

**FARM LABOUR USE FOR TELFERIA PRODUCTION AMONG RURAL HOUSEHOLDS IN ABA AGRICULTURAL ZONE, ABIA STATE, NIGERIA**

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**ABSTRACT**

The study analyzed the extent of farm labour use for telferia production among rural households in the Aba agricultural zone, Abia State, Nigeria. Specifically, the study identified the types of labour used and ascertained the sources and extent of labour used in the study area. A two-staged sampling procedure was used to select the one hundred (100) rural households for the study. The data obtained were analyzed using both descriptive and inferential statistics, including percentages, means, and frequencies. The inferential statistics included ordinary least squares regression analysis. Results showed that 10.0% of the respondents engaged in family labour, 90.0% of them engaged in hired labour, 07.0% of them engaged in exchange labour, 10.0% of them engaged in group labour. At the same time, none of them agreed to engage in communal labour. About 64.0% of the respondents used family members as their source of labour, 15.0% used youths in the community, 87.0% used farm labourers from distant places, 10.0% used local labour groups, while 17.0% used labour partners. A grand mean of  $\bar{X}=3.57$  indicated a high extent of use of farm labour in Telferia production from land clearing to harvesting in the study area. Age, sex, marital status, extension contact, and farming experiences were found to be significant at 5% and 1% levels of probability. A clear shift from traditional family-based labour towards hired and alternative labour forms is evident to achieve an increased income from telfaria production. The study recommended that stakeholders should introduce and popularize appropriate mechanization and labour-efficient tools for Telferia production, especially targeting weeding and harvesting operations. **Keywords:** farm labour, telferia, production, households

## INTRODUCTION

Agriculture remains one of the most important sectors of the Nigerian economy, providing food, employment, income, and raw materials for industrial development. The sector is dominated largely by smallholder rural households who depend heavily on family and hired labour for crop production activities (Shittu et al., 2020). In Nigeria, labour constitutes a major input in agricultural production because most farming operations are still carried out manually with limited mechanization. Labour availability and utilization, therefore, play a significant role in determining the productivity and profitability of agricultural enterprises.

Telfairia production is highly labour-intensive because almost all the farming operations are carried out manually. Activities such as land clearing, bed preparation, planting, staking, weeding, watering, fertilizer application, harvesting, and transportation require substantial human labour input. Rural households, therefore, depend on different sources of labour such as family labour, hired labour, communal labour, and exchange labour to carry out production activities effectively (Akpan, 2021). According to recent studies, family labour remains the dominant source of labour among small-scale farmers in southern Nigeria, although the use of hired labour is increasing due to labour scarcity and changing rural socio-economic conditions.

In recent years, farm labour in Nigeria has become increasingly scarce and expensive due to ruralurban migration, ageing farming population, and the declining interest of youths in agriculture (Akpan, 2020). This situation has negatively affected agricultural productivity, especially among labour-intensive crop enterprises such as vegetable production. Studies conducted in Nigeria revealed that labour scarcity and rising wage rates constitute major constraints to agricultural production among rural households. The migration of able-bodied youths from rural communities to urban centres in search of white-collar jobs has reduced the availability of farm labour, thereby increasing dependence on hired labour and raising production costs for smallholder farmers.

Sadiq et al. (2021) opined that human labour remains critical to the survival and sustainability of small-scale farming systems in developing countries where mechanized farming is still limited. In Nigeria, most rural farmers still rely on crude farm tools such as hoes and cutlasses for farming operations, making agricultural production physically demanding and labour-dependent. Fluted pumpkin is a very important vegetable that is popular in West Africa. It belongs to the family *Telferia Occidentalis Hook F. Cucurbitaceae*. It is a leafy vegetable that produces fruits. AkanniJohn et al., (2020) defined leafy vegetables as herbaceous plants used for culinary purposes and are used to increase the dietary quality of soups. Fluted pumpkin is the most important and extensively cultivated food and income generating crops in many parts of Africa. One of the major inputs in the production of telfairia in Abia State is labour. labour used in telfairia production depends on household characteristics, resources, type of labour used, and gender of labour waged/exchanged (Akanni-John et al., 2020).

Furthermore, labour productivity is an important determinant of the profitability and sustainability of Telferia enterprises. Efficient labour utilization enhances crop output and farm income, while poor labour management reduces productivity and increases operational costs (Utobo et al.2017).

Labour utilisation is still a valuable resource for production, and it is a necessary input for practically all agricultural operations. To generate outputs, labour is used in conjunction with other components of production, including land, capital, and entrepreneurs. It is the second-most crucial resource in agricultural productivity and may be a very significant input, limiting output availability. The amount of labour available for production and utilisation depends on who is included in the labour force and

how many hours or days they are able and willing to work in relation to their productivity (Sadiq et al., 2021).

Therefore, this study is designed to analyze the extent of use of farm labour for telfera production among rural households in Aba agricultural zone, Abia State, Nigeria. Specifically, the study identified the types of labour used in telfairia production; ascertained the sources of labour use and the extent of use of labour in telfairia production in the study area. The study was guided by the following hypothesis: H<sub>01</sub>: There is no significant relationship between respondents' socioeconomic characteristics and their extent of use of farm labour for telfaria production in the area.

## METHODOLOGY

### Study Area

The Aba agricultural zone in Abia State, Nigeria, is one of the three main agricultural zones in the state, alongside Umuahia and Bende. The Aba zone includes seven local government areas, and it's known for its fertile land that supports diverse agricultural activities. The area is prominent for the cultivation of crops such as cassava, yams, maize, and vegetables. It also has significant poultry, livestock, and fish farming activities. Agriculture here is mostly subsistence and contributes importantly to the local economy and livelihoods. Aba has been a major urban and commercial center in Abia, and it also acts as a hub for agricultural trade and processing.

### Sampling Technique

A two-staged sampling procedure was used to select the respondents for the study. Firstly, four communities (typical of the 'circles' in the Abia State agricultural development Program system) out of the eleven communities that comprised the LGA were selected through a simple random sampling technique. At the second stage, twenty-five (25) rural households were selected from each of the sampled communities by the same simple random sampling technique, making a sample size of one hundred (100) rural households for the study.

### Data Analysis

Data for this study were analyzed using both descriptive and inferential statistics. The descriptive statistics include percentages, means, and frequencies, while the inferential statistics include ordinary least squares regression analysis.

### Model Specification

The multiple regression model is implicitly expressed as

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, e)$$

But the explicit model of the four functional forms of the ordinary least squares (OLS) model is expressed thus:

**Linear:**  $Y = b^0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + e_i$

### Double-

**log:**  $\log Y = b_0 + b_1 \log x_1 + b_2 \log x_2 + b_3 \log x_3 + b_4 \log x_4 + b_5 \log x_5 + b_6 \log x_6 + b_7 \log x_7 + b_8 \log x_8 + b_9 \log x_9 + e_i$

**Semi-log:**

$$Y = b_0 + b_1 \log x_1 + b_2 \log x_2 + b_3 \log x_3 + b_4 \log x_4 + b_5 \log x_5 + b_6 \log x_6 + b_7 \log x_7 + b_8 \log x_8 + b_9 \log x_9 + e$$

$$\text{Exponential-log: } Y = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6 + b_7 x_7 + b_8 x_8 + b_9 x_9 + e$$

**Where;**

Y = the dependent variable is the extent of use of farm labour for telfairia production (measured by the aggregated mean score values of labour use) while

$X_1$ - $X_9$  =Independent variables, where;

$X_1$  = Age (measured in years)

$X_2$  = Sex (dummy variable) male 1, female 0

$X_3$  = Marital status (married 1, otherwise 0)

$X_4$  = Income (measured in naira for major occupation)

$X_5$  = Household size (number of people living together in a house and eat from the same pot).

$X_6$  = Educational level (number of years of formal education).

$X_7$  = Farm size (measured in hectares).

$X_8$  = Membership of agricultural cooperative society (dummy variable: belong 1, otherwise 0)

$X_9$  = Farming experience (years)  $e_i$  = Error term

$B_1$ - $B_9$  = coefficient of the variables

**RESULTS AND DISCUSSION****Types of farm labour available in the study area**

The result in Table 1 showed that 10.0% of the respondents engaged in family labour, 90.0% of them engaged in hired labour, 07.0% of them engaged in exchange labour, 10.0% of them engaged in group labour, while none of them agreed to engage in communal labour or work and share. The heavy reliance on hired labour for Telfera production is not surprising because leafy vegetable production requires frequent weeding, watering, harvesting, and market preparation, which are time-consuming and labour-intensive. Many households thus prefer hiring labour to supplement limited family labour, especially during peak periods. This trend is supported by Ogunniyi et al. (2020), who found that vegetable farmers in Southeastern Nigeria often hire extra hands due to the perishable nature of vegetables that demand timely handling.

**Table 1: Distribution of respondents according to the types of farm labour available in the study area**

<b>Telfeiria production</b>	<b>Types of labour</b>	<b>Frequency</b>	<b>Percentage</b>
	Family labour	10	10.0
	Hired labour	90	90.0
	Communal labour	-	-
	Exchange labour	7	7.0
	Group labour	10	10.0
	Work and share	-	-

**Source: Field survey 2025**

### **Sources of farm labour in the study area**

Table 2 shows the distribution of respondents according to the sources of labour available in the study area. 64.0% of the respondents used family members as their source of labour, 15.0% used youths in the community as their source of labour, 87.0% used farm labourers from distant places, 10.0% used local labour groups, while 17.0% used labour partners. This indicates that labourers from distant places contributed most of the labour supplied for crop production, followed by family members in the study area. This is a clear indication that agricultural production in the study area is very much of very crude technology (Utobo, 2023). The challenges of low technology application in production are low efficiency and income.

**Table 2: Distribution of respondents according to the sources of farm labour available in the study area**

Sources of labour	Frequency	Percentages
1. Family members	64	64.0
2. Youths in the community	15	15.0
3. Local adult men and women	-	-
4. Farm labourers from distant places	87	87.0
5. Local labour groups	10	10.0
6. Kindreds	-	-
7. Labour partners	17	17.0

Source: Field survey 2025

### **Extent of use of farm labour for selected agro enterprises in the household**

The result in Table 3 shows the distribution of respondents according to their labour use for the Telfera enterprise from clearing to harvesting. The table on the extent of utilization showed that farmers utilized family labour ( $\bar{X}=3.82$ ), hired labour ( $\bar{X}=3.88$ ), communal labour ( $\bar{X}=4.31$ ), and exchange labour ( $\bar{X}=4.10$ ). A grand mean of  $\bar{X}=3.57$  indicates much utilization of farm labour in the Telfera enterprise from land clearing to harvesting in the study area.

**Table 3: Distribution of respondents according to their labour use for Telfeiria enterprise (from land clearing to harvesting)**

Labour	Always	Often	Sometimes	Rarely	Never	Total	Mean
Family labour	14(70)	62(248)	18(54)	4(8)	2(2)	382	3.82
Hired labour	20(100)	56(224)	18(54)	4(8)	2(2)	388	3.88
Communal labour	43(215)	49(196)	6(18)	-(0)	2(2)	431	4.31
Exchange labour	28(140)	60(240)	6(18)	6(12)	0(0)	410	4.10
Group labour	2(10)	43(172)	0(0)	0(0)	55(55)	237	2.37
Work & share	-(0)	47(188)	7(21)	44(88)	2(2)	299	2.99
Grand mean							<b>3.57</b>

Source: Field survey 2025

**Influence of socioeconomic characteristics on the use of farm labour for telfera enterprise**

**Table 4: Distribution of respondents according to the influence of respondents' socioeconomic characteristics on their use of farm labour for telfeiria enterprise in the area**

Variables	Telfeiria enterprise (+linear function)	t-value
Constant	3.901	(-4.222)***
Age	1.063	(9.463) ***
Sex	-.255	(-3.294) ***
Marital status	.439	(3.489) ***
Income	.088	(.993)
Household size	.119	(1.132)
Educational level	-.089	(-1.043)
Extension contacts	.131	(1.704) **
Farming experience	-.599	(-5.907) ***
f-stat		12.843***
R <sup>2</sup>		.533

Source: field survey, 2025

\*\*\* = significant at 1%, \*\* = significant at 5%

+ = indicates the lead equation

### **Values in parentheses are the t-ratio**

Table 4 is the ordinary least squares regression results showing the parameters that are significant in the Telfaria enterprise in the study area. Out of the eight explanatory variables captured in this study, only 6 (age, sex, marital status, income, extension contact, and farming experience) were found significant at 5% and 1% levels of significance. This means that only these six variables exerted a significant influence on labour use in the study area.

Age showed a positive significant relationship at 1% probability with the extent of use for telfaria, which implied that for every unit increase in age at a given level, other variable inputs will influence the value of labour use. This supports the findings of Adepoju et al. (2022), who reported that younger farmers tend to use more hired labour due to higher energy levels and willingness to expand farm size. The positive coefficient for Telfera indicates that older farmers may rely more on labour in this enterprise, possibly due to its delicate management and household nutritional value (Koledoye, 2024).

Sex was negatively significant and related to the extent of use for telfaria. This suggests that female farmers in female-headed households tend to supply more family labour by themselves rather than hire, as supported by Okoye et al. (2021), who noted that women farmers contribute substantial family labour for food crops.

Marital status was significant and positively related to the extent of use of labour for Telferia production. This suggests that married households may still hire extra hands when household labour is insufficient for leafy vegetable tasks.

Extension contact was significant and positively related to the extent of labour use for telfaria production. This implies that access to extension services encourages farmers to use improved labour practices or hire extra workers. This was supported by Ajao et al (2021), who found that contact with extension agents increases labour input for staple crops. Farming experience was positively related to the extent of labour use, which indicates that more experienced farmers tend to expand the Cassava enterprise and hire more labour (Ogunniyi et al., 2021).

## **CONCLUSION**

The study concludes that the labour dynamics in smallholder crop production are undergoing noticeable transformations. A clear shift from traditional family-based labour toward hired and alternative labour forms is evident. This trend is largely driven by socio-demographic factors, technological shifts, and the evolving rural labour market. Telferia enterprise displays high labour demand, though in varying intensity.

## **RECOMMENDATIONS**

Stakeholders should introduce and popularize appropriate mechanization and labour-efficient tools for Telferia production, especially targeting weeding and harvesting operations.

There is a pressing need to revamp and strengthen agricultural extension delivery in the area to increase farmers' awareness of efficient labour strategies and innovations.

Efforts should be made to mobilize farmers into cooperative societies to improve access to group labour, farm input, and shared knowledge.

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