

PROFITABILITY OF OIL PALM SEEDLINGS IN ONDO STATE, NIGERIA

*¹Adejo, A. S., ²Oyinlade, T. K., ³Oyeleke, M. O., ⁴Bello, S. A

Federal College of Agriculture, Akure, Ondo State.

(romzycool4sure1@gmail.com) phone: 08066007402

Abstracts: This study was carried out to analyze the profitability of oil palm seedling production in Ondo-West Local Government Area of Ondo State. The specific objectives were to describe the socio-economic characteristics of oil palm seedling producers, estimate cost and return of oil palm seedling production, determine the profitability of oil palm seedling production and factors affecting the production of oil palm seedling production in the study area. A multi stage sampling technique was used to select 150 respondents. Descriptive statistical tools such as frequency tables and percentages were used to describe socio economic characteristics of respondents. Gross margin analysis was used to estimate cost and return, benefit cost ratio and return on investment were used to determine the profitability while regression analysis was used to determine the factors affecting oil palm seedling production in the study area. The result showed that majority of the respondents are males (80%), aging (62%), literate (88%), while 64% had 4-9years of experience in oil palm seedling production. The result further revealed a return of ₦8887560 and profit of ₦2.88 was generated. The regression analysis showed that Age, marital status, level of education, major occupation and source of funding all had negative relationships on returns but insignificant. Source of sprout nut was positively significant at 1% indicating that an increase in the source of sprout nut will lead to an increase in returns. The study recommended that producers should be encouraged to join farmers' societies for easy access to credit facilities, production inputs, and also good pricing regimes should be introduced.

Keywords: oil palm seedlings, profitability, returns, production.

1. INTRODUCTION

Nigeria used to be the world's largest producer of oil palm (*Elaeis guineensis*) before the crude oil boom era and now Malaysia has taken the leading position (Onwubuya *et al.*, 2012). The Nigeria palm oil production has been on an increase from 1991- 2008, but declined significantly from 2009- 2010 (Adejo *et al.*, 2019). Moreover, the development of oil palm subsector has been slow in Nigeria because the production is based on large-scale monoculture where 80 percent of production comes from dispersed small-scale holders who harvest semi-wild plants and use manual processing techniques (Ekunwe *et al.*, 2016; WRM, 2001). However crop remains one of the most important economic crops in the Nigeria. It accounts for about 72% (1.3 million tonnes per annum) of Nigeria's total vegetable oil production and contributes to the country's foreign exchange earned yearly (Omoti, 2003). Oil palm is appreciated by Nigerians because of its level of utilization with respect to the various products and by-products that can be obtained from it. Generally, the oil palm tree is considered a "complete plant" because all the products and by-products derived from the tree possess commercial importance, Hence "No part of the tree is wasted".

Palm oil appears as one of the most promising productive alternatives for the Nigeria agricultural sector and long term industrialization, but given the present output Level of oil palm products. It is clear that Nigeria is supplying below the quantity demanded and it necessitates the importation of its products. Following the low supply of oil palm products in Nigeria, the country has been somewhat dependent on importation to augment local supply (Adejo *et al.*, 2019) due to low technological inputs, small holder producers, limited access to credit, scattered farm settlements, slow growth in farm acreage, reduction in yields as a result of poor farm to market turnover, transportation challenge and poor road network (Equity research, 2012). However, the key factors affecting the pricing of oil palm products in Nigeria are movement of global price of crude palm oil and existing weather conditions as discovered by Sade (2009).

Several studies have shown that oil palm seedling production is a profitable and viable enterprise in Nigeria (Ekunwe *et al.*, 2016). However, few studies have been documented on the revenue derived from oil palm seedling production or the profitability of oil palm seedling. It is observed that a number of business oriented persons are not investing in oil palm seedlings production. What would be responsible for this? Could it be that producers are not making enough revenue for this? Are there some other problems that are preventing investment in oil palm seedling production? That is why; this study seeks to identify the profitability of oil palm seedlings production in Ondo- west local government area of Ondo state.

The objectives of the study are to describe the socio-economic characteristics of oil palm seedling producers in the study area, estimate the cost and return of oil palm seedlings production, determine the profitability of oil palm seedling production, and determine the factors that influence the profitability of oil palm seedling production in the study area.

2. METHODOLOGY

The study was carried out in Ondo West Local Government Areas of Ondo State. The local government falls within the tropical forest with total rainfall at about 1,250mm-1,500mm annually and it has bi-modal distribution between April-August and August-November. The maximum temperature ranges between 28⁰c -32⁰c and minimum temperature ranges between 12⁰c – 23⁰c. Agriculture is the prominent occupation of the people in the areas. Majority of people in the study area are farmers who produce and market some agricultural products like Rice, cassava, cocoa etc. and livestock like, poultry, goat and sheep. They also engaged in civil servants and commercial traders. Ondo west local government comprises of several communities.

A multi stage sampling technique was employed for the study. The first stage was the purposive selection of three local governments based on their level of production of oil palm seedlings while the second stage was a random selection of 50 respondents each from each local government making a total of 150 respondents.

Data were collected through primary sources only. Data were collected through the use of structured questionnaires to obtain relevant information regarding their oil palm seedling production.

The descriptive statistics was used to examine the socio-economic characteristics of the respondent, Gross margin analysis was used to analyze cost and return in oil palm seedling production, Benefit Cost Ratio and return on investment was used to determine profitability, while regression was used to determine the influence of some independent variable on return from oil palm seedling production.

Model Specification

Gross Margin

Gross margin was used to estimate cost and Return Of oil palm seedling production in the study area.

$$GM=TR-TVC$$

Where;

GM= Gross margin

TR= Total revenue

TVC= total variable cost

Benefit Cost Ratio

Benefit cost ratio was used to determine profitability in oil palm seedling production in the study area.

$$BCR= TR/TC$$

Where;

BRC= Benefit cost ratio

TR= Total Revenue

TC= Total cost

Return on Investment

$$ROI = GM/TC \times 100/1$$

Where;

ROI = Return on investment

GM = Gross margin analysis

TVC = Total variable cost

Regression Analysis

Regression analysis was used to determine the factors that influence the profitability of oil palm seedling production in the study at area. The implicit from the regression model is simplified as follow:

$$Y=f(x_1, x_2, x_3, x_4, x_5, x_6, x_7, \dots, U)$$

Where;

Y=returns

X₁= age

X₂= Gender

X₃= Marital status

X₄= Level of education

X₅= Household size

X₆= Major occupation

X₇= Secondary occupation

X₈= Years of experience

X₉= Source of funding

X₁₀= Farm size

X₁₁= Source of sprout nut

U= Error term associated with measurement of the variable

3. RESULT AND DISCUSSION**Table 1: Socio-Economic characteristics of the respondents**

Variables	Frequency	Percentage (%)
Age(years)		
30-40	30	9.0
41-50	27	18.0
51-60	42	28.0
61-70	33	22.0
71-80	18	12.0
Total	150.	100.0
Gender		
Male	120	80.0
Female	30	20.0
Total	150	100.0

Educational Level

No formal education	18	12.0
Primary education	3	2.0
Secondary education	51	34.0
Tertiary education	78	52.0
Total	150	100.0

Marital Status

Single	24	16.0
Married	120	80.0
Divorced	3	2.0
Separated	3	2.0
Total	150	100.0

Household Size

1-2	6	4.0
3-4	57	38.0
5-6	72	48.0
7-8	15	10.0
Total	150	100.0

Major Occupation

Oil palm seedling Production and Marketing	54	36.0
Oil palm seedling Production	48	32.0
Civil servant	39	26.0
Others	9	9.0
Total	150	100.0

Years of experience

1-3	54	36.0
4-6	78	52.0
7-9	18	12.0
Total	150	100.0

Source of Fund

Personal savings	90	60
Commercial Banks	12	8.0
Friend and family	15	10.0
Cooperatives	33	22
Total	150	100.0

Farmer's society

Yes	72	48.0
No	78	52.0
Total	150	100.0

Benefits got from society

Credit facility	111	74.0
Seminar	24	16.0
Land	3	2.0
Inputs	12	8.0
Total	150	48.0

Farm Size

1-2	144	96.0
3-4	3	2.0
5-6	3	2.0
Total	150	100.0

Means of Obtaining Land

Inheritance	78	52.0
Lease	42	28.0
Purchase	30	20.0
Total	150	100.0

Source of Sprout Nut

NIFOR	114	76.0
Local farm	30	20.0
Others	6	4.0
Total	150	100.0

Selling Price

Price fixed by trade union	24	16.0
By price of previous sale	57	38.0
By asking another producer	84	56.0
Total	150	100.0

Age distribution of respondents showed that majority (62%) of the producers were ageing while 80% were males implying that more males participate in production of oil palm seedling in the study area probably due to its nature of handling and other activities involved and this agrees with Ekunwe *et al.*, (2016), who stated that oil palm seedling is difficult in nature and requires physical energy which discourages women.

Educational distribution showed that 88% were literate which could impact their capacity to adopt new innovations. Majority (80%) and (48%) were married and had household size 5-6 respectively. The occupation of respondents indicated that 36% were involved in production and marketing of oil palm seedlings while 32% were involved solely in production. Majority (64%) had between 4-9years of working experience which implies the respondents have a wealth of experience which could increase productivity stated by Karki (2004) that there is a positive correlation between experience and efficiency in business and this will increase the quantity and quality of the product. Majority of the producers relied on their personal savings for financing the business as indicated by 60% respondents having personal savings as their most common source of fund while only 8% obtained funds from commercial banks.

Minority (48%) of the respondents were members of farmers' society, 74% of them had credit facility as their major benefit derived from the society, while the rest had seminars, land and inputs as benefits. This may imply that the high rate of non-membership might restrict accessibility to improved technology as well as finance which are essential for expansion purposes. 96% of the respondents had 1-2acres of land which implies that palm oil seedling production does not require much area of land for production. Majority (56%) of the respondents determine the selling price by asking another producer implying that fixed price by trade union are not effective and this may affect their profitability in the production activities.

Profitability of Oil Palm Seedlings*

The gross margin analysis result showed a TR of ₦12,726,000 and a TVC of ₦3,848,440 resulting in a GM of ₦8,887,560 and by implication it showed that oil palm seedling production has a high returns.

The benefit cost ratio analysis showed a ratio of ₦2.8776 indicating a return of ₦2.8 for every ₦1 cost incurred in the business. Hence, it is considered profitable and this is corroborated by Akinniran *et al.*, (2013) who reported that oil palm production is profitable. The return on the investment which was equally used to analyze the profitability of oil palm seedling production revealed an ROI of 2.315409 implying a return of 230% on every ₦1 invested in the business. Hence, the business is deemed profitable.

Table 2: Regression Result

Variables	Coefficient	t. values
Constant	-69344.420	-0.117
Age	-95084.941	-1.185
Gender	125725.860	1.098
Marital status	-59921.018	-1.0376
Level of education	89473.365	-0.960
Household size	102249.838	1.161
Major occupation	-53920.932	-0.836
Secondary occupation	47275.103	0.853
Years of experience	923116.894	1.057
Source of funding	-53927.390	-1.303
Farm size	248817.249	0.957
Source of sprout nut	314619.078	3.235*

$R^2 = 63\%$. Source: Data Analysis, 2018. * For 1% level of significance.

The result of regression analysis is presented in the table above. The result of the R^2 is 63% implying that the independent variables explain the dependent variable by 63%. Age, marital status, level of education, major occupation, and source of funding all had negative relationship on returns but insignificant. Gender, household size, secondary occupation, years of experience and farm size all had positive relationship on returns but was all insignificant. Source of sprout nut was positively significant at 1% indicating that an increase in the source of sprout nut will lead to an increase in returns. This may imply that buyers are more concerned about the source of sprout nut.

4. CONCLUSION

Based on the findings of the study, it could be concluded that oil palm seedling production is profitable. It is capable of ensuring steady income and employment generation especially for the youth in the study area. Hence it is a means of alleviating poverty in Nigeria.

5. RECOMMENDATION

In order to improve the production of oil palm seedling production, the following recommendations are made:

- i The producers should be encouraged to join farmers societies for easy access to credit facilities and production inputs.
- ii Government should assist oil palm seedling producers with legislation on stable market price policy for better returns.
- iii Government should construct infrastructures such as good road network and borehole to enhance production of oil palm seedling
- iv Government should increase more fund into NIFOR which serve as a reliable source for sprout nut.

REFERENCES

- [1] Adejo, A. S., Akinduko, A. K. and Oyinlade, T. K. (2019). Growth Trends in Edible Oil Production and Importation in Nigeria: 1999 – 2013. *Conference proceedings for sustainable livelihood and development network for Africa (SLIDEN AFRICA)*. Pg. 54-58
- [2] Akinniran, T.N., Ojedokun, I.K., Sanusi, W.A., & Ganiyu, M.O. (2013). Economic Analysis of Oil Palm Production in Surulere Local Government Area of Oyo State, Nigeria. *Economic Analysis*, 3(13)
- [3] Ekunwe, P.A., Egware, R.A., & Anetor, E. (2016). Revenue from oil palm seedlings production in Edo State Nigeria. *African journal of Agriculture, Technology and Environment Vol. 5(2): 51-59*
- [4] Equity Research (2012): Impact Assessment oil palm Development on tropical biodiversity presentation.
- [5] Hartley, C.W.S. (1998): The oil palm, Third Edition. Harlow, England: Longman.

- [6] Karki, K.B. (2004). Improvement of Animal Dung, Biogas, Environment and Soil Fertility. *Proceedings 5th National Animal Science Convention Livestock development for Socio-economic empowerment organized by NASA pp. 241-246.*
- [7] Omoti, U. (2013): "The oil palm in Nigeria". *Paper presented to the Regional Group meeting in oil palm sector Development, organized by UNDO, 6th - 19th December, 2003, Akosonbo, Ghana.*
- [8] Onwubuya, E. A., Ajani, E. N. and Nwalieji, H. (2012). Assessment of oil palm production and processing Among Rural Women in Enugu North Agricultural Zone of Enugu state, Nigeria. *International journal of Agricultural sciences.* 2 (12): 322-329
- [9] Sade, B. O. (2009): "Economic Analysis of oil palm production and processing in Ekiti state of Nigeria" Thesis. UNAD