

# SOCIOECONOMIC DETERMINANTS OF INCOME AMONG RURAL WOMEN IN ENUGU STATE, NIGERIA: IMPLICATION FOR ACHIEVING FIRST SUSTAINABLE DEVELOPMENT GOAL

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**Abstract.** Poverty is a global challenge highly concentrated among rural women; thus, women are poorer than their male counterparts. This fact disposes them to a high level of food insecurity, low purchasing power and poor well-being. Understanding the socio-economic factors responsible for the income level of rural women is a prerequisite to boosting their economic status and, in turn, lowering the poverty rate among them. Therefore, this study describes the rural women income and identifies the factors influencing their level of income. Data were collected primarily from 120 rural women and analysed using descriptive statistics and multiple regression. The study reveals that rural women face a low annual income (USD 626.25) which could dispose them to a high poverty level. Agriculture (practised on a small scale) remains the primary source of income for rural women as it had the largest share (78.8%) of their annual income. Cooperative membership, access to credit facilities and education are the identified socio-economic factors enhancing the yearly income of rural women. At the same time, rural women age and their household size are the inhibiting factors affecting their annual income. To achieve the first Sustainable Development Goal of the United Nations, there is a need to support rural women through financial assistance and adult education centres. This would enhance their productivity and income and improve their food security status and well-being.

**Keywords:** rural women, low income, poverty, SDG, well-being, agriculture

## INTRODUCTION

Poverty is a major problem facing the world today. It is concentrated widely among the rural populace of developing nations. Women are the most vulnerable to this phenomenon, especially rural women (IFAD, 2020). High poverty could lead to a high level of food insecurity and crime rate in a nation. Due to the high level of poverty affecting millions of people globally, eradicating extreme poverty and reducing the number of poor people by half by 2030 was listed as the first Sustainable Development Goal (SDG) by the United Nations. However, achieving it by 2030 requires a lot of effort as the world is currently facing the COVID-19 pandemic, which has setback the economic activities of many nations and adversely affected many businesses and the agricultural sector. Thus, people's income was reduced, which further exposed them to a high level of poverty.

One of the major factors responsible for the level of poverty is income. It determines the purchasing power, food security and nutritional status of people, and their well-being and access to basic needs of life such as clothing, quality education and better health which are part of the features used in measuring poverty status. A low-income earner has a higher probability of being poor, whereas a high-income earner has a greater

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chance of being non-poor, *ceteris paribus*. Thus, a decrease in rural income adversely affects the prosperity of rural communities and economic growth (Bihari et al., 2019). In comparison, an increase in farmers' income improves their investment and leads to social and economic development (SFL, 2017). Therefore, the income level is used to measure socio-economic development in a country (Kryszak and Matuszczak, 2019). These make the issue of low income in rural areas important for the policy debates, especially in developing countries.

In most developing countries, including Nigeria, the rural areas are set apart by low income and poor infrastructures such as poorly equipped health centres, inadequate portable water supply and electricity and substandard road networks (Beegle and Christiaensen, 2019). These are signs of high poverty in rural areas. According to Human Development Report (2020), Nigeria is a low human development country due to low gross national income per capita, lifespan and education. The National Bureau of Statistics (2020) also reported that there are 85.2 million poor people in Nigeria. These findings show that poverty is a serious challenge facing millions of people in the country.

The increasing level of poverty remains a significant challenge and concern to policymakers and economists because poverty is among the leading factors affecting the development of a country (Omotola and Kabir, 2015). High poverty and low income make the environment unfavourable for the growth and development of an economy (British Council, 2012). A high poverty rate could also halt the globalisation process. The current poverty situation is alarming as about 433 million people are extremely poor in sub-Saharan Africa alone (Schoch and Lakner, 2020), and this requires means of eradicating it.

Some previous studies investigated the factors influencing rural income as a whole (e.g. Mafimisebi, 2008; Kwaghe et al., 2009; Baiyegunhi, 2013; Nzabakenga et al., 2013; Tenzin et al., 2013; Fadipe et al., 2014; Urgessa, 2015; Purnamadewi and Firdaus, 2018). However, there is little information on the driving factors of rural women income which are most vulnerable to low income and high poverty rates, especially in Nigeria. Thus, identification of factors responsible for the income of rural women is critical and can be used as a vital tool for achieving the first SDG. Achieving it would also allow policymakers, government and

non-governmental organisations to understand the areas of policy intervention and learn how they can support rural women to lower the high poverty rate. In view of the above, this study aims to describe different sources of rural women income and investigate the socio-economic factors affecting their income in Enugu State, Nigeria.

## MATERIAL AND METHODS

This study was conducted in the rural areas of the Enugu-Ezike Agricultural Zone in Enugu State, Nigeria. It is an agrarian community, and most of its inhabitants are mainly engaged in agricultural produce farming and marketing (Obetta et al., 2020). The zone shares interstate and intrastate borders with other states in the country and other local governments areas (LGAs), respectively. On the west, the Enugu-Ezike Agricultural Zone shares an interstate border with Kogi State and Benue State on the north. In addition, it has an intrastate border with Isiuza LGA on the east and Nsukka LGA on the west (ENADEP, 2015). The zone has a landmass of 700 km<sup>2</sup> and a population of 585,225.

A multi-stage random sampling technique was employed to select the rural women for this study. First, two LGAs were chosen randomly out of the three LGAs in the Enugu-Ezike Agricultural Zone. These LGAs were Udenu and Igbo-Eze South LGA. In the second stage of the sampling, three rural communities were selected randomly from each LGA. This gave a total of six rural communities. The last stage (stage 3) involved the random selection of twenty women from each rural community, making a total of 120 rural women.

The data used in this study were gathered primarily. This step involved the use of a semi-structured questionnaire and interview schedule for the rural women farmers. This was done to capture all the required information as some rural women cannot read and write. Therefore, the data collected covered the socio-economic features of the rural women, the level and source of their income.

Next, the data were analysed through the use of descriptive statistics and multiple regression. Finally, descriptive statistics described the rural women socio-economic characteristics and identified their sources of income.

Multiple regression was employed to identify the socio-economic factors affecting rural women income.

The model is represented explicitly as:

$$Y = \beta_0 + \beta_1A + \beta_2MS + \beta_3CM + \beta_4AC + \beta_5AE + \beta_6ED + \beta_7EXP + \beta_8DM + \beta_9HHS + \beta_{10}FS + e$$

where:

- A – the rural women age (measured in years)
- MS – the rural women marital status (married = 1, otherwise = 0)
- CM – the cooperative society membership (member = 1, non-member = 0)
- AC – the access to credit (measured in the amount borrowed)
- AE – the access to agricultural extension services (measured in number of contacts)
- ED – the education level (measures in the number of years of education)
- EXP – the rural women occupational experience (measures in years)
- DM – the market distance (measured in km)
- HHS – the household size (measures as the number of people living in a household).

## RESULTS AND DISCUSSION

### Socioeconomic features of rural women

The socio-economic characteristics of rural women are presented in Table 1. It was found that the larger

percentage (45.1%) of the rural women in the study area were in the age group of 41 to 50 years. Thus, the average age of the respondents was 47.3 years, implying that the rural women were relatively advanced in age. A farmer’s age plays a vital role in agricultural productivity as most Nigerian farmers are small-scale farmers who use crude implements, requiring strength and energy (Egwue et al., 2020). Age also influences the types and quality of labour available on-farm (Mukaila et al., 2020). Thus, a younger farmer would perform the farming operations requiring more energy more effectively than an older one.

Over 90% of the studied rural women were married, while only 7.5% and 1.7% were single or widowed, respectively. This finding suggests that the rural women took care of their household, potentially lowering their time spent on the farm. In addition, 70% of the rural women had a household size between five and eight. This gives an average household size of six persons; thus, their household size is larger compared to the urban household. It is not surprising as rural dwellers always have many household members due to their occupation (farming), which requires labour (Mukaila et al., 2020). However, it might put a high financial burden on rural women.

Almost 60% of the studied rural women had only primary school education, while only 9.2% had tertiary

**Table 1.** Socioeconomic features of rural women

Variable	Category	Frequency	Percentage	Mean
1	2	3	4	5
Age	≤ 30	3	2.5	47.3
	31–40	27	22.5	
	41–50	54	45.1	
	51–60	31	25.8	
	> 60	5	4.1	
Marital status	Single	9	7.5	
	Married	109	90.8	
	Widow	2	1.7	
Household size	1–4	25	20.8	6
	5–8	84	70	
	≥ 9	11	9.2	

**Table 1 – cont.**

	1	2	3	4	5
Education		No formal education	17	14.2	
		Primary	71	59.2	
		Secondary	21	17.5	
		Tertiary	11	9.2	
Major occupation		Farming	99	82.5	
		Civil servant	5	4.2	
		Trading	9	7.5	
		Artisan	7	5.8	
Experience		< 10	29	24.2	15.3
		11–20	84	70	
		≥ 21	7	5.8	
Farm size (hectares)		< 2	102	85	1.3
		2–3	13	10.8	
		> 3	5	4.2	
Access to extension services		Yes	41	34.2	
		No	79	65.8	
Cooperative membership		Yes	37	30.8	
		No	83	69.2	
Access to credit		Yes	26	21.7	
		No	94	78.3	

Source: field survey, 2019.

education, implying a low level of education among said women. This fact could affect their decision-making, resource allocation and productivity (Akanbi et al., 2020).

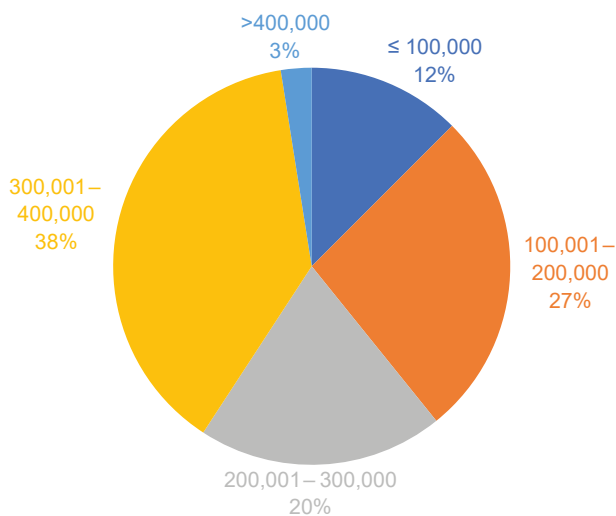
The majority (82.5%) of the rural women reported farming as their primary occupation, while a few were civil servants (4.2%), indicating farming as an important livelihood source. Regarding their farming experience, most had between 11 and 20 years of farming experience, giving an average experience of 15.3 years. This finding suggests that farming is not new to the studied group, and these women can be referred to as experienced farmers. The skills acquired in an enterprise depend on the time spent on it; thus, the longer time a person devotes to an enterprise, the better his or her understanding of the business (Mukaila et al., 2021). Therefore, rural women could be said to be knowledgeable about farming.

The examined women were mainly smallholders as the majority (85%) had below two hectares of farmland, averaging 1.3 hectares of farmland. There was low access to agricultural extension services or contacts among the rural women. This finding suggests that the majority might not have access to information regarding innovation. In the same vein, membership of cooperatives was low as only 30.8% were members of any cooperative. This fact could affect their credit accessibility as cooperative societies offer their members financial assistance.

Access to credit among the rural women was low as only 21.7% had access to credit, suggesting it is a challenge facing the rural women. Indeed, inadequate access to credit could be the reason for their operation on a small scale as their personal funds were insufficient to operate on a large scale.

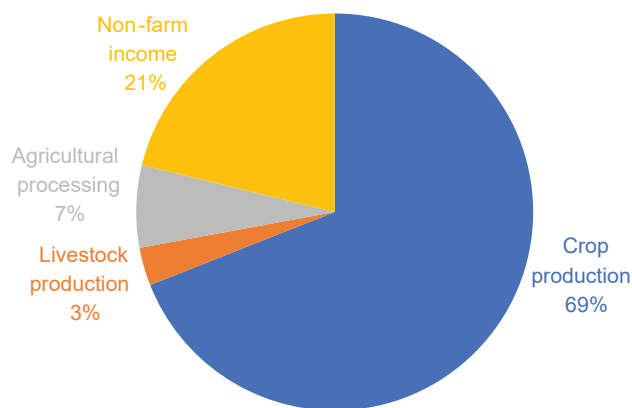
### Income distribution and sources among rural women

Regarding the rural women income, the larger proportion (38.8%) indicated NGN 300,001 (USD 728.98) to NGN 400,000 (USD 971.97), followed by those that reported NGN 100,001 (USD 242.99) to NGN 200,000 (USD 485.98) per annum (Fig. 1). At the same time, a few (2.5%) had income above NGN 400,000 per annum. Thus, the average annual income of the rural women in the study area was NGN 257,727.11 (USD 626.25). This finding suggests a low income among the rural women, as it was lower than the minimum wage paid by the Nigerian government, which could dispose them to a high level of poverty. Moreover, low income among rural women is not enough to live a better life. It could also increase their susceptibility to other global challenges such as food insecurity and malnutrition due to low purchasing power.



**Fig. 1.** Income distribution among rural women  
Source: field survey, 2019.

Figure 2 reveals that among the sources of income of rural women, farm income had the highest share (78.8%), with crop production accounting for 69% and livestock production for 3.1%. Processing agricultural products, such as palm oil, also accounted for 6.7% of the rural women annual income. On the other hand, non-farm income from remittances, trading or artisan accounted for 21.2% of their income. This finding suggests that



**Fig. 2.** Sources of income among rural women  
Source: field survey, 2019.

agriculture and allied activities were significant sources of income to most rural women. It further suggests diversification of income among rural women, though at a low level.

### Socioeconomic determinants of rural women income

The multiple regression estimates applied to identify the socio-economic drivers of rural women income are shown in Table 2. The multiple regression model showed a good fit as indicated by the F-ratio (7.23), which was significant at 1%. The R-square of 0.5854 implies that 58.54% of the variations in rural women annual income was accounted for by the explanatory variables included in the model.

The coefficient of rural women age was negative and significant at 10% in relation to their annual income. Therefore, a 1% increase in age would lead to a 0.002862% decrease in the annual income of rural women. This finding implies that the age of rural women was an inhibiting socio-economic factor to their yearly income. Thus, the annual income of rural women reduces as their age increases. This was due to the nature of their occupation (small-scale farming), which requires strength, fitness and energy for effective operation. Young women farmers are more likely to be physically active than their older counterparts; thus, an increase in age could affect their productivity which, in turn, would lower their revenue derived from it. This supports the findings of Fadipe et al. (2014), who reported that age is an inhibiting factor to rural income.

**Table 2.** Socioeconomic determinants of rural women income

Income	Coef.	Std. Err.	t	P > t
Age	-0.002862*	0.001445	-1.98	0.061
Marital status	-0.033189	0.023209	-1.43	0.153
Cooperative membership	0.319338***	0.053490	5.97	0.000
Access to credit	0.000451**	0.000151	2.99	0.004
Agricultural extension	0.011657	0.008039	1.45	0.151
Education	0.045189*	0.024166	1.87	0.073
Experience	0.002692	0.002894	0.93	0.355
Distance to market	-0.000605	0.000469	-1.29	0.200
Household size	-0.030057**	0.011741	-2.56	0.010
Farm size	0.173844**	0.077957	2.23	0.028
Constance	6.234554	1.594515	3.91	0.000
F-ratio	7.23			
Prob > F	0.0000			
R-square	0.5854			
Pseudo R-square	0.4998			

Source: field survey, 2019.

Cooperative membership had a positive and significant effect on rural women income ( $p < 0.01$ ). For example, a 1% cent increase in age would lead to a 0.319338% increase in the annual income of rural women. This implies that rural women cooperative society membership increased their probability of earning more annual income; thus, cooperative society membership is an enhancing factor to rural women yearly income. The positive sign of cooperative membership could be as a result of several benefits of cooperatives (such as financial assistance, access to market information and enjoyment of economies of scale) by the rural women who belong to the society. A similar result was reported by Purnamadewi and Firdaus (2018), who indicated that cooperative membership enhances farmer incomes.

The coefficient of access to credit was also positive and significant in relation to rural women annual income ( $p < 0.05$ ). Thus, a 1% increase in age would lead to a 0.000451% increase in the annual income of rural women. This implies that access to credit by the rural women increased their annual income. It was because rural women personal funds might not be enough to

increase their agricultural production level. Thus, rural women who had access to credit and used the credit for productive capacity would be able to increase their productivity which would, in turn, result in higher output and consequently an increase in their annual income. Similar results were found by Purnamadewi and Firdaus (2018) and Urgessa (2015), who suggested that access to credit enhances rural income.

Furthermore, it was indicated that education had a positive and significant relationship with the studied rural women annual income ( $p < 0.1$ ). For example, a 1% increase in age would lead to a 0.045189% increase in their annual income. This result implies that educational level was an enhancing factor to rural women annual income. Thus, rural women yearly income increases as their level of education increases. Therefore, women with low educational qualifications had lower yearly earnings than those with a higher level of education. This is because schooling paves ways for rural women to access relevant information and increase their ability to accept agricultural innovation. Also, education helps farmers to make better decisions in their

farming activities, such as resource allocation (Akanbi et al. 2020). Aidoo-Mensah (2018) and Purnamadewi and Firdaus (2018) reported similar findings, pointing to education as a factor enhancing farmers' income levels.

The coefficient of household size was negative and significant in relation to the studied women annual income ( $p < 0.1$ ). Therefore, a 1% increase in age would lead to a 0.030057% decrease in their annual income. This implies that a larger household size served as a financial burden to rural women, thus lowering their income. This could be because some household members were children still in school and not contributing to their livelihood. This result was contrary to the findings of Nzabakenga et al. (2013), who reported that household size had a positive effect on smallholder farmers' income. However, the negative impact of household size supported previous findings by Purnamadewi and Firdaus (2018), Tenzin et al. (2013) and Baiyegunhi, (2013).

The coefficient of farm size had a positive and significant effect in relation to rural women annual income. And a 1% increase in age would lead to a 0.173844% decrease in their annual income. This implies that farm size contributed to rural women yearly income. This could be because most rural women depend on agriculture as a means of livelihood; thus, their income increases as they increase their cultivated land. Therefore, an increase in cultivated land would increase their output and consequently their annual income.

## CONCLUSIONS AND RECOMMENDATIONS

Rural women are faced with low income, which could dispose them to a high level of poverty. Agriculture remains the primary source of income to rural women as it has the largest share of their annual income. However, farming was practised on a small scale among the rural women, and its output might not be enough to boost their economic status. Cooperative membership, access to credit facilities and education were the identified socio-economic factors enhancing the rural women annual income. At the same time, rural women age and their household size were the inhibiting factors affecting their yearly income.

To achieve the first Sustainable Development Goal of the United Nations, there is a need to look at the identified socio-economic factors enhancing or inhibiting the

rural women income for proper interventions. First, rural women need support in their agricultural productivity to increase their level of production. This goal could be achieved by making available credit facilities (by government, non-governmental organisations, financial institutions and other relevant bodies) at low or no interest rates accessible to all rural women. An increase in credit accessibility would boost rural women economic status, enhance their purchasing power and improve their well-being. The rural women, on their part, should join cooperative societies where they could access credit and enjoy other benefits of the cooperative. Second, rural women also need support and encouragement to increase their level of education. This goal could be achieved by providing adults' education centres in the rural communities where they could enrol at no cost and be given incentives such as free educational materials. This would not only increase the literacy level among the rural women but also improve their decision-making process towards their productivity, which, in turn, would enhance their income. Also, it would inform the rural women to practise family planning (in agreement with their husbands) to have the number of children their resources could support.

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