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Nigerian Agricultural Policy Research Journal (NAPReJ) Agricultural Policy Research Network (APRNet)
Vol. 4. Iss. 1. Website:http:// www.aprnetworkng.org ©2018

NAPReJ ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

J. B., Simonyan, T. A Amusa, and Akpan, A. J Gender Differentials in the Performance of Small Scale Agro-based Entrepreneurs. pp 51-60

Gender Differentials in the Performance of Small Scale Agro-based Entrepreneurs in Akwa Ibom State, Nigeria

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A R T I C L E I N F O

Key Words

Gender,

Credit,

Firm Productivity

Net profit,

Agro-based entrepreneurs.

ABSTRACT

The study investigated gender differentials in the performance of small scale agro-based entrepreneurs in Akwa Ibom State, Nigeria. Multistage random sampling technique was employed in selecting 120 agro-based entrepreneurs (60 males and 60 females) that constituted the respondents for the study. With the use of structured questionnaire, primary data were collected from the selected 120 agro-based entrepreneurs. Data collected were analyzed using descriptive statistics, correlation, and ordinary least square (OLS) multiple regression analysis. The result of gender desegregated analysis showed that male agro-based entrepreneurs have better access to credit facilities than their female counterparts. Gender of agro-based entrepreneurs significantly influenced performance in favour of male. Other variables that significantly influenced the performance of agro-based entrepreneurs include: membership of cooperative, loan received, interest rate and experience at 0.01 and 0.05 respectively. Access to credit has very strong and direct relationship with performance with a Pearson Product Moment correlation coefficient of 0.82 for male and 0.86 for female agro-based entrepreneurs. Which indicate that female agro-based entrepreneurs are more efficient in transforming credit accessed to higher performance. Based on the findings, the study therefore recommended among others that female agro-based entrepreneurs should be more economically empowered by relevant government agencies and NGOs for enhanced performance in agricultural production.

Introduction

The Nigerian agricultural sector is dominated by small-scale farmers who produce the bulk of food requirements of the country with their associated low productivity. For instance, Nwankpa (2017) affirmed that Nigeria like most African economies, is still an agrarian nation and has huge agricultural potentials. With an arable land potential of 98.3 million ha, only 34.2 million ha (48 percent) is cultivated while 52 percent is yet to be exploited. Nigerian agricultural sector provides over 40% of gross domestic product (GDP) with between 60 and 70% of the population productively engaged in farming. Hence, International Development Association 'IDA' (2009) noted that agriculture is critical to achieving global poverty reduction targets and it is still the single most important productive sector in most low-income countries in terms of its share of Gross Domestic Product and number of people it employs.

Economic growth in Nigeria has largely been accounted for by resilient agricultural growth associated with performance in four constituent sub-sectors: crops, livestock, fisheries and forestry (Eboh, Odun and Ujah, 2012). While the agricultural sector may have in recent years contributed significantly to improved growth performance in Nigeria, its actual contribution appears to be much short of overall potential (Oyinbo and Rekwot, 2014). To actualize the full potentials of Nigerian agriculture, the government over the years has initiated various policies such as Operation Feed the Nation (OFN), Green Revolution, National Food Acceleration Production Programme (NAFPP), Directorate of food, Road and Rural Infrastructure (DFRRI) among others. The aims of these policies were to attain food security, increase production and productivity, generate employment and income, expand exports and reduce food importation thereby freeing resources for critical infrastructure development and delivery of social services. These programmes failed and the laudable objectives could not be achieved due to inadequate effort to address

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

the need of small holder farmers who constitute major factor in Nigerian agricultural sector.

Small holder farmers in Nigeria account for 80% of all farm holdings and their crop and livestock production remains below potentials. Inadequate access to finance and low uptake of high quality seeds, low fertilizer use and inefficient production systems lead to poor performance of the farmers and consequently shortfall in overall agricultural production. Hence, the ability of agriculture to generate overall GDP growth and its comparative advantage in reducing poverty will vary from country to country depending on level of finance and credit made available to the sector (FAO, 2012). The majority of the poor and food insecure in Africa live in rural areas, and most of them depend on agriculture for their livelihoods. To support broad-based poverty reduction and food security in Africa, smallholder agriculture must be a central investment focus. FAO (2007) observed that access to credit and other resources are major links of agriculture to improved performance in the chain of agricultural development. For farmers to increase performance in food production, both the male and female farmers need better access to agricultural support system such as credit, technology, extension service (IFAD, 2007). This is because, agriculture as a development issue will remain a core challenge for Nigeria for the coming decades unless underpinning factors affecting the performance of male and female agro-based entrepreneurs are adequately addressed. Agro-based entrepreneurs in this study are male and female farmers that specialize in piggery, poultry, and crops such as maize, cassava and vegetables production. The assessment of the performance of male and female agro-based entrepreneurs is critical to food security, social cohesion and poverty alleviation because of the specific need of farmers along gender line.

The term "gender" refers to economic, social and cultural attributes and opportunities associated with being male or female (UN-Habitat, 2003). In almost all societies, women and men differ in their activities and undertakings, responsibilities, regarding access to and control over resources, and participating in decision-making. Gender is a socio-economic parameter that is useful in analyzing the roles, responsibilities, opportunities and constraints of both men and women along different ethnic, cultural, religion and ecological lines. Both men and women contribute significantly to agricultural production yet, their access to agricultural resources differ (Deere and Doss 2006; FAO, 2010). 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 Africa. Hence, empirical data segregating factors influencing gender performances in agro-based enterprises is rather scare and difficult to obtain. This is because gender differences in factors affecting small business performance in Agricultural processing remained largely unaddressed by social scientists and developmentalist. Majority of studies on factors influencing performance of farmers either disregarded gender as a variable of interest or excluded female subjects from their design (Du Rietz and Henrekson, 2000). It is based on this background that this study was carried out to estimate gender differentials in the performance of small scale agro-based entrepreneurs in Akwa Ibom State, Nigeria. The study specifically ascertained level of access to credit by male and female small scale agro-based entrepreneurs, determinants of the performance (net return) of male and female small scale agro-based entrepreneurs and effect level of credit access on performance of male and female small scale agro-based entrepreneurs.

Materials and Methods

The study was carried out in Akwa Ibom State, Nigeria. The State is located in the South-south part of the country lying between latitude 4031' and 5031' North, and longitude 7035'and 8025' East. Akwa Ibom State is made up of 31 Local Government Areas broadly divided into six agricultural zones viz: Oron, Abak, Ikot Ekpene, Etinan, Eket, and Uyo with very high potential for agriculture production across the state. The state has land mass of 7,245,935 sq. kms and bounded by Abia State in the north, Cross River State in the East, Rivers and Abia States in the West and in the South by the Bight of Bonny/Atlantic Ocean. It has estimated population of 4,625,119 people (NBS, 2012) and is occupied by Ibibio, Annang and Oron tribes. The vegetation of Akwa Ibom State is suitable for food crops, tree crops, fish and livestock farming. About 70% of the people of the state are into full time agricultural production growing crops such as maize, yam, rice, cassava and vegetables like waterleaf and fluted pumpkin while livestock mostly reared by the farmers include pigs, poultry birds, goats, cattle among others.

The study employed multistage sampling technique. Firstly, two agricultural zones, Uyo and Ikot Ekpene

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

were purposively selected from the six agricultural zones of the state due to high agro-based activities in the two zones. In the second stage, two Local Government Areas (LGAs) were purposively selected from each of the two agricultural zones making four LGAs for the study. Ibesikpo Asutan and Uyo LGAs were selected from Uyo zone while Ikot Ekpene and Ikono LGAs were selected from Ikot Ekpene Zone. Thirdly, one village each was purposively selected from each of the four selected LGAs making a total of four villages for the study. The villages were Nung Udoe selected from Ibesikpo Asutan LGA, Use Offot selected from Uyo LGA, Ikot Abia selected from Ikot Ekpene LGA and Ibiaku Ikot Ukana selected from Ikono LGA. In the fourth stage, a list of small scale agro-based entrepreneurs that had accessed agricultural credit from the selected villages was collected from the agro-based small scale entrepreneurs association. The list was stratified into two agro-based sectors namely: crop production and livestock production sector. The crop production entrepreneurs selected were those who engage in maize, vegetable and cassava production while the livestock production entrepreneurs were those who engage in poultry and piggery. At the fifth stage, 30 agro-based entrepreneurs (15 males and 15 females) were selected from each of the four villages making a total 120 agro-based entrepreneurs (60 males and 60 females) that constituted the respondents for the study.

Primary data for the study were collected using structured questionnaire. With the help of four research assistants, the entire 120 copies of the questionnaire administered to the respondents were retrieved representing 100% return rate. Information sourced from the respondents includes their socio-economic characteristics, credit access and data to determine the performance of the agro-based entrepreneurs in the study area. Data collected were analysed using descriptive statistics, correlation, and ordinary least square (OLS) multiple regression analysis.

Model specification

Ordinary Least Square (OLS) multiple regression analysis was employed in estimating the determinants of performance (net profit) of the male and female small scale agro-based entrepreneurs.

The implicit form of regression for this analysis was given as:

Y =f (X1,X2,X3,X4,X5,X6,X7,X8+l).....(1)

Where:

Y = Enterprise performance measured in term of Net profit; X1 = Age of enterprise (years of operation); X2 = Years of education of entrepreneurs; X3 = Amount of loan received (₦); X4 = Cooperative membership; X5 = Interest rate (in %); X6 = Net worth; X7 = Years of borrowing experience; X8 = Gender (1 male, 0 female) for the pooled equation; e = Stochastic error term

Four functional forms (linear, semi-log, double-log and exponential) were estimated using the Ordinary Least Square (OLS). The explicit forms of the functional forms are:

Linear Function

$$Y = bo + b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+b_7X_7 \quad ....(2)$$

Semi-Log Function

$$Y = bo + b1\log X1 + b2\log X2 + b3\log X3 + b4\log X4 + b5\log X5 + e \quad .....3)$$

Double-Log Function

$$\text{Log } Y = bo + b1\log X1 + b2\log X2 + b3\log X3 + b4\log X4 + b5\log X5 + e \quad .(4)$$

Exponential Function

$$\text{Log}Y=bo+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+b_7X_7 +e \quad ....(5)$$

This was considered necessary in order to select the functional form with the best fit. In the semi-log and double log forms, 0 values in the dummies were replaced with 0.0001. This is because, the number 0 is undefined for log. The choice of the lead model is based on the coefficients of multiple determinations (R2), the number of significant variables, the signs of the significant variables as they conform to a priori expectation and the F-statistic. Net profit provides a simple method for assessing or measuring

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

the performance of agro-based entrepreneurs. The net profit analysis is given as:

Net profit = TR – TE ….(6)

Where;

TR = Total Revenue (Total value of output in Naira) ; TE = Total Expenses

Pearson's Product Moment Correlation (r)

To determine the effect of level credit access on performance of male and female small scale agro-based entrepreneurs, Pearson Product Moment Correlation (PPMC) (r) was used. PPMC analysis helps to determine the relationship (positive or negative) and the strength of the relationship between two variables X and Y. The specification of the PPMC model is given below:

$$r=(n \sum XY- (\sum X) (\sum Y))/(\sqrt{([n (\sum X2) - (\sum X)2] [n (\sum Y2) - (\sum Y) 2])} \quad \ldots\ldots (7)$$

Where: n = numbers of pairs of data,

∑XY = Sum of responses on level of credit access in naira (₦) and performance (net profit) of small scale agro-based entrepreneurs.

∑X = Sum of responses on level of credit access in naira

∑Y = Sum their performances (net profit)

∑X2 = Sum of squared of responses on level of credit access

∑Y2 = Sum of squared value on performance (net profit)

When the value of correlation coefficient lies between ± 1, it is said to be a perfect degree of association between the two variables (X = access to credit and Y = performance). As the correlation goes towards 0, the relationship between the two variables becomes weaker. Therefore, a positive and high coefficient value suggested that access to credit has positively predicted performance (net profit) of the small scale agro-based entrepreneurs, vice versa.

Results and Discussion

Gender-based Access to Credit by Small Scale Agro-based Entrepreneurs

Table 1 showed the distribution of size of loan applied for and the amount received by male and female agro-based entrepreneurs. The overall loan applied for by the sampled male agro-based entrepreneurs for 2016 farm year was ₦10,039,000.00 while to total amount received was ₦6,414,360.00 which is about 63.9% of the amount applied for by the male agro-based entrepreneurs. On the other hand, the female agro-based entrepreneurs applied for a total amount of ₦6,015,000.00 and received ₦4,496,300.00 which is about 74.8%. The above result showed that male agro-based entrepreneurs have better access to credit and other form of agricultural services than their female counterparts. The reason for the relative low amount of credit applied for and received by female agro-based entrepreneurs could possibly be as a result of their lack of collateral security and unwillingness to apply for higher credit facilities. The report of Centre for Integrated Agricultural Systems (CIAS) (2004) showed that women are faced with many constraints which range from lack of access to farm credit, loans, low level of income, to shortages of input supply and other economic resources, thereby limiting their economic activities. Fabiyi, et al, (2007) found that low economic status of farm women limits their opportunities for broader participation in agricultural production. Ajagbe, Oyelere and Ajetomobi (2012) pointed out that male farmers constitute the majority of credit beneficiaries from banks.

Factors Influencing Performance of Small Scale Agro-based Entrepreneurs

The results of the regression analysis on determinants of performance of the male and female small scale agro-based entrepreneurs in Akwa Ibom State is presented in Table 2. Four functional forms (linear, semi-log double-log and exponentials) were tried. The linear functional form had the best fit for male and female entrepreneurs based on the values of R2 (0.908 and 0.912 respectively), number and levels of significance of explanatory variables and their signs. The R2 values of 0.908 and 0.912 suggest that the significant variables are responsible for about 91% variations in performances (net profit) of male and female agro-based entrepreneurs.

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

Table 1: Gender-based Access to Credit by Small Scale Agro-based Entrepreneurs.

	Male Entrepreneurs				*Female Entrepreneurs*			
Loan Size	Freq	Total amt Applied For	Total amt Received	% of Applied Received	Freq	Total amt Applied for	Total amt Received	% of Applied Received
≤ 50,000	2	87,000	62,730	72.10	15	635,000	502,400	79.12
51,000 – 100,000	12	945,000	714,000	75.56	25	1,875,000	1,250,000	66.67
101,000 – 150,000	20	2,670,000	1,785,080	66.85	10	1,380,000	988,700	71.64
151,000 – 200,000	11	2,035,000	1,029,100	50.57	5	880,000	710,900	80.78
201,000 – 250,000	8	1,920,000	1,105,000	57.55	3	705,000	554,000	78.58
251,000 - 300,000	4	1,112,000	858,000	77.16	2	540,000	490,300	90.79
> 300,000	3	1,270,000	860,450	67.75	0	0	0	0
Total	**60**	**10,039,000**	**6,414,360**	**63.89**	**60**	**6,015,000**	**4,496,300**	**74.75**

Source: Field Survey, 2017.

The F-values of 73.050 and 77.32 for male and female respectively indicate that the overall equations were highly significant at ($p<0.01$) while Durbin-Watson (DW) values of 2.882 for male and 2.915 for female entrepreneurs signifies the absence of autocorrelation. Out of the 7 explanatory variables specified in the model, 5 significantly influence the performance of the male and female agro-based entrepreneurs. The significant variables include loan received, membership of cooperative, interest rate, net worth and borrowing experience for male agro-based entrepreneurs while education, amount of loan received, cooperative, interest rate, net worth and borrowing experience for the female agro-based entrepreneurs.

Amount of loan received was highly significant ($p<0.01$) and positively related to performance of the male and female agro-based entrepreneurs respectively. This is expected as higher loan acquisition by the farmers results into higher performance in their agro-based entrepreneurs. This is because, amount of loan received suggests level of capital available for the farm enterprise. Capital is one of the important factors that positively influence performance and economic efficiency of farmers.

The coefficient of membership of cooperative society was positive and significantly influence the performance of male and female agro-based entrepreneurs at $p<0.01$ and $p<0.05$ levels of probability respectively. Although, there is strong relationship between membership of cooperative and performance of male than their female counterpart. The implication of the positive relationship is that, agro-based entrepreneurs that belong to cooperative society had higher performance (net profit) than those that are not members of cooperative group. The formation of the agro-based entrepreneurs into functional cooperative societies could have help them have better access to loan facilities, relevant farm inputs at subsidized rates, market information and channel that will enhance their performance and net profit. Watson (2002) added that there are indications that institutional arrangements such as the cooperative membership is a critical factor in the performance of small and medium scale enterprise. Interest rate on loan facilities was highly significant at $p<0.01$ but negatively related with performance of both male and female agro-based entrepreneurs. This shows that increase in interest rate on loan restricts the performance and net profit of borrowers.

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

Table 2: Determinants of Performance of Male and Female Small Scale Agro-Based Entrepreneurs.

	Male Entrepreneurs				Female Entrepreneurs		
Variables	**Linear{+}**	**Semi-Log**	**Double-Log**	**Exponential**	**Linear{+}**	**Semi-Log**	**Double-Log**
CONSTANT	199.525	8.333	16.160	53.522	2.225	8.139	14.190
	(3.498)***	(18.861)***	(6.625)***	(3.329)***	(3.712)***	(18.767)***	(5.431)***
Enterprise age	109.241	-0.205	0.715	6.658	8.992	0.012	1.059
	(0.956)	(-0.453)	(1.504)	(8.354)***	(1.501)	(1.159)	(2.532)**
Education	95.704	0.510	0.036	-44.177	1.403	0.018	0.031
	(0.972)	(0.520)	(1.751)*	(-1.984)*	(2.509)**	(1.006)	(1.620)
Loan Received	0.337	6.240	-0.736	-0.108	0.402	1.093	-0.771
	(4.811)***	(0.978)	(-2.648)**	(-0.603)	(5.937)***	(0.297)	(-2.897)**
Cooperative	0.497	1.283	1.685	86.718	1.022	1.432	1.771
	(5.419)***	(6.391)***	(7.611)***	(1.506)	(1.675)**	(7.217)**	(8.235)**
Interest rate	-182.120	0.290	-0.784	62.698	-12.294	0.320	-0.804
	(-8.368)***	(2.009)**	(-4.952)***	(1.506)	(-9.243)***	(2.578)**	(-5.126)***
Net worth	160.800	0.354	-0.881	-7.609	25.949	0.201	0.760
	(2.109)**	(1.530)	(-1.337)	(-1.140)	(2.700)**	(0.975)	(1.270)
Yrs of Experience	9.352	0.156	0.650	3.703	3.726	0.128	0.499
	(4.371)***	(4.622)***	(3.183)***	(1.221)	(2.233)*	(3.930)***	(2.503)**
R^2	0.908	0.801	0.719	0.629	0.912	0.813	0.744
Adjusted R^2	0.989	0.774	0.681	0.538	0.901	0.788	0.709
F – Value	73.050	29.891	18.986	9.432	77.317	32.350	21.561
Durbin-Watson	2.882	2.931	2.484	1.920	2.915	2.980	2.642
Observation	60	60	60	60	60	60	60

Note: Figures in parentheses are t-ratios.
*** denotes sig. at 1%; ** denotes sig. at 5% while * denotes sig. at 10%
{+} is the lead equation based on fitness.
Source: Field Survey, 2017

Table 3: Determinants of Performance of Small Scale Agro-Based Entrepreneurs (Pooled Data)

Variables	**Linear**	**Semi-Log**	**Double-Log {+}**	**Exponential**
CONSTANT	14.337	8.244	35.952	3.654
	(3.772)***	(27.328)***	(6.303)***	(3.883)***
Gender	4.185	-0.141	0.970	-55.706
	(2.249)*	(-0.051)	(2.882)**	(-1.719)
Age of Enterprise	74.326	0.024	1.816	7.430
	(0.956)	(0.433)	(5.418)***	(2.103)**
Education	22.768	0.115	0.037	0.251
	(1.488)	(1.180)	(0.955)	(3.535)***
Loan Received	0.278	4.085	1.609	1.151
	(4.664)***	(0.736)	(6.539)***	(1.973)
Cooperative	0.430	1.348	2.606	3.308
	(7.702)***	(6.832)***	(0.529)	(0.231)
Interest rate	-15.484	0.183	-0.938	51.552
	(-9.791)***	(2.823)**	(-9.145)***	(0.973)
Net worth	88.162	0.321	3.093	8.622
	(1.389)	(1.394)	(0.113)	(1.032)
Years of Experience	9.964	0.141	0.581	1.810
	(8.184)***	(5.946)***	(4.638)***	(0.980)
R^2	0.913	0.803	0.926	0.721
Adjusted R^2	0.906	0.789	0.890	0.697
F – Value	145.138	56.725	148.155	26.543
Durbin-Watson	2.951	2.862	2.443	2.0650
Observation	120	120	120	120

Note: Figures in parentheses are t ratios.
*** denotes sig. at 1%; ** denotes sig. at 5% while * denotes sig. at 10%
{+} is the lead equation based on fitness.
Source: Field Survey, 2017

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

The net worth of male and female agro-based entrepreneurs was significant at $p<0.05$ and positively influence the performance of the entrepreneurs in terms of gross margin respectively. The implication of the positive relationship suggests that as the net worth of agro-based entrepreneurs increases, their performance in terms of their net profit also increase. Barbosa and Moraes (2004) observed that SMEs owners/entrepreneurs that invest heavily in tangible assets tend to have higher financial leverage since they can borrow at lower interest rates if their debt is secured with such assets. Afolabi (2013) and Olukayode and Somoye (2003) reported that interest rate have indirect relationship with the growth of small scale enterprises.

Years of experience was highly significant and positively influence the performance of the male at $p<0.01$ and female agro-based entrepreneurs at $p<0.10$. Hence, as the years of borrowing experience increase, there is likelihood for increase access to credit facilities from lending institutions which results to higher performance and net profit of the borrowers. Makate (2014) found that variables such as age of firm, experience in trade, type of metal products produced, price determination method, grading of products contracting with business clients and collective action in business are considerably related to performance. Rosli, (2011) and Maes, et al. (2005) noted that experience of owner influence performance of the entrepreneurs. Smart (2013) reported that number of years of loan borrowing experience of both male and farmers influenced their income which also measures their performance.

The coefficient of education was significant and positively correlated with performance of female agro-based entrepreneurs at $p<0.05$ but not significant for male agro-based entrepreneurs. This indicates that as the level of education of the female agro-based entrepreneurs increases, their net profit also increases. This is expected as educated farmers are expected to be more efficient in farming for increase profit than illiterate farmers. Adeoye and Balogun (2016) in a study found that age, education status of farmers and access to credit significantly influence efficiency of cucumber farmers in Oyo State. Xaba and Masuku (2013) equally found that education significantly influence the profitability of vegetable production.

Determinants of Performance of the Small Scale Agro-Based Entrepreneurs (Pooled Data)

Table 3 presents the pooled data of the regression analysis of factors influencing small scale agro-based entrepreneurs' performance. The linear functional form also had the best fit for the pooled data with R^2 valve of 0.926. The R^2 value of 0.926 indicates that the significant variables are responsible for about 93% variation in performance (net profit) of the agro-based entrepreneurs. The F-value of (148.155) indicates that the overall equation was highly significant at ($p<0.01$) while Durbin-Watson (DW) of 2.443 implies the absence of autocorrelation. Out of the 8 explanatory variables specified in the model, 5 significantly influence the performance of the agro-based entrepreneurs based on their gross margin. The significant variables include: gender, being member of cooperative, loan received, interest rate and experience. Gender of the agro-based entrepreneurs was positive and significantly influence performance in terms of net profit at $p<0.05$ level. The implication of the significant and positive relationship between gender (male 1 and female 0) is that, male agro-based entrepreneurs had higher net profit than their female counterparts. Onugu and Uzondu (2015) while estimating the socio-economic determinants of the performance of small and medium scale enterprises of cooperative members in Onitsha Metropolis, Anambra State found that the socio-economic characteristics such as sex, age and education influenced significantly the performance and access of SMEs. The finding agreed with that of Xaba and Masuku (2013) who found that gender is one of the factors that significantly affect productivity in Swaziland.

The coefficient of Age of enterprise was significant at ($p<0.01$) and positively related with the performance of agro-based entrepreneurs. This implies that, as the age of the enterprises increases, there is corresponding increase in the performance of the entrepreneurs. The coefficient of amount of loan received was significant and positively related to performance of agro-based enterprises in Akwa Ibom State. Majumder and Rahman (2011) reported that, large size credit amount which is characteristic of formal loans enhance performance through economies of scale occasioned by larger credit amount.

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

Interest rate was highly significant but negatively correlated with performance of agro-based entrepreneurs. This conforms with a priori expectation as the increase in interest rate on loan reduces the income, performance and net profit of borrowers. The findings of this study supported that of Atieno (2001) who carried out a study and found that interest rate negatively affected income of small scale farmers. Years of borrowing experience was positive and significantly influences performance (net profit) of agro-based entrepreneurs in Akwa Ibom State. The finding of this study is in line with the result of the study of Effiong, Enyenihi and George (2014) who in a study found that there is positive relationship between farming experience and farm output. In addition, the findings of this study supported that of Makate (2014) on determinants of small to medium enterprises (Smes) performance in the Zimbabwean informal metal fabrication where the author found that variables such as age of firm, experience in trade, type of metal products produced, price determination method, grading of products contracting with business clients and collective action in business are considerably related to performance.

Effect of Level Credit Access on Performance of Agro-based Entrepreneurs

Pearson Moment Correlation coefficient (r) was used to measure the strength and direction of the relationship that exists between access to credit and performance of male and female agro-based entrepreneurs in Akwa Ibom State as presented in Tables 4 and 5.

Table 4: Pearson Moment Correlation of the Extent to which Credit Access Affect the Performance of Male Small Scale Agro-based Entrepreneurs

Table 4: Pearson Moment Correlation of the Extent to which Credit Access Affect the Performance of Male Small Scale Agro-based Entrepreneurs

		Credit Access	Performance
Credit Access	Pearson Correlation	1	**0.820**
	Sig. (2-tailed)		.000
	N	60	60
Performance	Pearson Correlation	**0.820**	1
	Sig. (2-tailed)	.000	
	N	60	60

Source: Field Survey, 2017

Table 4 presents the result of Pearson Product-Moment correlation coefficient between male agro-based entrepreneurs' access to credit and performance. The correlation coefficient (r) between access to credit and performance was 0.820. This indicates that access to credit predicted about 82% of performance of male agro-based entrepreneurs in Akwa Ibom State. Therefore, there is strong and positive relationship between access to credit and performance of male agro-based entrepreneurs. Nimoh, Addo and Tham-Agyekum (2011) reported that the performance of the industry in Urban and Periurban Kumasi was measured based on the net profit obtained by the farmers as presented in their records in using formal credit in financing their farming operations. Important considerations of formal credit include amount obtained by the farmers, the requirements to obtain such credit and how the amount obtained should be utilized.

Table 5: Pearson Moment Correlation of the Extent to which Credit Access Affect the Performance of Female Small Scale Agro-based Entrepreneurs

		Credit Access	Performance
Credit Access	Pearson Correlation	1	**.856**
	Sig. (2-tailed)		.000
	N	60	60
Performance	Pearson Correlation	**.856**	1
	Sig. (2-tailed)	.000	
	N	60	60

Table 5 revealed that the correlation coefficient (r) between access to credit and performance of female agro-based entrepreneurs was 0.856. This signifies that the access to credit predicted about 86% of performance of female small scale male agro-based entrepreneurs in Akwa Ibom State. The higher correlation coefficient for female agro-based entrepreneurs than their male counterparts suggests that female farmers are more efficient in transforming credit accessed to performance than males. The transcend Emmanuel and Kaye (1996) has used more diverse measure of performance such as: survival, sales volume, growth, profit margin, capital employed, credit access, numbers of employees. Du Rietz and Henrekson (2000), has been used four performance indicators (profit, sales, number of employees and order or commission) while testing female underperformance in small firms using Swedish data.

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

Conclusion

The study investigated gender differentials in the performance of small scale agro-based entrepreneurs in Akwa Ibom State, Nigeria. From the gender desegregated data collected and analysed, the study found that male agro-based entrepreneurs have better access to credit facilities than their female counterparts. In addition, result showed that gender of agro-based entrepreneurs significantly influenced performance in favour of male. Other variables such as membership of cooperative, loan received, interest rate and experience also significantly influenced the performance of agro-based entrepreneurs. Access to credit has very strong and direct relationship with performance of male and female agro-based entrepreneurs. Based on the findings, the study therefore recommended the following policy option:

i. Female agro-based entrepreneurs should be more economically empowered by relevant government agencies and NGOs for enhanced performance in agricultural production. Micro Finance Banks (MFBs), Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB), Agricultural Credit Guarantee Scheme Fund (ACGSF) should be reengineered to provide necessary support to women farmers, recognizing the fundamental role they play in Nigerian agricultural sector.

ii. Ministries of agriculture and women affairs should be more committed to formulating gender sensitive policies that will help to strengthen female agro-based entrepreneurs and reverse their present institutional neglect and disadvantaged position in accessing credit facilities and loans.

iii. Education is an important factor influencing accessibility to formal credit and performance of agro-based entrepreneurs for economic growth and development. Therefore, there should be appropriate educational training packages for agro-based entrepreneurs that will result in their milestone performance for increased agricultural productivity, high repayment rate and enhanced contribution of agriculture to overall gross domestic products (GDP).

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