

## **DETERMINANTS OF DECISION TO NON-FARM ENTREPRENEURSHIP BY WOMEN FARMERS IN IKWUANO LGA OF ABIA STATE**

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**ABSTRACT:** *Recent years has witnessed numerous Government efforts to boost agricultural production in Nigeria. A key input to achieve this is credit. In the face of formal credit acquisition bottlenecks, there is need to shift attention to non-farm entrepreneurship, as income made in this sector could be invested in agriculture. This study analyzed determinants of decision to non-farm entrepreneurship by women farmers in Ikwuano Local Government Area of Abia State. Multistage random sampling technique was employed in the selection of 120 respondents for the study. Analytical tools utilized, were frequency distribution tables, percentages, means and probit regression model. The probit regression analysis revealed that age, household size, primary occupation, farm income, access to credit, farming experience and membership of cooperative societies were significant determinants of women farmers' decision to embark on non-farm enterprise at varied signs and levels of significance. The women were constrained from embarking on non-farm business by lack of startup capital (43.33%), inadequate credit access (35.00%), and land procurement barriers (31.67%). In line with findings, it is recommended that individual women farmers should be advised and encouraged to form and or join co-operative societies so as to be better positioned to receive credit and evaluate business improvement and productivity information.*

**KEYWORDS:** Decision, Non-Farm Entrepreneurship, Farm Income

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## **INTRODUCTION**

Due to rapidly increasing population in Africa, more and more pressure is exerted on arable land. Therefore many households are no longer able to live on agriculture alone but also engage in non-farm entrepreneurship activities. (Oseni and winters, 2009). There is mounting evidence that non-farm income (income derived from wage paying activities and self-employment in commerce, manufacturing and other services) is an important resource for farm and other rural households and urban residents (Lanjouw and Lanjouw, 2001). Women use their non-farm income to finance farm investment, to self insure or purchase cash inputs for agricultural production (Reardon *et al*, 1994; Ellis, 1998; Barret *et al.*, 2001; Davies *et al.*, 2002; Reardon *et al*, 2006). Oseni and Winters (2009) posted that the surplus cash generated from non-farm enterprise directly influences the purchase of agricultural inputs.

World Bank (2005) mentioned the significant roles women play in economic development. West African women play important role as farmers, traders and entrepreneurs, and these

roles are of central importance to their families and the economy of West Africa. However, the degree of women participation in non-farm enterprise and farm enterprise vary according to customs in different regions and countries. In sub-Saharan Africa, women produce 80.0% of basic food stuffs. In Nigeria, women produce about 60.0% - 80.0% of agricultural food in the country. They direct their earnings to meet the needs of their families. The rural women combine their roles as wives, mothers, housekeepers with their invaluable tasks as farmers, farm labourers etc. They work longer hours at home and in farms using labour intensive and primitive farm implements for output and income generation (Nnonyelu, 1997).

Incentives and capacity for undertaking non-farm enterprise may diverge; thus resource poor women farmers may very well have strong incentives to participate in rural non-farm enterprise but lack the financial or technical capacity to do so because of various constraints. Incentives to participate in rural non-farm enterprise differ according to women's wealth (Escobal, 2001). Thus, decisions made by women concerning the farm and extent of their involvement in non-farm enterprise (either starting enterprise or entering the wage labour market) may be constrained due to inadequate capital and formal education (Oko, 2005). In Nigeria, agriculture has historically been dominating the economy. The leading role of the agricultural sector was reflected earlier in government policies as development programs and intervention policies focus mainly on the agricultural sector. As observed in developing countries, most efforts of the local government to develop rural growth corresponded with policies focused solely to enhance farm productivity or increase employment in agriculture (Escobal, 2001; Woldenhanna, 2002).

Various studies, Jacques, (2012); Kavitha *et al.*, (2008); Mohammad and Paria, (2011) and Paula and Wim (2004) have been done on entrepreneurship, more specifically Kavitha *et al.*, (2008) studied motivational factors that affect women entrepreneurial decision in Malaysia. However, none of these studies determined the socio economic characteristics of women farmers that influenced their decision to embark on non-farm entrepreneurship. This paper seeks to fill this obvious research gap in literature. Ikwuano L.G.A of Abia State is an agricultural community as well as non-agricultural community. Women in Ikwuano L.G.A of Abia State are known to participate in both farm and non-farm enterprises. Any study aimed at improving their decision to engage in non-farm enterprises could also help to boost their farm income generation. Specifically the objectives of this study is to: (i) describe socio-economic characteristics of women farmers engaged in non-farm enterprise in the study area; (ii) determine factors that influence women farmers decision to embark on non-farm enterprise in the study area and (iii) identify problems constraining women farmers from embarking on non-farm enterprises in the study area.

## METHODOLOGY

### Study Area

The study was carried out in Ikwuano local government area (LGA) of Abia state. Ikwuano local government area was created out of the defunct Umuahia LGA on the 27<sup>th</sup> of august 1991 and has its headquarters at Isiala Oboro. The L.G.A is located between latitudes 5° 24' N and 5° 30' N of the equator and longitudes 7° 32' E and 3° 37' E of the Greenwich Meridian. Ikwuano L.G.A has a population of 137,993 people which comprise of 61,945 males and 71,020 females (NPC, 2006).

Major occupation of the people is farming. The major food crops grown are cassava, yam, melon, vegetable, three-leaf yam and cowpea. Some important cash crops grown in Ikwuano LGA are oil palm and cocoa, while animals reared are goats, sheep, pigs and poultry.

### Sampling Technique

The population for this study was made up of women farmers in the study area. Multistage random sampling technique was used for this study. First, three autonomous communities (Amaoba Ime, Ariam Usaka-Ukwu and Oboro) were randomly selected from the twenty eight (28) autonomous communities in Ikwuano L.G.A. Four villages were randomly selected from each of the three communities, thus, giving a total of twelve villages. Lastly, ten women farmers were randomly selected from each of the 12 villages to give a sample size of 120 respondents.

### Data Collection

Data for this study was obtained from primary source. The primary data was obtained through administration of a well-structured questionnaire. The questionnaire was used to elicit information on selected socio-economic variables of the respondents. Secondary sources of information were collected from published and unpublished literatures such as journals, theses, newspapers, magazines, annual reports of some agricultural establishments, textbooks and internet.

### Analytical Tools

Objectives (i and iii) were analyzed using descriptive statistics such as means, frequency distribution tables and percentages. Objective (iii) was analyzed using probit regression model.

### Model Specification

The probit regression model is appropriate when the response takes one of only two possible values representing presence or absence. This is expressed as in Gujarati (2003).

$$[F_{Zi}] \dots \dots \dots (1)$$

Where

$$z_i = \beta_0 + \beta_1 X_i$$

$$Y_i = \beta_1 + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \mu \dots \dots \dots (2)$$

$Y^*$  is unobserved but  $Y_i = 0$  if  $y_i^* = 1$  if  $Y_i^* \geq 0$

$$P(Y_i = 1) = P(Y_i^* \geq 0)$$

$$P(\mu_i \geq -\beta_1 - \beta_2 X_{2i} \dots - \beta_k X_{ki}) \dots \dots \dots (3)$$

Where  $i = 1, 2 \dots (120 \text{ respondents})$

Where  $Y_i$  = women decision for non-farm enterprise. (Dichotomous dependent variable 1=yes, 0=No)

$\beta$  = A factor of unknown coefficients.

$x_1$  = age (years)

$x_2$  = level of education (years)

$x_3$  = household size (number) farming experience (years)

$x_4$  = spouse educational level (years)

$x_5$  = primary occupation (Farming =1, otherwise = 0)

$x_6$  = farm income (₦)

$X_7$  = access to credit (yes =1, no = 0)

$X_8$  = farming experience (years)

$X_{10}$  = farm size (hectares)

$X_{11}$  = membership of cooperative society (member=1, otherwise=0)

## RESULTS AND DISCUSSION

### Socio Economic Characteristics of the Respondents

The distribution of the women farmers according to socio economic characteristics is shown in Table 1. From the Table results it can be adduced that 39.16% of the women farmers were within the age range of 21-30 years, while 30.83%, 22.50% and 9.75% of them were within the age range of 31-40 years, 41-50 years; and above 50 years respectively. This is an indication that the women in the study area were mostly middle aged entrepreneurs. The mean age of the women farmers was 34.92 years. The implication is that they are energetic and within the active productive work force. This finding refutes Davidson (1991) who inferred that increasing quest of an individual to be an entrepreneur stems from the general need of older individuals to earn additional income to support the cost of living (i.e., support domestic burden and pay for mortgage). However, it conforms to Miller (1984), who reported that younger people choose off-farm entrepreneurship as they are more energetic and more likely to combine farm and off-farm projects.

In terms of marital status, 55.0% of the women farmers were married, while 39.17% of them were single. Also 5.0% and 0.8% of the respondents were widowed and divorced respectively. This means that the married women were more involved in off-farm entrepreneurship in the study. Married women are usually involved in off-farm business because of the need to supplement family means of livelihood (Anyiro and Emerole, 2013). However, married women with children may not be relieved of some filial responsibilities and may not therefore be able to devote more time to the day to day obligations of non-farm entrepreneurship.

Table 1 also shows the distribution of the women farmers according to household size. A moderate proportion (50.0%) of the women farmers had household sizes of between 5-8 members, while 42.5% and 7.5% of them had between 1-4; and 9 and above persons respectively. The mean household size was 4.52 members. This result indicates that these respondents have moderate family sizes. This has implications on labour supply to the business. This may justify the need to augment family labour with hired labour. In the absence of well-functioning labor markets, smaller households face higher labor bottlenecks at critical points in their business (Ezeh *et al.*, 2012; Osondu and Ibezim, 2013).

The Educational level of the women farmers in Abia State as displayed in Table 1 reveals that a fair proportion (43.33%) of the women had secondary school education while 7.50% of them had no formal education. However, 92.50% of the women farmers in the study area were literate with divers' formal educational levels ranging from primary school education to tertiary education. Literacy (ability to read and write) would enable the women farmers to better utilize effectively and efficiently available resources in the area and curtail frivolous spending. As expected, higher education would enhance improved business ideas, skills, innovation and managerial ability for business sustainability. This result is in agreement with Nwibo and Okorie (2013) that as an individual increases his educational attainment, his

entrepreneurial quest and skill increase, thus expanding his knowledge base which makes him alert to new opportunities, and increase the opportunity cost of being self-employed.

The distribution of the women farmers according to their primary occupation as shown in Table 1 The Table shows that 35.00% of the women primary occupation was trading, 31.67% were farmers, 21.67% were public servants while 11.67% were artisans, this implies that, a good proportion (68.33%) of the respondents main source of income was non-farm sources. This finding further highlights the growing importance of the non-farm sector. Due to rapid migration over the years from rural (farm sector) to urban centers (non-farm sector) the number of people who are engaged primarily on farming have declined (Osondu *et al.*, 2013). According to them the reason for this trend could be traceable to the difference in relative opportunity cost of labour in farm and non-farm sector.

Table 1 shows that 45.83% of the women in the study area received credit for their off farm business enterprise while a good proportion (54.17 %) of them had no access to credit. Inadequate capital is a major problem confronting small-scale enterprises in Nigeria. However, lack of access to credit facilities constitutes a constraint in purchasing raw materials and other enterprise inputs. Meanwhile, access to credit is regarded as one of the key elements in raising productivity (Anyiro and Oriaku, 2011). The table shows that a good proportion (56.67%) of the women farmers had farm size of less than 1 hectare, while 21.67% of them had farm land of between 1-2 hectares. The mean farm size of the respondents was 1.64 hectares. This is a clear indication that the women farmers in the area are mostly small scale farmers. This result which is quite a popular finding among previous studies (Abdulai and Delgado, 1999; Woldehanna and Oskam, 2001; Bedemo *et al.*, 2013) confirms that rural households with small landholding and farm output which is the case among majority of women in the study area depend on the opportunities in the off-farm sector to escape poverty by supplementing income from the farm.

Table 1 further shows that 78.33% of the women farmers had farming experience of between 1-10 years. Also 16.67% of the respondents had between 11-20 years of farming experience, while 10.0% of them had farming experience of between 21-30 years. The mean farming experience was 7.75 years. This indicates a relatively high farming experience in the study area. This could be explained by the fact that farmers who were highly experienced in farming and most likely older farmers are not very active economically to seek non-farm enterprise investment opportunities. They therefore prefer to depend on farming only (Korir *et al.*, 2013). The table also reveals that majority (74. 17%) of respondents had monthly income of less than ₦50, 000 and were classified as low income group. Also, 20.83% of the respondents had monthly income of between ₦51, 000 - ₦100, 000. These were grouped as middle income class while 5.00% of them had monthly income of above ₦100, 000. These were grouped as the high income class and comprised solely the big business women. These classifications were based on Okorji, (1999) and Ezech, (2007). The mean annual income of the women farmers was ₦32, 587.5. The income status of the respondents has implication for decision, choice of off-farm business enterprise as well as sustainability of the enterprise. Nwibo and Alimba (2013) noted that income level of an individual plays a great role in shaping the type of enterprise to venture into. This finding is justified on the ground that supply of inputs, labour and day to day running of the business is capital intensive and as such requires steady flow of income for business sustainability.

**Table 1: Socio-economic Distribution of the Women Farmers engaged in off-farm entrepreneurship in Abia State**

Socio-economic Variables	Frequency	Percentage
<b>Age (years)</b>		
21 – 30	47	39.16
31 – 40	37	30.83
41 – 50	27	22.50
Above 50	9	7.50
Mean: 35		
Standard deviation: 9.37		
<b>Marital status</b>		
Single	47	39.17
Married	66	55.00
Widowed	6	5.00
Divorced	1	0.83
<b>Household size</b>		
1-4	51	42.5
5-8	60	50.0
Above 8	9	7.5
Mean: 5	4.52	
Standard deviation: 3.23	3.23	
<b>Educational Level</b>		
No formal Education	9	7.50
Primary Education	24	20.00
Secondary Education	52	43.33
Tertiary Education	35	29.17
<b>Primary Occupation</b>		
Farming	38	31.67
Public servant	26	21.67
Traders	42	35.00
Artisans	14	11.67
<b>Access to credit</b>		
Yes	55	45.83
No	65	54.17
<b>Farm size (ha)</b>	Frequency	Percentage
<1	68	56.67
1-2	26	21.67
3-4	26	21.67
<b>Years of farming experience</b>		
1-10	94	78.33
11-20	14	16.67
21-30	12	10.00
Mean: 8		
Standard deviation: 6.94		
<b>Monthly Income Level</b>		
Low (Below ₦ 50, 000)	89	74.17
Medium (₦ 50, 000-₦ 100, 000)	25	20.83
High (Above ₦ 100, 000)	6	5.00
Mean : 32587.5		
Standard deviation: 63729.9		
Total	120	100.00

Source: *Field survey data 2014***Factors Influencing Women Decision to Embark On Non-Farm Enterprise**

The probit regression model of the factors influencing women decision to embark on non-farm enterprise in Abia State Nigeria is presented in Table 2. Overall, the model predicted 69.64 percent of the sample correctly and posted a log likelihood value of -62.333253 and a goodness of fit chi-square value of 66.39 which was statistically significant at 1.0% level. In the model, seven out of ten explanatory variables were statistically significant at given levels and these are the coefficient of age, farming experience, access to credit, farm income,



household size primary occupation and membership of cooperative society. The positive sign on the variable's coefficient indicates that higher values of the variable increase women decision to embark on non-farm enterprise.

Specifically, the coefficient (-0.0261776) of age was negative and statistically significant at 90.0% confidence level. The sign is not in conformity with a priori expectation. This implies that age has an indirect influence on the decision of the women farmers to embark on entrepreneurship in off-farm enterprise increase in age of an entrepreneur decreases her desire and quest to be an entrepreneur. This finding refutes Davidson (1991) who inferred that increasing quest of an individual to be an entrepreneur stems from the general need of older individuals to earn additional income to support the cost of living (support domestic burden and pay for mortgage). However, this result conforms to Miller (1984), who reported that younger people choose entrepreneurship as they are more likely to enter riskier projects. Ibrahim and Srinivasan (2013) supported this assertion that rural households' likelihood to participation in off-farm activities decreases as they grow older. This outcome may be due to the fact that older women are more rigid and have lesser flexibility to enhance their participation in off-farm enterprise

The coefficient of household size to (-0.1102986) was significant at 5.0% alpha level and had a negative effect on women farmers' decision to embark on off farm entrepreneurship. Unlike alternative off-farm activities, majority of the self-employment activities are managed by the household heads and require more of starting capital and entrepreneurial experience than additional labour made possible by the increase in household size. Also, the availability of members of the extended family which is the case in most rural households in Nigeria, provide the extra care and attention needed for the additional number of dependants, hence is not surprising that it had negative effect on decision for off-farm enterprise. This result is dissimilar to the one obtained by Bedemo, *et al.*, (2013) who reported that household composition has an insignificant effect of on farmers' decision to embark on entrepreneurship in off-farm enterprise.

The coefficient of primary occupation (-0.6358598) was negative and statistically significant at 5.0% probability level. The sign of the variable is in tandem with a priori expectation. The implication is that being a farmer (farming as primary occupation) will reduce entrepreneurship decision for off-farm enterprise. Women who are primarily involved in farming activity devote their time to this activity, hence less likely to engage in non-farm enterprise activities. This study found that the prevalent types of non-farm enterprise in the study area required direct day to day running of the business and might be difficult for the women farmers to combine both enterprises, hence may not stir decision to embark on off-farm enterprise. This result is not quite a popular finding among previous studies (Abdulai and Delgado, 1999; Woldehanna and Oskam, 2001; Bedemo *et al.*, 2013) that rural women farmers with small landholding and farm output which is the case among majority of women in the Nigeria depend on the opportunities in the off-farm sector to escape poverty by supplementing income from the farm.

The coefficient (0.2760421) of farm income per capita was significant and positive. The marginal effect value for farm income per capita was statistically significant at the 1.0% level. This implies that an increase in farm income of the women farmers will stir up their decision to embark on non-farm enterprise. This corroborates Bohacek (2006) who inferred

that wealth possessed by the individuals provides a degree of security for entering self-employment and helps them to ease their credit constraints. Thus, women with higher levels of income have a higher tolerance for risk. Hence, they are most likely to be business owners. Limited financial resources at the disposal of women farmers act as barriers to entry into non-farm enterprise investments. The fact that farm income determines participation in non-farm entrepreneurship implies that entry into lucrative non-farm enterprise could be more difficult for the poor households with little income. This could increase inequality where the poor are exposed to higher risks due to dependence on limited sources of income. This outcome echoes the findings of Oseni and Winters (2009) who reported in their studies in Nigeria that households with increased farm income are more likely to diversify in off-farm income generating activities, hence undertake off-farm work.

Contrary to *a priori* expectation, the coefficient of access to credit (-0.5817876) was significant at 10.0% alpha level of probability and had a negative effect on women farmers' decision to embark on off farm entrepreneurship. The sign of the variable is at variance with normal expectation. It implies that women farmers' decision of taking entrepreneurship in off farm enterprise decreases with access to credit. The result is not in agreement with by Barret *et al.*, (2001), who reported that households with access to credit facilities would more likely diversify outside agriculture to reduce risk. The result revealed that women farmers in the study area might have spent most of their sourced credit on consumption and investment in farm related activities, rather than off farm entrepreneurship.

The coefficient (-0.715352) of years of experience in farming had a statistically significant and negative effect on the probability of embarking on non-farm enterprise. This suggests that engagements in non-farm enterprise are easy for women farmers within some range of years of experience in farming, beyond which this engagement reduces. This could be explained by the fact that women farmers who are highly experienced in farming tend to invest more of their time and financial resource in it. Hence, they have little or no resource to invest in off-farm enterprises. They therefore prefer to depend on farming only. Thus implying that as individuals increase their farming experience through training and learning, their quest to be an entrepreneur decreases. This affirms the earlier finding of Bosma, *et al.*, (2009) who deduced that having had experience in a particular sector increases the probabilities of becoming an entrepreneur in such enterprise. The marginal effect value for years of experience in farming was statistically significant at 1.0% significance level.

Membership of cooperative society gave a positive coefficient (0.5326133) and was significant at 10.0% alpha level, indicating that being a member of cooperative society increases probability for entrepreneurship decision in off-farm enterprise among the women farmers. The sign identity of this variable conforms to *a priori* expectation. This presupposed that membership of cooperative society aids in receiving and evaluating information for business improvement and productivity (Ajagbe *et al.*, 2007).



**Table 2: Binary Probit Regression Coefficients of Factors Influencing the Decision of Women Farmers for Entrepreneurship in off-farm Business Enterprise in IKwuano LGA of Abia State, Nigeria**

Variable	Estimated coefficients	Standard errors	Z	P> z
Age	-0.0261776*	0.0160744	-1.67	0.103
Educational level	0.0045142	0.1693254	0.03	0.979
Household size	-0.1102986**	0.0465268	-2.37	0.018
Spouse education level	-0.0934318	0.0708412	-1.32	0.188
Primary occupation	-0.6358598**	0.3001245	-2.12	0.034
Farm income	0.2760421*	0.1498301	1.84	0.065
Access to credit	-0.5817876*	0.3889905	-1.50	0.135
Farming experience	-0.715352***	0.1616211	-4.43	0.000
Farm size	-0.0640065	0.1087731	-0.59	0.556
Cooperative society	0.5326133*	0.2761284	1.93	0.054
Number of observations at one:				
79				
Number of observations at zero:				
41				
Log likelihood: -62.333253				
Wald chi2 = 66.39				
Cases predicted correctly (%):				
69.6				
Pseudo R <sup>2</sup> :0.1504				

*Source: Field survey data, 2014.*

\* Significant at 10.0% level

\*\* Significant at 5.0% level

\*\*\* Significant at 1.0% level

**Women Farmers' Constraints from Embarking on Non-farm Enterprises**

Table 3 shows the constraints hindering women from embarking on non-farm enterprises in Abia State. The Table reveals that inadequate start-up capital (43.33%) was the major constraints that have militated against women from embarking on non-farm enterprise in the study area. Other serious constraint identified by the respondents is lack of access to credit (35.0%). Access to credit have been identified as a serious in off-farm business sector start up especially in the case of self-employment activities in developing economies like Nigeria where the credit market is undeveloped. Land procurement issue was identified (31.67%) as a problem facing women in off-farm business. Access to land is still mediated via patrilineal systems (Aluko and Amidu, 2006), in spite of the intentions of the 1978 Land Use Act. User rights often follow marriage, inheritance or borrowing. Land access is severely curtailed by the way land is inherited, owned and passed on by men to their male descendants in most patrilineal ethnic groups, especially in Eastern Nigeria. The table also revealed that 22.5% of the women complained of Identification of off-farm business-enterprise, while others complained of inadequate social amenities such as electricity (25.83%), water (20.83) and inadequate reliable public transport/roads (31.67%) as a constraint.

In fact, there is a strong case for arguing that without capital, credit and complementing public infrastructure (roads, bridges, electricity, water), It is difficult to see how women farmers could diversify to non-farm enterprise and generate incomes that can sustain an adequate livelihood (Durno and Stuart 2005; Hoddinott, 1998; Anyiro and Oriaku, 2011; Ezech *et al.*, 2012).

**Table 3: Constraints of Decision to Embark on Non-Farm Entrepreneurship in Abia State**

Constraints	Frequency*	Percentage
Inadequate capital to start up non-farm business	52	43.33
Lack of access to credit	42	35.00
Identification of off-farm business-enterprise	27	22.50
Land procurement issues	38	31.67
Water availability	25	20.83
Inadequate electricity	31	25.83
inadequate reliable public transport/roads	38	31.67

**Source:** Field survey data, 2014

\* Multiple responses recorded

## CONCLUSIONS AND RECOMMENDATIONS

From the study, it is revealed that age, household size, primary occupation, farm income, access to credit, farming experience and membership of cooperative society had a significant influence at varied levels and signs on women farmers' decision to embark on non-farm enterprise. Based on principal findings of this study, the following recommendations are made; (i) Individual women farmers should be advised and encouraged to form and or join co-operative societies so as to be better positioned to receive credit and evaluate business improvement and productivity information.

(ii) The consistent land procurement problem faced by women in Nigeria calls for full implementation of the Land use Act of 1978. This will enable women farmers generate more farm income that could be used to start up non-farm business.

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