

## **Examining Credit Access to Purchase Improved Oil Palm Fruit Processing Technology among Oil Palm Fruit Processors in Kogi State, Nigeria**

**By**

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### ***Abstract***

*The study examined access to credit to purchase improved oil palm fruit processing technology among oil palm fruit processors in Kogi State, Nigeria. The objectives of the study were to describe the socio-economic characteristics of the oil palm fruit processors and ascertain credit access to purchase improved oil palm fruit processing technology. Data for the study were collected through the use of structured questionnaire. Using multi-stage sampling technique, a sample of 240 oil palm fruit processors were taken from three out of four agricultural zones in the study area to represent the population. Organization and description of data were done by the use of frequency distribution table, percentage and mean. The findings showed that majority (60.4%) of the respondents were female with a mean age of 43 years; and an average household size of 8 persons. Majority (73.3%) of the oil palm fruit processors were married, while 82.5% had formal education. The respondents were largely experienced with the average of 16 years of experience. The results also showed that 62.5% of the respondents had less than 5 extension contacts annually. Majority (75.8%) of the processors had no access to credit facilities to purchase the improved processing technology. Based on the findings from the study, it was recommended that non-frustrating credit facilities should be made available to the processors to enable them purchase the technology.*

**Keywords:** Credit Access, Processors, Purchase, Technology, Nigeria.

### **Introduction**

The oil palm (*Elaeis guineensis*) is a perennial crop from whose fruit monocarp palm oil is extracted. Its place of origin is the tropical rain forest of West Africa from where it spread to South America in the 16<sup>th</sup> century and to the Asia in the 19<sup>th</sup> century, and that Asia overtook Africa as the principal oil palm producing region in the world during the 1970s (Olagunju,

2008). According to Ekine and Onu (2008) oil palm is found in both wild grooves and plantation in Nigeria.

According to Korie *et al.* (2013) the domestic consumption of palm oil in West Africa in recent decades, has increased more rapidly than its production, to the point that the region which used to be the leading producer and exporter of the product has now become the net importer. In line with this, Vogel (2002) pointed out that Nigeria is now an importer of the product; Indonesia and Malaysia producing 87% (i.e 46% and 41% respectively) of the world's palm oil (Butler, 2008).

Beyond this alarming situation, there has been a steady shortfall in the nation's domestic supply of palm oil. This could be partly attributed to the crude palm oil extraction methods adopted by the oil palm fruit processors which translate into low quantity and probably poor quality oil. This scenario leads to increase in the price of the commodity. The drudgery associated with the crude processing method is a very vital point, among others that could be responsible for the recurrent shortfall in the domestic palm oil supply in the country. Adoption of improved oil palm fruit processing method could redress this state of affair. Unfortunately, the technology is expensive for small and medium scale farmers and processors in Nigeria rural settings. Hence, FAO in Korie *et al.* (2013) stated that in order to improve the standard of living in the rural areas that depend on this produce for their livelihood, modern processing techniques like the hydraulic press were developed and introduced to the processors to help facilitate production since low production was due to the use of crude technologies.

Agricultural credit is indispensable for sustainable agricultural development to be achieved in any country of the world (Ololade *et al.* in Adejoh *et al.*, 2018). Credit according to Dayo *et al.* (2009) involves all advances released for farmer use, to satisfy farm needs at the appropriate time with a view to refunding it later. Thus, it can be in the form of cash or kind, obtained either from formal, semi-formal or informal sources. Agricultural credit is essential in agricultural development (Ibitoye, 2012). According to Odoh *et al.* (2009) agricultural credit refers to an undertaking by individual farmers or farm operators to borrow capital from intermediaries for the farm operations. To increase the production of palm oil, credit is required. Ibitoye *et al.* (2016) posited that commercializing agriculture sector to meet the current food challenges require credit. Thus, the need arises for the provision of credit to the majority of Nigerian farmers (Adejoh *et al.*, 2018), including palm oil processors.

According to Audu (2013) agricultural credit is a process of obtaining control over the use of money, goods and services now in exchange for a promise to repay at a future date. Further to this, credit is a non-equity capital of a farm business and it plays an important role in providing the needed liquidity to farmers who do not have sufficient equity capital to invest in farming (Subba-Reddy in Audu, 2013).

Studies on credit availability sources abound. Some scholars classified sources of credit for financing of agricultural production into informal and formal sources; and institutional and non-institutional sources (Ibitoye, 2012 and Audu, 2013). Formal or institutional sources include cooperatives, commercial banks and Nigeria Agricultural Cooperative and Rural Development Bank and Bank of Agriculture, while informal or non-institutional sources include relatives,

friends, produce buyers, traders and merchants. Agricultural credit increases productivity of farmers and processors. Its availability is therefore highly imperative and worthwhile to attain the expected productivity in palm oil processing. The objectives of the study therefore, were to: describe the socioeconomic characteristics of the oil palm fruit processors and ascertain credit access to purchase improved oil palm fruit processing technology.

### **Methodology**

The research was conducted in Kogi State, North central of Nigeria in 2012. The state has a total land area of 28, 312.64 Km<sup>2</sup> which lies between longitudes 5<sup>o</sup> 18 E to 7<sup>o</sup> 54 E and 6<sup>o</sup> 30 N to 8<sup>o</sup> 42 N. The state is made up of twenty-one (21) Local Government Area (LGAs). They are Adavi, Ankpa, Ajaokuta, Bassa, Dekina, Yagba-East, Yagba-West, Ijumu, Kabba/Bunu, Kogi, Idah, Ofu, Igalamela/Odolu, Ibaji, Okene, Olamaboro, Okehi, Omala, Ogori-Magongo, Mopamuro and Lokoja LGAs.

Oil palm is one of the major agricultural activities in the study area, particularly within the oil palm production areas of the state. Oil processing activities are done by both men and women as a source of livelihood. Multistage sampling technique was used to select 240 oil palm fruit processors (respondents) for the study. The stratification was based on the existing four agricultural development programme administrative zones in kogi state: Zone A (Aiyetoro-Gbede); B (Anyigba) C (Koton-Karfe) and D (Alloma). The zones have 6 extension blocks (EBs) each with 8 cells per each block. Based on the oil palm fruit processing activities, 3 zones: A,B and D were again purposively selected with 48 oil palm fruit processors for Zone A and 96 respondents for each of Zones B and D.

Data were collected using structured questionnaire. Data obtained were analysed using descriptive statistics such as frequency distribution, percentage and means.

## **Results and Discussion**

### **Socio-economic Characteristics of the Respondents**

In the study area, oil palm fruit processing enterprise is done irrespective of sex. Table 1 shows that majority (60.42%) of the respondents were female, implying that a tangible fraction of men were involved in the processing of palm oil in the study area. This finding is in consonance with that of Korie *et al.* (2013 who reported that the venture is mainly a female one.

Table 1 also relays that the venture is in the hands of the matured and economically viable people whose ages range from 20 to 60 years with an average age of 43 years. The youthful nature of the age distribution is also an added advantage in terms of longevity of the trade and the predisposition to innovation adoption. The findings of Onoh and Peter – Onoh (2012) is in line with this, that majority of the oil palm farmers and processors fall within the agile and active age range of 40-60 years.

The average household size of 8 reported in Table 1 is slightly higher than the national average of 7 and similar to the findings of Korie *et al.* (2013), suggesting a high level of labour availability. Orebiyi *et al.* (2011), have also reported that large family size may mean more family expenses and fewer funds for agricultural activities. This calls for additional funds availability to the oil palm processors. Emodi (2010) however, pointed out that the mean household size could also characterize moderate dependency ratio in Nigeria.

**Table 1: Socioeconomic Characteristics of Palm Oil Processors**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Mean</b>
<b>Sex</b>			
Male	95	39.6	
Female	145	60.4	
<b>Age (Years)</b>			
20-30	39	16.3	42.8(SD=11.0)
31-40	38	15.8	
41-50	87	36.3	
51-60	60	25.0	
61+	16	6.6	
<b>Household size</b>			
<5	39	16.3	7.8(SD=3.7)
5-10	136	56.7	
11-15	47	19.6	
16-20	16	6.6	
21+	2	0.8	
<b>Marital status</b>			
Single	28	11.7	
Married	176	73.3	
Divorced	22	9.2	
Widowed	14	5.8	
<b>Years of Formal Schooling</b>			
0	42	17.5	8.5(SD=5.7)
1-6	17	7.1	
7-12	82	34.2	
13-18	84	35.0	
18+	15	6.5	
<b>Experience</b>			
<5	14	5.8	16.0(SD=9.3)
5-15	95	39.6	
26-25	74	30.8	
25+	57	23.8	
<b>Extension Contact</b>			
<5	150	62.5	7.7(SD=8.34)
5-10	75	31.3	
11+	15	6.2	

**Source:** Field Survey, 2012.

Data from Table 1 also show that majority (73.3% of the respondents in the study area were married. This could be an advantage for the venture as combined efforts by a couple in a venture has the possibility of stabilizing the venture. Supporting this finding, Mohammed *et al.* (2014) asserted that a married farmer is more likely to adopt improved agricultural technologies as he/she need to feed more mouths as marriage and adoption are supposed to be positively corrected. Ojutiku *et al.* (2012) underscored the importance of marital status by reporting that the marital status may determine availability of labour in traditional agricultural economies.

Table 1 also relays that only about 17.5% of the palm oil processors in the study area lacked any form of formal education. The level of education in the study area as suggested by the average years of schooling of 8.5 years is at most moderate. Education has been found to be a catalyst for respondent's record keeping, adoption and productivity (Otene *et al.*, 2012). The process of farmers' transformation is made easier when farmers are educated and are likely to take more decisions in the management of farm enterprises. Similarly, Olagunju (2008) reported that education plays an important role in palm oil processing operations since it will facilitate the adoption of innovations that will improve palm oil processing.

Data in Table 1 also show that the average level of experience in palm oil processing as measured by years in which a respondent has been processing palm oil is 16 years; suggesting that the processors in the study area were largely experienced. In agreement with this finding, Idrisa *et al.* (2012) argued that experience depicts a good signal for adoption since experience helps convince the farmer of the importance of innovation and credit usage. Similarly, Orebiyi *et al.* (2012) stated that the number of years a farmer had been in farming business may be an

indication of the level of the practical knowledge he had acquired and if properly channeled, could lead to higher levels of efficiency and increase farm production in terms of output.

Table 1 also shows that over 62.5% of the respondents in the study area had less than 5 contacts with extension agents in the course of the year covered by the study. The average extension contact was found to be 8. Contacts with extension personnel have been found to be a key determinant of innovation adoption as it helps in confidence building and credit managerial ability. This agrees with Sani *et al.* (2014) that a positive relationship is hypothesized between extension visits and the probability of adoption of a new technology.

#### **Access to Credit to Purchase Palm Oil Extraction Technology**

The distribution of respondents according to access to credit to purchase palm oil extraction technology is presented in Table 2.

**Table 2: Distribution of Respondents According to Access to Credit to Purchase Palm Oil Extraction Technology**

<b>Access to Credit</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Cumulative %</b>
Access	58	24.2	24.2
No access	182	75.8	100.0
<b>Total</b>	<b>240</b>	<b>100.0</b>	

Source: Field Survey, 2012.

The findings from this study show that only 24.2% of the respondents attested to the fact that they had access to credit to purchase the technology. The implication is that credit is a serious impediment to the adoption of technology and it is a reflection of the general situation of Nigerian agriculture (Olayemi, 2008); Falusi, 1995). This gives credence to the finding of Idu *et*

*al.* (2011) that as economic factor such as cost become favourable, the adoption of improved production technologies increased. According to Onuk *et al.* (2010), credit is important for adoption of innovation. Ayoola (2012) also indicated that very low farm income with implication for resource- poverty and small scale productions negatively affect adoption of new technology. Ibitoye and Onje (2011) underscored the significance of credit when they asserted that credit would facilitate innovation adoption by farmers, which would lead eventually to higher output from the agricultural sector. Adeyemi (2008) in line with this also asserted that credit is needed by farmers to expand their farm size, hire more labour to supplement limited and fixed supply of family labour and for the purchase of farm inputs.

### **Conclusion and Recommendations**

The study has so far highlighted that oil palm processors in the study area were desirous and ready purchase or adopt the improved oil palm processing technology (Palm oil extraction machine). This desire has been hampered by high cost of the technology that the processors could not afford. In addition, poor education of the processors and low extension contact were associated issues. Based on the findings from the study, the following recommendations were made:

- i) Efforts should be made by government to make adequate and enough credit facilities available with little or no monetary interests attached for oil palm farmers and processors.
- ii) In the absence of enough credit facilities, government should place subsidy policy on the supply and sales of the technology.

- iii) Since education is known to increase managerial and adaptive capacity of individuals, efforts should be put in place to constantly train and educate the oil palm farmers and processors for the enhancement of their managerial skills. Equally, extension contacts should be increased and sustained for their benefit.

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