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Economic Analysis of Contract Farming on Oil Palm Production in Delta-State, Nigeria

[1]Anugwo S.C, [2]Egwue O.L, [3]Uke P.C

[1]Department of Agricultural Economics and Extension. Federal University Oye-Ekiti, Ekiti-State, Nigeria
[2]Department of Agricultural Economics. University of Nigeria, Nsukka. Enugu State, Nigeria
[3]Department of Agricultural Economics. Enugu State University of Science and Technology

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ABSTRACT

This research analyzed the factors and profits involved in oil palm production in Delta State. Four local government areas were purposively selected for this research namely Aniocha South, Aniocha North, Ika South and Ika North LGAs. From each of these local governments, (4) communities were randomly selected and in each of these communities, (9) oil palm farmers were also randomly selected making a total of (36) farmers for each local government area and a total of (144) respondents for the study area. It was found out that oil palm production enterprise for owner managed farms were dominated by farmers above (65) years of age with (54.3%) and for the contract managed farms, farmers within the age bracket of 46-65years (52.7%) dominated the age range. Budgetary analysis clearly showed that oil palm production as an enterprise was profitable in the study area with contract managed farms making more profits than the owner managed farms. Budgetary analysis clearly showed that contract managed farms with (16.2%) of the farmers, made income level of above ₦950,000 as against (5.7%) of farmers in the owner managed farms who also made income level of above ₦950,000. The average net revenue/ha for owner managed farms was ₦10,319.81k per hectare as against ₦23,743.50 for contract managed farms implying contract managed farms generated more revenue. Probit regression analysis revealed that age, farming experience, farm size of oil palm, quantity of oil produced and farm size of other crops explained about 64.57% of the variation in the quantity of oil palm production. Inadequate funds, price instability, pests and diseases, inadequate/expensive inputs were all the major constraints facing the oil palm farmers in the study area. It is recommended that financial support/loans, price fixing by governments, adequate input supply, good roads and subsidies on inputs needed for oil palm production be provided at a very subsidized rate as it will help increase output in oil palm production in the study area.

1.0 Introduction

Oil Palm Production, the Historical Perspective, Njoku, (2001), reported that oil palm was the most important of the crops and is indigenous. It grew in abundance in the forest belt, but especially profusely in the South-Eastern parts. Most oil palm, he noted, grew on farmlands through human protection. There was hardly any deliberate attempt to cultivate them before the 19th century, except perhaps around homesteads. He noted too, that there was hardly any part of oil palm that was not put to domestic use. Among southern Nigerians, no main food was fully prepared without palm oil as an essential ingredient. The production was basically for family consumption and mostly for women's affairs. The industrial revolution in Europe created unprecedented demand for palm oil in the 19th century. It was needed for the manufacture of soap, candles, margarine and tin plate. When Germany discovered that palm kernel could be made into a very good feeding cake for cattle, a market was created for it. The industrial

revolution changed all this and turned oil palm from a subsistence crop to a cash crop. It became the single most important crop from the 19th century when cocoa and groundnut began to challenge its dominance. Because of the economic importance of oil palm as high yielding source of edible and technical oils, the oil palm is now grown as a plantation in most countries with high rainfall (minimum 1600mm/year) in tropical climates within 100 north and south of the equator. McCall (2003), compared the potential oil yield from various crops and placed the oil palm at the head of the list.

Certain transformations in the oil palm industry followed. First, some people started to establish oil palm plantations. The plantation work was facilitated by the existence of slaves who were used to working on these plantations. Second, attempts were made by individual citizens to appropriate oil palms owned by the community. This trend became a source of communal tension and court litigation during the colonial era. Third, men began to take interest in the production of oil palm, an affair which used to be left largely to their wives. Men cut the palm fruits and pounded them while women did the rest of the processing. Fourthly, innovations were introduced in the organization of production which economized time and manpower, thus raising the productivity level of the people. Men formed reciprocal work groups to cut and process the palm bunches and pound the fruits. Among the Isoko and Urhobo, large dugout canoes replaced small mortars hitherto used in processing palm fruits. In Ohafia, large round holes (ikwe akwu) about eight feet in diameter and four feet deep, paved all around with stone slabs, replaced wooden mortars. These innovations permitted more palm fruits to be processed in a unit of time than was possible with wooden mortars

Contract farming arrangements provide farmers with access to a wide range of services that otherwise may be unattainable. Access to market, credit, new technologies, risk reduction, and ease of production are some of the benefits for farmers from contract farming (Slangen *et al,* 2008 and Ton *et al,* 2007). Regarding oil palm products marketing, private companies have emerged that are largely involved in collecting and processing oil palm for local and export markets. Reduced uncertainty about the quality of the product, sustainability of supply and reduction in price risk are the main driving forces that make contract farming attractive to agribusiness firms/owners. Small-scale/individual farmers are often reluctant to adopt new production technologies because of the risks and costs involved.

In contract farming, agribusiness firms/owners usually provide technologies and inputs more effectively than government agricultural extension services, because it is in their direct economic interest to improve production.

The influx of Ebiras from neighbouring states like Kogi in the early 1990s makes contract farming an easy way of producing oil palm in Delta State. These Ebiras (who are mostly farmers) settled in the rural part of the state and work on farms either purchased by them, leased or as hired labourers. Some of the local farmers contract these Ebiras to work permanently on their farms and pay them monthly, yearly or on specialized payment arrangements. This special payment arrangement is mostly done for tree crops like Oil palm, Plantain and Cocoa. These contractual agreements may be on a certain percentage of profit, crop-sharing arrangement, seedling/sucker sharing etc. The labourer works on the farm from planting to harvest period, nurturing and organising the farm while the owner pro-

vides technical support and certain inputs like seedlings, fertilizer, pesticides and insecticides etc.

The practice of contract farming has kept the state among the elite and front runners in oil palm production in the country because some of these owners do not reside in Delta State anymore. They only make occasional visits to inspect and monitor the progress of the farm while those that stay around have other jobs that distract their full attention from the farm. It has also ensured that the farmlands that would have been abandoned are still active. The contractual agreements enable farmers to keep the farmland for as long as possible depending on output, the working relationship between the two parties and the terms of the agreement. The allocation of risk specified in the contract may vary from farmer to farmer.

2.0 Methodology

The study was carried out in Delta State Nigeria. Delta State has twenty-five (25) local government areas, with a population census of about a 5.6million people as of 2016. It is located between longitude $5^o00`$ and $6^o00`$ East of the Greenwich Meridian and Latitude $5^o00`$ and $6^o30`$ North of the Equator. It is bordered on the North by Edo State, the East by Anambra and Rivers States and the South by Bayelsa State, while to the West is the bright of Benin which covers about 160 kilometres of the state's coastline. Crops grown in the state are oil palm, yam, and cassava, while fishing and heliciculture are also practised in the state.

2.1 Sampling Technique and Sampling Size

Multi-stage random sampling technique was used for the study, in the first stage four local government Areas were purposively selected out of the twenty-five local governments in Delta State being the highest producers of oil palm in the state, these were; Aniocha South, Aniocha North, Ika South and Ika North local government areas. In the second stage, four communities were randomly selected from each local government area using the simple random technique, In the third stage, nine (9) oil palm farmers were selected from each community using a simple random sampling technique and thus, making a total of one hundred and forty-four respondents in the four LGAs. Out of these one hundred and forty-four farmers, seventy (70) were purposively selected from owner-managed farms while seventy-four (74) were also purposively selected from contract-managed farms due to the availability of the farmers and oil palm plantations in the local government areas.

2.2 Sources of Data

Both primary and secondary data were used for this research; primary data was sourced using personal interviews and the administration of a well-structured questionnaire on oil palm farmers in the study area. The questionnaire was used to obtain information based on the objective of the study.

2.3 Methods of Data Analysis

In analyzing the data obtained for the study, some analytical methods were used. These are; descriptive statistics, gross margin and binary probit model. Descriptive statistics used in analyzing the data were tables, frequency distribution, percentages, standard deviation and mean. Descriptive statistics was used to analyze the socio-economic characteristics of the respondents to have a general picture of the oil palm farmers in the study area and similarly it

was used to analyze the constraints and solutions encountered in oil palm production in the study area. Gross margin was used to compare the level of income and profits of the farmers under owner-managed farms and contract-managed farms. Gross margin is the difference between the gross income and the total variable cost (TVC). It is expressed as GM=TR-TVC, where GM-Gross margin, TR-Total revenue, and TVC- Total variable cost.

Probit Regression Model was used to identify factors affecting oil palm respondents` decision to participate in contract farming. The probit model was used in estimating the probability of events based on dependent dichotomous variables, a dichotomous dependent variable assumes only two values (either zero or one). The model to be estimated is given as;

$$P \quad Y_t = \frac{1}{x_i} = \frac{\exp(x_i\beta)}{1 + \exp(x_i\beta)}$$

Drawing from Gujarati and Porter (2009), the following explicit function was used for estimation:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b9X9 + b_{10}X_1 + Ui$$

Where:
Y is a binary response variable defined as; Y = 1 if the farmer participates in contract farming and Y = 0 if otherwise.
X_1 = Age (Years)
X_2 = Educational level (Years)
X_3 = Farming Experience (Years)
X_4 = Farm Size of Oil Palm (ha)
X_5 = Loan Assistance (1=Yes 0=No)
X_6 = Land Ownership (1=Owned, 2=Leased)
X_7 = Quantity of Oil Palm produced (Kg)
X_8 = Farm Size for Other Crops (ha)
X_9 = Income from other Occupation (1=Yes, 0=No)
X_{10} = Secondary Occupation (1 = Yes, 0 = No)
$b_1…b_{10}$ = parameter estimates
b_0 = Intercept
Ui = Stochastic error term

3.0 Results and Discussions

3.1 Socio-Economic Characteristics of Oil-Palm Farmers.

The following Socio-Economic Variables were sampled as presented in table 1.

Table 1: Socio-Economics Characteristic of Oil-palm Farmers.

SOCIO-ECONOMIC VARIABLES	OWNER MANAGED FARMS		CONTRACT MANAGED FARMS	
Age of Respondents	Frequency	Percentage (%)	Frequency	Percentage (%)
<25	4	5.7	-	-
26-45	8	11.4	24	32.4
46-65	20	28.6	39	52.7
>65	38	54.3	11	14.9
Total	70	100	74	100
Marital Status				
Single	18	25.7	16	21.6
Married	42	60.0	51	68.9
Others	10	14.3	7	9.5
Total	70	100	74	100
Educational Level				
No Formal Education	7	10.0	12	16.2
Primary	36	50.0	20	27.0
Secondary	18	25.7	42	56.8
Tertiary Education	10	14.3	-	-
Total	70	100	74	100
Household Size				
1-5	20	28.6	29	39.2
6-10	46	65.7	31	41.9
Above 10	4	5.7	14	18.9
Total	70	100	74	100
Farming Experience				
Below 20yrs	11	15.7	43	58.1
21-40yrs	40	57.1	24	32.4
Above 40yrs	19	27.2	7	9.5
Total	70	100	74	100
Farm Size (Ha)				
1-5	39	55.7	27	36.5
6-10	27	38.6	37	50.0
Above 10	4	5.7	10	13.5
Total	70	100	74	100
Source of Labor				
Family labour	27	38.6	20	27.0
Hired labour	33	47.1	23	31.1
Both	10	14.3	31	41.9
Total	70	100	74	100

Source: *Field Survey, 2022.*

Socio Economic Variables	Owner Managed Farms		Contract Managed Farms	
No of labor Employed	Frequency	Percentages (%)	Frequency	Percentage (%)
1-5	46	65.7	17	23.0
6-10	24	34.3	57	77.0
Total	70	100	74	100
Quantity of Output (Kg)				
<1000	27	38.6	28	37.8
1001-3000	9	12.9	9	12.2
3001-5000	16	22.9	18	24.3
5001-7000	7	10.0	8	10.8
7001-9000	6	8.5	4	5.4
>9000	5	7.1	7	9.5
Total	70	100	74	100

Source: *Field Survey, 2022.*

From table 1 shown above, the age distribution of farmers shows that for owner-managed farms the majority of the farmers who engaged in oil palm production were in the age range of sixty-five (65) years and above with (54.3%) followed by a close age range of 46-65 years with (28.6%), meaning that the farmers in owner managed farms were well experienced and vast in oil palm production in the study area. For contract-managed farms the age range that had the majority of the farmers engaging in oil palm production was the age range of 46-65 years (52.7%) followed by a close age range of 26-45 years (32.4%), meaning that these farmers are still active and have enough strength to carry out the rigorous activities involved in oil palm production which translates to positive yield for both farmers in both farms. In the study area, the majority of the farmers in the owner-managed farms were found to be married (60.0%) while (25.7%) were single, also for contract-managed farms (68.9%) of the farmers were married and (21.6%) were single, indicating that in the study area, majority of the farmers were married and have access to enough family labour for oil palm production activities. It was also observed that most of the farmers in the owner-managed farms (50.0%) had a primary school level of education, followed by a close range (25.7%) which had a secondary school level of education and just (14.3%) with tertiary education, for contract managed farms, most of the farmers (56.8%) have secondary school level of education followed by (27.0%) with primary school education with no farmer with tertiary level of education. This shows that the farmers in the study area are open to the adoption of improved farming technologies for oil palm production. It was also observed that (57.1%) of the farmers in the owners managed farms have had between 21-40years of farming experience while those with below 20 years of farming experience were just (15.7%) also for contract managed farms, most of the farmers (58.1%) have below 20years of farming experience while those with farming experience of between 21-40years were (32.4%) indicating that in the study area oil palm farmers are well experienced and vast in the production of oil palm especially the farmers of owner managed farms

and it could lead to high productivity. The majority of the sampled farmers (55.7%) of the owner-managed farms cultivated between 1-5 hectares of farmland while (38.6%) of the farmers cultivated between 6-10 hectares of farmland. For the contract-managed farms, most of the farmers (50.0%) cultivated 6-10 hectares of farmland for oil palm production while (36.5%) cultivated between 1-5 hectares of farmland, implying that oil palm farmers in the study area cultivated large hectares of land and as a result make enough income from oil palm produce especially for the farmers under the contract managed farms. From table 1 above, it could also be seen that most of the farmers (47.1%) in the owner-managed farms used hired labor while (38.6%) of them used family labour alone for oil palm production. (41.9%) of farmers engaged in contract farming engaged both hired and family labor in oil palm production and (31.1%) of the farmers just used hired labor alone. This goes to show why contract farmers cultivate a large expanse of land and as such generate more income than farmers in the owner-managed oil palm farms. In the study area, (65.7%) of farmers in the owner-managed farms employed the services of 1-5 laborers and just (34.3%) engaged the services of about 6-10 laborers. For the contract-managed farms (77.0%) engaged the services of between 6-10 laborers, while just (23.0%) engaged the services of 1-5 laborers, this also shows why large expanse of farmland was cultivated by farmers in the contract-managed farms with high-yield and more income. Table 1 also shows that in the owner-managed farms (7.1%) of the farmers produced an output quantity of more than 9,000kg of oil palm, followed by (8.5%) of the farmers who produced between 7,001kg-9,000kg, while (38.6%) also produced less than 1000kg. For the contract-managed farms (9.5%) of the farmers produced over 9000kgs of oil palm, followed by (5.4%) of the farmers who produced between 7,001kgs to 9,000kgs. (10.8%) of the farmers produced between 5,001kgs to 7000kgs while (37.8%) produced less than 1,000kgs of oil palm in the study area. This shows that more hectares of farmland were cleared and as a result, more output of oil palm was produced especially by contract-managed farmers.

Comparing the Profitability Level of Contract and Owner Managed Farms

Table 2: Distribution of Respondents by Income Level

Socio Economic Variables	Owner Managed Farms		Contract Managed Farms	
Income level of oil Palm farmers (₦)	Frequency	Percentage (%)	Frequency	Percentage (%)
<150,000.00	13	18.6	6	8.1
150,001.00-350,000.00	10	14.3	2	2.7
350,001.00-550,000.00	24	34.3	9	12.2
550,001.00-750,000.00	10	14.3	23	31.1
750,001.00-950,000	9	12.8	22	29.7
Above 950,000	4	5.7	12	16.2
Total	70	100	74	100
	Mean=₦459,200		Mean=₦590,150	

Source: Field Survey, 2022.

Table 2: Compares the revenue from oil palm production from both owner-managed farms and contract-managed farms. From the result above (5.7%) of the farmers in the owner-managed farms made above ₦950,000 of income, followed by (12.8%) of the farmers who made between ₦750,001 to ₦950,000. (34.3%) of the owner-managed farms made also between ₦350,001 to ₦550,000 while (18.6%) made less than ₦150,000. For the contract-managed farms (16.2%) made above ₦950,000, followed by (29.7%) of the farmers making an income between ₦750,001-N950,000. (31.1%) of the contract-managed farms made between ₦550,001 to ₦750,000 while (8.1%) of the farmers made less than ₦150,000. On average the mean of the farmers on the owner-managed farms was ₦459,200 while the mean of the average of the farmers in the contract-managed farms was ₦590,150, which means the farmers under the contract-managed farms made more income than the farmers under the owner-managed farms in the study area.

Table 3: Estimated Cost of Owner-Managed Farms and Contract-Managed Farms

Owner Managed Farms				
Cost Estimation			**Contract Managed Farms**	
Variable Inputs	Mean (₦)	Percentages (%)	Mean (₦)	Percentages (%)
Cost of labor	152,600.00	40.6	129,109	31.5
Cost of Agro chemicals	77,100.00	16.3	71,000	13.4
Cost of Processing /harvests	57,520.00	10.1	73,750	14.4
Cost of Transportation	61,530.00	11.2	71,530	12.6
Contingency Cost	6,000.00	1.2	8,000	1.4
Total Variable Cost/ha	68,221.15	86.2	58,898.17	80.1
Fixed Input				
Average Farm Size (ha)	5.2		6.0	
Land lease Cost	40,550	6.7	63,600	11.2
Depreciation cost on implements	10,237.00	1.5	30,700	2.1
Total Fixed cost/ha	9,766.73	9.4	15,716.67	15.5
Total cost of production/ha	77,987.88	80.0	74,614.83	80.0
Total Revenue/ha	459,200/5.2= 88,307.00		590,150/6.0= 98,358.33	
Gross Margin/ha	20,086.54		39,460.16	
Net Revenue/ha	10,319.81		23,743.50	
Percentage Ratio Profit	13%		32%	
Expense Structure Ratio	0.55		0.21	

Source; *Field Survey, 2022.*

Table 3 above compared the profitability level of the two categories of farms. It is observed that an average of ₦77,989.88k was incurred as the total cost of production per hectare for owner-managed farms compared with ₦74,614.82k per hectare for farmers under contract farming, this was because contract farmers mostly live and settle close to their farms and as a result spend less on transportation compared to owner managed farms whose owners mostly live in the cities. In contract-managed farms the farmers most times spend less on labour because most times they are employed to supply labor unlike owner-managed farms which pay for hired labor whenever they need to work on the farm, contract managed farms, therefore, spend less on the oil palm enterprise. An average of ₦88,307.69 was recorded as total revenue per hectare for owner-managed farms compared with ₦98,358.33 for contract -managed farms, this is because larger farms bring more income and profit. The average net revenue/ha for owner- managed farms was ₦10,319.81k per hectare as against ₦23,743.50 for contract-managed farms implying contract-managed farms generated more revenue than owner-managed farms. The percentage profit ratio of owner-managed farms was calculated to be 13% while that of contract-managed farms was 32%. A percentage profit of 32% implies that when farmers obtain loan for oil palm production under the contract-managed farms, it is expected that they should be able to pay back the loan at a commercial bank rate of less than 32% interest rate per annum. The expense structure ratio (ESR) of 0.55, implies 55% of total production costs is from total fixed inputs/costs for owner-managed farms and 0.21 i.e 21% for contract-managed farms. Table 3, above generally shows that contract-managed farms for oil palm production generated more revenue hence more profit than the owner-managed oil palm farms in the study area.

Analyzing Factors Influencing Farmers' Decision to Participate in Contract Farming

Table 4; Probit Estimation Results

Variables	Coefficients	Standard Error	P>/Z/
Age	-0.0254**	0.0010120	0.011
Educational level	0.3114131	0.1002123	0.110
Farming Experience	-0.276061**	0.00021404	0.021
Farm Size of oil Palm	1.013045***	0.2100150	0.000
Loan Assistance	0.3016200	0.1607501	0.152
Land Ownership	0.2271031	0.200003	0.331
Quantity of oil Palm Produced	0.0002611***	0.0001122	0.000
Farm Size for other Crops	0.6001301***	0.1404410	0.000
Income from other Occupation	0.000000213	0.0000003	0.171
Secondary Occupation	0.760500	1.00012	0.211
Constant	-2.115351	1.341310	0.150

Source: Field Survey; 2022.
Pseudo R^2= 0.5706   Log likelihood = 38.765545
LR Chi^2 =64.57*** Number of Observations = 144
(Note; ***= 1%, **= 5%) probability levels respectively.

Table 4, shows the probit regression model was used to determine factors influencing farmers` decision to participate in contract farming in the study area. The likelihood ratio statistics as indicated by chi-square statistics (64.57) was highly significant (P<0.0000), suggesting that the model has a very strong explanatory power. The result of the analysis as shown in Table 4, revealed that the quantity of oil palm produced, farm size allocated to oil palm and farm size allocated to other crops were significant at a 1% level. The age of the farmer and farming experience were significant at 5% level and were the main determinants of participating in contract farming in the study area.

For the quantity of oil palm produced, its coefficient was positive and statistically significant. This implies that an increase in the quantity of oil palm produced may likely increase the probability of participating in contract farming. The probable reason might be that the farmer sees contract farming as a way of increasing his output. More output is recorded from contract farmers, therefore a farmer may decide to participate in contract farming to increase and maintain a sustainable level of output.

Farm size allocated to oil palm production was positive and statistically significant. This implies that farmers with small oil palm farm sizes may likely participate in contract farming. The likely reason might be the desire to increase the farm size and the yearly production of oil palm. The findings are in agreement with Zhu *et al*, (2005) who reported that farmers with access to large farms had a positive effect on contract participation. This implies that the extra demand required by increased farm size may influence the likelihood of the farmers` decision to participate in contract farming.

The coefficient of farm size allocated to other crops was positively and statistically significant, this implies that farmers with small-size farms allocated to other crops may likely participate in contract farming. The probable reason might be that increased farm size require a higher level of demand and attention to coordinate and maintain which may be too much for the farmer and therefore increase the likelihood of the farmer participating in contract farming.

The age of the farmer was negative but statistically significant, implying that an increase in age of the farmer may likely increase the likelihood of participating in contract farming, and also meaning that as the farmer gets older the energy required on the farm on daily basis reduces vis-a-vis productivity. This agrees with Henri-Ukoha *et al* (2010), therefore the farmer may need to lease the farm to contract farmers to maintain oil palm output.

The farming experience was also significant but negatively related to farmers` decision to participate in contract farming. This implies that an increase in farming experience might reduce the likelihood of participating in contract farming because experience is vital to the farm but it may also encourage participation. The probable reason for this might be the correlation between age and farming experience, as high farming experience may mean older age which could make it difficult to cope with the energy demand of the farm and hence may influence the decision to participate in contract farming.

Identified Constraints Militating Against Oil Palm Production

Table 5: Constraints Militating Against Oil Palm Production.

Constraints to Oil Palm Production	Owner Managed Farms			Contract Managed Farms		
	Frequency	Percentage (%)	Rank	Frequency	Percentage (%)	Rank
Inadequate Funds	63	90.0	1st	66	89.2	1st
Price Instability	46	65.7	5th	56	75.7	2nd
Pests and Diseases	35	50.0	6th	53	71.6	4th
Inadequate/Expensive Inputs	49	70.0	4th	45	60.8	5th
Shortage of labour	52	74.3	2nd	36	48.6	6th
Poor Marketing Channels	33	47.1	7th	26	35.1	7th
Poor Road Networks	51	72.8	3rd	55	74.3	3rd

Source: *Field Survey, 2022*

Multiple Choices Allowed.

All meaningful efforts by the Nigerian government to improve the production of oil palm has not really yielded any outcome as the production and exportation are all still in a decline. From Table 5 above, Inadequate funds were majorly the highest constraints faced by both farms. (90.0%) of the owner-managed farms were faced with inadequate funds while contract-managed farms (89.2%) of the farmers, implying that farmers from both farms find it difficult to meet up with increasing cost of production of oil palm and therefore, require both the government and private sector's support and partnership to overcome some of the financial challenges faced in the cause of production. Price instability with (75.7%) was the second highest most faced constraint for contract-managed farms, implying that the varying and unstable prices of oil palm sales were a major challenge for these farmers in the study area. For the owner-managed farms shortage of labor (74.3%) was the second highest problem encountered in the production of oil palm. labor shortage and high cost of labor are the challenges owner-managed farms faced in the cause of production. It is not a gain saying that oil palm production in Nigeria and in most developing countries is still labor intensive, the farmer and family members often constitute the labour force which is grossly inadequate as observed by Ajao (2006) for oil palm farming operations. Ajao 2006, also reported that the problem is compounded when young able-bodied men particularly school leavers` at all educational levels are not interested in farming coupled with an unattractive rural environment thereby resorting to migration to few urban centers in search of white-collar jobs that are not readily available. Poor road networks were the thirdly most faced problem encountered by both farms, leading to a lack of easy accessibility to these farms and a high cost of transportation of oil palm goods was possible. For the owner-managed farms, Inadequate/expensive inputs (70.0%), price instability (65.7%) and pests and diseases (50.0%) were the 4th, 5th and 6th problems encountered respectively in that order, also for the contract-managed farms the 4th, 5th, and 6th problems encountered were pests and diseases (71.6%), Inadequate/expensive inputs (60.8%) and shortage of labor (48.6%) respectively. Both farms encountered poor marketing channels as the least most encountered constraints (47.1%) for owner-managed farms and (35.1%) for contract-managed farms. All of these problems if ameliorated will help boost the production of oil palm production in the study area.

Identified Solution to Oil Palm Production

Table 6: Solutions to Oil Palm Production

Solutions to Constraints of Oil Palm Production	Owner Managed Farms			Contract Managed Farms		
	Frequency	Percentage (%)	Rank	Frequency	Percentage (%)	Rank
Financial Support	69	98.6	1st	72	97.3	1st
Price fixing by Government	55	78.6	2nd	66	89.2	3rd
Adequate Input Supply	48	68.6	4th	42	56.8	5th
Good Roads	54	77.1	3rd	52	70.3	4th
Subsidies on Inputs	39	55.7	5th	70	94.6	2nd

Source: *Field Survey, 2022.*   Multiple Choices Allowed.

In order to mitigate the constraints above; solutions were listed and the farmers in both farms were asked to rank them in order of importance in helping to combat these problems. Of the owner-managed farms (98.6%) and (97.3%) of the contract-managed farms agreed that financial support from the government and other private organizations will go a long way in mitigating the effect of inadequate funds which was majorly the problem faced in the study area. For the owner-managed farms, the second highest ranked solution was price fixing by the government (78.6%) followed by adequate input supply which came third with (68.6%) while good roads (77.1%) and subsidies on inputs (55.7%) were ranked 4th and 5th respectively. For the contract-managed farms, subsidies on inputs (94.6%) were placed as the second most highly ranked solution to the constraints followed by price fixing by the government (89.2%) thirdly, then good roads (70.3%) and adequate input supply (56.8%). If all these solutions were to be put in place in the way and manner the oil palm farmers have rated them, production will be greatly improved and this will in turn bring about high yields and great profits.

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