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ASSESSMENT OF THE SOCIOECONOMIC DRIVERS AND CHALLENGES OF PALM OIL PRODUCTION IN ONA ARA LOCAL GOVERNMENT AREA, NIGERIA

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ABSTRACT

Palm oil production plays a vital role in Nigeria's rural economy, providing employment, income, and food security for smallholder households while supporting local agro-industrial growth.This study assessed the socio-economic characteristics, enterprise features, determinants of output, and production constraints among palm oil producers in Ona-Ara Local Government Area (LGA) of Oyo State, Nigeria. A multi-stage sampling technique was employed to select 60 oil palm producers from 20 villages across five randomly chosen wards. Primary data were obtained using structured questionnaires and oral interviews. Data were analyzed using descriptive statistics to summarize socio-economic and enterprise characteristics, and Ordinary Least Squares (OLS) regression to identify determinants of profitability. Results indicated that palm oil production is predominantly undertaken by females (68.3%), with most respondents being married (65%) and having at least secondary education (56.7%). Palm oil production served as the primary income source, supplemented by trading (55%). Although most producers lacked access to extension services (83.3%), a majority (90%) belonged to associations that provided financial and technical support. Palm kernels were mainly sourced from marketers (80%), while cooperative societies were the leading source of capital (50%). Medium-scale production (63.3%) dominated, relying on both family and hired labour (68.3%). The OLS regression revealed that gender, marital status, association membership, source of palm kernel, and access to credit significantly influenced production output ($R^2 = 0.54$). Major constraints included inadequate processing machinery (100%), insufficient funds (95%), poor storage facilities (93.3%), poor transportation (81.6%), and high cost of processing inputs. The study emphasizes the need for improved access to modern processing technologies, affordable credit, and rural infrastructure to enhance productivity and profitability. It is further recommended that producers cultivate personal oil palm plantations to reduce dependence on external palm kernel suppliers.

Keywords: Oil palm, Socioeconomic Determinants, Productivity, Ona Ara, Nigeria

Introduction

Oil palm (*Elaeis guineensis Jacq*) is a perennial crop of significant economic and social importance in Nigeria. Belonging to the family Arecaceae, it produces separate male and female flowers in alternating cycles and thrives best in humid tropical climates (Barcelos *et al.*, 2015; Okolo *et al.*, 2019). The dominant variety in Nigeria, the thick-shelled dura, yields palm oil from the mesocarp and palm kernel oil from the seed. Palm oil is one of the world's most traded tropical vegetable oils, valued for its versatility in food products, biodiesel, cosmetics, and other industrial applications (Vijay *et al.*, 2016). In Nigeria, oil palm contributes to food security, employment generation, and industrial raw material supply while serving as a source of foreign exchange.

By-products such as palm kernel cake are used as livestock feed, and other plant parts, including fronds, trunks, and sap, are utilized in rural livelihoods for construction, crafts, energy, and beverages (Owolarafe*et al*., 2007; Soyebo *et al*., 2005). Historically, Nigeria dominated the global palm oil market, accounting for about 43% of production in the late 1950s and early 1960s (FAO, 1966; USDA, 2018). However, the discovery of crude oil, the Nigerian civil war, and inadequate agricultural policies led to a decline in output. Today, Malaysia and Indonesia are the leading producers, with Nigeria ranking fifth globally and contributing less than 2% of world production (Busari *et al*., 2022).

The Nigerian palm oil sector is now dominated by smallholder farmers who rely on traditional methods with low productivity. Key constraints include outdated processing equipment, high labour costs, poor road networks, limited access to credit, inadequate extension services, and land tenure issues (Ukpabi, 2004; Oyaide, 2004; Chiemela *et al*., 2021). Despite these earlier reports, it remains necessary to investigate the constraints in oil palm production to capture current realities, assess the persistence or emergence of new challenges, and provide evidence-based insights for formulating relevant interventions that can enhance productivity and competitiveness. As a result, the country faces an annual supply deficit averaging 393,000 metric tonnes over the last decade, necessitating imports to meet domestic demand (USDA, 2018).

In the study area, demand for palm oil significantly exceeds supply, with production hampered by obsolete technology, indiscriminate felling of oil palm trees without replanting, and limited institutional support (Olagunju, 2008). These challenges have resulted in stagnating or fluctuating outputs, threatening rural livelihoods that depend heavily on the crop (Statista, 2017). While many studies have examined agronomic and climatic influences on palm oil production, limited research addresses how the socioeconomic characteristics of producers affect output (Ukpabi, 2004; Adah *et al*., 2022). This study seeks to fill that gap by investigating the socioeconomic determinants of palm oil production in Ona-Ara Local Government Area, with broad objectives to examine the socioeconomic profile of producers, analyze enterprise characteristics and production determinants, and identify key constraints affecting palm oil production in the area.

Methodology

Study Area

The study was conducted in Ona-Ara Local Government Area (LGA), Oyo State, Nigeria, with headquarters in Akanran. Created in 1989, the LGA covers approximately 3,570 km² and had a projected population of 389, 500according to 2006 National Population Census (NPC, 2006). It shares boundaries with Oluyole LGA to the south, Egbeda LGA to the north, Ibadan South-East LGA to the west and Lagelu Local Government to the east,. The area has fertile land suitable for various arable and cash crops, notably oil palm, and also supports livestock farming.

Population and Sampling

The study population comprised oil palm producers in Ona-Ara LGA. A multi-stage sampling procedure was employed. First, Ona-Ara LGA was purposively selected due to its high concentration of oil palm producers. Second, eleven wards were identified, from which five, Akanran, Araromi, Ojoku, Gbada-Efon, and Gbedun, were randomly selected. Third, four villages were randomly selected from each ward, totaling 20 villages. Finally, three respondents were disproportionately and randomly selected from each village, ensuring equal representation across the selected villages for balanced and unbiased data collectionresulting in 60 oil palm producers.

Data Collection and Analysis

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Primary data were collected using structured questionnaires and oral interviews. The questionnaire captured socio-economic characteristics, production activities, cost and revenue data, and challenges faced in oil palm production. Data analysis involved both descriptive and inferential statistics. Descriptive statistics (means, frequencies, percentages) were used to summarize socio-economic characteristics, production practices, and constraints, while Ordinary Least Squares (OLS) regression analysis was applied to identify socio-economic determinants of production.

The OLS regression model was specified as:

$$Y = a0 + a1X1 + a2X2 + a3X3 + a4X4 + a5X5 + a6X6 + a7X7 + a8X8 + e$$

Where:
Y = Profit from palm oil production (₦)
X_1= Gender
X_2 = Marital status
X_3 = Educational level
X_4 = Access to extension services
X_5 = Membership to association
X_{76}=Household size
X_7= Source of palm kernel
X_8 = Source of water
X_9 = Source of capital
X_{10} = Access to credit
X_{11} = Source of labour
a0 = Constant
a1 - a8 = Coefficients
e = Error term

Measurement of Variables

The explanatory variables included **gender (X1)**, measured as a dummy variable (male = 1, female = 0); **marital status (X2)**, measured as married = 1 and otherwise = 0; **educational level (X3)**, measured by the number of years of formal schooling; **access to extension services (X4)**, measured as access = 1 and no access = 0; **membership to association (X5)**, measured as member = 1 and non-member = 0; **household size (X6)**, measured by the number of persons in the household; **source of palm kernel (X7)**, measured as own farm = 1 and purchased = 0; **source of water (X8)**, measured by the primary water source (coded categories for borehole, well, river, or stream); **source of capital (X9)**, measured according to the main funding source (personal savings = 1, friends/family = 2, cooperative = 3, others = 4); **access to credit (X10)**, measured as access = 1 and no access = 0; and **source of labour (X11)**, measured by type of labour used (family = 1, hired = 2, both = 3).

Results and Discussion

Socio economic Characteristics of the Respondents

Result in Table 1 shows the socio economic characteristics of respondents in the study area. It shows that 68.3% are females and 31.7% are males and this implies that palm oil production is predominantly carried out by females which could be due to the fact that palm oil production involved household chores such as cooking, washing, etc and this result correlates the finding of Adeyemi, (2019) who observed that women are the major stakeholders in palm oil production in Nigeria. Also, 65% of the respondents are married, 30% are single and only 5% are divorced and this implies that majority of the respondents have responsibilities to cater for. Onumadu*et al.* (2014) agreed with the result and asserted that marriage is an important factor in the livelihood of individuals in our society as it is perceived to confer responsibility on individuals. Majority (56.7%) have secondary education, 26.7% are having primary education and 16.7% have tertiary education which implies that a larger percentage of the respondents are educated having different form of education and will be able to make right decisions on farmland and this result relates with the findings of Odoemelam (2019) who found that majority of the farmers in Southern Nigeria had formal education. The monthly income distribution shows that 35% earn ₦30,000, 33.3% have ₦25,000 and 20% are having ₦35,000 and this means oil production is s a good source of

income and a means of livelihood especially for the rural dweller.

Furthermore the result e also shows that trading was a secondary occupation among 55%, 35% are artisans, civil servant were 1.7%, farmers are 8.3% and this means that majority of the farmers are having other source of income and this relates with Sanusi, *et al.*, (2022) that reported most of the oil processors are involved in other income generating activities. Also, 83.3% do not have access to extension services and 16.7% have access to extension services and this indicate low access to extension services which means respondents may not receive information on innovations and techniques in palm oil production and this is line with Aminu and Umoh (2020) who found out 75.4% of the respondents have not had contacts with extension agents. Furthermore, 90% belong to an association while 10% do not belong to an association which means a larger percentage belongs to an association such as cooperative societies, etc that could render financial assistance on palm oil production. In terms of household size, 50% are having between 4-6 members, and 25% are having 1-3 and 7-9 members respectively and this indicate a moderate household size which could be used as source of labour in palm oil production in the study area. d a relatively small household size in the study area which support the result of Egwu, *et al.*, (2023) that found a relatively small household size in a local government in Enugu state.

Table 1: Socio Economic Characteristics of Respondents

Variables	Frequency (n=60)	Percentage (%)
Sex		
Male	19	31.7
Female	41	68.3
Marital status		
Single	18	30.0
Married	39	65.0
Divorced	3	5.0
Education		
Primary education	16	26.7
Secondary education	34	56.7
Tertiary education	10	16.7
Monthly income		
20,000	7	11.7
25,000	20	33.3
30,000	21	35.0
35,000	12	20.0
Average		
Secondary occupation		
Farmer	5	8.3
Artisan	21	35.0
Civil servant	1	1.7
Trading	33	55.0
Access to extension services		
No	50	83.3
Yes	10	16.7
Membership to association		
No	6	10.0

Yes	54	90.0
Household size		
1-3	15	25.0
4-6	30	50.0
7-9	15	25.0
Average		

Respondents Enterprise Characteristics

Result in Table 2 shows the enterprise characteristics among respondents in the study area. The respondents were classified based on key enterprise-related variables such as source of raw materials, source of water, source of capital, scale of production, and type of labour used.Majority (80%) of respondents obtain their palm kernel from palm kernel marketers and only 20% obtain from personal farm and this could be attributed to the fact that quantity obtain from their personal oil palm plantation could not meet the demand for palm kernel and this relates with Iwuji, (2014) that found out similar results. Also, 61.6% obtain water from stream, 35% from well, while only 1.7% obtain water from both borehole and river respectively and this means there is different sources of water available to producers based on the proximity to the water sources. About 50% of the respondents derive their capital from cooperative societies, 26.7% from friends and family and only 23.3% from personal savings.

This finding suggests that cooperative societies serve as a means of financial support for the producers in the study area through provision of loan which is similar to the result of Nwankwo, (2016) that reported cooperative societies was used among palm oil producers as a means of obtaining capital for production. In addition, 63.3% produce on a medium scale and only 5% produce on large scale, and the respondents were classified based on the volume of palm oil produced per processing cycle and the capacity of their processing equipment. This could mean most of the respondents produce what they can be able to manage and improve with the available resources and this is in line with Okolo, *et al.*, (2015) who reported medium scale production was practice because large scale required substantial capital to establish and maintain. In terms of labour used, 68.3% make use of both hired and family labour, 21.7% use family labour and only 10% use hired labour and this implies that a larger percentage make use of both labour source which could be due to fact that palm oil production is labour intensive and only family labour may not be sufficient to carry out the activities involved.

Table 2 above further shows 100%, i.e all the respondents agreed they have access to market facilities for the sales of the palm oil in order to increase profitability and meet the demand of consumers and this is according to Olagunju, (2008) that found out market proximity helps to increase the sales and profitability of palm oil production business. Majority (80%) make use of both traditional and modern method of processing palm oil, 15% make use of traditional and only 5% make use of modern which means the producers are aware of the modern techniques, although they engage in both traditional and modern method in order to increase the level of production to meet the increasing demand. This finding support Adah, *et al.*, (2015) that reported palm oil producers are adopt modern and traditional method of processing. From the table above, it can be seen that 41.7% have storage facilities while 58.3% do not have storage facilities and this indicates less availability of storage facilities which could be due to the fact that some respondents could not afford the facilities or unavailability and this relates with Udoh and Essien (2015) that found out in their study there is little availability of storage facilities.

Furthermore, 63.3% have access to credit and 36.7% do not have access to credit. In the same line, 50% obtain credit from cooperative

societies and 26.7% from friends and family. This result implies that respondents have access to credit from different sources which could facilitate adoption of improved techniques and innovation as according to Adah, *et al.,* (2022) that reported access to credit to purchase the technology was found to have significant positive relationship with the adoption of the improved technology.

Table 2: Enterprise Characteristics of Respondents

Variables	Frequency	Percentage
1. Source of palm kernel		
Personal farm	12	20.0
Palm kernel marketers	48	80.0
2. **Source of water**		
Well	21	35.0
Borehole	1	1.7
Stream	37	61.7
River	1	1.7
3. Source of capital		
Friends and Family	16	26.7
Personal	14	23.3
Cooperative societies	30	50.0
4. Scale of production		
Small	19	31.7
Medium	38	63.3
Large	3	5.0
5. Source of labor		
Family	13	21.7
Hired	6	10.0
Both	41	68.3
6. Access to market		
Yes	60	100.0
7. Method of processing		
Traditional	9	15.0
Modern	3	5.0
Both	48	80.0
8. Availability of storage facilities:		
Yes	25	41.7
No	35	58.3
9. Access to credit		
Yes	38	63.3
No	22	36.7
10. Source of credit		
Friends and Family	16	26.7
Personal savings	14	23.3
Cooperative	30	50.0

Determinants of Palm Oil Production

The regression results presented in Table 3 reveal the socio-economic factors influencing palm oil production among small-scale producers in the study area. The model recorded a coefficient of determination (R^2) of 0.54, indicating that 54% of the variation in palm oil

output is explained by the combined effect of the independent variables, while the remaining 46% could be attributed to factors not included in the model. This suggests that the selected variables moderately explain the variation in palm oil production in the area.

The result shows that gender (ß = 50.952, $p<$ 0.01) had a positive and significant influence on palm oil production. This implies that male producers are more likely to achieve higher output compared to their female counterparts, possibly due to men's greater access to land, credit, and physical strength needed for labour-intensive tasks. This finding is consistent with Anaglo*et al*., (2014), who reported that gender differences significantly influence productivity levels in palm oil production, and Olagunju (2008), who noted that male farmers often dominate agricultural enterprises due to their wider access to production inputs.

Membership in an association (ß = 82.836, $p<$ 0.01) also had a positive and significant effect on palm oil output. This indicates that belonging to a cooperative or producer group enhances production efficiency by facilitating access to information, input sharing, and collective marketing. Cooperative membership also helps farmers benefit from economies of scale and access to extension services. This finding aligns with Ini-mfon *et al*., (2013) and Nwankwo (2016), who found that cooperative membership increases farmers' production capacity and profitability by providing access to technical and financial support.

Conversely, the source of capital (ß = -159.903, $p<$ 0.01) was negatively and significantly related to palm oil output. This suggests that producers who depend on high-interest informal loans or costly external sources of capital experience lower output due to financial constraints. Such producers may allocate more income to debt repayment rather than reinvestment in production. This agrees with Ojo and Afolabi (2020), who observed that high borrowing costs and limited access to affordable credit negatively affect agricultural productivity.

Marital status (ß = 46.521, $p<$ 0.05) was another significant determinant, positively influencing palm oil output. Married farmers tend to have larger household labour pools, enabling them to handle the labour-intensive nature of palm oil production more efficiently. This finding corroborates Eze and Nwibo (2014), who identified marital status as a key determinant of palm oil productivity due to the availability of family labour and support in resource mobilization.

The source of palm kernel (ß = 41.432, $p<$ 0.05) also had a positive and significant effect on output, implying that producers who have consistent and cost-effective access to palm kernels, whether through personal plantations or reliable marketers, achieve higher production levels. This supports Iwuji (2014), who noted that the reliability and cost of raw material sourcing are crucial determinants of output levels in the palm oil industry.

Access to credit (ß = 53.399, $p<$ 0.05) was equally significant and positively related to palm oil output. This suggests that producers who can access credit facilities are able to invest in better equipment, purchase raw materials in bulk, and expand their production scale, leading to higher yields. This result is consistent with Oyaide (2004) and Olomola (2013), who reported that access to affordable credit enhances investment capacity and output among agricultural producers.

On the other hand, variables such as educational level, access to extension services, household size, source of water, and source of labour did not have a statistically significant effect on palm oil production. This may indicate that, in the study area, practical experience and resource access play a more critical role than formal education or household size in determining production outcomes.

Implications for Theory, Practice, and Policy

The findings of this study reinforce the Sustainable Livelihoods Framework (SLF) and the Resource-Based View (RBV) of agribusiness, both of which posit that access to key livelihood assets, human, social, and financial capital, directly influences production outcomes and enterprise sustainability. The significant influence of gender, marital status, cooperative membership, and access to credit highlights the importance of these socio-economic factors in determining farmers' ability to efficiently allocate resources and scale production.

From a practical perspective, the results suggest that promoting cooperative membership, expanding access to affordable credit, and encouraging gender-equitable resource distribution can substantially improve small-scale palm oil productivity. Strengthening farmers' groups and cooperatives will not only enhance knowledge sharing but also facilitate collective access to inputs, processing technologies, and markets.

In terms of policy implications, the findings call for targeted government interventions to improve rural financial inclusion through low-interest credit schemes tailored for small-scale agribusinesses. Policymakers should also promote cooperative development as a platform for capacity building and input distribution. Furthermore, gender-sensitive agricultural policies are essential to ensure equitable access to production resources for both men and women.

Overall, the study give emphasis to that socio-economic and institutional factors, particularly access to credit, association membership, and household social structure, play a decisive role in shaping the performance of small-scale palm oil enterprises. Addressing these determinants through integrated agribusiness and agri-environmental management policies can significantly enhance Nigeria's palm oil sector productivity, rural livelihoods, and sustainable agricultural growth.

Table 3 Factors influencing profitability from the small-scale palm oil production

Variables	Beta	Standard error	t-value	Sig.
(Constant)	934.587	59.773	15.636	.000
X_1= Gender	50.952***	18.312	2.782	.008
X_2 = Marital status	46.521**	21.059	2.209	.032
X_3 = Educational level	-4.857	11.469	-.423	.674
X_4 = Access toextension services	-7.692	18.442	-.417	.678
X_5 = membership to association	82.836***	27.100	3.057	.004
X_{76}=Household size	4.051	4.398	.921	.362
X_7= Source of palm kernel	41.432*	18.224	2.274	.028
X_8 = Source of water	7.074	7.020	1.008	.319
X_9 = Source of capital	-159.903***	55.735	-2.869	.006
X_{10} = Access to credit	53.399*	22.024	2.425	.019
X_{11} = Source of labour	11.424	10.003	1.142	.259
R^2		0.54		

Authors Computation, 2024.

Constraints Faced by Respondents in Palm Oil Production

Results presented in Table 4 indicate that the seasonality of the palm tree and palm kernel was perceived differently among respondents:

11.7% regarded it as a major constraint, 43.3% as a minor constraint, while 45.0% did not consider it a constraint. This suggests that seasonal fluctuations in palm fruit availability affect some producers, particularly smallholders with limited storage capacity, though the impact is not uniform across the study area. Similarly, limited access to extension services was viewed as a minor constraint by 45.0% of respondents, while 55.0% did not perceive it as a constraint, implying that extension support exists but remains inadequate for a segment of producers requiring technical guidance on processing efficiency and quality management.

A large majority (96.7%) reported lack of support from government and relevant stakeholders as not a constraint, while only 3.3% perceived it as a minor one. This may reflect limited engagement or awareness of government interventions in the palm oil value chain within the study area. Furthermore, instability in government policies was not viewed as a major issue by most respondents (88.3% not a constraint), suggesting a relatively stable policy environment or low sensitivity of small-scale producers to macro-level policy shifts.

Inadequate machinery emerged as a universal minor constraint (100%), reflecting a pervasive challenge of insufficient and outdated processing equipment. This inadequacy often leads to production delays and reduced output efficiency, corroborating the findings of Nwalieji and Ojike (2018), who reported that a significant proportion of palm oil processors identified equipment shortages as a major impediment to timely processing. Similarly, poor storage facilities were identified as a key constraint, with 93.3% rating it as minor and 1.7% as major, underscoring widespread difficulties in maintaining product quality and reducing post-harvest losses due to insufficient storage infrastructure.

Inadequate funding was highlighted by nearly all respondents (95.0% minor and 5.0% major) as a critical financial constraint affecting their ability to maintain operations, acquire modern equipment, and scale production. This finding is consistent with Enwelu *et al*., (2014), who noted that limited access to finance remains a major barrier to palm oil enterprise development in Nigeria. Similarly, limited availability of human labour was reported as a constraint by 76.6% of respondents (8.3% major, 68.3% minor), reflecting periodic labour shortages during peak production periods, a situation that may be aggravated by rural–urban migration and the physical demands of manual processing.

Regarding deterioration of produce, 13.3% identified it as a major constraint and 18.3% as a minor one, indicating that post-harvest management challenges, though not universal, affect a notable subset of producers. In contrast, limited access to innovation or new processing techniques was identified as a major constraint by 18.4% and a minor one by 40.0% of respondents, demonstrating that technological adoption gaps persist in the sector, thereby constraining productivity gains and efficiency.

Poor transportation facilities were also identified as a significant operational challenge by the majority of respondents, with 81.6% rating it a minor constraint and 1.7% a major one. The poor state of rural road networks hampers the timely movement of raw materials and finished products, leading to increased costs and spoilage. This finding aligns with Ibitoye *et al*., (2011), who reported that inadequate transport infrastructure poses a serious threat to the efficiency and profitability of palm oil producers. Finally, the high cost of processing inputs was reported as a minor constraint by 48.3% of respondents, while 51.7% considered it not a constraint. This indicates that while rising input prices exert some pressure on operating costs, the impact is not uniformly felt across producers.

Overall, the results highlight that inadequate machinery, poor storage, and financial constraints constitute the most pervasive challenges affecting palm oil production in the

study area. These findings emphasize the need for targeted interventions, such as the provision of affordable credit facilities, machinery-sharing cooperatives, and improved extension services to strengthen the capacity and sustainability of small-scale palm oil producers.

Table 4 Constraints Faced by Respondents in Palm Oil Production

Constraints	Major	Minor	Not a constraint
1. Seasonability of palm tree/palm kernel	7(11.7)	26(43.3)	27(45.0)
2. Poor or limited access to extension agent	0(0.0)	27(45.0)	33(55.0)
3. Lack of support from government and other relevant stakeholders	0(0.0)	2(3.3)	58(96.7)
4. Instability in government policies.	0(0.0)	7(11.7)	53(88.3)
5. Poor storage facilities	1(1.7)	56(93.3)	3(5.0)
6. Inadequate machinery	0(0.0.)	60(100.0)	0(0.0)
7. Inadequate fund	3(5.0)	57(95.0)	0(0.0)
8. Limited availability human labour	5(8.3)	41(68.3)	14(23.4)
9. Deterioration of produce	8(13.3)	11(18.3)	41(68.3)
10. Limited access to innovation or new techniques	11(18.4)	24(40.0)	25(41.7)
11. Poor transportation facilities	1(1.7)	49(81.6)	10(16.7)
12. High cost of processing inputs	0(0.0)	29(48.3)	31(51.7)

Conclusion

The findings of this study demonstrate that palm oil production in the study area is a largely female-driven and medium-scale enterprise with strong reliance on cooperative societies for both capital and market facilitation. Socio-economic factors such as gender, marital status, association membership, source of palm kernel, and access to credit are significant determinants of output.

Despite the positive role of cooperative societies, production is constrained by inadequate processing machinery, insufficient financing, limited storage facilities, and poor transportation infrastructure. It was however recommended that oil palm farmers be supported with access to modern processing equipment, affordable credit, and effective extension services, while government and stakeholders invest in better rural infrastructure such as roads, storage facilities, and transportation systems to reduce losses and costs. Strengthening cooperative societies to provide financial and technical assistance is also essential. Additionally, farmers should be encouraged to cultivate their own oil palm plantations to lessen reliance on external palm kernel suppliers and ensure consistent raw material availability, thereby boosting productivity, profitability, and the overall growth of the rural economy.

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