economic factors and participation in financial inclusion. The loglikelihood was 445.993 which indicated that the model fit to the data. The Chi-Square- $X^2$  value of the logit regression model was 48.687 and was significant at 1% level of probability.

This implies that the socio-economic factors of the small holder cassava farmers significantly influenced their participation in financial inclusion in the study area. This finding is consistent with the result obtained by Noelea et al. (2014) that socio-economic factors like farm size, age, gender, education and income level were determinants of participation in financial inclusion.



Two out of the nine explanatory variables; sex and farm size were statistically significant and the remaining seven variables; marital status, age, education level, experience in farming, house size, income and off farm income were not statistically significant.

Sex of the small holder cassava farmers had a negative coefficient (-0.986) and was significant at 1% level of probability. A 1% increase in number of female farmers will likely cause a reduction of 0.986% participation in financial inclusion. This is because it was observed that most male farmers are quick and easy to embrace new innovations than female farmers. It is for this reason that most women are financially excluded than men, necessitating a special focus on them in financial inclusion programmes (CBN, 2020) This is consistent with the findings of Mhlanga et al (2022) and Dzadza, et al (2021) who showed that gender was a significant determinant of farmers access to credits which is participation in financial inclusion.

Farm size of the farmers also had a negative coefficient (-0.903) and was also significant at 1% level of probability. An increase in the number of female farmers is associated with a reduction in participation by 0.986%. This implies that the more farm size the small holder cassava farmers cultivated in the study area, the more likely they will reduce their participation in financial inclusion. This is so because more farm size means more financial burden on the available income with which the farmers would have used to participate in financial inclusion. This is in disagreement with the finding of ( Raina, 2020) that a large farm size will favour participation in financial inclusion than a small farm size because of its demand for enhanced farming method and more farming inputs that will encourage the farmer to seek financial assistance. This is possible because most of the farmers participate in financial inclusion through accounts and payment services, not credit and will not have enough income to transact or save some of their proceeds with financial institutions that are the providers of financial inclusion services as more farm size requires more funds to cultivate.

Marital status of the farmers had a positive coefficient of 0.098 and was not significant. This suggests that as the farmers got married their likelihood to participate in financial inclusion increased. The coefficient of age of the farmers had negative (-0.377) and was not significant at the chosen level of significance. This indicates that as the farmers get older they are likely going to reduce their participation in financial inclusion. The possible explanation for this is that the activities of the farmers reduce as the farmers get older and think more of security. Education had positive coefficient of 0.089 which was not significant. This conforms to the finding of Mutamuliza et al (2021) that educational status of the farmer positively affected their participation in financial inclusion. Experience in farming had positive coefficient of 0.073 but was not significant. The farmers' level of experiences increased the likelihood of the farmers to participate in financial inclusion. This is however is in disagreement with finding of Ugwuja and Attah, (2020) that farmers with long experience in farming are likely not going to participate in financial inclusion. This study result is different because participation in financial inclusion by small holder cassava in the study area requires some level of experience and achievements made in cassava production.

The coefficient of family size was negative (-0.247) and not significant. This suggests that as the family size of the farmers grows larger, the demand on the farmers' resources increases. This left the farmers with limited resources to participate in financial inclusion. This is contrary to the finding of Mutamuliza et al (2021) that participation in microfinance markets was affected in a positive way by family size. Income had negative coefficient of 0.090 and was not significant. As the income of the small holder cassava farmers increased, they tend to limit their participation in financial inclusion and depended on only their income without looking



for more funds from financial services providers. This contradicts the finding of Ugwuja and Attach, (2020) that increase in annual income positively affected participation in financial inclusion. Finally, off farm income had positive coefficient of 0.063 and was not significant. This suggests that as the farmers earned more off farm income, there is likelihood that their participation financial inclusion will increase. In a bid to earn income from sources outside the farm, the farmers got involved in activities that increased their participation in financial inclusion.

**Constraints faced by Small Holder Cassava Farmers in Participating in Financial Inclusion in the Study area.**

Table 3 presents the constraints faced by the small holder cassava farmers in the study area in participating in financial inclusion.

**Table 3: Constraints to Participation in Financial Inclusion by Smallholder Cassava Farmers.**

<b>Constraints</b>	<b>Total Score</b>	<b>Mean Score</b>	<b>Std Dev.</b>	<b>Remarks</b>	<b>Rank</b>
Distance to financial service providers	999.60	2.80	0.855	Serious constraint	3
Income level	1,153.11	3.23	0.808	Serious constraint	2
Age limit	649.74	1.82	0.699	Not serious constraint	7
Literacy level	771.12	2.16	0.748	Not serious constraint	5
Transaction cost	796.11	2.23	0.686	Not serious constraint	4
Conditions demanded by providers	1,181.67	3.31	0.686	Serious constraint	1
Lack of trust	738.99	2.07	0.637	Not serious constraint	6
Type/nature of Services/products	592.62	1.66	0.546	Not serious constraint	8
<b>Grand Mean</b>		<b>2.41</b>			

**Field Survey, 2024**

The result in Table 3 revealed that the standard deviations of the estimates were small and closely packed to the means. This indicates that the respondents all have about the same position with respect to the variables under consideration. This shows the consistency and reliability of the result.

Table 3, also shows that the conditions demanded by the providers of financial services/products has a mean of 3.31 and a standard deviation of 0.068. This was ranked as number one constraint that seriously hindered the small holder cassava farmers from participating in financial inclusion. This implies that the conditions demanded by the financial service providers before the use of their services were not easily affordable by the small holder cassava farmers. Such conditions included means of identification etc to open accounts and



collateral to secure credit facilities. This is in agreement with Douglas and Ontakitan (2020) who found that collateral demand from smallholder farmers had prevented them from participating in financial inclusion, especially accessing credit from formal financial institutions. This will adversely affected productivity as they will not be able to access financial services that will impact their productivity.

In Table 3, income level of the farmers was a constraint that hindered their participation in financial inclusion. This was ranked second with a mean of 3.23 and standard deviation of 0.808, thus suggested that the farmers all have poor income which adversely affected their participation in financial inclusion and cassava productivity as income is required to patronize the financial services providers. This agrees with the findings of Noeli and David (2017) who found that lack of money was part of the voluntary constraints that limited the participation of small holder farmers in financial inclusion.

The third in ranking was the distance to financial services providers with mean of 2.80 and standard deviation of 0.855. The presence or absence of financial services providers is a major factor that influences participation in financial inclusion in a location as noted by Gbalam et al (2020) and Mhlanga et al (2020). Banks and other financial institutions are not present in most of the local government areas used as the study area and small holder cassava farmers were required to travel some distance to meet them at their locations in the neighbouring local government areas. Hence, it constituted a constraint to participation in financial inclusion in the study area. This reduced their use of financial services which in turn reduced their cassava productivity.

Transaction cost covering the costs of traveling to the locations of the financial service providers and the other costs associated with documentation of financial service transactions were considered high by majority of the small holder cassava farmers in the study area. The issue of high cost of transactions had been highlighted by Adam (2018) as a constraint to participation in financial inclusion in similar study. Cassava productivity was adversely affected as a result of this because it limited the farmers' use of financial services in their cassava production. Thus this came fourth in ranking with mean of 2.23 and standard deviation of 0.686

Some level of literacy is required to participate in financial inclusion because of the documentations involved. Due to the literacy level of the farmers, this was ranked fifth with mean of 2.16 and standard deviation of 0.748. This implies that majority of the small holder cassava farmers in the study area have low level of literacy which constitute a constraint to them.. This agrees with the findings of Adam (2018) on documentation requirements for financial inclusion. This led to reduced use of financial services with its attendant low cassava productivity.

The farmers ranked lack of trust in financial service providers as sixth with mean of 2.07 and standard deviation of 0.637. This implies that small holder cassava farmers in the study area lacked trust in providers of financial inclusion services and as such they were constrained from participating in financial inclusion. This agrees with the findings of Nwankwo and Nwankwo, (2014) and the United Nation Conference on Trade and Development(UNDP, (2021) that fear of frauds associated with banking services discouraged farmers' use of financial services even though financial inclusion services were necessary for rural farmers/dwellers. Their cassava productivity was adversely impacted by this.

Age limit of the farmers was ranked seventh with mean of 1.82 and standard deviation of 0.699. This suggests that age was not much of a constraint to the farmers in participating in financial



inclusion. Finally, the type/nature of financial service/products provided in the study area was ranked eighth with mean of 1.66 and standard deviation of 0.546 indicating that the farmers did not see the types/ nature of service/ products offered by the financial service providers as a serious constraint to their participation in financial inclusion in the study area.

The financial and economic implication of the above findings are that small holder cassava farmers will not easily access credit, savings and payment services from financial service providers. These financial services are needed to empower the farmers to purchase improved inputs, use modern farming method and access better markets which will directly impacts cassava productivity.

### Hypothesis Testing

**Null Hypothesis:** Socio-Economic Factors do not Significantly Influence Participation of Small Holder Cassava Farmers in Financial Inclusion in the study area

The hypothesis was tested using Omnibus Test result of the Logit Regression Analysis and the results are summarized in Table 4

**Table 4: Omnibus Test Results of Hypothesis that Socio-economic Factors do not Significantly Influence Participation of Small Holder Cassava Farmers in Financial Inclusion in the study area.**

		Chi-square	df	Sig.
Step 1	Step	48.687	9	.000
	Block	48.687	9	.000
	Model	48.687	9	.000

Predicted percentage of model without explanatory variables- 51.3

Predicted percentage of model with explanatory variables- 65.0%

### Field Survey, 2024

From Table 4., the model with (Chi-square-48.687, df-9,  $p < 0.001$ ) shows that the model is significant. The null hypothesis is therefore rejected at 1% level of significance and we concluded that socio-economic factors significantly influenced participation of small holder cassava farmers in financial inclusion in the study area.

### Conclusion

The study concluded that participation in financial inclusion was positively affected by the socio-economic factors of the farmers. The study further concluded that smallholder cassava farmers face constraints in participating in financial inclusion.

### Recommendations

Based on the findings of the study, it was recommended as follows:

- 1 That providers of financial inclusion services/products should develop and introduce low-interest micro-loans, mobile banking solutions, or farmer-friendly credit schemes in order to enhance higher participation by the farmers.
- 2 That financial inclusion service/products providers should consider reduced collateral requirements, flexible repayment plans, or government-backed financial programs as conditions for small holder cassava farmers to utilize their facilities.



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