Effect of Arable Crop Production on Poverty Status of Farmers in Niger State, Nigeria

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ABSRACT

The study examined the effect of arable crop production on the poverty status of farmers in Bida local government, Niger State. Multistage sampling was employed to sample 180 respondents, Data were collected using structured questionnaire and analyzed using descriptive statistics, farm budgeting techniques, total factor productivity, Foster, Greer and Thorbecke and Logit Regression Model. The results indicate farmers mean age of 37 years with 69.5% having formal education, with a net income of N211,10. Seed (.0908), farm size (.0465), level of education (.0746) and income (0.5678) had direct influence on the productivity of the farmers. Based on the poverty line (₦ 4741.79), 65% of the farmer were found to be poor. Extension contact (-.8419), access to credit (-1.1989) and income (-.034) had inverse relationship with the poverty status of arable farmers. It was recommended that the farmers should form farmer cooperatives to take advantage of economics of scale for purchase of inputs.

Keywords: Arable crops, profitability, productivity, poverty status, logit regression,

INTRODUCTION

In Africa today, the agricultural sector is referred to as the "engine" for economic growth and improved living conditions (World Bank, 2017). While agriculture is an important part of most developing nations' economies, it is also the primary source of food, income, and employment for their rural inhabitants. In terms of employment and interconnections with the rest of the economy, agriculture is the backbone of Nigeria's economy. In the second quarter of 2021, it contributed 23.78% to the Gross Domestic Product (GDP), which is one of the most significant indicators for assessing and comparing a country's economic growth (Nigeria Bureau of Statistics (NBS), 2021). Approximately 70% of Nigeria's active population are involved in subsistence agricultural production, supporting the assertion that the country is mostly dependent on agriculture (Eboh,2008; Adebayo and Olagunju, 2015). The majority of the 70% of Nigerians involved in agricultural activities are arable crop producers, as this is a typical practice among many Nigerian farmers. Rice, sorghum, maize, and soybean are among the most significant annual crops cultivated in Nigeria. However, despite the growth in arable crop output in Nigeria, the country has encountered numerous issues, one of which is poverty amongst farmers.

Despite continuous attempts, Nigeria has been unable to break free from the grips of poverty. Poverty, according to Onyido (2000) cited by Uchenna and Olabisi (20120, is a condition in which people have little or no access to basic means of subsistence as a result of individual, combined, or cumulative responses to

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the complicated degrees of the interplay of economic, socio-political, and physical factors. Poverty remains high, with 33.1% of the population living in poverty in Africa's largest economy. Nigeria has surpassed India as the world's poorest country (World Poverty Clock 2018). Poverty among arable farmers is a source of concern for the Nigerian people, since it is on the rise, with rural dwellers who make up the bulk of the country's population bearing the brunt of the repercussions. Other challenges facing arable farmers include diminishing soil fertility, declining yields and poor farmer incomes, all of which are typically linked to low agricultural input usage, implying that agricultural input use must rise to achieve considerable productivity increases. Sequel to the foregoing, the study evaluates the effect of arable crop production on the poverty status of farmers in Bida, local government.

Aim and Objectives of the Study

The aim of the study was to determine the effect of arable crops production on poverty status. While the objectives were to;

1. describe the socio-economic characteristics of the respondents in the study area,
2. estimate the degree of profitability of arable crop production in the study area,
3. analyze the factors affecting productivity of an arable crop farmer in the study area,
4. determine farmer level of poverty and the indices of poverty status in the study area,
5. examine the effect of arable crop output on poverty status of the farmer in the study area, and
6. identify the constraints faced by the arable crop farmers in the study area.

METHODOLOGY

Description of Study Area

The study was carried out in Bida Local Government in Niger State, Nigeria. Its covers 1698 km2 with a projected population of 1,376,660 (using a 3.2% growth rate) as at 2022. Niger State is situated in the North-Central geopolitical zone of Nigeria with Minna as its capital city. It is the largest State in Nigeria with a vast land mass of 86,000 km2; approximately 8.6 million hectares constituting about 9.3% of the total land area of the country. The state lies Between Latitude $08^{0}11`$N and Longitude $07^{0}20`$E. The State is bordered to the North by Sokoto State, to Northwest by Kebbi State, to the South by Kogi, to the Southwest by Kwara State, while Kaduna and Federal capital territory border the state to the Northeast and Southeast respectively

Sampling Procedure and Sample Size

Multistage sampling was employed for this study. The first stage was the purposive selection of Bida local government area because of its high involvement in arable crop production in the state. The second stage involved the random selection of 6 villages out of the 34 in the local government area selected. The villages selected included: Agibogga, Aketanbako, Baba Ko, Babeko, Bakin-Zenebide, Bamisu-Wuya. The third stage involved the use of Yamane's formula equation for appropriate sample size determination following Eboh, (2009), as specified in equation (1).

$N=N/(1+N(e)^{2})$ .....(1)

Where; n= Sample size

N=Population size

e = Level of precision taken to be (0.05) 5%.

1 = Constant.

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Table 1: Sample size and sampling procedures

LGA	Villages	Sample Frame	Sample Size
Bida	Agibogga	250	30
	Aketanbako	270	32
	Baba Ko	230	28
	Babeko	240	29
	Bakin-Zenebide	250	30
	Bamisu-Wuya	260	31
Total	6	1500	180

Source: Niger State Agricultural Mechanization Development Authority (2021)

Method of Data Collection and Data analysis

Data collection for the study were achieved using a well-structured pre-tested questionnaire administered to respondents.

The data were analyzed using descriptive statistics such as mean, frequency distribution table and percentage, Farm Budgeting Model, Total factor Productivity, Tobit Regression model, Foster Greer and Thor becke model and Logit model. The net farm income model is specified in equation (2).

$$NFI = GR - (TFC + TVC) \quad (2)$$

Where;
NFI = Net farm income (₦)

GR = Gross revenue (₦)

TFC = Total fixed costs (₦)

TVC = Total variable costs (₦)

Fixed cost items include cost of land and depreciated cost of farm tools (hoe, cutlass, sickle and water hose) and other irrigation equipment. Variable cost items were Cost of seeds (₦), Cost of fertilizer (₦), Cost of labour (₦), Cost of manure (₦), Herbicide and insecticide cost (₦).

The Rate of Return on Investment (RRI) was estimated using the formulae in equation (3)

$$RRI=(GI-TC)/TC \quad (3)$$

Where,
GI= Gross income (₦)

TC = Total cost of production (₦)

RRI allows one to determine net returns (profit) per amount of money invested in the business and helps the farmer to form sound and economically viable decisions on the farm. Operating ratio (OR): Shows the operating efficiency of farm business. A lower ratio is desirable, since it indicate a higher operating profit.

$$OR=TVC/GI \quad (4)$$

Where, OR is the operating ratio, TVC is total variable cost and GI

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Gross ratio: It measures the ultimate solvency of the farm business

GR=TFC/GI (5)

Where, GR is the gross ratio, TFE is the total farm expenses and GI.

A lower and less than one ratio are preferable.

Two stages were used to determine the factors affecting productivity of arable crop farmers. The first stage involved generating the Productivity Index while the second stage involved the use of Tobit regression analysis to determine the factors affecting the productivity of arable crop production in the study area.

The Total Factor Productivity (TFP) formula in equation (6) was adopted and expressed as follows:

Total Factor Productivity TFP=VOP/VIE= VOP/TVC (6)

Where,

VOP= Value of Output (₦)

TVC= VIE = Value of Inputs Employed (₦)

The scores generated was fitted into Tobit regression model as the dependent variable, Y.

The model is implicitly specified in equation (7)

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12})$ (7)

Where:

Y= Total factor productivity index (Productivity scores

X_1= Seed (grain equivalent)

X_2= Farm size (Ha)

X_3= labour (Man-day)

X_4= Agrochemicals (Litres)

X_5= fertilizer (kg)

X_6= capital input (₦)

X_7= Age (Years)

X_8= Sex (Male=1 Female=0)

X_9= Education (Years)

X_{10}= Farmer experience in crop production (Years)

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X_{11}= Credit access (₦)

X_{12}= Frequency of contact with extension agents (No. of contacts)

Foster, Greer and Thorbecke (FGT) was used to measure the poverty level and indices of the farmers. The FGT postulated that there are three different ways by which poverty can be measured which are headcount, poverty gap and squared poverty gap following (Ojo *et a.,* 2015).

The FGT index is specified in equation (8)

$$FGT_\alpha = \frac{1}{N}\sum_{i=1}^{H}\left(\frac{z - y_i}{z}\right)^\alpha \quad (8)$$

Where;

Z = poverty line defined as 2/3 of the mean per Capita Household Expenditure (MPCHHE), measured in Naira

N = Total population

Y_1 = Income of the farmer/ household from arable crop production

q = Number of poor people in the population of sizes

α = poverty aversion parameter that takes values of zero, one or two, representing incidence depth or severity of poverty.

P = Poverty gap

When α = 0, then P will be reduced to headcount ratio which measures the incidence of poverty; when α = 1, it shows the intensity of poverty that is, how far the farmers are below the poverty line; and when α = 2, it gives the severity of poverty.

Logit model. was employed to determine the factors influencing the poverty status of the farmers. The relationship explicitly expressed in equation (9)

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + et \quad (9)$$

Where

Y_1 = Poverty status (non poor = 1, poor = 0)

X_1 = Age of respondent (Years)

X_2 = Household size (No.)

X_3 = Educational level (Years)

X_4 = Farming experience (Years)

X5 = Marital status (married =1, 0=otherwise)

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X_6 = Access to credit (₦)

X_7 = Farm size (Hectares)

X_8 = Income from Arable crop production (₦)

X_9 = Income from other production activities (₦)

X_{10} = Remittances (1 if household receive wage transfer from other members, No otherwise) (₦)

X_{11} = Dependence on relief food (1 = yes; No = otherwise)

X_{12} = Extension services (No. of visits)

X_{13} = Household assets (₦)

X_{14} = Output of Produce (grain equivalent)

X_{15} = (Distance to market) (km)

et = error term

Descriptive statistics using 5 point Likert-type scale was used to describe the constraints faced by famers as Very severe (5), severe (4), Undecided (3), Not very severe (2), Not severe (1) was used to rate the factors that affect the production of arable crop (such as pest, weed pressure, use of traditional technology, etc.). the mean of the above rating scale was calculated as specified in equation (10)

Mean = (5 + 4 + 3 + 2 + 1 = 15)/5 = 3 /5 (10)

Therefore, any constraint below the mean value is termed as a minor constraint while values equal or above the mean value is termed as a major constraint affecting the arable crop farmers in the study area.

RESULTS

Table 2: Distribution of respondent according to socio-economic characteristics of arable farmers

Variables	Frequency	%age	Mean
Age			
20 – 30	50	25.0	
31 – 40	85	42.5	37
41 – 50	45	22.5	
51 and above	20	10.0	
Level of education			
Quranic	61	30.5	
Primary	34	17.0	
Secondary	77	38.5	10
Tertiary	28	14.0	

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Household size			
<10	49	24.5	
10 – 14	82	41.0	10
15 – 20	31	15.5	
>20	38	19.0	

Source: Field survey, 2022

Table 3 Profitability of arable crop production in the study area

Items	Amount (₦)/hectare	% of Total Cost
seed	130250	13.2
Herbicides	62400	6.3
Insecticides	87600	8.9
Fertilizer	320450	32.5
Sacks	19900	2.0
Cost of transportation	35535	3.6
Cost of labour	194885	19.8
TVC	851,020	86.3
Depreciation on land, Cutlass, Hoe and knapsack	134550	
TFC	134550	13.7
TC	985570	
Revenue	1,196,673	
GI	345,653	
NFI	**211,103**	
Gross ratio	**0.3892632**	
Operational ratio	**0.711155**	
RRI	**0.6492862**	

Source: Field survey, 2022

Table 4: Factors affecting productivity of an arable crop farmer in the study area

Variable	Coefficient	Standard error	t-values
Seed	.0908**	.04366	2.1
Farm size	.0465***	.0149	3.1
Labour usage	.5755	.5132	1.12
Agro-chemical	-.0071	.0181	-0.4
Fertilizer	-.0764**	.0342	-2.2
Capital input	-0.2420	.3751	-0.65
Age	-.1974	.1239	-1.59
Gender	.0262	.0462	0.57
Marital status	.0237	.0743	0.32
Level of education	.0746***	.0743	3.3

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Farm size	.0203	.0120	1.69
Membership of cooperative	.0099	.0120	0.37
Extension contact	.0020	.0357	0.1
Access to credit	-.0043	.0302	-0.1
Income	0.5678***	.0635	8.9
Constant	.5453	.0302	0.2
R-squared	0.9266		
Adj R-squared	0.9206		
Prob > F	0.0000		

Source: Field Survey, 2022

Note: *** implies statistically significant at 0.01, ** implies statistically significant at 0.05%, * implies statistically significant at 0.10%

Table 5: Distribution of respondents according to level of poverty

Poverty status/indices	Frequency	Percentages
Poor	130	65.0
Non – poor	70	35.0
Total	200	100
Poverty line (2/3 MPCHMI)	₦4741	.79
Poverty incidence	0.65	
Poverty gap	0.16	
Poverty severity	0.04	

Source: Field Survey, 202

Table 6: Effect of arable crop output on poverty status of the farmer

Variable	Coefficient	z-values
Farm size	.3379	1.40
Age	.3236**	2.6
Gender	-.1962	-0.28
Marital status	-.8836	-0.76
Level of education	-.3706	-1.82
Family size	-.0689	-0.8
Membership of association	.4524	0.99
Extension contact	-.8419**	-2.48
Access to credit	-1.1989**	-2.16
Income from arable crop	-.034**	-1.9

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Farming experience	.0025	0.1
Constant	7.5216	0.9
Pseudo R-squared	0.4209	
Log likelihood	-92.64421	
LR chi2(12)	25.47	

Source: Field Survey, 2022

Note: *** implies significant at 1%, ** implies significant at 5%, * implies significant at 10%.

Table 7: Marginal effect of the Logit regression estimate

Variables	Coefficient	z-values
Age	1.1814	2.44**
Access to credit	-.1238	-2.01**
Access to extension service	-.0887	-2.38**
Income from arable crop	-.0375	-1.82*

Source: Field Survey, 2022

Note: *** implies significant at 1%, ** implies significant at 5%, * implies significant at 10%.

Table 8: Distribution of respondent according the constraints faced by arable crop farmers

Constraint	NS(%)	SS(%)	S(%)	VS(%)	WS	WM
Problem of land ownership	160(80)	24(12)	10(5)	6(3)	256	1.3
Pest and disease	15(7.5)	0(0.0)	78(39.0)	107	570	2.9*
Harvest failure	2(1.0)	7(3.5)	99(49.5)	92(46.0)	589	2.9*
High cost of planting materials	2(1.0)	4(2.0)	26(13.0)	168(84.0)	592	3.0*
Inadequate extension contacts	25(12.5)	23(11.5)	102(51)	50(25)	527	2.6*
High cost of transportation	2(1.0)	24(12.0)	60(30.0)	114(57.0)	572	2.9*
Limited access to credit	16(8.0)	7(3.5)	66(33.0)	111(55.5)	561	2.8*
High cost of labour	7(3.5)	13(6.5)	81(40.5)	99(49.5)	573	2.9*
Inadequate market information	23(11.5)	60(30.0)	87(43.5)	30(15.0)	494	2.5*
Inadequate storage facilities	105(52.5)	43(12.5)	12(6.0)	40(20.0)	347	1.7

Source: Field survey, 2022

Note: NS= Not Severe, SS= Strongly Severe, S=Severe, VS= Very Severe, WS= Weighted sum, WM= weighted mean and * implies major constraints.

DISCUSSION

Socio-economic Characteristics of the Respondents

The socio-economic characteristics of the farmers considered in the study includes respondent's age, educational status and household size. The result in Table 2 revealed that the majority (90.0%) of the arable crop farmers were within the age group of 30 – 50 years with mean age of 37. This shows that arable

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farming activity in the study area was undertaken by farmers in their mid and active age. This finding is in agreement with the findings of Igwe and Onyenweaku (2013) that farmers within this age can readily provide physical strength required for farming activities.

The distribution of farmers according to their educational level as presented in Table 2. The result revealed that most (69.5%) of the arable crop farmers had one form of formal education or the other (i.e. primary, secondary and tertiary) while only 30.5% had Qur'anic education with an average of 10 years of formal education. This implies that majority of the farmers were literate and were positioned to take advantage of new farming techniques and innovation that could boost their productivity. This is similar to the findings of Issa *et al*. (2015) who opined that 86% of maize farmer had formal education.

Household size is the total number of the family members of the farmer. Table 2 also revealed that, more than half (56.0%) of the farmers had household sizes between 10 – 20 persons, with a mean household size of 10 persons. This implies that the household size of the farmers in the study area is fairly large and this helps to reduce the cost of hired labour as the farmer has household members that can assist with family labour. This finding is in agreement with the findings of Nasiru *et al.* (2012) in which 51.7% of the respondents had household size of 10 to 19 members while 15% had household size of 20 members and above.

Profitability of Arable crop Production in the Study Area

The result of profitability of arable crop production as presented in Table 3. The result shows the estimated gross margin analysis for arable crop farmers revealed that fertilizer cost constituted 32.5% of the total cost of production, followed by labor cost at 19.8%. The high cost of fertilizer in the market contributes to why it is the largest cost incurred. Despite this, arable crop farming is profitable with a net income of N211,103. The gross ratio is 0.4, meaning total farm costs are 40% of the gross income. A lower ratio is desirable, as it indicates a higher return per Naira invested. The operation ratio is 0.71, indicating the proportion of gross income that goes to service operating expenses. The return per capital invested is 0.64, meaning a return of 64 kobo is obtained for every one naira invested in arable crop per hectare. The investment is worthwhile. This is inline with Ggigbi, (2020) that found similar profitability in arable farming among farmers with access to agricultural credits.

Factors Affecting Productivity of Farmers in the Study Area

Result of the estimates on factors affecting productivity of the arable crop farmers presented in Table 4, revealed that the coefficient of determination (R^2) value was 0.9266 implying that about 2% variation in the productivity of the arable farmers was explained by the independent variables included in the model, the remaining 8% unaccounted could be due to error or other variables not captured in the model. The result reveals that out of fifteen (15) variables included in the model, five (5) variables were statistically significant at 0.01 and 0.05 probability levels, respectively. Four variables such as seed (.0908), farm size (.0465), level of education (.0746) and income (0.5678) were positive, thus they directly influence the productivity of arable crop farmers.

The coefficient for farm size (.0465) was positive and statistically significant at 0.01 probability level. This implies that a unit increase in farm size will lead to 0.0465 increases in the productivity of arable crop farmers. This is similar to the study of Lewu and Assefa, (2010), who reported a positive relationship between farm size and productivity of maize farming practices. This has the expected *a priori* because farmers with large expanse of farm land are expected to adopt sustainable farm practices which will invariably increase their income. Also, certain threshold farm size is necessary before the investment in a technology is worthwhile or more appropriate.

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The coefficient for level of education (.0746) was positive and statistically significant at 0.01 probability level. This implies that increase in the level of education will lead to increases in productivity of arable crop farmers. This is similar to the study of Alderman and Linnemayr (2009) who found a positive relationship between education and use of new farming practices. This has the expected *a priori* because education facilitates learning which in turn instill a favourable attitude towards the use of improved farm practices. Educated farmers can gather reliable information on improved agricultural practices through media such as newspapers, magazines, handouts, radio and television among others thus have better knowledge to efficiently analyse and use available information to make rational decision for adoption of the new innovation

The coefficient for income (0.5678) was positive and statistically significant at 0.01 probability level. This implies that increase in income will lead to an increase in productivity of arable crop farmers.

Poverty Status of Farmers in the Study Area

Table 4 revealed the results of the poverty status of the respondents in the study area. Based on the poverty line of (₦4741.79) for the farmers obtained, 65% of the farmers were found to be poor, while 35% were non-poor. This implies that most of the farmers were poor which could be due to their inability to jointly pool their resources together to buy bulk agricultural inputs as groups, inadequate access to agricultural credit, reliant on unpredictable climatic condition and the use of crude implements.

More so, the poverty incidence, gap and severity of the arable farmers were found to be 0.65, 0.16 and 0.04, respectively. The incidence of poverty which is the head count of those who fell below the poverty line implies that 65% of the arable farmers were below the poverty line of ₦4741.79. Poverty gap measures the extent or depth of poverty. It measures how far the poor are below the poverty line. This poverty gap index for this study as shown in Table 5 was 0.16. This implies that on average, every poor arable farmer is 0.16 below the poverty line (₦4741.79). The product of this index and poverty line determines how much is needed to escape poverty for this study, ₦0.16 X ₦4741.79 = ₦758.7. This implies that every poor arable crop farmer in the study area needed ₦758.7 to escape poverty. The poverty severity index measures the severity of poverty among the poor. It shows the poorer of the poor. The poverty severity index for this study as shown in Table 5 was 0.04. This result implies that the poorest arable farmer is 4% worst off compared to poor farmers on average.

Effect of Output on Poverty Status of Farmers in the Study Area

The results of the logit regression estimate on the effects of arable crop output on the farmer's poverty status of the farmers as presented in Table 6 revealed pseudo R–squared (coefficient of determination) to be 0.4209. This implies that about 42% variation in the poverty status of arable farming household was explained by the predictor variables specified in the model. The LR chi2 (12) 25.74 was significant at 0.01 probability level indicating the model overall goodness of fit. Out of the eleven (11) predatory variables specified in the model, four variables such as age (3236), extension contact (-.8419), access to credit (-1.1989) and income from arable (-.034) significantly influenced the arable farmers poverty status.

The Coefficient for age (3236) was positive and statistically significant at 0.05 probability level. This implies that a year increase in age would likely increase the poverty status of arable farmers by 118%. This could be due to the fact that capacity to engage in sustainable agricultural production decreases with old age. This is in agreement with the findings of Adeoti (2002) and Obasi *et al* (2013) which found that age has negative influence on productivity.

The coefficient for access to credit (1.198) was negative and statistically significant at 0.05 probability level.

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This implies that a Naira increase in credit access would likely decrease the poverty status of arable crop farmers by 12.38%.This is because households with access to credit could easily acquire more productive resources to enhance their productivity, which invariably enhances their needs to join cooperatives to increase their level of commercialization and be able to jointly pool their output together to sell in a centralized market.

The coefficient for access to extension services (.8419) was negative and statistically significant at 0.05 probability level. This implies that a unit increase in extension services may likely decrease poverty status of arable farmers by 8.87%. This could be due to the fact that contact with extension agent for services provides more access to improved crop production techniques, inputs, and other livelihood diversification strategies that would positively affect farmers' outputs and income-generating abilities, thereby alleviating their poverty status.

The coefficient for income from arable crop (.0349) was negative and statistically significant at 0.10 probability level. This implies that increase in income would likely decrease the poverty status of arable crop farmers. This may be due to the fact that increase in farm income will empower farmers to buy more production resources which enable them to have more surplus for sale.

The result of marginal effect estimates of the significant variables is presented in Table 7. It revealed that the probability of age increases by the coefficient of 1.1814, implying that for every unit increase in the age of the arable farmers, there is about 118% increase in the likelihood of poverty status. The coefficient of access to credit (0.1238) and access to extension contact (0.0887) implies that every unit increase in credit access and extension contact, decreases the likelihood probability of poverty by about 12% and 8.89%, respectively. This shows that all the identified variables play significant roles in the poverty status of arable crop farmers.

Constraints Faced by Arable Crop Farmers in the Study Area

The constraints experienced by the arable crop farmers are stated in Table 8. The study revealed that high cost of planting materials (was ranked the topmost constraint faced by arable crop farmers in the study area. This was followed by pest and disease (, harvest failure (, high cost of transportation (and high cost of labour (which ranked second most severe constraint in the study area respectively. Other included limited access to credit (which was ranked fifth and inadequate extension contact (which was ranked sixth. The cumulative effects of these problem can definitely affect arable crop production negatively.

CONCLUSION AND RECOMMENDATIONS

The study revealed that arable crop production in the study area is profitable hence worth undertaking. More so, seed, farm size, level of education and income directly influence the productivity of arable crop farmers in the study area while extension contact, access to credit and income from arable had inverse relationship with poverty status of the arable crop farmers. In addition, most of the farmers were poor and large proportions of the respondents were below the poverty line of ₦ 4741.79. Moreso, high cost of planting materials, pest and disease, harvest failure, high cost of transportation, and high cost of labour were the topmost constraint faced by arable crop farmers in the study area.

The study therefore recommends that the arable crop farmers should form farmer cooperatives, as this is expected to help them pool their resources together and negotiate better prices for inputs and outputs. This will also help them to access educational and training programs from extension agents, particularly in areas such as good agronomic practices. The arable crop farmers should diversify their sources of income through participating in other agricultural activities such as agroforestry, aquaculture, and non-farm activities can help reduce dependence on arable crop farming. Farmers should consider forming labour sharing

arrangements with other farmers to address high cost of labour in the study area and to improve access to credit among arable crop farmers in the study area, it is further recommended that government should establish or support microfinance programs by providing tax incentives for financial institutions that serve small-scaled farmers.

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