



Arable Crop Farmers' Perception of Non-Farm Activities in Akure North and Ondo East Local Government Areas of Ondo State, Nigeria

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ABSTRACT

The study assessed arable crop farmers' involvement in non-farm activities in Ondo State, Nigeria. A two-stage sampling procedure was used to select 210 respondents. The data were collected through a validated questionnaire. Data collected were described with frequency counts, percentages, and mean, while Chi-square and Pearson Product Moment Correlation (PPMC) were used for analysis. Findings revealed that the mean age of the respondents was 55 ± 1.26 years and the majority (67.9%) of the respondents were male. It was revealed that about 76.7% were married with an average household size of 6 members. The majority (87.1%) of the respondents were involved in non-farm activities such as trading (22.4%), tailoring/fashion designing (11.0%) and carpentry/furniture (11.0%). 64.2% indicated that they were involved throughout the season, 28.1% only during the rainy season and 12% were involved occasionally. Furthermore, inadequate finance ($\bar{x} = 1.56$) ranked 1st in the constraint to arable farmers' involvement in non-farm activities. At $p < 0.05$, there was a significant association between educational level ($\chi^2 = 15.6$; $p < 0.05$), source of credit ($\chi^2 = 3.7$; $p < 0.05$), arable crop farmers' perception of non-farm activities ($r = -0.1$, $p < 0.05$). The study established that arable crop farmers are highly involved in various non-farm activities such as trading, tailoring, carpentry and food vending. These are expected to boost their living standard by making extra income are involved to make extra income in addition to farming. Therefore, change agents should encourage more farmers to involve in non-farm activities as a way to make extra means of living in order to fight poverty and food insecurity in the study area.

HIGHLIGHTS

- Arable crop farmers are highly involved in non-farm activities.
- They are involved throughout the season to make extra income in addition to farming.

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1. Introduction

Agriculture remains a significant sector in the economy of Nigeria, providing the teeming population (approximately 70%) with employment opportunities and food (Izuchukwu, 2011; Michael, 2017; Nations Encyclopedia, n.d; Food and Agricultural Organisation [FAO], 2023). The country has over 71 million hectares of arable land, which is utilised to grow crops such as maize, cassava, millet, yam, and rice. In 2018, rice production totalled 4.0 million metric tonnes. Nigeria presently generates over 20% of worldwide cassava production, making it one of the world's major producers (FAO, 2023). Most of the farmers that contribute to agricultural development in Nigeria are small-scale arable crop farmers. Sabo et al., (2017) described these farmers as the hope of achieving sustainable agriculture. Although they are constantly faced with inaccessibility to resources such as land. They also engaged in the use of crude and obsolete implements like hoes

and cutlasses which in most cases culminate in low or minimal returns from their farm work (Evbuomwan & Okoye, 2017; Sabo et al., 2017; FAO, 2018).

Similarly, these farmers are faced with other challenges affecting productivity, which include but are not limited to the inability to access extension training on new technologies and improved practices (Abdul-Gafar et al., 2017), inadequate capital or lack of access to credit (Shuaibu et al., 2018), high cost of farming inputs, lack and/or instability of electricity (Sichone & Kwenye, 2018). These have made most arable crop farmers remain consistently poor, and this discourages young people from making farming as a means of living despite every effort of the government to involve youth in farming.

As a coping strategy against the threats currently facing arable farming, farmers have been reported to look for alternative livelihoods through involvement in non-farm activities such as trading, blacksmithing, weaving, pottery, tailoring, carpentry/furniture, barbing, hairdressing, (Department of

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Agriculture, Forestry and Fisheries [DAFF, 2012]. Research has brought to the fore the benefits and reasons for involvement in non-farm activities. According to Tandjigora, (2020), climate change has led to the degradation of agricultural resources such as land, consequently leading to adverse effects on farm yields and variations in food prices. These factors make farmers poor; hence they are involved in other ways to complement their on-farm income. They involve in non-farm activities to diversify their source of income. Iqbal et al. (2021) added that while low income from agriculture is ranked as the topmost other reasons for involvement include an increase in household demands and needs and the availability of markets for non-activities in the community. In most cases, arable farmers' credit constraints are overcome by their involvement in non-farm activities (Ojo & Baiyegunhi, 2020).

The study by Tesfaye & Nayak, (2022) emphasised that farming household involvement in non-farm activities positively impacts calorie intake per day. Hence, involvement in non-farm activities is significant in the attainment of food security in rural communities. These factors give credence to the non-farm sector, as studies (Haggblade, *et al.*, 2010; Saliu & Adedayo, 2010; DAFF, 2012) have revealed that the prevalence of poverty due to a decline in production has increasingly encouraged farmers to leverage non-farm activities for their survival and as a means of diversifying risk, moderate changes in seasonal income and acquisitions of farm implements.

While previous studies focused on the prevalence and reasons for arable crop farmers' involvement in these activities, there is little empirical evidence of the perception of their involvement. Therefore, this study seeks to contribute to the existing literature by unravelling arable crop farmers' perceptions of their involvement in non-farm activities in the study area. Specifically, the study identifies types of non-farm activities common among the respondents, examines the extent of involvement and analyses their perception to determine their views and disposition towards non-farm activities as a way to live above poverty. These findings could serve as a critical step to understanding whether arable crop farmers' involvement in non-farm activities could be harnessed by policy-makers as a potential way out of the challenges facing small-scale arable farming as well as a catalyst to poverty alleviation in the study area.

2. Materials and Methods

The study was carried out in Ondo State, Nigeria. It was established on 3 February 1976. Its capital is Akure. There are 18 local government areas in the state, with a total population of 3,895,367 (Department of Research and Statistics [DRS], 2010). It is bounded by Ekiti State in the North-West, Osun State in the West-Central, Ogun State in the South-East, and Delta State in the South (DRS, 2010). The State lies entirely in the tropics, between latitude 5° 45' and latitude 8° 15' North and longitude 4° 45' and 6° East. Ondo state has 14,798.8 sq. km, of which 80% is arable land. As an agrarian state, more than 50% of its population engages in agriculture (Caleb, 2019). The non-farm activities in the state include forestry, trade, mining, fishing, crafting, and public service. Major food crops include cassava, maize, yam, banana, plantain, cocoyam, potato, and tomatoes (DRS 2010, Caleb 2019).

Two-stage sampling procedure was used in this study. Due to the COVID-19 pandemic, which restricted access to places as well as in-person contact, only 10% of the state's 18 local government areas were selected. The constraint also influenced the selection of study areas that are in proximity. The towns were purposively selected based on the predominance of arable crop farming. The

first stage involved a random sampling of two local government (Akure North and Ondo East Local government) areas. In the second stage, a simple random selection of three communities from the selected local government was done based on crop production. Therefore, from the Ondo East Local Government Area, Bolorunduro, Owena and Kajola were selected, while Owode, Ilu-Abo and Eleyewo were selected from the Akure North local government area. Similar to the of study Ikuerowo (2021), in the third and final stage, 35 arable crop farmers were selected randomly from the selected communities Bolorunduro, Owena, Kajola, Owode, Ilu-Abo and Eleyewo, making a total of 210 respondents for the study. The primary data for the study was collected using, a questionnaire. Before administration, the content validity of the data-collecting instrument was carried out by the authors, it was also pre-tested with enumerators before administration. Data collected were analysed using the Statistical Package for Social Science (SPSS). Specifically, descriptive statistics such as frequency counts, percentages, means, and standard deviation were used to describe the socio-economic characteristics and other independent variables, while PPMC and Chi-square were used for analysis. Perception of respondents was measured on a 5-point Likert-type scale, where Strongly Agreed (SA) = 5, Agreed (A) = 4, Undecided (U) = 3, Disagreed (D) = 2, and Strongly Disagreed (SD) = 1. A mean score is determined by summing the scores and dividing them by 5.

3. Results and Discussion

Data in Table 1 shows that 67.6 % of arable crop farmers were males while 32.4 % were female. Also, the majority 76.1% were married with an average household of 6 members. Additionally, the result also indicates that 26.2 % of respondents did not have formal schooling, and 23.8 % had primary education, 36.7 % had secondary education. Also, maize farmers were 41%, yam farmers 32.4 %, cassava farmers 59 %, vegetable farmers 12.9 %, groundnut farmers 2.9 % and potato farmers 3.8 %. Moreover, 32.4% of respondents cultivate less than 1 hectare of land, while 45.7 % have between 1 and 5 hectares of land. The results suggest that both males and females are inclined to farming. However, there were more male arable farmers than females. With a mean age of 53 years, it implied that the respondents are mature and relatively old. This finding aligns with the study's previous studies. According to (Tefaye & Nayak, 2022) factors such as age, household size, and education are some of the significant characteristics of arable crop farmers' involvement in non-farm activities. Farmers are exposed to many economic activities that may be able to produce extra revenue as they become older and accrue more experience. Similar to how access to education and/or higher levels of education boost understanding of possible economic investment areas. Men engage in non-farm activities due to access to financing and potential connections with education through extension, whereas women typically participate in home activities.

3.1. Arable Farmers' Involvement in Non-farm Activities

The result in Table 2 showed that the majority 87.1% of arable crop farmers were involved in non-farm activities while 12.9 % were not involved in any form of non-farm activities. The table further indicates that 9.5 % of respondents have between 1 and 5 years of involvement in non-farm activities and the average number of years of non-farm involvement is 14 years. As shown in Table 2, the majority 64.2% of the respondents are involved in non-farm activities throughout the year. Although 28.1 % are involved during the rainy season, only 12% are involved

Table 1. Socioeconomic characteristics of respondents

Variables	Frequency	Percentage	Mean±SD
Sex			
Male	142	67.6	
Female	68	32.4	
Age (years)			
20-30	12	5.7	
31-40	33	15.7	
41-50	41	19.5	55±1.26
> 50	124	59	
Marital Status			
Single	16	7.6	
Married	161	76.7	
Divorce	6	2.9	
Separated	6	2.9	
Others	21	10.0	
Household Size			
1-5	89	42.4	
6-10	113	53.8	6
> 11	8	3.8	
Educational Level			
No Formal Education	55	26.2	
Primary Education	50	23.8	
Secondary Education	77	36.7	
Others	28	13.3	
Type of Arable Crops Cultivated*			
Rice	25	11.9	
Maize	86	41.0	
Yam	68	32.4	
Cassava	124	59.0	
Others	41	19.3	
Farm Size (hectares)			
< 1	68	32.4	
1-5	96	45.7	
>5	46	21.9	3

*Multiple responses

occasionally. The involvement of arable farmers in non-farm activities could mean that returns from farming alone cannot suffice to meet farmers' needs throughout the year, therefore the involvement in non-farm activities. These findings align with the study of Ovwigho (2014), (Iqbal et al., 2021) (Tesfaye & Nayak, 2022) that there is a growing involvement of rural dwellers in various non-farm activities, because of the insufficient return from farming as well as access to agricultural resources such as land Tandjigora (2020). In addition, Tandjigora (2020) stressed that arable crop farmers' involvement in at least a non-farm activity ensures a reduction in both financial and climatic risks. Revenues that are accrued via the involvement in non-farm activities potentially allow farmers to invest in value-adding activities in the food systems, hence, reducing the reliance on the government. Therefore, the majority of farmers continue to be involved in various forms of non-farm activities to mitigate the risk of inconsistent farm income and to acquire funds to finance farming activities. In addition, the result suggests that while farming is the primary occupation, involvement in non-farm activities may arise from the corresponding importance that is assigned to non-farm activities.

3.2. Type of Non-farm activities

Table 3 shows the types and rank order of non-farm activities that respondents were involved in. Trading ranks the highest (22.4%), this could be a result of the immediate return realised and the high demand for some goods in the communities.

Table 2: Distribution of Respondents' Involvement in Non-Farm Activities

Variables	Frequency	Percentage	Mean
Involvement in Non-Farm Activities.			
Involved	183	87.1	
Not Involved	27	12.9	
Years of Involvement in Non-Farm Activities			
<1	27	12.9	
1-5	20	9.5	14
6-10	48	22.9	
11-15	33	15.7	
16-20	31	14.8	
Above 20	51	24.3	
Extent of Involvement in Non-Farm Activities*			
Throughout the year	135	64.2	
Raining Season	59	28.1	2.6
Occasionally	25	12	

*Multiple responses

Tailoring/fashion design and carpentry/furniture (11.0%) rank second, it could also be because of the previous skills or expertise acquired for such activities which could be leveraged to make income. Followed by farm produce processing (8.6%), hairdressing (7.1%), and transportation (5.2%). Odoh *et al.*, (2019) also identified trading as the most active non-farm operation in most rural areas. All the activities described in Table 3 correlate with the definition of non-farm – all non-agricultural activities such as non-farm wage jobs, rural self-employment, and other sources of income other than agriculture (Ovwigho, 2014). Similarly, the results are consistent with the studies of Obinna (2014) and Issa (2019) which listed trade, food processing, road transportation, and food sales as the top-rated rural non-farm activities in Nigeria.

3.3. Arable crop farmers' perception of non-farm activities

Table 4 shows respondents' perceptions of non-farm activities. Most of the respondents agreed that non-farm activities boost their capital base (mean = 4.49) and were ranked the highest. Respondents also agreed that non-farm activities can be grown into small and medium-scale enterprises if adequately funded (mean = 4.47), income from non-farm activities serves to meet immediate household needs (mean= 4.42). This result aligns with the studies of Rashidpour, 2012; Adepoju & Obayelu, 2013; Issa,

Table 3. Distribution of respondents by type of Non-farm Activities Involved

Type of non-farm activities	Frequency	Percentage	Rank
Trading	47	22.4	1 st
Tailoring/Fashion Designing	23	11.0	2 nd
Carpentry/Furniture	23	11.0	2 nd
Farm produce processing	18	8.6	3 rd
Hairdressing	15	7.1	4 th
Transportation (Okada, taxi etc.)	11	5.2	5 th
Food vending (e.g., roasted corn, and restaurant)	10	4.8	6 th

Table 4. Distribution of Arable Farmers' Perception of Non-farm Activities

Perceptual Statements	SA	A	U	D	SD	Mean	Overall Perception	Rank
	f (%)	f (%)	f (%)	f (%)	f (%)			
Income from non-farm activities boosts my capital base.	126(60.0)	68(32.4)	10(4.8)	6(2.9)	0(0)	4.49	Agreed	1st
Non-farm activities can be grown into small and medium-scale enterprises if adequately funded.	118(56.2)	77(36.7)	11(5.2)	4(1.9)	0(0)	4.47	Agreed	2nd
Income from non-farm activities serves to meet immediate household needs.	135(64.3)	47(22.4)	14(6.7)	11(5.2)	3(1.4)	4.42	Agreed	3rd
Funding and training of those involved in non-farm activities would turn our rural areas into a mini-industrial hub.	128(61.0)	54(25.7)	9(1.3)	14(6.7)	5(2.4)	4.36	Agreed	4th
Involvement in non-farm activities cannot stop me from farming.	124(59.0)	46(21.9)	23(11.0)	16(7.6)	1(0.5)	4.31	Agreed	5th
Grand Mean: 3.74								

Table 5. Arable Crop Farmers' Constraints to Involvement in Non-Farm Activities

Variables	Mean	SD	Rank
Inadequate finance.	1.56	0.72	1 st
Unavailability of an extension agent to give advice and information on non-farm activities.	1.49	0.72	2 nd
High cost of transportation	1.47	0.77	3 rd

2019, which reported that many rural households derive their income from non-farm sources and even from multiple non-farm sources. Furthermore, non-farm activities serve to ensure rural community development, growth and development, and sustainability. Nalunga et al. (2019) stated that income generated by arable farmers from non-farm activities is ploughed back to meet other household and agricultural demands, such as the purchase of agricultural inputs and materials. These benefits of non-farm income must have led to arable farmers indicating that involvement in non-farm activities cannot stop their involvement in farming. Arguably, this could serve as a point of relief in clearing the doubts on whether the growth of the non-farm sector could lead to the neglect of farming in rural areas.

3.4. Constraints to involvement in non-farm activities by arable crop farmers

Table 5 revealed that inadequate finance (mean=1.56) ranked highest amongst various constraints of arable crop farmers' involvement in non-farm activities. While unavailability of extension agents to give advice and information on non-farm activities (mean=1.49), and high cost of transportation (mean=1.47) ranked second and third respectively. The unavailability of extension training and education could lead to the lack of knowledge among arable crop farmers of the viable non-farm activities in the communities, and this could impede their involvement in non-farm activities. This result underpins the study of Issa (2019), which found that inadequate extension training, inadequate infrastructure, poor access to credit, and inadequate finance were serious constraints to farmers' involvement in non-farm activities in Nigeria.

Similarly, the studies of Bila et al., (2015) and Shuaibu et al., (2018) also explained that some of the problems militating against farm and non-farm activities include inadequate credit facilities, poor knowledge of improved technology, lack of access to the market and unlimited barriers to accessing credits. Equally, Demie and Zeray (2015) expressed that the state of non-farm activities

suggests that the rural poor are not particularly favoured to involve in nonfarm activities and to benefit from the non-farm sector, this is because they are hindered by limited access to capital and inadequate extension service, specifically, lack of training to invest in profitable non-farm activities. In the same vein, Msuya et al., (2017) lamented that the problem in Nigeria and many other African nations includes no strategic plans to develop other areas that concern the arable farmers and the entirety of the rural people. In most cases, agricultural development is pursued above every other sector that affects rural life such as but not limited to the non-farm sectors, health, and education. Thus, if sustainable development must be attained, effective agricultural transformation in Nigeria must redefine its extension approach to be more people-centred. i.e., involving every area of the rural people's lives such as the non-farm sector.

4. Conclusions

The study assessed arable crop farmers' involvement in non-farm activities in Ondo State, Nigeria. Findings revealed that the mean age of the respondents was 55±1.26 years and the majority (67.9%) of the respondents were male, while 76.7% were married with an average household of 6 members. The majority (87.1%) of the respondents were involved in non-farm activities. 64.2% were involved throughout the season, 28.1% during the rainy season and 12% were involved occasionally. Furthermore, inadequate finance (mean = 1.56) ranked 1st in the constraint to arable farmers' involvement in non-farm activities. At $p < 0.05$, there was a significant association between educational level ($\chi^2 = 15.6$; $p < 0.05$), source of credit ($\chi^2 = 3.7$; $p < 0.05$), perception of arable farmers on involvement in non-farm activities ($r = -0.1$, $p < 0.05$). The study concluded that arable crop farmers are highly involved in various non-farm activities such as trading, tailoring, carpentry and food vending. They are involved in these activities to make extra income, serve as a source of finance for farming and meet emerging domestic needs in the community. These findings suggest that involvement in non-farm activities could help in the attempts to achieve food security. Additionally, income realised via involvement in non-farm activities could enhance arable crop farmers to invest in value-added activities that improve the food systems. As a result, the government should devise a more comprehensive agriculture and rural development strategy that encompasses the promotion of both farm and non-farm activities in the study area. Farmers should be incentivised to diversify into different non-farm activities through interventions that encourage technical and vocational development. Such training may lead to the establishment of small and medium-scale enterprises, which may result in a reduction in rural youth unemployment and, consequently, a decrease in rural-urban migration.

CRedit authorship contribution statement

IAA: Conceptualisation, Writing -original draft, Methodology, Data curation. EAK: Methodology, Writing -review & editing. AOA: Methodology, Writing -review & editing.

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