Analysis of Gender Differentials in Credit Access among Rice Farmers in Benue State Nigeria

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Abstract

The study analyzed gender differentials in credit access among rice farmers in Benue State, Nigeria. Multi-stage sampling technique was used in selecting 346 respondents. Data were collected by means of structured questionnaire and analyzed using descriptive statistics, independent t- test and ANOVA. The results on the socioeconomic characteristics rice farmers showed that rice producers in the study area were mainly married male (63.7%) who were full time small-scale farmers (75.9%), young (47.6%), educated (71.6%), members of cooperative societies (74.1%), have not had contact with extension agents (75.9%), involved in off-farm activities (62.8%), well-experienced in rice farming with large household size (49.4%), own their farmlands with profit maximization as their production goal, and well to do given their annual farm and non-farm income. The analysis of credit accessed by farmers showed that the mean value of credit applied by male farmers (₦1, 002, 076.56) was greater than that applied by female farmers (₦933, 445.38) and the mean amount of credit obtained by male farmers (₦132, 990.43) was higher than the amount obtained by female farmers (₦127, 571.43). The study recommended that state governments in collaboration with traditional rulers should come up with policies targeted at reducing cultural barriers that make women farmers to have less access to land; joint liability borrowing should be encouraged among small-scale female farmers; and banks and other financial institutions should develop special financial products such as loans that cater for the needs of smallholder farmers particularly female farmers.

Keywords: *Gender Differentials; Credit Access; Rice Farmers; Benue State; Nigeria*

INTRODUCTION

Access to credit is considered as one of the main components in increasing agricultural productivity (Ojiako and Ogbukwa, 2012). In spite of this benefit, small-scale farmers particularly women farmers in Nigeria are faced with plethora of challenges in accessing credit for their farm enterprises. FAO (2011) stated that the agricultural sector is underperforming in many developing countries, and one of the key reasons is that women do not have equal access to the resources and opportunities they need to be more productive. If the acclaimed unequal access to the resources and opportunities persists, then it will be difficult to fight the human miseries of hunger and

poverty that knows no bounds. FAO (2011) also revealed that we must promote gender equality and empower women in agriculture to win, sustainably, the fight against hunger and extreme poverty.

Gender inequality in credit access is one of the few reasons which cause agriculture to fail to progress the way it ought to in Nigeria (Nwankwo, 2008). It is emphasized that gender inequalities caused a decline in the productivity of most farms and enterprises (Ogunlela and Mukhtar, 2009). Anaglo *et al.* (2014) also showed the existence of gender differences in female small-scale farmers' ability to access credit as against their male counterparts. In other words, their access to credit continues to differ regardless of the equal roles they play in agriculture. Credit access is also regarded as an effective means of economic transformation and poverty alleviation (Nwankwo, 2008). It has been asserted in most literature that access to agricultural credit remains a critical challenge to smallholder farmers in many developing countries (Anang *et al.*, 2015).

Researchers have established that farmers' adequate access to financial and other production resources are panacea to successful agricultural and rural development programmes (Zeller, 2006). Zeller (2006) further revealed that policy-makers have long understood that rural producers who cannot meet their needs for capital must settle for suboptimal production strategies. Furthermore, without adequate access to loans or insurance, producers who face negative shocks, such as droughts, illness or a significant drop in the prices they receive, can lose some of the few assets they do have (Zeller, 2006). Conversely, producers who have access to well-designed credits, savings and insurance services can avail themselves of capital to finance the inputs, labours and equipment they need to generate income; can afford to invest in riskier but more profitable enterprises (World Bank, 2008).

In agriculture, women feature prominently as they are believed to produce more than half of all the food that is grown, specifically, up to 80% in Benue State and Nigeria (Ejembi *et al.*, 2017). Hence, empirical data segregating factors influencing gender performances in agro-based enterprises is rather scarce and difficult to obtain because gender differences in factors affecting small business performance in agricultural production remains largely unaddressed by social scientists and developmentalists. Majority of studies on factors influencing performance of farmers either disregarded gender as a variable of interest or excluded female subjects from their design (Rietz and Henrekson, 2000).

Considering the nature of the environment as well as the cultural setting where agricultural endeavors are being practiced in Nigeria, there is a compelling need to reassess the issue of access to credit by small-scale agribusinesses based on gender (Jeiyol *et al*., 2013). Worldwide, people are acknowledging the significance of gender equality on the issue of access to productive resources as well as the role that both women and men play in agricultural development. Credit provision is one of the crucial agrarian policies that policy makers need to reassess in the country especially looking at the gender disparities in agricultural resources distribution to the agricultural sector (Jeiyol *et al*., 2013).

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In order to formulate policies that will minimize financial losses experienced by rice farmers, information on the access of credit access as well as their determinants is pertinent. It is against this background that this study was designed to assess gender differences in credit access among rice farmers in Benue State, Nigeria. Also, differences in the findings of studies such as Adeola and Ayoade (2009), Adinya *et al.* (2013), Anaglo *et al.* (2014) submitted that females have more access to farm resources than the males while Agbaladozie (2008) among others gave a contrary view. The divergent findings of the researchers necessitate further research in the study area. Hence, this study was aimed at bridging this research gap. Specifically, the study sought to: describe the socio-economic characteristics of rice producers in the study area; and compare the amount of credit applied for and obtained by male and female farmers. The null hypothesis tested was that Socio economic characteristics of both female and male respondents do not influence access to credit in the study area.

MATERIALS AND METHODS

The Study Area

The study was conducted in Benue State, Nigeria. It consists of 23 Local Government Areas and three agricultural zones (Jeiyol *et al*., 2013). The area is drained majorly by Rivers Katsina Ala and Buruku. It has a land mass of 34, 059 square kilometres and population of 5 741 815, National Bureau of Statistics (NBS, 2016). The area is generally low lying (averaging 100-250m) and gently undulating with occasional Knoll and Laterite among others. The area is characterized by steep slopes, deep incised valleys and generally rugged relief. River Benue is the dominant geographical feature in the state and shares boundaries with five other states namely: Nasarawa to the north, Taraba to the south, Enugu to the south-west and Kogi to the west (Jeiyol *et al*., 2013).

The minimum and maximum temperatures are 21°C and 37°C respectively. The study area has a distinct dry and wet season with total annual rainfall varying between 100-200mm, rainy season starts from April and ends in October. The vegetation in the study area is guinea savannah type, characterized by grasses with few scattered shrubs and trees, Benue State Agricultural Development Authority (BNARDA, 2013).

Commonly cultivated crops include rice, yam, sesame, soya bean, groundnut, tomatoes, millet, cassava and other vegetable crops. Tree crops such as mango, citrus, cashew and other economic tress are also found in the area. The crops mostly produced are; rice, yam, soya bean and groundnut (Jeiyol *et al*., 2013).

Population of the Study

The population of this study comprised 2623 registered rice farmers in Kwande, Logo, Guma, Makurdi, Oju and Apa Local Government Areas Benue state, as obtained from Rice Farmers Association of Nigeria (RIFAN) in 2022. These LGAs were chosen because of their vast production of rice.

Sampling Technique and Data Collection

Multistage sampling technique was employed to select a sample of 346 rice farmers. The data for the study were collected using structured questionnaire.

Analytical Techniques

The data collected were subjected to descriptive and econometric analysis. Descriptive statistics such as frequencies, percentages, mean, and standard deviation were used to examine the socioeconomic characteristics of rice farmers while t test was used to identify and analyze differences in amounts of credit applied for and obtained.

$$t = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Where t= calculated t value

X_1=mean value of credit accessed by male respondents

X_2= mean value of credit accessed by female respondents

S_{21}=variance of value of credit access of male respondents

S_{22}= variance of value of credit access of female respondents

n_1= sample size of male credit beneficiary

n_2= sample size of female credit beneficiary

RESULTS AND DISCUSSION

Socio- economic characteristics of respondents

The distribution of rice farmers by socio- economic characteristics is presented in Table 1

Analysis of Table 1 shows that majority (63.7%) of rice farmers in the study area were male while 36.3% were female, (83.3%) of rice farmers in the study area were married while 16.8% were single, (71.6%) of the rice farmers in the study area had spent between 7-16 years in formal school with 12 years as the average years spent in formal education among the farmers, (74.1%) of the rice farmers in the study area belonged to cooperative societies while 25.9% did not belong to any cooperative society, (75.9%) of rice farmers in the study area had no contact with extension agents while 24.1% had contact, (47.6%) of rice farmers in the study area were greater than or equal to 41 years , 27.7% were between 31-40 years, 22.0% were between 21-30 years, while 2.7% were greater than or equal to 20 years. The average age of rice farmers in the study area was 41 years, (73.5%) of rice farmers in the study area had between 5-14 persons in their household, 12.2% had less than or equal to 4 persons in their household, 11.0% had between 15-24 persons in their household, while 3.4% had greater than or equal to 25 persons in their household, (80.5%) of rice farmers in the study area had farms with sizes ranging between 1.1-11.0 hectares, 11.3% had farms with sizes less than or equal to 1.0 hectares, 8.2% had farms with sizes greater than or equal to 11.0 hectares. The average farm size of rice farmers in the study area was 5.23ha, (49.4%) of rice producers in the study area had been farming rice for a period of less than or equal to 10 years, 25.9% had been into rice production for between 11-20 years while 11.9% had been into rice production for a period between 21-30 years. The mean years of farming experience among rice farmers in the study areas was 15 years, the mean annual farm income and annual non-farm income of rice farmers in the study area were ₦ 1, 127,250.80 and ₦ 324, 753.05 respectively, (66.8%) of rice farmers in the study area owned their farmlands while 33.2% were not owners of their farmland, (75.9%) were full time farmers with 86.3% of these farmers having profit maximization as their production goal, 62.8%) of rice farmers in the study area were involved in off-farm activities while 37.2% were not involved in any off-farm activities.

Table 1: Socio- economic characteristics of Rice farmers

Variable	Frequency	Percentage	Mean
Sex			
Female	119	36.3	
Male	209	63.7	
Marital status			
Single	55	16.8	
Married	273	83.2	
Years in formal school (years)			**12**
≤6	57	17.4	
7-16	235	71.6	

≥17	36	11.0	
Cooperative Membership			
Non-member	85	25.9	
Member	243	74.1	
Extension contact			
No contact	249	75.9	
Had contact	49	24.1	
Production goal			
Profit maximization	283	86.3	
Subsistence	45	13.7	
Off-farm activities			
Not involved	122	37.2	
Involved	206	62.8	
Age (years)			**41**
≤20	9	2.7	
21-30	72	22.0	
31-40	91	27.7	
≥41	156	47.6	
Household size (Persons)			**9**
≤4	40	12.2	
5-14	241	73.6	
15-24	36	11.0	
≥25	11	3.4	
Farm size (ha)			**5.23**
≤1.0	37	11.3	
1-10	264	80.5	
≥11	27	8.2	
Farming experience (Years)			**15**
≤ 10	162	49.4	
11-20	85	25.9	
>20	39	12.8	
Annual Farm Income (₦' 00000)			**₦ 1, 127, 250.80**
≤ 10.0	239	72.9	
10.01- 20.00	59	18.0	
20.01- 30.00	18	5.5	
>30	3	0.9	
Annual non-Farm Income (₦' 00000)			**₦ 324, 753.05**
≤ 10.01- 15.00	297	90.5	
10.01- 15.00	10	3.0	
15.01- 20.00	18	5.5	
>20	3	0.9	

Table 2: Gender differences in credit applied

The differences in credit applied are presented in Table 2. The results shows that shows that majority (86.5%) of male rice farmers in the study area applied for credit with value less than or equal to ₦ 200 000, 7.2% applied for credit with value between ₦ 200 000 and ₦ 300 000 and 6.7% applied for credit with value greater than or equal to ₦ 400 000.

The mean amount of credit applied for by male rice farmers in the study area was ₦1,022,076.56 The result in Table 2 also revealed that majority (85.7%) of female rice farmers in the study area applied for credit with value less than or equal to₦ 200 000, 9.2% applied for credit with value between ₦ 200 000 and ₦ 300 000, and 5.06% applied for credit with value greater than or equal to ₦ 400 000.The mean amount of credit applied for by female rice farmers in the study area was ₦933,445.38

Amount of credit	**Male farmers**		**female farmers**	
applied for (₦'00000)	**Frequency**	**percentage**	**frequency**	**percentage**
≤ 20.00	180	86.1	102	85.7
20.1-30.00	15	7.2	11	9.2
> 30.00	14	6.7	6	5.0
Mean (₦)	**1,022,076.56**		**933,445.38**	

Source: Field Survey data, 2022

Gender differences in credit obtained

The differences in credit applied are presented in Table 3. The results in Table 3 indicates that majority (72.3%) of female rice farmers in the study area obtained credit with value than or equal to between ₦ 100 000, 24.4% obtained credit with value between ₦ 100 000 and ₦ 800 000, 1.7% obtained credit with value between ₦ 800 000 and 1,500,000. The mean amount of credit obtained by female farmers in the study area was ₦ 127,571.43

The mean amount of credit obtained by both male and female rice farmers in the study area implies that male rice farmers obtained more credit than female rice farmers

Table 3: Gender differences in credit obtained

Amount of credit obtained (₦'00000)	Male farmers Frequency	Percentage (%)	Female farmers Frequency	Percentage (%)
≤ 1.00	169	80.9	86	72.3
1.01-8.00	30	14.4	29	24.4
8.01- 15.00	4	1.9	2	1.7
> 15	6	2.9	2	1.7
Mean (₦)	**132990.43**		**127571.43**	

Source: Field Survey data, 2022

Test of hypothesis between means of credit accessed by male and female rice farmers

The independent t-test analysis used compare the means of credit accessed by male and female rice farmers in the study area is presented in Table 4. The results in Table 4 indicate that male rice farmers accessed more credit than female rice farmers in the study area. The mean amount of credit accessed by male rice farmers in the study area was ₦132,990.43 while the mean amount of credit accessed by female rice farmers was ₦127,571.43

The mean difference between the amount of credit accessed by male and female famers in the study area was ₦5419.00 and positive.

Table 4: Test of hypothesis between means of credit accessed by male and female rice farmers

Variable	Mean	Mean Difference (₦)	t-ratio	p-value
Credit Amount Accessed by Male farmers	132990.43	5419.0	0.128	0.899^{NS}
Credit Amount Accessed by Female farmers	127571.43			

Conclusion

Male rice farmers obtained more credit than female rice farmers in the study area.

Evidence from the study also shows that the average value of credit applied for by male and female rice farmers were ₦1,022,076 and ₦933,445.38 respectively. The average value of credit obtained by male and female rice farmers were ₦132,990.43 and ₦127,571.43 respectively.

Based on the findings of the study, the following were recommended:

- State governments in collaboration with traditional rulers should come up with policies targeted at reducing cultural barriers that make women farmers to have less access to land;
- Joint liability borrowing should be encouraged among small-scale female farmers; and
- Banks and other financial institutions should develop special financial products such as loans that cater for the needs of smallholder farmers particularly female farmers.

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