

Analysis of labour use pattern among yam farmers in Atisbo Local Government Area of Oyo State, Nigeria

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ABSTRACT

Labour plays a very crucial role in agricultural production. Its availability for agricultural production activities remains worrisome as many capable hands have migrated to other production sector of the economy. The study examined the labour use pattern among yam farmers in Atisbo local government area of Oyo State, Nigeria. Multistage sampling procedure was used to select 120 farmers for the study. Structured questionnaire was used to collect data from the respondents. Data were presented using descriptive (frequency and percentage) and inferential (Chi square and Pearson and Product Moment Correlation) statistics at $p = 0.05$. Mean age of the respondents was 52.8 years. Also, 72.5% of the respondents were male. The result on labour use pattern reveals that farmers use hired labour mostly for land clearing (81.7%), ridge making (85.0%) and planting operation (60.8%) while family labour is used for fertilizer application (61.7%) and weeding (37.5%). Hired and family labour (85% and 69.17% respectively) were the major sources of labour in the area, 86.7% of the respondents claimed that hired labour is always available while 40% claimed that family labour is always available. The major constraints to labour availability were high cost (86.7%) and scarcity of labour (50.8%). There was a significant relationship between religion ($\chi^2 = 0.000$, $P < 0.05$) labour availability ($\chi^2 = 0.034$, $P > 0.05$) and labour use pattern, however, there were no significant relationship between the respondents' socio economic characteristics like age ($r = 0.083$), size of farmland ($r = 0.296$) and labour use pattern in the study area. The study concluded that hired and family labours were found to be readily available in the area with hired labour been used for tedious activities such as land clearing, ridges making, staking and harvesting in the study area, however, this was constrained by high cost and scarcity of labour.

Keywords: Labour use, Yam production, Labour availability.

INTRODUCTION

Agriculture had contributed about 63% to the nation's gross domestic product (GDP). According to the Central Bank of Nigeria official statistics in the year 2011, incomes were derived from export of major cash crops such as rubber, cocoa, palm oil, cashew nuts, groundnut and cotton among others. With the dramatic shift of focus to crude oil exploration and the attendant oil boom of 1970s, agriculture was displaced as the foreign exchange earner, as a consequence therefore agriculture's contribution to the GDP declined to 34% (Hawa, 2011). A lot of people working on the farm moved to work for the oil sector. Shittu (2008) reported that rural urban migration in Nigeria was massive with as much as about 38% of the economically active members of the rural farm families in southwest Nigeria reported to have migrated to urban centers, leaving the farm to very few aged ones who could only produce on the subsistence level and so causing scarcity of labour to work in the farm. The integration of farm and non- farm

labour markets, which has been triggered by economic growth and technological change in terms of improved communication and transportation systems has also allowed a reallocation of labour by farm residents from farm to off-farm work.

Human labour is about the only form of farm labour available to small holder farmers in Nigeria. This form of labour account for up to 80% of total farm power and constitute between 80% and 90% of the cost of production in many farming system (Awoyemi, 1981; Dvorak, 1996). Labour plays important economic and social roles in any economy. It is one of the key factors of production as well as source of livelihood to billions of people worldwide. Nigeria agricultural production is highly labour intensive, over 90% of the non-mechanised production systems depend on human labour and for mechanized production systems between 50 and 60% of the tasks depend on human labour (Shaubet *al.* 1997; Olayide, 2002).

Yam (*Dioscore spp*) is a root tuber crop and arguably the most important crop in Nigeria known as the king of crops for it is not just grown for its nutritional value and as an important source of income but also for its cultural, social, economic and religious significance (Durno and Stuart, 2005). Nigeria is the world's largest producer of yam. Yam production in Nigeria has more than tripled over the last 45 years from 6.7 million tons in 1961 to 393 million tons in 2006 (FAO, 2007). According to International Institute of Tropical Agriculture (IITA) (2013), Nigeria accounted for about 70% of the world production, amounting to 17million tones from land area of 2,837 hectares under yam cultivation. If this volume of yam is produced in Nigeria where farm mechanization is very low, a lot of human labour will be involved. This study general objective is therefore to analyse the labour use pattern among yam farmers in the study area. Specifically, it was designed to:

- i. determine the socio economic characteristics of yam farmers in the study area,
- ii. identify the source of labour supply to yam farmers,
- iii. determine the availability of labour to yam farmers,
- iv. determine the labour use pattern for yam production,
- v. determine the constraints faced by the farmers in the use of hired labour.

METHODOLOGY

The study was carried out in ATISBO Local Government Area (LGA) of Oyo state. It is one of the ten (10) Local Government areas in Oke- Ogun area of Oyo state Nigeria. It lies between latitude 8.41⁰ N and longitude 3.42⁰ E. The inhabitants are predominantly farmers growing crops such as yam, cassava, guinea corn, groundnuts and maize. A purposive sampling technique was used to select the LGA because of the intensity of yam production in the area. Simple random sampling of 4 out of the 6 villages in LGA was carried out resulting in selection of Ago-Are, Tede, Irawo and Sabe. Thirty (30) yam farming households were purposively sampled per village making a total of 120 respondents. Structured questionnaire was used to elicit information from the respondents. Data were described using frequencies, percentages and mean, while Chi square and Pearson Product Moment Correlation (PPMC) were used to test for

significant relationships between respondents' socioeconomic characteristics and labour use pattern.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the respondents

Table 1 reveals that 72.5% of the respondents were male, while 27.5% were female. This indicates that yam production in the study area is dominated by male farmers, which may also be attributed to the large area of land needed for yam production that female farmers may not have access to. Abubakar (2003) in a similar study reported that men are generally considered as head of the family with regards to resources acquisition and utilisation. The Table further shows that the average age of the respondents was 52.79 years. This shows that majority of the respondents were still in their active and productive ages, which can invariably contribute meaningfully to the agricultural development in the area. This finding is supported by the finding of Yekinni (2010) and Badiru (2013) who reported 49.1 and 43.9 as mean ages of farmers, respectively in earlier studies. Distribution of respondents by educational attainment reveals that 25.0% of the respondents had primary education, 39.2% of them had secondary education, while 35.8% had tertiary education. This implies that there is high level of literacy among the farmers in the study area. This is contrary to the findings of Meizen-Dick (2004) as reported by Ajayiet *al.*, (2010) that low level of education prevails in many sub-Saharan countries. The incidence of high level of education among the farmers in the study area is good for quick adoption of improved technologies which will enhance productivities.

Results on marital status show that majority (72.5%) of the respondents were married. This is an indication that the population of the farming household is increasing and this may provide the required labour for agricultural activities.

The distribution of the respondents based on the household size revealed that the mean household size of the respondents was 7.81 persons with 59.2% having between 6-9 persons per household; this indicates that there is an abundance of household labour for agricultural production in the study area. This is supported by Inioniet *al.*, (2007) who reported that the existence of relatively small household size in rural areas negates the preponderance of large family sizes in rural area.

The results also show that 63.3% of the respondents were Muslims, while 36.7% were Christians. Christianity and Islam are the two dominant religions in Nigeria. The distribution of the respondents that was between 21 and 40 years of farming experience were 73.30% and 9.2% had between 41 and 60 years of farming experience with an average of 18.6 years farming experience.

The results also show that most of the respondents (55.0%) had between 1 and 2 hectares of farm land, while 19.0% had less than 1 hectare and 25.8% had above 2 hectares of farmland. This implies that majority of the respondents were small scale farmers with average farm land of 2.73 hectares.

Table 1: Distribution of respondents by their socioeconomic characteristics

Variables	Frequency	Percentage	Mean
Gender			
Male	87	72.5	
Female	33	27.5	
Age			
20 – 39	18	15	
40 – 59	63	52.5	
60 – 79	31	25.8	
80 – 99	8	6.7	52.79
Educational Level			
Primary Education	30	25	
Secondary Education	47	39.2	
Tertiary	43	35.8	
Marital Status			
Single	1	0.8	
Married	87	72.5	
Widowed	29	24.2	
Separated	3	2.5	
Household Size			
1 – 5	29	24.2	
6 – 10	71	59.2	
11 – 15	16	13.3	
16 and Above	4	3.3	7.81
Religion			
Islam	76	63.3	
Christianity	44	36.7	
Years of Farming Experience			
1 – 20	88	73.3	
21 – 40	21	17.5	
41 – 60	11	9.2	18.64
Size of Farmland			
Less than 1 Hectare	23	19.2	
1 – 2 Hectare	66	55	
Above 2 Hectare	31	25.8	2.73

Source: Field Survey, 2016

Sources of labour supply to farmers

Results in Table 2 show that the most common sources of labour in the study area were hired and family labour which was indicated by 85% and 69.17% of the respondents respectively followed by 52.50% which uses own labour. This finding corroborates the work of Adegeye and Dittoh

(2001), who found that farm labour for crop production can be obtained from family non-paid sources, such as the household relatives, friends and hired paid sources. The size of family labour however determined the amount of labour to be hired. Other sources of labour as indicated by the respondents include casual labour (29.2%) and shared labour (10%). There is a limit to the use of

own labour because no individual farmers can perform all the activities on the farm by himself alone especially among the old farmers and in cases where we have large farms. From the study, it is clear that farmers use combination of the different sources. The number of hired labour per planting season in the study area was 1 - 2 labour per season for 64.16% of the respondents while 29.17% hire 3-4 labour per planting season. The number of hired labour depends on the size of the farm and the number of family labour available to

work on the farm. The use of hired labour according to Ezedinma (2000) is mostly as a result of inability of family labour to meet up with increase demand for labour especially during the peak among household headed by old people. Adult male is mostly hired for farm labour among the respondents as claimed by 95.8%, female and children are not hired in the study area except in few instances for weeding and fertilizer application.

Table 2: Distribution by sources of labour supply to farmers

Variables	Frequency	Percentage (%)
Source of Labour		
Family Labour	83	69.17
Hired Labour	102	85.00
Own Labour	63	52.50
Casual Labour	35	29.17
Shared Labour	12	10.00
Number of Hired Labour/Season		
1 – 2	77	64.17
3 – 4	35	29.17
5 – 6	8	6.66
Gender of Labour		
Adult Male	115	95.80
Adult Female	3	2.50
Children	2	1.70

Source: Field Survey, 2016

Labour availability for farm work

Results from Table 3 shows the extent to which the respondents make use of labour; where 40.8% claimed that they rarely use family labour, 40.0% claimed that they always use family labour while 19.2% claimed they never use family labour for their farm operation. Also 86.7% claimed the frequent use of hired labour while 8.3% claimed

rarely use of hired labour and 5.0% claimed they never use hired labour, 50.3% rarely use group labour, while 42.5% claimed they never use group labour and 6.7% always use group labour. This shows that hired labour are mostly used in the study area.

Table 3: Distribution of labour availability for farm work

Variables	Always	Rarely	Never	Mean
Use of family labour	40.0	40.8	19.2	
Use of hired labour	86.7	8.3	5.0	
Use of grouped labour	6.7	50.8	42.5	33.3
Use of casual labour	3.3	59.2	37.5	
Use of share labour	8.3	5.0	86.7	

Source: Field Survey, 2016

Labour use pattern by the Farmers

Table 4 shows the labour use pattern among the yam farmers in the study area. The table reveals that hired labour was mostly used for land clearing (81.7%), ridge making (85.0%), planting (60.8%), staking (62.5%) and harvesting (69.16%), while family labour is mostly used for weeding and fertilizer application. Johnson (2003) is of the view that family labour used in peasant agriculture outnumbered the hired labour but owing to the decline in polygamy and rise in school enrollment, the use of hired labour is on the increase. Hired labour is used for very tedious and technical part of yam farming such as ridge making, planting,

staking, and harvesting. This may be due to the fact that women and the children may not be able to carry out these activities. It may also be attributed to rural urban migration and the reluctance of the young school leavers to undertake heavy chores on the farm using primitive tools (Olayide and Heady, 2000, Iwuekeet *et al.* 2002). Very few of the farmers carry out all the activities themselves especially when the farm size is quite small. This is according to Ayanwuyi *et al.* (2011) that labour cost of yam production from molding to staking especially in the forest area account for approximately 40% of cultivation cost. So, in order to cut production cost, family members do all the production and marketing activities themselves.

Table 4: Distribution of farmers by labour use pattern

Activities	Hired Labour	Family Labour	Own Labour	Shared Labour
Land Clearing	98 (81.7)	17 (5.8)	3 (2.5)	12 (10)
Ridge Making	100 (85)	4 (3.3)	1 (0.8)	15 (12.5)
Planting	73 (60.8)	20 (16.7)	7 (5.8)	20 (16.7)
Weeding	40 (33.3)	45 (37.5)	32 (26.7)	3 (2.5)
Staking	75 (62.5)	25 (20.8)	20 (16.7)	0 (0.0)
Fertilizer Application	21 (17.5)	74 (61.7)	25 (20.8)	0 (0.00)
Harvesting	83 (69.16)	30 (25.0)	5 (4.2)	2 (1.6)

Source: Field Survey, 2016

Constraints faced in the use of hired labour for yam production

Table 5 shows the result on various constraints faced by the respondent in the use of hired labour for yam production. Majority (86.7%) of the respondents claimed that the high cost of labour, scarcity of labour (50.8%) and

insufficient funds to hire labour (52.5%) as major constraints to the use of hired labour. This implies that cost of hiring labour is very high in the study area. Other constraints in the use of hired labour identified by the respondents are the distance of the farm from the villages which tends to discourage hired labour.

Table 5: Distribution of constraints faced in the use of hired labour for Yam Production

Variables	Major constraints	Minor constraints	Not a constraints
High Cost of Labour	86.7	12.5	0.8
Scarcity of Labour	50.8	45.8	3.3
Insufficient Funds	52.5	31.7	15.8
Long distance of Farm	21.7	62.5	15.8

Source: Field Survey, 2016

Test of Hypothesis

Results in Table 6a reveal that the respondents' socio economic characteristics like religion ($\chi^2 = 0.000$, $p < 0.05$) and labour availability ($\chi^2 = 0.034$, $p > 0.05$) were significantly related to labour use pattern, this should be expected since the study area is dominated largely by Muslims with large family size which will supply more labour to the farm. This is in line with the findings of Reardon (1997)

who opined that family size affect the ability of a household to supply labour to the farm sector.

The result of Pearson's Product Moment Correlation (PPMC) in Table 6b reveals that respondents age ($r = 0.083$, $p > 0.05$), farming years of experience ($r = 0.152$, $p > 0.05$), and size of farmland ($r = 0.296$, $P > 0.05$) were statistically not significant. This implies that the fact that the strength to work on the farms is not premised on

age, year of farming experience and size of farmland in the study area.

Table 6a: Chi – Square analysis showing the relationship between respondents’ socioeconomic characteristics and labour use pattern

Socioeconomic Characteristics	χ^2 - value	P – value	Decision
Gender	0.084	0.827	NS
Educational Level	3.727	0.155	NS
Marital Status	2.963	0.397	NS
Religion	0.000	0.99	S
Labour Availability	0.034	0.853	S

Table 6b: PPMC Analysis of respondents’ socioeconomic characteristics and labour use pattern

Socioeconomic characteristics	r – value	P – value	Decision
Age	0.083	0.076	NS
Farming Year Experience	0.152	0.066	NS
Size of Farm Land	0.296	0.09	NS

CONCLUSION AND RECOMMENDATIONS

The major objective of the study was to examine the labour use pattern among yam farmers in ATISBO Local Government area of Oyo State, Nigeria .The result shows that yam farmers were still in their active age with large family size to supply labour to the farm. The major source of labour for yam farming was hired and family labour, both were found to be readily available in the area with hired labour been used for tedious activities such as land clearing, ridges making, staking and harvesting while family labour is used for fertilizer application and weeding. Religion and labour availability were found to have a significant relationship with labour use pattern, meaning that availability determines the pattern of usage while the other socioeconomic characteristics have no significant relationship with labour use pattern. The major constraints faced in the use of hired labour in the study area include, high cost of labour, insufficient fund and scarcity among others.

It is therefore recommended that the yam farmers should be urged to organise themselves into cooperative groups so as to have the capacity to take part in share labour and have access to more funds to enhance production effectiveness and efficiency. Additionally, there should be provision of incentives by farmers for farm labours so as to encourage them in yam production. Policies should also be in place on cost of farm labours in such a way that it will be uniform and can be easily affordable by farmers.

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