

Analysis of Determinants of Growth in the Oil Palm Industry in Niger Delta of Nigeria; A Case Study of Bayelsa State

Okidim, I.A. & Albert, C.O.
Department Of Agricultural & Applied Economics/Extension
Rivers State University Of Science & Technology-Nkpolu
Port Harcourt, Rivers State, Nigeria.
Corresponding author: iboh.okidim@yahoo.com

Abstract

The study was conducted to examine the determinants of growth of oil palm industry in Nigeria's Niger Delta area with a particular reference to Bayelsa State. A total of 63 respondents were interviewed. Questionnaire were categorized into A and B. Category A were made up of management staff of Bayelsa palm while category B were made up of ordinary farmers. Simple percentage, tables and ordinary least square (OLS) regression analysis were used as analytical test. Result on analysis showed that 85% of those who were involved in this business were male, only 14% were female. The age range of 26 – 60 years is the main participant. The business only utilizes mainly secondary school leavers. About 81% of the respondent use personal fund to run the business (equity financing). While non-equity i.e. those who borrowed money to run the business were only 19%. This is because farmers have no assets to bank loan. Although, the findings reveal that there is high rate of capital recovery; econometric result reveal that that borrowed fund, income and owners equity were significant at 5% and 10% respectively. It means that net income, owner's equity and borrowed funds were critical in the growth of oil palm industry, even though crude implement and drudgery were seen to major problems.

Keywords: Determinants, Growth, Oil Palm Industry, Bayelsa State, Nigeria

Introduction

Africa oil palm which is a native of Africa was particularly from Sierra Leone in west Africa through the democratic republic of Congo in the east, where it was domesticated in a native range and then move through out Africa by humans who practice agriculture 5000 years ago (Turner, 1981).

The European explorers discovered the oil palm in the late 1400 and distributed it through out the world during the slave trade period in 1800's. The oil stated becoming an industry 1848, four oil palm seeds were brought to Javanese botanical garden and its resulting progeny formed the basis of the world's largest production. Although oil palm is cultivated, it could also be grown in the wild forest especially in the fresh water swamp or in the riverine forest, but can not thrive well in primeval forest and can also not regenerate in high secondary forest (Duke, 1983). Oil palm tolerate a mean maximum temperature of 32°C and a mean minimum temperature of 21- 24°C and grows on a variety of soil with adequate water supply, though not on water logged, high and extremely sandy, stony or peaty soil. Coastal marine alluvial clay of volcanic origin may be good (Duke, 1979).

Problem Statement

Oil palm produce was one of the backbones of the Nigerians economy and by extension West African countries, it constituted one of the major exports or foreign earnings in the early 1960s (Anyawu, 1988). Apart from economic value, it was used and it is still being used for food, medicine and for other purposes.

However, since the advent of crude oil in Nigeria, less attention has been given to the oil palm industry in Nigeria, because of high capital involvement. The cultivation of oil palm was restricted or limited to the plantation sector, state government of the Niger delta states such as Rivers and Bayelsa states embark on the cultivation of palm estate. Despite this effort, it has still not satisfied local needs let alone export. It is against this backdrop that this study is conducted to investigate the possible cause of slow growth in oil palm industry in Bayelsa state, despite the fact that in 1960, Nigeria earned about N28 million from oil palm export and that export earnings ranged between N22 million and N28 million and since the export earning has plummeted (FOS, 1981).

Objectives of The Study

The broad objective of this study is to determine the growth in oil palm industry in Bayelsa State, while the specific objectives are to;

- (1) investigate what economic factors that determine the growth of oil palm in Bayelsa state;
- (2) ascertain the amount from total earnings that is used to meet cost of non- equity capital in oil palm enterprise;
- (3) determine the amount of total income that goes for consumption and
- (4) examine the amount or proportion of total earning that goes for tax.

Literature Review

According to Coley,(2003), oil palm has food and non food used about ten percent (10%) of palm oil is use for non food products primarily in soap and detergents, candles, in rubber processing, tin plating of metals, cosmetics, plastics, lubricant, glycerol, diesel substitute (fuel) which has lower particles in smoke and runs engines smoothly without the need for modification. Other uses of oil palm include organic fertilizer, bromes production.

The waste from processing of fruit to oil can be use as mulch, it is used as a, liniment for indolent tumor, it is a folk remedy for cancer, ulcer, headaches and rheumatism (Hartwell, 1971).

In Nigeria, the following palm produce are useful. They include palm oil, palm kernel, palm kernel cake, palm kernel pellets and palm kernel oil. Oil palm had huge prominent in the early 60's when it was a major export. Palm plantation owners earned their living through export while those who never owned plantation supplied labour to plantation owners to earn a living (Hodge. 1975). Oil palm can yield or produce 2.5 million tonnes per hectare per year. The wild palm can produce 2 to 5 million tomes. Estate yield in Africa range from 7.5 to 15 million tons of bunches per ha per year (Hodge, 1975). Palm oil is one of the world's important vegetable oils, in 1968 world producing countries exported about 844,000 log tones of oil and 420,000 log tones of kernel (Coley,1981).

Here in Niger delta, Bayelsa and Rivers state planted mass estate of palm in Ubima in Ikwerre local government area and the Yenagoa Delta Development programme in Bayelsa, State. In Balyesa, the Yenagoa Delta Development Programme later became the low land oil palm project popularly called (LOPPY) started in 1988 and financed on loan borrowed from the European Union (EU). It was proposed to cover an area of about seventy eight thousand (78,000) hectares, but as at December 2005 only one thousand hectares has been successfully planted.

The purpose for which Bayelsa palm was established was to create employment and also to produce and market palm oil and oil palm products such as kernel oil, kernel cake both in Bayelsa State Nigeria and internationally.

Bayelsa palm currently produces about 175.16 tons per annum. Out of this, about 165.75 tons are sold. It runs a spill of about 1.088 tons annually. 10% of the total production goes for industrial uses while 90% is for food.

Methodology

This was conducted in the Niger delta area of Nigeria using Bayelsa as a case study. Bayelsa state was created in October 1st 1996 out of the old Rivers State. The name Bayelsa is an acronym of three former local governments of Brass, Yenagoa and Sagbama. Bayelsa is a tropical rain forest with an area of 21, 110 square kilometer, more than three quarters of this land area is occupied by water with or Brass, Ramos and Sam Bartholomew as major rivers leading to Atlantic Ocean. It has a population of over one million and speak Izon, Nembe, Ogbia and Epie – Atissa as major languages .The main occupation of the people are palm milling, fishing, farming, gin making, lumbering . One of its natural endowments is oil and gas.

The population of this study was drawn from all Bayelsa State oil palm farmers. Questionnaire was used as instrument of data collection, a total of 63 respondents were interviewed using the random sampling to select oil palm farmers and some staff of Bayelsa palm. The study used the growth factor (determinants) as independent variables as shown in the model below,

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7) + U .$$

Where

Y= Growth rate (dependent variable)

X1= Gate of Return

X2= Interest rate

X3= Net income

X4= Owners equity

X5= Cost of fun (interest)

X6= Non equity fund

X7= Owners equity

U= error term

The above variables were measured in naira.

Method of Data Analysis

The entire data for this study were analyze with the use of descriptive statistics such as mean, percentages, tables, and inferential statistical tool such as regression analysis(OLS). Regression analysis was used in other to establish and measure in specific terms the relation between the dependent variable(growth rate of Oil Palm Industry) and the independent variables($X_1, X_2, X_3, X_4, X_5, X_6, X_7$) (koutsoyiannis 1997).

Result And Discussions

Demographic characteristics

Table 1 reveals the gender disposition of respondent with 85% being male and 14%female; this is true due to the drudgery of oil palm labour.

Table1 :Gender Dispositions of Respondents

Gender	Frequency	Percentage
Male	54	85.7
Female	9	14.3
Total	63	100.0

Source: from survey Data 2010

Table 2 shows age distribution of respondents. The preponderance of active population falls between 26- 60 years of age, representing 76 %. It also confirmed again that the business needs highly energetic labour force.

Table 2: Age of Respondents

Age Range	Frequency	Percentage
= 25	9	14.3
26 – 60	48	76.2
> 60	6	9.5
Total 63	63	100.0

Source: Field Survey Data 2010

In terms of marital status, Table 3 revealed that 81% of those in oil palm business were married and only 19% were single.

Table 3: Marital Status of Respondents

Marital status	Frequency	Percentage
Single	12	19
Married	51	81
Total	63	100

Source: Field Survey 2010

Educational Background

Table 4 showed educational background of respondents. The table shows that majority of those in oil palm business attend primary and secondary school. Out of 63 respondents, 27(42%) attend secondary school while 24 (38%) attend primary school. This shows that oil palm business does not utilize highly trained labour and is not attractive to tertiary school leavers.

Table 4: Educational Backgrounds of Respondents

Primary & below	24	38
Secondary	27	42.9
OND/HOD	9	14.3
University	3	4.8
Total 63	63	100.0

Source: Field Survey 2010
 Land Distribution

Table 5 showed land distribution of respondents. Out of a total of 63 respondents, 53% own the land they used while 47% was rented.

Table 5: Land Distributions of Respondent

	Frequency	Percentage
Personal	33	53.4
Rented	30	47.6
Total 63	63	100.0

Source : Field Survey Data 2010

Source of Income

Owners equity i.e., those who used their personal fund in the business represent 81% of all equities while non equity (borrowed) fund represents 19% of all funds with average investment of N8500 (eight thousand five hundred naira) per farmer. This mean low capital per farmer, this calls for internal capital formation among oil palm cooperative group or a thrift cooperative.

Table 6: Income statement of respondents

Revenue	117836.51
Cost of land (rented/Depreciated)	391.3
Cost of labour	4911.71
Housing cost Depreciated	463.58
Cost of Machinery (Depreciated)	1054.85
Transportation cost	1952.59
Cost of Jerry cars/Drums	234.61
Tax	99.77
Total cost	8508.35
Gross margin/farmer	169328.16
Gross margin/cost	12.85

Source: Survey Data 2007

Profit Margin

This show elaborately, in Table 4.6 in form of income statement, where gross margin analysis is used as an analytical measure of profitability (Authonio, 1972). That fixed cost are rarely observed and difficult to measure e.g. cost of land, (owner- occupier is difficult to measure) however analysis of the table shows that capital recovery is 12.85% meaning that the business is profitable since the rate of return on investment is very much above current lending rate.

Economic Analysis

The oil palm industry growth is a function of, rate of return or investment, owner's equity, borrowed funds, tax, and interest rate. The econometric estimate of those variables could be summarized as follows

Summary of Regression Result

$$Y = 9.5 + 0.31x_1 - 0.07x_2 + 94x_3 + 0.5x_4 + 2x_5 + 0.02x_6 + 0 - 1x_7$$

Significant level

* 5%

* * 10%

$R^2 = 94\%$

The model sufficiently explained the relationship between the dependent and independent variables. Only two variables- borrowed fund (X_5) and net income (X_3) were significant at 5%, while owners' equity was significant at 10%, this means that borrowed funds and net income were critical for the growth of the oil palm industry, since borrowed fund was seen to have great impact on the growth of the industry. It was unfortunate that acquisition of this fund was difficult, because the fund was only available at high cost. For business to grow there must be some element of debt financing or non-equity financing. This calls for the need for farmers to intensify knowledge of acquisition of fund through informal and formal agencies.

Summary And Conclusion

The growth of the oil palm industry is a function of net income, owner's equity and borrowed fund. In terms of education background, the business is not attractive to graduates as it favors secondary school leaver, in terms of land acquisition, the entrepreneurs of the business do not own land and expansion become a bit difficult. Oil palm business has a high cost recovery rate and this makes the business lucrative however, drudgery occasioned by crude implement / machinery remains a problem. In conclusion, the oil palm enterprise is a veritable pivot on which the wheel of a developing economy rotates.

Recommendation

In view of the constraints encountered in course of this study, the following recommendations are imperative:

That farmers should form cooperative groups so that it become easier for them to acquire capital, since non equity financing is inevitable and owners equity is too small to put the business on meaningful expansion.

That there should be some degree of mechanization, especially in processing units so as to reduce drudgery this will attract the right kind of personnel into the business.

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