



HOUSING CONDITION, CONSUMPTION EXPENDITURE AND POVERTY STATUS OF FEMALE FARMERS IN IMO STATE, NIGERIA

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Abstract

This study analyzed housing condition, consumption expenditure and poverty status of female farmers in Imo State, Nigeria. Multi stage sampling procedure was used to select areas and respondents for this study. A random sampling of 18 female farmers was performed in 12 communities among 6 Local Government Areas studied to get 216 respondents. Data were obtained from primary source using a well-structured questionnaire issued to the respondents. Generated data were analyzed using descriptive and inferential statistical tools. Results showed that majority (57.41%) of the respondents lived in houses built by their husbands; most of them (78.24%) lived in bungalows. Majority lived in houses built with cemented floor (74.54%), with cemented walls (82.87%), and corrugated iron roofing sheets (75.46%). Food stuff (26.90%), education (22.97%), clothing and shelter (18.02%), health (15.57%), among others engulfed most of their monthly expenditure. Many (48.61%) attested to having three square meals on daily bases. The MPCE per person was estimates as N 577.259, poverty line was N 384.84 and mean household expenditure N 76.968. About 70.37% of the female farmers were poor. Access to credit (5.0%), Educational level (1.0%), farm income (5.0%) and non-farm income (10.0%) negatively influenced their poverty status, while household expenses (1.0%) was in the positive direction. It is therefore recommended that since most of these respondents were poor, poverty alleviation strategies such as implementation of a set of technical, social, cultural and institutional measures with the aim of improving the socio-economic conditions of the farmers are needed.

Keywords: *Housing Condition, Consumption Expenditure, Poverty Status and Female Farmers*

Introduction

Expenditure is an integral part of life, and the dynamic nature of human wants gives expenditure a dynamic character. Expenditure pattern describes the variation in goods and services utilized, and an individual's decision on what range and type of food commodity to consume and/or type of house to live in is influenced by social and poverty status. The nature and type of house one lives in tells in part how poor or rich one is (Basumatar, 2015; Ojeleye, 2015; Umoh, 2008). Variations in expenditure are visible in different societies, gender, environments, economic and cultural contexts, and the determinants of the economic status of an individual includes its per capita/consumption expenditure and the standard of living (Banks and Leicester, 2014). Consumption expenditure is the expenditure incurred on consumption of goods and services used for the direct satisfaction of individual needs and want and provide individuals or households with utility and not for further transformation in production. For many households, consumption will not be equal to income, and hence the

two measures may provide different pictures of economic well-being (Manza and Garba, 2019). Among female farmers, consumptions vary as they often pursue multiple livelihood strategies. They are often underestimated and overlooked because of family responsibilities, cultural barriers and religious beliefs, and are categorized by a complicated, diverse and risk production environment that often expose them to poverty and poor housing condition (Nze *et al.*, 2019; Degefa, 2015). Amaka (2007) observed that Nigerian women are more vulnerable to poverty owing to a number of factors including absence of opportunities and autonomy, lack of access to economic resources (credit, land ownership and inheritance), lack of access to education, to mention but a few. The objective of this study is to analyze housing condition, consumption expenditure and poverty status of female farmers in Imo State, Nigeria.

Methodology

The study was carried out in Imo State. Imo is one of the

36 states that constitute the Nigerian federal structure. It is located in the South Eastern part of Nigeria with a total land mass of about 25289.40km² and a population of about 5.4 million people (NPC, 2016). It lies within the humid tropical ecological zone of Nigeria, with relative humidity ranging between 50% and 70%; within latitudes 4°45'N and 7°15'N, and longitude 6°50'E and 7°25'E (Obani and Igwe, 2021). Multi stage sampling technique was used to select areas and respondents for this study. Six local government areas were purposively selected based on areas with much females in farming activities, from which two communities each were also randomly selected to give twelve communities. A random sampling of eighteen female farmers was performed in each community to get a sample size of two hundred and sixteen respondents for the study. Data for this study were obtained from only one source which is the primary source of data. They were gathered using a well-structured questionnaire which was developed based on the objectives of this study and was issued to the respondents. Generated data were analyzed using descriptive and inferential statistical tools such as frequency distributions, FGT poverty model and probit regression analysis.

Analytical techniques

The Foster Greer Thorbecke [FGT] indices for determining poverty status of the respondents is specified below. This model has been previously used in determining poverty status by Nze and Emmanuel (2017) and Onwumere *et al.* (2017).

$$\text{Per capita household expenditure} = \frac{\text{Total household monthly expenditure}}{\text{Household size}} \dots 1$$

$$\text{Mean per capita household expenditure} = \frac{\text{Total per capita household expenditure}}{\text{Household size}} \dots 2$$

$$\text{Poverty status} = \frac{1}{N} \sum_{i=1}^q \left(\frac{z-y_i}{z} \right)^\alpha \dots 3$$

Where:

- z = Poverty line;
- q = Number of poor who are below Z;
- y_i = Expenditure of the ith household;
- α = Non-negative poverty aversion parameter which can take values between 0 and 2.

The respondents were categorized into poor and non-poor groups using the two-third mean per-capita household expenditure as the benchmark, which was adopted from the work of Adewunmi *et al.* (2011). Respondents whose mean per-capita household expenditure fall below the poverty line were regarded as being poor while those whose per-capita household expenditure were above the benchmark were non-poor.

Probit regression model used in ascertaining determinants of poverty status of the respondents is specified below. The model was used by Nze *et al.* (2019) and Isaac (2014).

$$P(Y) = a + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 + X_4\beta_4 + X_5\beta_5 + X_6\beta_6 + e \dots 4$$

Where;

Y = Poverty status of the female farmers (poor=1, non-poor=0) derived from equation 1

β = Vector of parameters to be estimated

X's = The explanatory variables specified as determinants of poverty as follows:

X₁ = Marital status (married=1, others=0)

X₂ = Household size (number of persons)

X₃ = Age (years)

X₄ = Access to credit (have access=0, have no access=1)

X₅ = Farming experience (years)

X₆ = Primary occupation (farming=1, others=0)

X₇ = Years of formal education (years)

X₈ = Farm income (amount in Naira)

X₉ = Consumption expenditure (amount in Naira)

X₁₀ = Non farm income (amount in Naira)

Results and Discussion

Housing condition of the respondents

The distribution of respondents according to housing conditions is shown in Table 1. The housing conditions were grouped into house ownership, type of house, house flooring, house walls and house roofing.

House ownership: The result in Table 1 shows that majority (57.41%) of the respondents lived in houses built by their husbands. Very few of them lived in their self-built houses (6.48%) and in rented houses (5.55%). The implication is that in many Eastern parts of Nigeria, most females do not have much access to landed properties (Ojowu *et al.*, 2007). They are often discriminated from such rights and they do not have the opportunity to realize their economic potential because they lack support from their community (Brikene and Murat, 2018). They own only one-tenth of the world's property (Ogwumike, 2012).

Type of house: Most of the respondents (78.24%) lived in bungalows, while few (10.65%) lived in huts. This result conformed with Umoh (2008) who stated that a good number of female farmers live in bungalows built either by their husbands or their fathers-in-law. The implication for the few living in huts could be of the fact that they were poor (Ogwumike, 2012).

House flooring: Among the 216 female farmers sampled for this study, 161 accounting for 74.54% of the entire sample size lived in houses built with cemented floor, while a smaller percentage (2.32%) of them could afford expensive terrazzo floor. It could be that they do not have what it takes to afford attractive flooring. This result consolidates the findings of Emenyonu (2012).

House walls: Majority (82.87%) lived in houses built with cemented walls. This result showed that cemented walls have become very common both in the urban and rural areas, and could easily be afforded by farmers. Emenyonu (2012) stated that the use of a fairly good material for house walls in the country is becoming widespread.

House roofing: Corrugated iron sheet appeared to be the most popular house roofing (75.46%) among the respondents. Very few (9.72%) of the female farmers were able to live in houses covered with long span roofing. This revealed the eminence of poverty among the respondents and conformed with the findings of Achinihu *et al.* (2016).

Mean Per Capita Monthly Expenditure Pattern of the Female Farmers' Households

The analysis in Table 2 provides information on the amount spent on each items by an average female farmers' household in Imo State Nigeria. The result on Table 2 showed that food stuff engulfed about 26.90% of the monthly expenditure on average, followed by education (22.97%), clothing and shelter (18.02%), health (15.57%), and others as shown in the Table. This result is similar to the findings of Manza and Garba (2019) who opined that feeding, education, health and clothing constituted the major expenditure items of households. This result is expected because food, shelter and clothing were the basic needs of every household.

Number of Times of Daily Feeding by the Respondents

Table 3 revealed the frequency and percentage distribution of the female farmers according to the number of times they feed on daily bases. The feeding times were categorized into feeding once, twice, trice and more than trice per day. According to Table 3, many of the respondents (48.61%) attested to having three square meals on daily bases and 39.36% attested to feeding twice on daily bases. These results are expected owing to the fact that these females comprised of food producers (farmers) and have ample access to what to eat (Nze, 2020; Mazza, 2016; Kanu *et al.*, 2016; Nze *et al.*, 2019). The implication is that they were food secured; they have the ability to feed themselves and their families (ICRA, 2012). James *et al.* (2007) attested that food security is an important indicator of household wealth.

Estimation of Poverty Line

Table 4 showed the estimated poverty line of the respondents based on 2/3 of MPCE per person. The result showed that the mean per capita expenditure was N 577.259, the poverty line was N 384.84 while the mean household expenditure was N 76.968. This implied that the households of the female farmers in the study area were living on N 384.84 per day. This differs from the findings of Onwumere *et al.* (2017) and Nze (2020) and who reported higher poverty lines of N7,838 and N 1594.226 respectively across farmers. Moreover, considering the poverty line obtained (384.84) and the mean household size of 5 persons per household, these values N 384.84 and N 76.968 were lower than the international poverty threshold (\$1.90) per person per day living in Sub-sahara African (World Bank Group, 2015). This result is a suggestion of poverty among the farmers. It implies that any female farmer's household spending less than the amount obtainable on consumption is described as being poor while any female farmer's household spending exactly the

stipulated amount or higher than that on consumption implied that the household is non-poor.

Poverty Status of the Respondents

The poverty status of the respondents is presented on Table 5. Based on the poverty line obtained in Table 5, following Manza and Garba (2019) and Eze (2007) expenditure approaches, Table 5 showed that about 52.31 percent of the female farmers in Imo State spent less than \$0.33 USD per day and they were considered being core poor. 18.06 percent of them expended below \$1.01 USD per day and were considered as being moderately poor while about 29.63 percent of the farmers spent above the poverty line of \$1.01 USD per day and were considered to be non-poor. This revealed that majority of the female farmers were poor. This result is in line with the findings of Igbalajobi *et al.*, (2013), Nze (2020), Ifenkwe and Kalu (2012) and Oluwatayo (2014) who opined that female farmers in Nigeria are poor. Ukoha and Nsikaba (2010) opined that this could be as a result of difficulty most women often encounter in accessing land and other resources that are necessary for agriculture which could provide income for them.

Determinants of Poverty Status of the Respondents

The probit regression result used to ascertain determinants of poverty status of the respondents in the study area was presented on Table 6. Table 6 showed the result of the maximum likelihood estimates of the probit model. The likelihood ratio statistics as indicated by χ^2 statistic (44.6) was highly significant at 1.0% and showed strong explanatory power of the model. Table 6 further shows that access to credit, educational level, farm income, household expenses and non-farm income were statistically significant with different signs and at varying probability levels. The coefficient of access to credit (-0.026) was negative and statistically significant at 5.0% probability level with the poverty status. This implies that as the amount of credit received increases, the probability of being poor decreased and vice versa. This result is in tandem with Awotide *et al.* (2010) who suggested that more access to credit will decrease the probability of female farmers' households falling below the poverty line; Adeyeye (2001) opined that the probability of being poor reduces with an additional unit acquisition of credit and this aids households escape poverty. These corroborate with the general belief that credit is an anti-poverty strategy because of the important role it plays among farmers. This finding is in keeping to that of Adekoya (2014) who stated that credit is a viable resource is reducing household poverty incidence. Educational level was significant at 1.0% level of significance and negatively related to poverty status of the households. This implies that as the respondents attain higher education, their poverty status decreases. Adekoya (2014) opined that a strong economic link exists between educational attainment and the chances of being non-poor. Okojie (2002) observed that the higher the educational levels of a household head, the better the household's welfare and the lower the probability of the household being poor.

This result is expected because better education has the effect of enabling households access and conceptualize information on improved farming methods and other related issues capable of enhancing their welfare (Apata *et al.*, 2010); and higher education enables farmers to judiciously utilize acquired knowledge towards production and output, hence, increases per capita income (Shaibu *et al.*, 2012). Onwumere *et al.* (2017) also stated that as the farmers acquired more education, they became less poor because education is vital for boosting the productivity of the human factor and making people more aware of opportunities for earning a living or income generation from both farm and non-farm sources. The coefficients of farm income (-5.10e-06) and non-farm income (0.0210) of the respondents were statistically significant at 5.0% and 10.0% levels of probability respectively and were negatively related to poverty status in both cases. The implication is that as the households' incomes increase, their poverty levels decrease. This result is expected because higher income tends to bring about welfare improvement, hence, reduction in poverty levels as consistent with the findings of Etim *et al.* (2007) and Nwaru (2005). Increase in farm income due to increase in yield also increases farmers' per capita household income and hence, the probability of being non-poor. This finding agrees with Shaibu *et al.* (2012) who observed an increase in per capita income of farmers as a result of increase in yield. A positive correlation was found between the variable of household expenses and the probability of being poor at a 1.0% significant level. This indicated that poverty status tends to increase with an increase in their household expenses (Anumudu *et al.*, 2015). This could be attributed to the fact that majority of the households have families, hence, any increment in income is being swallowed up by the family members especially where majority of the household members were children or unemployed (Nze, 2020; Ibrahim and Umaru, 2008). This assumption holds that when the number of household dependents is high, the available resources will be distributed among a number of competing mouths. Masood and Nasir (2010) posited that a large dependent increases the probability of being poor among farm households due to high cost of maintenance. Etim *et al.* (2008), Anyanwu (2010) and Adekoya (2014) further confirmed that a larger sized household is associated with greater poverty incidence.

Conclusion

It could be deduced that female farmers in Imo State, Nigeria live in houses with cemented floors and wall, covered with corrugated iron roofs and built by their husbands. Food stuff and education constitute most of their expenditure. Although are poor farmers, they mostly have three square meals on daily bases. Access to credit, Educational level, farm income and non-farm income help in reducing their poverty status, while household expenses increases poverty status. It was recommended that since most of these respondents were poor female farmers, poverty alleviation strategies such as implementation of a set of technical, social, cultural and institutional measures with the aim of improving the

socio-economic conditions of the farmers are highly recommended.

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Table 1: Distribution of respondents according to housing condition

Housing Condition		Frequency (N=216)	Percentage
House Owner	Brother-in-law	9	4.17
	Father-in-law	29	13.43
	Husband	124	57.41
	Son	28	12.96
	Self	14	6.48
	Rented/Tenancy	12	5.55
Type of House	Bungalow	169	78.24
	Duplex	24	11.11
	Hut	23	10.65
House Flooring	Cemented	161	74.54
	Tiled	36	16.66
	Mud	14	6.48
	Terrazzo	5	2.32
House Walls	Cemented	179	82.87
	Glass	7	3.24
	Mud	20	9.26
	Tiled	10	4.63
House Roofing	Long Span	21	9.72
	Zinc	163	75.46
	Thatches	32	14.82

Source: Field survey, 2018

Table 2: Female Farmers' Household Mean per capita monthly expenditure in Imo State Nigeria

Items	Mean value	Percentage share
Foodstuff	33547	26.90
Education	28645	22.97
Clothing and shelter	22475	18.02
Health care	19167	15.37
Transportation	3490	2.80
Taxes/levies	508	0.41
Festival/ceremony	12332	9.89
Contribution/levies	2674	2.14
Toiletries	1850	1.48
Total expenditure	124688	100.00
MPCE = 124688/216	577.259	

Source: Field survey, 2018

Table 3: Distribution of respondents according to the number of times of daily feeding

Daily feeding times	Frequency	Percentage
Once	18	8.33
Twice	85	39.36
Trice	105	48.61
More than Trice	8	3.71
Total	200	100.0

Source: Field survey; 2018

Table 4: Estimated poverty line of the female farmers' households in the study area

Poverty Line	Values ₦
Total Expenditure	124,688
MPCE	₦577.259 (1.52 Dollars)
Poverty line 2/3 of MPCE	₦ 384.84 (1.01 Dollars)
Mean household (5 persons) expenditure	₦ 76.968 (0.20 Dollars)

Source: Field survey, 2018. ₦ 380 = I Dollar; MPCE = Mean Per Capita Expenditure

Table 5: Distribution of poverty status of the respondents

Poverty status	AMPCE	Frequency	Percentage
Core poor	261.363	113	52.31
Moderately poor	143.417	39	18.06
Non-poor	195.482	64	29.63
Total		216	100

Source: Field Survey; 2018. AMPCE= Average Mean Per Capita Expenditure

Table 6: Determinants of poverty status among female farmers in Imo State, Nigeria

Parameter	Estimate	Std. Error	Z-value
Marital status	-0.0886	0.2266	-0.39
Household size	-0.2034	0.2195	-0.93
Age	0.0088	0.0114	0.77
Credit	6.82e-06	2.76e-06	2.47**
Experience	0.0197	0.0255	0.77
Primary occupation	-0.220	0.3504	-0.63
Education	0.1142	0.0360	3.17***
Farm income	5.10e-06	2.31e-06	2.20**
Expenses	0.0001	0.0000	2.66***
Non-farm income	0.0000	7.94e-06	1.87*
Constant	-2.3186	0.8858	-2.63***

Diagnosis statistics

LR Chi2 (30)	44.60***
Prob > Chi ²	0.0000
Pseudo R ²	0.1902
Log likelihood	-94.9633
Number of observations	216

*Source: Field Survey; 2018. ***, **, *: Indicate variables statistically significant at 1.0% and 5.0% and 10.0% risk levels respectively*