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Contribution of Village Savings and Loan Associations (VSLAs) on the Livelihood of Women Groundnut Farmers in Donga Local Government Area of Taraba State, Nigeria

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ABSTRACT

The study examined the Village Savings and Loan Associations (VSLAs) on the livelihood of women groundnut farmers in Donga Local Government Area (LGA), Taraba State. The objectives were to examine the level of contribution participation in VSLAs had on the livelihood of women groundnut farmers, determine factors influencing women groundnut farmers' participation in VSLA. Multistage random sampling technique was used in sampling a total of 84 participating women groundnut farmers in Village Savings and Loan Associations (VSLAs). Data were collected using a structured questionnaire and analyzed using descriptive statistics and regression analysis. Among respondents, 91.7% were active VSLA members, contributing varying amounts per cycle with a mean contribution of N38, 332.83 and interest of N34, 106.64 (representing 88.98% of the mean savings at the end of a circle). The result showed that 67.9% of the loan accessed from the pooled savings was used for farming purposes, while proceeds from the savings after a circle was used in supporting livelihood in the purchase of Christmas groceries, payment of children school fees and purchase of food items, ranking 1st, 2nd and 3rd, respectively. Regression analysis reveals significant predictors of VSLA membership to include age, education, farming experience, and income from groundnut farming at $p < 0.01$, and farm size at $p<0.05$. Constraints such as limited funds, inadequate training/capacity building and poor management of pooled funds were the leading challenges to women groundnut farmers participation in the association. It was concluded that VSLAs are a good source of funding for their farming activities and a good investment opportunity, the return of which contributed to their livelihood. The study recommended the need for targeted interventions to ensure access to funding, enhance financial literacy, promote participation in VSLAs and improve their agricultural production.

INTRODUCTION

Food production can be successful only where there is adequate funding to finance the different activities involved in the process. Funding agriculture is extremely difficult for the poor, especially when it comes to getting credit. There are a number of sources of funding to the small holder farmer in the form of formal and informal sources. The formal sources often proved to be rarely accessible to the small holder farmer and where it is accessible, there are always the challenges of collateral, formalities of documentations, bureaucracy and others. Farmer would rather not make attempt because of the obvious reasons that he may end up failing to fulfil the needed conditions to access such funds. This is further complicated by the

fact that the minimum amount such sources are willing and ready to grant is beyond what the small holder farmer will likely apply for and be able to manage and repay. Low financial literacy among borrowers, particularly in rural areas, is also a problem, as there is a lack of record-keeping and high default rates (Dupas *et al.* 2012).

Many non-governmental and other development organizations have promoted the gradual institutionalization of informal savings-driven microfinance associations that try to replicate and create a model of informal groups' savings in several communities in an effort to improve smallholder women farmers' access to financial services (Amponsah *et at.*, 2023). Village Savings and Loan Association (VSLA) is a savings and credit intervention programme that has gained increase popularity in developing countries around the world due to its impact on the rural poor especially women (Karian, *et al.* 2017). Micro lending's combination of the functions of lending and saving is a prime example. Village savings and loans associations (VSLAs), which are groups of people that pool their money and take small loans, could be the key to gaining access to finance and escaping poverty (Allen and Staehle, 2011). In terms of borrowing and saving, informal financial sources, such as Village Savings and Loans Association (VSLA) microfinance models, are quickly becoming the preferred loan schemes for the poor (Ksoll *et al.* 2016). It is vital to remember that improving local farmers' livelihoods and reducing poverty significantly depends on boosting agricultural production through provision of effective means of accessing funds for their livelihood activities. When members require financial assistance to engage in a variety of livelihood activities or to transition out of poverty, the associations supply it on reasonable terms (Harelimana, 2018). VSLA models intend to provide the very poor with savings services as well as insurance and credit that can be delivered with minimum cost, provide a secure place to save, the opportunity to borrow modest amount, easy to understand and transparent in its operations (Abdullai *et al.* 2021).

Karakara *et al.* (2021) observed that the survival of VSLAs strongly depends on the contributions from members with associated interest accrued from extended loans and also that members do receive training on financial literacy, leadership, and group management strategies to improve the likelihood of their self-sufficiency. VSLAs have enabled many members to engage in income-generating activities and contributing to household expenses from their profits. This improves unity at home and reduces household conflict. Members are able to send children to school and purchase supplies such as books, pencils and school bags. Through this participating women are able to provide their households with meals without reliance on their husbands, finance their farming activities that result in the production of major staples such as maize, rice, and locally grown vegetables (Naphtali *et al.* 2021).

Following the increase in the awareness and participation among rural women farmers in VSLAs in Nigeria, and given its undeniable usefulness in improving their livelihood, there arise a need to conduct studies into its operational efficiency and usefulness and recommend measures for improvement. It is in the light of the aforementioned that the study was designed to describe the socio-economic characteristics of the respondents, assess participation in VSLAs by women groundnut farmers, assess the nature of contributions by participating women, examine the level of contribution participation in VSLAs has on the livelihood of women groundnut farmers, determine factors influencing women groundnut farmers' participation in VSLA and identify the constraints faced by women groundnut farmers participating in VSLAs in Donga LGA.

METHODOLOGY

Study Area

Donga is a Local Government Area in Taraba State, Nigeria, created on October 1, 1996. It has its headquarters in the town of Donga on the Donga River at7°43′00″N and 10°03′00″E. Donga has an area of 3,121 km^2 and also serves as the home of the Donga River which flows through the LGA. The average temperature of Donga is around 32 °C while the humidity level of the LGA is an average of 17 percent. Donga has approximately 177, 900 people with the conglomeration of different tribes such as the Chamba,

the Yandang, the Ichen, the Hausa and the Fulani. The most widely practiced religions in Donga are Islam and Christianity. The occupation of most of the inhabitants are farming, hunting, cattle rearing and trading and they indulge in various agricultural activities such as cattle, sheep and goat rearing. Cultivating crops such as maize, sorghum, groundnut, cassava, millet, yam, rice etc. The people also undertake livestock production such as poultry production and piggery in small scale.

Sampling Procedure and Sample Size

The population of this study comprises of women groundnut farmers in Donga Local Government Area of Taraba State. We assume the population to be infinite since the actual number of the women groundnut farmers in Donga LGA is unknown; the Cochran's (1977) method for sample size determination was used to determine the suitable sample size for this study. It is expressed mathematically as;

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where;

n_0 is the sample size, z is the selected critical value of desired confidence level, p is the estimated proportion of an attribute that is present in the population, $q = 1 - p$ and e is the desired level of precision. $p = 0.5; q = 0.5; e = 0.09; z = 1.65$

$$n_2 = \frac{1.65^2 \times 0.5 \times 0.5}{0.09^2} = 84.02778$$

Therefore, the sample size for the study was 84.

Multistage sampling procedure was employed in arriving at the respondents for the study. Donga local government area was purposively selected due to the intensity of groundnut production and the existence of village savings and loan associations. Out of the ten wards in Donga LGA, four were randomly selected for the study. A village was randomly selected from each of the selected ward. From each of the selected villages, a proportionate number of women groundnut farmers were selected totaling 84 and they constitute the respondents for the study.

Table 1: Sample frame

S/N	Ward	Village/Town	Women Groundnut Farmers	Sample size allocation
1	Gindindutse	Nwuhwa	67	16
2	Mararaba	Donga	116	28
3	Akate	Bakin Kogi	72	17
4	Suntai	Suntai	98	23
Total			**353**	**84**

Method of Data Collection

Primary data were used for the study. The instrument of data collection was a structured questionnaire that was administered with the help of enumerators that understood the local language.

Method of Data Analysis

Descriptive statistics was used to describe the socio-economic characteristics of the respondents, assess participation in VSLAs by women groundnut farmers and identify the constraints faced by women

groundnut farmers participating in VSLAs; while probit regression model was used to determine factors influencing women groundnut farmers' participation in VSLA.

Model specification

Descriptive Statistics

Mean

$$Mean = \frac{\sum fx}{\sum f}$$

Where:

f = Frequency; x = Variable of Interest; $\sum$ = Summation

Percentages

$$Perentage = \frac{f}{t} \times \frac{100}{1}$$

Where:

f = Frequency; t = Total

Regression Analysis

Probit regression is a statistical technique used to analyze data where the output variable is binary, making it particularly relevant for examining factors influencing participation in Village Savings and Loans Associations (VSLAs). In the context of VSLAs, the response variable could represent binary outcomes such as "participation" or "non-participation" in these programs. Probit regression estimates the probability of the response variable being in a certain category based on predictor variables.

The logistic model for predicting women groundnut farmers' participation in Village Savings and Loans Associations (VSLAs) using the specified predictor variables was represented as follows:

$$\text{Log}\left(\frac{P_i}{1-P_i}\right) = Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + U_i$$

Where:

Y is the probability of participating in VSLAs (1=participating, 0= not participating)

$\text{Log}\left(\frac{P_i}{1-P_i}\right)$ is the log-odds of participating or otherwise

X_1 = Age of Respondent (years)

X_2 = Level of Education (Non-formal =1; Primary = 2, Secondary=3, Tertiary = 4)

X_3 = Farming Experience (number of years)

X_4 = Farm size (hectares)

X_5 = Groundnut income (naira)

X_6 = Extension contact (No = 0; Yes = 1)

X_7 = Other Sources (0 = No, Yes = 1)

U_i = Error term

$\beta_1 \ldots\ldots \beta_6$ are the coefficients associated with the predictor variables.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Women Groundnut Farmers

Table 2 provides an overview of the socio-economic characteristics of the women groundnut farmers in the study area. The data collected from 84 respondents is presented on age, household size, farming experience, educational level, marital status, and access to extension services.

Regarding age distribution, the youngest groundnut farmer was 20 years old while the oldest studied was 57. The mean age of the respondents was calculated to be 32.4, lower than the 42.7 years reported by Abdullai *et al.* (2021) as the mean age of members of VSLAs studied. This implied that women groundnut farmers were in their most youthful age, having the requisite strength and quest to want to participate in any rewarding enterprise.

Marital status revealed that 51.19% of the women farmers were married, while 4.76% and 14.29% were divorced and widowed, respectively. Generally, about 70% of the respondents were either married or have experienced marriage at one time or the other. The marital status is much lower to that reported by Karakara *et al.* (2021) who found out that 74% were married. This may be attributable to the fact that there is the prevalence of late marriage in the study area. This, nevertheless, provide a basis for which respondents will require engagement in economic activities to cater for their families, particularly weighing it against the mean household size observed. Mean household size of the women groundnut farmers was 5 obtained from values that range between a minimum of 2 and a maximum of 11.

The result for the respondent's level of education revealed that 42.9% had tertiary education, 25% had secondary education, 15.5% had primary education with 16.7% having had non-formal education. That 83.3% of the respondents had one form of formal education or the other was beneficial to the respondents in their participation in VSLAs and groundnut production enterprise.

The result for farming experience revealed that the respondents had a minimum farming experience of 3 years and a maximum of 30 years. Mean farming experience computed was 10.7 years. While access to extension services among the responding farmers was 39.29% indicating access while 60.71% said they had no access to extension services.

Table 2: Socioeconomic Characteristics of Women Groundnut Farmers

Variable	Min.	Max.	Mean	Std. Dev.
Age (years)	20	57	32.4	8.3
Household size (number)	2	11	5	2.3
Years of experience in groundnut production (years)	3	30	10.7	6.1
	Frequency		Percentage	
Level of education				
Non-formal	14		16.7	
Primary education	13		15.5	
Secondary education	21		25.0	
Tertiary education.	36		42.9	
Marital status				
Single	25		29.76	
Married	43		51.19	
Divorce	4		4.76	
Widowed	12		14.29	
Extension visit				
Yes	33		39.29	
No	51		60.71	

Source: Field Survey, 2023

Participation in VSLAs

Table 3 presents the result for the women groundnut farmer's participation in Village Savings and Loan Associations (VSLA) in the study area. The nature of the contribution was rated as at once and monthly installments. Majority (78.57%) of the respondents indicated that they made their contributions at once while 21.43% said they made their contributions to the scheme on monthly installments.

In terms of contribution per cycle, respondents contributed varying amounts to the VSLA. The results showed that 89.3% contributed between ₦10, 000 and ₦ 69, 999 per cycle, while 10.7% contributed between ₦70, 000 and ₦109, 999 per cycle. The mean contribution per cycle was ₦38, 332.83 with a returned interest of ₦34, 106.6 (representing 91.24% of the mean savings at the end of the circle). Loans were granted at a 10% monthly interest rate from the pooled resources to both members and non-members. Abdullai *et al.* (2021) had earlier reported that, while some associations charged 5% of the loan amount as interest, others required borrowers to pay 10% as interest on the loan amount. Contributions were shared, principal plus accrued interest accrued from the funds loaned out, at the end of the year mostly at first week of December, after deducting what is used in the administration of the disbursement of the savings and retrieval of any amount loaned out.

Table 3. Participation in VSLAs

Particulars	Frequency	Percentage (%)	Mean
Nature Of Contribution			
At once	66	78.57	
Monthly	18	21.43	
Total	84	100	
Contribution Per Cycle			
10,000-29,999	42	50.0	
30,000-49,999	19	22.6	
50.000-69,999	14	16.7	
70,000-89,999	6	7.1	
90,000-109,999	3	3.6	
Total	84	100	38, 332.83
Interest Received			
10,000-24,999	32	46.67	
25,000-39,999	28	18.89	
40.000-54,999	11	15.56	
55,000-69,999	9	12.22	
70,000-84,999	4	6.67	
Total	84	100	34, 106.64

Source: Field survey 2023

Contribution of VSLAs to household livelihood

The main aim of VSLAs are to pooled resources for giving out to those in need at an interest which consequently provides return to contributors. The usage of funds obtained in form of loan by respondents from VSLA as presented in Table 4 shows that majority (81%) utilized the funds for farming purposes, indicating support for agricultural activities. This was followed by 58% who reported to have used the funds for household expenses, while 38% invested the funds in enterprises to earn returns. Of the interest accrued to their contributions at the end of the circle, the respondents reported to have put it to various uses when it was shared at the end of the cycle. Purchase of Christmas groceries ranked first among the uses to which the received interest was put to, as it accounted for 97.6% of the respondents. This was followed by those who use it to pay children school fees (88.1), purchase food items (61.9%) and investment (47.6%), ranking 2nd, 3rd, and 4th, respectively. Payment of hospital bills was the least of the

areas the return was spent on, accounting for 27.4%. This is in line with the report of Karakara *et al.* (2021) that aside the business support, they are able to use some of the money to acquire assets, pay for their children educational needs, healthcare financing, and social responsibilities.

Table 4: Contribution of VSLAs to household livelihood

Accessed Loan Funds Usage Category	**Frequency**	**Percentage**	**Rank**
Farming	68	81	1st
Household expenses	49	58	2nd
Investment	32	38	3rd
Utilization of savings proceed			
Category	Frequency	Percentage	Rank
Purchase of Christmas Groceries	82	97.6	1st
Payment of School fees	74	88.1	2nd
Purchase of food items	52	61.9	3rd
Investment	40	47.6	4th
Hospital bills	23	27.4	5th

Source: Field survey 2023

Factors Influencing Membership of VSLAs

The results presented in Table 5 shows the result for factors influencing membership of Village Savings and Loan Associations (VSLAs) among women groundnut farmers in Donga Local Government Area (LGA). The regression analysis reveals several significant findings that shed light on the relationship between these factors and VSLA membership. Five factors were found to be significant in determining women groundnut farmer's participation in VSLAs in the study area. These were age, level of education, farming experience, farm size and income from groundnut farming.

Firstly, age (0.270) emerges as a significant predictor of VSLA membership at $p < 0.01$, indicating that older women are more likely to participate in VSLAs. This agrees with the findings of Kwasi *et al.* (2020) who reported that age was a significant factor in determining participation in VSLA's. This finding suggests that experience and maturity play a crucial role in financial decision-making and engagement with community-based financial initiatives. Education (0.231) also shows a positive association with VSLA membership, at $p < 0.01$, indicating that women with higher levels of education are more inclined to join VSLAs. Shehu (2023) in a similar study reported that education of participating member in the village savings and loan association was significant in determining membership sustainability. This finding underscores the importance of education in enhancing financial literacy and empowerment among rural women. Farming experience (0.323), and income from groundnut farming (0.128) were also significant at $p < 0.01$ whereas farm size (0.076) was significant at, $p < 0.05$. Years of experience in groundnut farming exhibiting significant influence on membership of VSLA perhaps owing to the fact that with years of experience comes the specialization that improves productivity that is confirmed by the income generated from groundnut farming also influencing membership. Farm size was also significant implying that those with larger farms will naturally require additional source of funding hence a higher likelihood of participation in VSLAs.

While the extension service variable did not show significant effect on VSLA membership perhaps owing to the fact that the services may not be available to meet the meet of the farmers as shown by the result for access to extension in table 2 as 60.71% said they have no access to extension service with only 39. 29% indicating access.

An R-Square value of 0.861 indicated that the variables included in the model explains 86.1% of women groundnut participation in in Donga LGA.

Table 5: Factors influencing participation in VSLAs

Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value
	B	Std. Error	Beta	
Constant	0.082	0.036		2.304**
Age	0.009	0.002	0.270	5.791***
Education	0.220	0.036	0.231	6.019***
Experience	0.315	0.048	0.323	6.584***
Farm Size	0.027	0.012	0.076	2.277**
Ground nut Income	0.012	0.004	0.128	3.000***
Extension service	0.013	0.008	0.045	1.640
Other Income	5.785E-005	0.000	0.027	1.365
F-Value				361.121***
R-Square (R^2)				0.861

*Source: Field survey 2023. ***Significant at 1% level, ** Significant at 5% level*

Constraints Faced by Women Groundnut Farmers in VSLAs

Table 6 presents the constraints faced by women groundnut farmers in participating effectively in Village Savings and Loan Associations (VSLA). The data was derived from responses provided by the respondents and ranked based on the percentage of the frequency of each constraint. The most significant constraint reported by responding participants was insufficient funds, with 84.52% of respondents citing this as a major hindrance to their participation in VSLAs activities, ranking first. This was followed by inadequate training/capacity-building (80.95%) and porr management of contributed funds by officials (75%), ranking 2nd and 3rd, respectively. The least of the constraints as reported by the responding participants was husband pressure not to participate (36.9%), ranking 7th. This was, however, dissimilar to the report and ranking of Sienso *et al.* (2021) that inadequate fund to contribute ranked 1st, absenteeism of members ranked 2nd, and ineffective monitoring ranked 3rd.

Table 6: Constraints to participating in VSLA

Constraints	Frequency	Percentage (%)	Rank
Insufficient fund	71	84.52	1
Poor contribution management by officials	63	75.00	3
Husband pressure not to participate	31	36.90	7
Lack of access to information	48	57.14	6
Limited financial literacy	56	66.67	4
Inadequate training/capacity-building	68	80.95	2
Lack of time for VSLA activities	51	60.71	5

Source: Field survey 2023

CONCLUSION AND RECOMMENDATIONS

Conclusion

It was concluded that Village Savings and Loan Associations provides an avenue for participating women to save and earn interest. It also serves as a source of funding for their farming activities, aside from being a good investment opportunity, the return of which contributed to their livelihood. This was achieved through timely access to the pool of fund with minimal challenge of having to provide collateral or go through a rigorous process of documentation.

Recommendations

Based on the study's findings, the following recommendations are proposed:

i. There is need for targeted interventions to encourage participation among rural women farmers.

ii. Deliberate effort should be made to provide the participating women, especially the leaders of such association to enhance their financial literacy that will foster effective management of the funds so collated.

iii. Enhance access to resources: access to land, credit, technology, and information among women farmers, particularly those in remote areas, is hoped to motivate them to participate in VSLAs and promote their engagement in agricultural activities.

iv. Strengthen policy support: there is need to advocate for policies and initiatives that prioritize women economic empowerment, financial inclusion, ensuring equitable opportunities and outcomes for rural women farmers who are keen at participating in VSLAs.

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