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FACTORS AFFECTING INCOME LEVELS OF OIL PALM FARMERS AFTER CREDIT UTILIZATION IN AKWA IBOM STATE, NIGERIA

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Abstract

The study analyzed factors affecting the income levels of oil palm farmers after credit utilization in Akwa Ibom State. In addition, the study examined the constraints faced by oil palm farmers in obtaining credit. To select 145 respondents, a multi-stage sampling procedure was used. The data were collected and analyzed using descriptive statistics and multiple regressions. The finding reveals that three factors: household size (0.148), interest rate (-0.205) and non-farm income (0.218) significantly influenced the income level of the farmers. Almost all the identified constraints (10 out of 13) were seen as serious constraints faced by the respondents with lack of funds (4.24), high cost of input (4.19), inadequate farmland (3.71), Lack of agrochemicals (3.67) and lack of planting materials ranked(3.44) emerging as the first five major constraints. This gave a Grand mean of 3.29. For oil palm producers to maintain and improve their economic performance, financial facilities at reasonable interest rates should be made available to them by the federal and state governments. Planting materials, agrochemicals and other farm inputs that will boost oil palm production should be made available to the farmers at a subsidized rate.

Key words**:** *income level, factors, constraints, oil palm, farmers, credit utilization*

INTRODUCTION

Oil palm plantations are one of the plantations which have made quite a unique contribution to the economic activities in Nigeria because of the produce gotten from it that is much needed industrially and domestically [7]. The oil palm tree crop is incredibly important and versatile, with every component of it having a purpose [8]. Palm fruit is majorly processed to obtain palm oil, palm kernel oil and palm kernel cake [13]. The oil extracted from oil palm is utilized for a variety of purposes, such as industrial oil, culinary oil, and fuel (biodiesel) [18].

West African palm oil consumption has grown domestically at a rate that is faster than its output in recent decades. Now, West Africa is a net importer of palm oil, having been the primary producer and exporter of the oil for centuries. Nigeria produced 43% of the 1.5 million tons of oil palm produced worldwide between 1961 and 1965. But since Nigeria's oil palm output has all but stopped, things have altered. Currently, 14.4 million tons of oil palm are produced worldwide; Nigeria, one of the major producers in West Africa, produces only 7% of this total.

[14] affirmed that while yield of palm oil is at a constant level, output supply depends much more on cultivated area. Imports deeply affect palm oil farmers in Nigeria, while exports are not enough stimulated.

[5] Acknowledges that in order to sustain oil palm production there is need to provide credit facilities.

According to [20] who compared the features of the oil palm industries in Malaysia and Nigeria, plantation management and processing in sizable, contemporary mills are the foundations of Malaysia's success. The production method known as plantations is characterized by a vast monoculture managed by a single entity. In contrast, dispersed smallholders in Nigeria account for 80% of production; they gather semi-wild plants and

employ manual processing methods. In the southern region of Nigeria, there are millions of smallholders dispersed over an estimated area of 1.65 million hectares. Other environmental and coordination issues include poor standards and quality control, monopoly of the marketing board, low provision of market information, low use of contemporary inputs, and low extension services [1].

Since the state of the global market prices affects smallholder oil palm farmers' income, their financial future is unpredictable [16]. Oil palm producers may find it difficult to make ends meet for their families due to price fluctuations in palm fruit. Oil palm farmers' well-being often correlates with the level of business of the farmer which is reflected by the income of the farmer. [10] states that income is the sum of money that members of society get as payment for the factors of production over a specific period. The return on the use of labour, equity, and agro-processing expertise on the farm is often how farm income is expressed.

[19] asserts that external and internal factors can be distinguished among the several variables suspected to have an impact on oil palm farmers' income levels. Input, which includes its price and availability, and output, which includes its price and demand, are examples of external factors. The amount of labour, capital (capital ownership level, which may keep some farmers' incomes low), and land area (the more land area cultivated, the higher the production and income per unit area) are examples of internal factors. According to [16], it is reported that labour and working capital have a positive relationship to income whereas price and land area have a negative relationship to income and this disagrees with the findings of [19]. [15] assert that expenditure is a major factor affecting the income level, In other words, higher incomes are associated with higher levels of expenditure. Accordingly, [17] found income levels to significantly influence household expenditure. This is also the case for oil palm farmers in Akwa Ibom; hencethe need to access credit so as to increase output bolstered by factors of production which ultimately boost incomes.

[11]. The riverine communities in Akwa Ibom hold strong claims to the origin of oil palm business particularly Eket and Ikot Abasi Local Government areas, however the business is now wide spread across the state [6].

Production of palm oil, a significant economic activity for the state's population, is primarily done by women and other rural residents with traditional methods [21].

[9] used production function analysis to examine efficiency in resource use in the production of palm oil in Abak local government area; findings revealed that palm oil production is influenced by labour (hired and family), chemicals, oil palm stands, fertilizer, and farm size. Most of the empirical reviews as it concerns Akwa Ibom State have focused on factors influencing and economic analysis of palm oil production. Studies that have examined the factors influencing the income of oil palm farmers after utilizing credit in Akwa Ibom State appear scarce in the literature.

Therefore, to develop appropriate policies that would support oil palm production, enhance farm productivity and the involvement of farmers and ultimately raise food production in the nation, it is necessary to investigate the factors influencing oil palm farmers income following access to credit in Akwa Ibom State. Specifically, the objectives of the study are as follows:

(1) determine factors influencing oil palm farmers income levels after accessing credit.

(2) examine constraints by oil palm farmers in accessing credit.

MATERIALS AND METHODS

Study Area

Abak Agricultural Zone, make up the study area. It is located at latitude 40591 North and longitude 70 and 471 East of the Greenwich meridian, with a total size of 190 square kilometres. The population of Abak as of 2023 was estimated to be 211,642, and 111,958 were males while 99,684 were female based on a 2.5% constant annual growth rate from the last census of 2006. Before the civil war, the main source of income for the

residents of this area was the export of palm produce via the river port at Ekpene Okpo, Ntak Ibesit, which is located about 8 kilometres from Abak town. The Abak division was the primary producer of palm oil and kernels exported through the river ports at NtakIbesit and Ikot Okoro. Traditional dances from Abak, like Ekpe, Ekpo, and Idiongitals, showcase the region's cultural legacy; nevertheless, the majority of these dances are Christian in nature. Abak Agricultural Zone comprises five local Government areas which include: Abak, Oruk Anam, Etim-Ekpo, Ukanafun and Ika. It has nine blocks with each block comprising eight cells (villages).

Sampling Procedure and Data Collection

The study adopted a multistage sampling procedure. The first stage involved purposive selection of Abak Agricultural Zone from the existing six (6) Agricultural Zones in Akwa Ibom State, because of its high oil productivity, for the second stage, out of the nine blocks in the zone five were randomly selected out of which three cells (villages) were randomly selected to give a total of 15 cells for the third stage. In the fourth stage, three oil palm cooperatives were selected per cell giving a total of 45 cooperatives, after which four oil palm farmers were selected per cooperative to give a total of 180 oil palm farmers. However, 145 oil palm farmers participated in the study. Primary data were obtained using a well-structured questionnaire given to the respondents who were credit beneficiaries.

Analytical Techniques

Ordinary least square (OLS) regressions were used to analyse the data in objective one which was to analyse the factors affecting the income levels of oil palm farmers after credit utilization while a 5-point Likert scale rating technique was to examine the constraints faced by oil palm farmers in obtaining credit. The data gathered to measure and identify the efficiency of the factors determining income level from oil palm production throughout a farming season were analyzed using multiple regression analysis. These factors were selected in light of previous research on comparable interactions concerning farmers' income. Our general regression equation is expressed implicitly as follows:

The implicit form is:

$$INC = f(\mathrm{HHS}, \mathrm{FAE}, \mathrm{VOC}, \mathrm{INR}, \mathrm{OPC}, \mathrm{NFI} + \mu$$

where:

INC = Income level of oil Palm farmers from oil Palm production (Naira)
HHS = Household size
FAE = Farming experience (years)
VOC = Volume of credit obtained (naira)
INR = Interest rate (%)
OPC = Operating cost (naira).
NFI = Non-farm income (naira)
μ = Error term

Objective 2 was analyzed using the 5-point Likert scale rating technique, [2]:

VS = 5, S = 4, P = 3, NC = 2, NS = 1

Likert Scale = $\sum W/N$ = Sum of Weights (W1+W2+----Wn)/N

where:
W = Weights assigned by the respondents to each statement ranging from 1 to 5, with 1 being less significant and 5 being very important.
N = Total number of respondents

$$\text{Weighted score} = \frac{\text{No of VS x 5 + No of S x 4 No of P x 3+ No of NC x 2+ No of NS x 1}}{\text{N}}$$

where:
VS =Very serious constraint
S= Serious constraint
P= Partial constraint
NC = Not a constraint
NS=Not sure .
The benchmark was 3.0 obtained by adding all respondents' weights and dividing by 5. $[5+4+3+2+1]/5 = 3.0$

RESULTS AND DISCUSSIONS

Analysis of Factors Affecting Income Levels of Oil Palm Farmers after Credit Utilization

Multiple regressions are conducted to examine if certain factors like (household size, farming experience, volume of credit, interest rate, operating cost and non-farm income) of the respondents can affect their farm income level.

Table 1 shows that all six (6) independent variables taken together have some level of influence on the variance in the income level of the respondents, $R^2 = 0.440$. From the table also, 19.4% variance (adjusted $R^2 = 0.194$) in the income level of the respondents is accounted for by the six (6) independent variables. Nevertheless, the joint influence of these independent variables on the income level of the respondents is statistically significant at $F = 5.251$; $P < 0.05$.

A critical examination of the Beta coefficients in Table 1 shows that three factors (household size, interest rate and non-farm income) significantly influenced the income level of the farmers. Household size is significant at 10% with a coefficient of 0.148. This implies that a unit increase in the household size will likely increase the availability of farm labour eventually leading to more production which increases the income level of the farmers by 0.148 units.

[3] also observed household to be a significant determinant of cassava production among famers. The coefficient of interest rate is -0.205. This means that a unit increase in the interest rate charged to the farmers for obtaining credit decreases the income level of the farmers by 0.205 units. More income through sales will increase the business level of the farmers. Sadly, these farmers have to be giving out some portion of the additional income to their creditors as interest on credit. This reduces their income level, [4] obtained similar results in their study on determinants of loan repayment performance among cooperative beneficiaries in South-south Nigeria. The coefficient of non-farm income is significant at 0.218. This means that a unit increases in the non-farm income increases income levels of oil palm farmers by 21.8%. This finding aligns with [16] wherein working capital and labour positively and significantly influenced income.

Table 1. Factors influencing income Levels of Oil Palm Farmers

S/N	Variables	Coefficients (Double Log)
1	Household Size	0.148 (1.838)* [0.039]
2	Farming Experience	0.087 (1.088) [0.355]
3	Volume of Credit	-0.143 (-1.496) [0.186]
4	Interest rate	-0.205 (-2.110)** [0.131]
5	Operating Cost	0.061 (1.774) [0.173]
6	Non-farm income	0.218 (2.679)** [0.128]
	Constant	13.548**
	R^2	0.440
	Adjusted R^2	0.194
	Standard error of Estimate	1.17570
	F-value	5.251
	Significant	0.000
	Remark	Significant

Source: Computed from Field Survey, 2021.

Note: Values in the middle represent t-values while values in the last parenthesis represent standard error. ** Significant at 5% level of significant; * Significant at 10% level of significant.

Analysis of the Constraints Faced By Oil Palm Farmers in Obtaining Credit

The researchers make an effort to examine the constraints the respondents are facing in their bid to obtain credit for their farming activities. Thirteen (13) possible constraints are pooled from the literature and the respondents are asked to indicate if they have experienced the constraints by indicating how serious such constraint is to them. The mean responses of the respondents are calculated (Table 2).

Any mean score greater than 3.0 is considered a significant constraint, however, mean scores less than 3.0 are considered as not significant constraints of that particular statement since the maximum response score for each item is 5 and the minimum is 1. From the results in Table 2, almost all the identified constraints (10 out of 13) are seen as serious constraints by the respondents.

Lack of funds is agreed to by the respondents as the highest form of constraint faced. It attracts a mean response of 4.24 and is ranked 1st. Funding is very important to the farmer for meeting farming, physiological (feeding) and even security (housing) needs. These

needs are rated high, given prominent positions as described as basic needs in Maslow's hierarchy theory of needs. Unless these basic needs are fulfilled, it would be difficult for the farmers to meet higher needs such as business expansion, and self-actualization which, in this situation, is a sound achievement in farming. If the funding needs of the farmers are not met, the implication is that their farming activities are inefficient. The result supports [9] claim that oil palm growers were limited to small-scale, subsistence-level producers due to a lack of financing options. Other constraints faced by the respondents are; high cost of input (4.19), inadequate farmland (3.71), lack of agrochemicals (3.67) and lack of planting materials (3.44). This result connotes the findings of [12] and [21] that the high cost of input, lack of planting materials and ongoing reliance on labour-intensive manual labour and primitive instruments were major challenges to oil palm production in Akwa Ibom State. Poor transportation system (3.24) and poor market structure (3.32) are also found as a constraint by the farmers. A good marketing structure will allow the farmers to expose their cassava products to potential buyers for more income. A grand mean of 3.29 indicates that the respondents are seriously constrained as they embark on their farming endeavours.

Table 2. Distribution of the Respondents on Constraints Faced in the Study Area

Constraints	**VS**	**S**	**PC**	**NC**	**NS**	**Mean**	**MR**
Planting material	31.7	17.9	23.4	17.2	9.7	3.44	5th
Processing facilities	17.2	20.7	18.6	34.5	9.0	3.02	9th
Storage facilities	6.9	15.9	28.3	38.6	10.3	2.70	12th
Soil fertility	14.5	18.6	24.8	24.8	17.2	2.88	10th
Incidence of pest and disease	19.3	19.3	24.8	25.5	11.0	3.10	8th
Lack of fund	66.2	13.8	8.3	1.4	10.3	4.24	1st
Lack of information	1.4	15.2	36.6	33.1	13.8	2.57	13th
Inadequate farmland	44.8	18.6	10.3	15.2	11.0	3.71	3rd
Lack of agrochemicals	28.3	31.7	28.3	2.8	9.0	3.67	4th
Labour scarcity	3.4	19.3	32.4	34.5	10.3	2.71	11th
Poor market structure	13.8	37.2	29.0	7.6	12.4	3.32	7th
Poor transportation system	24.1	21.4	26.2	11.0	17.2	3.24	6th
High cost of input	55.2	26.9	9.0	0	9.0	4.19	2nd
Grand mean						3.29	

Source: Field survey, 2021.
Note:
VS = Very Serious Constraint
S = Serious Constraint
P = Partial Constraint
NC = Not a Constraint
NS = Not Sure
MR = Mean Ranking

CONCLUSIONS

This study has been able to establish that household size, interest rate and non-farm income are the potent factors affecting income levels. The study showed that there is a positive influence of household size and non-farm income on oil palm farmers' income. On the other hand, interest rate negatively influenced income. Nevertheless, the respondents were besieged with several constraints such as lack of funds, high cost of input, inadequate farmland, lack of agrochemicals and lack of planting materials, etc.

Thus, the study recommends the followings:

-To maintain and boost oil palm producers' economic performance, the federal and state governments should provide easily accessible loan facilities at affordable interest rates.

-Planting materials, agrochemicals and other farm inputs that will boost oil palm production should be made available to the farmers at a subsidized rate.

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