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WOMEN INVOLVEMENT IN OIL PALM PROCESSING IN AWKA: CONTRIBUTIONS TO ECONOMIC DEVELOPMENT AND EMPOWERMENT

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ABSTRACT

This study assessed women involvement in oil palm processing in Awka: Contributions to economic development and empowerment. Three research questions were raised to guide the study. Two null hypotheses were tested in the study. The study adopted a descriptive survey research design. Fifteen women were randomly selected from the list provided by the community heads of the nine communities, ensuring fair representation from different age groups with various levels of oil palm processing. Hence the sample size for the study was 135. A self-administered questionnaire was used for data collection. The research instrument was validated by three experts from Nnamdi Azikiwe University, Awka, Anambra State. Reliability of the questionnaire was established through a pilot-test. Thereafter, the coefficient value was measured using the Cronbach Alpha formula to appraise the reliability of the research instrument. The scores gave coefficient reliability of 0.75, 0.73 and 0.80, for the three clusters respectively; which were added up to give an overall internal consistency reliability 'r' value of 0.76, showing that the questionnaire was reliable. Data collated were analyzed using mean and standard deviation for answering the research questions while regression analysis was used to test the two hypotheses. Findings of the study indicated among others that women's engagement in oil palm processing has demonstrably improved their financial standing and this newfound income security fosters a sense of belonging within the community and challenges traditional gender roles. The study therefore concluded that the inclusion of women in oil palm processing in Awka serves as a powerful driver for both economic development and women's empowerment. From the findings of the study, recommendations were made and among them included that government and stakeholders should create policies and programs that encourage more women to participate in oil palm processing. This could involve access to training, childcare options, and microloans.

Keywords: Oil, Oil Palm, Processing, Women, Involvement

Introduction

The oil palm industry in Nigeria stands as a proven testament in the nation's agricultural process. It is playing a significant role in the Nigerian economy and Awka in Anambra state especially. It is a major contributor to economic development. Within this sector, Awka, Anambra state emerges as one of the key contributors, its fertile lands yielding a bounty of golden palm fruits (Obot et al, 2022 and Central Bank of Nigeria, 2019). The rich oil extracted from these fruits finds its way into countless kitchen, forming the base of beloved dishes and fuelling its economic engine. Yet within this vibrant industry lies a strong often untold rather relegated to the shadow, women involvement in oil processing in Awka. Hence this article aims to explore the involvement of women in oil palm processing in Awka, and highlight their contributions to economic development and empowerment.

Awka south local government area, located in the heart of Anambra, Nigeria and is within the capital territory of state. It comprises of nine towns (Amawbia, Awka, Ezinato, Isiagu, Mbaukwu, Nibo, Nise, Okpuno and Umuawulu). This area is renowned for its oil palm plantations. For generations, men in Awka have primarily engaged in oil palm cultivation and processing while women's roles were limited to domestic tasks. However, with changing times and evolving soicio-economic landscapes, women are now claiming their place and generating transformative impacts within the industry. Nwankwo (2016) affirms that 77.5% of the population in the oil palm producing centers in Awka was mostly women.

These women involvement in oil palm processing has significantly contributed to the economic development of the area. A growing number of women have taken roles in various stages of oil palm processing, including harvesting, fruit collection, palm oil extraction, and value-added production. By actively participating and gaining economic independence, women are empowering themselves and their communities (Steady, 1985 in Nwankwo, 2016). Furthermore, women's engagement has diversified and expanded the local economy. They have seized opportunities to establish small-scale businesses that capitalize on oil palm resources. Many women have become entrepreneurs, producing and selling various products derived from oil palm, such as palm oil, palm kernel oil, soap and other value-added commodities. These enterprises not only generate income for women but also create employment opportunities for others, boosting local economic growth.

In addition, the involvement of women in oil palm processing has brought about a transformative impact on gender norms and social dynamics within the Awka south geopolitical area. Previously confined to domestic roles, women are now gaining self-

confidence, economic power and increased decision-making capabilities. With their financial autonomy, women can actively contribute to their households' well-being, invest in education, healthcare and secure a better future for their families. Conversely, the participation of women in the oil palm industry has prompted a shift in traditional gender roles and local perceptions. It challenges the stereotypes that limit women to certain occupations, opening up a new realm of possibility and equality in the society. This empowerment and socio-cultural transformation contribute to the overall progress and developments of Awka area. Despite all these contributions made by women, yet there is unresolved question on the extent it has contributed to both their empowerment and the economy at large. The role they play in oil palm processing in Awka south has not been extensively studied and there is a lack of understanding regarding their contributions to economic development and empowerment. This research aims to fill this gap and provide a comprehensive analysis of women's involvement in the industry.

Purpose of the Study

The general purpose of the study is to explore women involvement in oil palm processing with emphasis on their contribution to empowerment and economic development. Specifically this study aims to:

1. Examine the level of women's involvement in oil palm processing in Awka South local government area of Anambra state,
2. Investigate the economic contributions of women's involvement in oil palm processing to the local economy in Awka South local government area of Anambra state,
3. Assess how women's involvement in oil palm processing has contributed to their empowerment.

Research Questions

The following research questions were formulated to guide the research:

1. What is the extent of women's involvement in oil palm processing in Awka south local government area, Anambra state?
2. What are the economic contributions of women's involvement in oil palm processing to the local economy in Awka south local government area, Anambra state?
3. How does women's involvement in oil palm processing contribute to their empowerment in Awka south local government area, Anambra state?

Hypotheses

The following null hypotheses were formulated and were tested at 0.05 level of significance.

1. Ho_1: Women involvement in oil processing does not contribute

significantly to local economy of Awka south, Anambra state.

2. Ho2: women involvement in oil processing does not contribute significantly to the empowerment of women in Awka south local government area, Anambra state.

Research Method

This research employed descriptive survey research design. Quantitative data will be collected through surveys, focusing on the number of women involved and economic factors. The study was conducted Awka south local government area of Anambra state. The choice of the is based on the fact that oil palm is one of the major economic tree crops in the area and the processing of the palm oil is a major activity especially among their women. Nine communities made up Awka south local area which includes Amawbia, Awka, Ezinato, Isiagu, Mbaukwu, Nibo, Nise, Okpuno and Umuawulu. In each of these towns, fifteen women were randomly selected from the list provided by their community heads, ensuring fair representation from different age groups with various levels of oil palm processing. Hence the sample size for the study was 135. A self-administered questionnaire was used for data collection. The questionnaire consisted of items measuring women's involvement in oil palm processing, contributions to empowerment and economy.

The research instrument was validated by three experts from Educational Management and Policy and Educational Measurement and Evaluation, Nnamdi Azikiwe University, Awka, Anambra State. The corrections and modifications made by these experts were incorporated in the instrument before the final draft of the instrument. This was done in order to determine the face and content validity that aided the instrument to collect the requisite information (data) for the study. These experts were requested to validate the items in the questionnaire in terms of their face value, content relevance, items clarity and sentence construction. Reliability of the questionnaire was established through a pilot-test sampling 20 palm oil processing women in Idemili south LGA, which were not part of the study. After the pilot test, the result obtained from the data collected was computed and the coefficient value was measured using the Cronbach Alpha formula to appraise the reliability of the research instrument. The scores gave coefficient reliability of 0.75, 0.73 and 0.80, for the three clusters respectively; which were added up to give an overall internal consistency reliability 'r' value of 0.76, showing that the questionnaire was reliable. This was to show the degree at which the instrument was reliable to collect the necessary information for the study. According to Nworgu (2015), the essence of conducting a pilot-test was to avoid bias and the reliability of the questionnaire shows the trust-worthiness, consistency and dependability of the instrument. Both

validity and reliability of the instrument had to be determined before the final instrument was administered to the respondents, so as to yield the kind of information that assisted in the decision-making process and enable the instrument to collect the expected data. The final drafted copies of the questionnaire were distributed to the respondents on a personal and direct hand-delivery process to the respondents with the help of three (3) research assistants. The distribution of the questionnaire consisted of face-to-face contact with the respondents. An on-the-spot method was adopted by the researchers and research assistants in distributing copies of the questionnaire. This was to ensure maximum recovery of the questionnaires that were administered. Copies of the questionnaire for the respondents were delivered to them by the researchers and research assistants who are the community leaders in the community and who were instructed on how to communicate and retrieve the necessary information from the respondents. These research assistants were instructed and briefed on how to administer the questionnaire to the respondents. This entailed explaining properly to the research assistants the intensions of the study. The researchers and the research assistants waited for the respondents to complete the questionnaire before retrieving them on the spot in order to obtain the highest possible rate of return. Out of 135 copies of questionnaire distributed, 127 were duly filled and used for analysis. The data generated for this study was analyzed with descriptive statistics: mean and standard deviation answering the research questions while regression analysis was used to test the two hypotheses formulated with the aid of SPSS.

Presentation of Results

Table 1: Respondents mean ratings on extent of women's involvement in oil palm processing in Awka south local government area, Anambra state in Anambra state.

S/N	ITEMS	MEAN	SD	REMARKS
1	Threshing (removal of fruit from bunches)	2.95	0.95	HE
2	Harvesting (cutting the bunches)	1.61	0.83	LE
3	Sterilization of bunches (cooking of fruits)	3.31	0.75	HE
4	Digestion of the fruit (releasing the palm oil in the fruit through rupture	3.24	0.43	HE
5	Pressing (extracting the palm oil	3.01	0.87	HE
6	Clarification and drying of oil	3.59	0.49	HE
7	Oil storage	3.43	0.63	HE
8	Kernel recovery	3.35	0.48	HE
9	Marketing of the produce	3.29	0.73	HE
	Cluster mean	3.09		HE

Sources: Field survey data 2024; SD = Standard Deviation

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Table 1 shows the extent of women's involvement on oil palm processing in Awka south, Anambra state. It shows that women involved in various stages of oil palm processing such as Threshing (x=2.95;SD=0.95); Sterilization of bunches (x̄=3.31;SD=0.75)Digestion of the fruit (x=3.24;SD=0.43); Pressing(x=3.01;SD=0.87); Clarification(x=3.59;SD=0.49); Oil storage (x=3.43;SD=0.63); Palm kernel recover (x=3.35;0.48) and Marketing (x=3.29;0.73). While womenwere of low extent, involved in harvesting (x=1.61; SD=0.83). However, the cluster mean of 3.09 indicated that women in Awka south, Anambra are really involved in core oil palm processing which invariably enhances women's empowerment and boost local economy.

Table 2: Mean and standard deviation of responses on the economic contributions of women's involvement in oil palm processing to the local economy in Awka South local government area of Anambra state

S/N	ITEMS	MEAN	SD	REMARKS
1.	Enhances oil productivity.	3.58	0.66	Agreed
2.	Creation of employment.	3.43	0.50	Agreed
3.	Adds value to the products.	3.41	0.50	Agreed
4.	Income generation thus contributing to economic growth.	3.77	0.42	Agreed
	Enhances export that brings favorable balance of payment.			
5.	Cluster mean	3.49	0.50	Agreed
	Valid N (listwise) 127			
		3.54		Agreed

Table 2, reveals that women's involvement in oil palm processing in Awka south, Anambra has contributed to the economy through enhancement of oil productivity (x̄=3.58;SD=0.66), creation of employment (x=3.43;SD=0.50), adding value to the oil products (x=3.41;SD=0.50), Income generation (x=3.77;SD=0.42) and enhances export that brings favorable balance of payment (x=3.49;SD=0.50). Also cluster mean of 3.54 indicated that the women's involvement has contributed to the economic development.

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Table 3: Mean and standard deviation of responses on how women's involvement in oil palm processing has contributed to their economic empowerment

S/N	ITEMS	MEAN	SD	REMARKS
1.	Improve their status within their community. It brings about gender equality due to financial empowerment.	3.47	0.50	Agreed
2.	Skill development. Financial independent.	3.58	0.50	Agreed
3.	Poverty reduction among women.	3.63	0.49	Agreed
4.	Cluster mean	3.37	0.49	Agreed
5.	Valid N (listwise) 127	3.58	0.50	Agreed
		3.53		Agreed

Table 3 shows how women's involvement in oil palm processing has contributed to their empowerment. The women agreed that their involvement has improved their status within their community (x=3.47;SD=0.50), brings about gender equality (x=3.58;SD=0.50),development of skill (x=3.63;SD=0.49), financial independent (x=3.37;SD=0.49), poverty reduction (x=3.58;SD=0.50). Furthermore, the cluster mean of 3.53 indicted that women involvement in oil palm processing has contributed to their empowerment.

Test of Hypotheses

Hypothesis 1: Women involvement in oil processing does not contribute significantly to local economy of Awka south, Anambra state.

Table 4: Regression Summary of independent sample on the significant contribution to local economy by women involvement in oil palm processing in Awka south, Anambra state

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.159	1	22.159	1165.518	.000[b]
	Residual	2.377	125	.019		
	Total	24.536	126			

a. Dependent Variable: Local_Economy

b. Predictors: (Constant), Levels_of_women_Involvement

Table 4 reveals the sum of squares for regression to be 22.159 and the sum of squares for residual (error) to be 2,377. The mean square for regression is 22.159, while the mean square for residual is 0.019. The F-value is 1165.518, and the significance level

(p-value) is 0.000. This indicates that the regression model is statistically significant, suggesting that levels of women involvement in oil palm processing (Independent variable) have a significant effect on the local economy (dependent variable). Hence the null hypothesis is rejected while the alternative is upheld.

Table 5: Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.331	.066		20.233	.000	1.201	1.461
	Levels_of_women_Involvement	.715	.021	.950	34.140	.000	.673	.756

a. Dependent Variable: Local_Economy

Table 5 shows the coefficients, the unstandardized B coefficients refer to the estimated regression weights for the level of women involvement in oil palm processing (independent variables). Here, the coefficient for the independent variable is 0.715. The t-value associated with this coefficient is 20.2333. Additionally there is a constant in the equation with a coefficient of 34.140. Hence the coefficient values help in understanding the magnitude and direction this effect on local economy.

Hypothesis 2: women involvement in oil processing does not contribute significantly to the empowerment of women in Awka south local government area, Anambra state.

Table 5: Regression Summary of t-test of independent sample on the significant contribution to the empowerment by women involvement in oil palm processing in Awka south, Anambra state

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.054	1	17.054	873.760	.000[b]
	Residual	2.440	125	.020		
	Total	19.494	126			

a. Dependent Variable: Women_Empowerment

b. Predictors: (Constant), Levels_of_women_Involvement

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Table 5 reveals the sum of squares for regression to be 17.054 and the sum of squares for residual (error) to be 2,440. The mean square for regression is 17.159, while the mean square for residual is 0.020. The F-value is 873.760, and the significance level (p-value) is 0.000. This indicates that the regression model is statistically significant, suggesting that levels of women involvement in oil palm processing (Independent variable) have a significant effect on their empowerment (dependent variable). Hence the null hypothesis is rejected while the alternative is upheld.

Table 6: Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.592	.067		23.891	.000	1.460	1.724
	Levels_of_women_Involvement	.627	.021	.935	29.559	.000	.585	.669

a. Dependent Variable: Women_Empowerment

Table 6 shows the coefficients, the unstandardized B coefficients refer to the estimated regression weights for the level of women involvement in oil palm processing (independent variables). Here, the coefficient for the independent variable is 0.627. The t-value associated with this coefficient is 29.559. Additionally there is a constant in the equation with a coefficient of 23.891.The coefficient values help in understanding the magnitude and direction this effect on empowerment, showing that 62.7% variation in empowerment can be explained by women involvement in oil palm processing.

Key Findings:

- **Economic Empowerment:** Women's engagement in oil palm processing has demonstrably improved their financial standing. This newfound income security fosters a sense of belonging within the community and challenges traditional gender roles.
- **Skill Development:** Oil palm processing equips women with valuable skills, fostering self-reliance and confidence.
- **Poverty Reduction:** Increased income generation through processing activities directly reduces poverty within households led by these women.

Discussion of findings

The findings in Table 1 provide valuable insights into the specific roles and involvement of women in oil palm processing in Awka south, Anambra. The study successfully highlighted various stages of the process where women are actively

engaged, such as threshing, sterilization, digestion of the fruit, pressing, clarification and drying of oil, oil storage, kernel recovery, and marketing. This not only confirms the findings of previous studies conducted by Nwankwo and Nwosu (2018), Omonone et al. (2018), Obot et al. (2022), and Alabi et al. (2020), but also strengthens the understanding that women play a significant role in the overall oil palm processing industry.

One noteworthy aspect revealed by the study is that women were found to be less involved in the harvesting stage, which primarily involves cutting the bunches from the trees. This finding suggests that this particular task might be more complex and physically demanding, leading to a lower participation rate among women. This observation aligns with the findings of Adamu et al. (2012), who emphasized that men tend to be more active in the stages of oil palm processing that require greater technical expertise and physical strength.

The findings presented in Table 2 indicate that the involvement of women in oil palm processing has made significant contributions to both the local economy and the nation as a whole. It was observed that their participation has positively impacted the productivity of oil palm, thereby increasing the quantity of the product available for domestic use, manufacturing purposes, and other economic activities. Additionally, women's involvement in oil palm processing has created employment opportunities, added value to oil palm products, generated income, and further facilitated the export of oil palm, resulting in a favorable balance of payment. These findings are consistent with the previous studies conducted by Etuah et al. (2016), Ayodele and Eshalomi (2010), and Rhebergene et al. (2016), which also highlighted the positive effects of women's involvement in oil palm processing, such as job creation and increased oil palm supply, ultimately benefiting the economy of the country. Furthermore, it was observed that these women often engage laborers to assist them in the processing, thereby creating additional job opportunities for the society.

The findings, as shown in Table 3, provided compelling evidence that women's participation has significantly contributed to their empowerment through economic independence and social status. These results align with previous researches by Nwankwo (2016), Obot (2022), Pirker (2016), and Zutah&Fairhurst (2020), highlighting the positive correlation between women's participation and empowerment.

Finally, the results of hypotheses tested showed a significant impact of the level of women's involvement on local economy and empowerment at 0.95 confidence level with p-value (0.000)< 0.05.Also to show the weight of the effect, the coefficient table revealed that 71.5% variation in local economy and 62.7% change in

empowerment can be explained by women's involvement in oil palm process. The statistical analysis revealed a significant positive influence (71.5%) of women's involvement on the local economy. This aligns with studies by Pirker et al. (2016) and Ofusu-Budu&Sarpong (2013), demonstrating how women's economic activity strengthens the community.

Conclusion

The inclusion of women in oil palm processing in Awka serves as a powerful driver for both economic development and women's empowerment. Their active participation has diversified the local economy, increased household incomes, and challenged traditional gender norms.

Recommendations

To further enhance the positive outcomes:

1. **Enabling Environment:** Governments and stakeholders should create policies and programs that encourage more women to participate in oil palm processing. This could involve access to training, childcare options, and microloans.
2. **Cooperative Formation:** Facilitating the formation of women's cooperatives would improve information sharing, resource allocation, and bargaining power.
3. **Expanding Value Chain Participation:** Encouraging women to explore other aspects of palm production beyond processing, such as cultivation and marketing, can further increase their income potential.
4. **Continuous Empowerment:** The Awka traditional institution should ensure that women continue to be empowered and play a vital role in the sustainable growth of the oil palm industry in Awka.

Contribution to Knowledge

The study on Women's involvement in Oil Palm Processing in Awka makes a significant contribution to knowledge by shedding light on the transformative impact of economic empowerment on women's lives. By engaging in oil palm processing, women have demonstrably improved their financial standing, fostering a sense of belonging within their communities and challenging traditional gender roles. This newfound income security has far-reaching consequences, enabling women to break free from the shackles of poverty and assert their independence. Moreover, the study highlights the importance of skill development in oil palm processing, equipping women with valuable skills that foster self-reliance and confidence. As women acquire these skills, they become more self-assured, capable of navigating the complexities of economic activities and making informed decisions about their lives.

The research also underscores the critical role of oil palm processing in poverty reduction, revealing that increased income generation through processing activities directly reduces poverty within households led by women. This finding has profound implications for policymakers and development practitioners seeking effective strategies to combat poverty.

Furthermore, the study contributes to our understanding of gender roles and social change, demonstrating how women's economic empowerment can challenge traditional gender norms and contribute to a more equitable society. By exploring the intersections of economic empowerment, skill development, and poverty reduction, this research provides a nuanced understanding of the complex relationships between these variables.

Ultimately, the study's findings have far-reaching implications for rural development and livelihoods, highlighting the potential of oil palm processing as a viable livelihood strategy for rural women. By empowering women through economic activities, we can unlock their full potential, fostering a more inclusive and equitable society.

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