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Gender Role in Sustainable Palm Oil Production in Imo State, Nigeria

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Abstract

The paper explored gender role in sustainable palm oil production in selected communities of Imo State. Multistage sampling technique was used to select 60 respondents for the study. Data were collected using interview schedule and analyzed using mean score and percentage. The estimated average monthly income of palm oil producers was ₦30,967.00. The respondents perceived improved palm oil production method as the only sustainable method ($\bar{X}$=3.46). The wine press ($\bar{X}$=2.93) and hydraulic press (manual) ($\bar{X}$=2.80) were the only palm oil production equipment accessible to palm oil producers. The respondents perceived that women played major role in sustainable palm oil production activities such as fruit steaming (86.7%) and oil drying (73.3%) while all gender (women, youths, men) played major role in second pressing (73.3%). There was no specific role performed majorly by men but youths performed major role only in harvesting of oil palm fruit (53.3%). Lack of finance ($\bar{X}$=3.53) and ultra-modern palm oil production equipment ($\bar{X}$=3.50) were perceived as the main constraints to sustainable palm oil production. The study concluded that although women played major role in palm oil production, all gender (women, youth and men) were increasingly getting involved in palm oil production.

Keywords: Gender role, Palm oil, Production, Imo State

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Introduction

In Nigeria, oil palm is indigenous to the coastal plain and has migrated inland as a staple crop. For millions of Nigerians, oil palm cultivation is part of their way of life. Indeed, it is part of the culture and one of Nigeria's most important food and cash crop. In southeastern Nigeria, oil palm is widely cultivated and is one of the mainstays of the economy. The Nigeria premier university, University of Nigeria, Nsukka was mostly sponsored from the proceeds of the palm produce.

In Imo state, both government and non-governmental organizations (NGos) are involved in oil palm enterprise. The Ada palm Project has contributed immensely to the economy of the state in terms of employment and financial resources of the state. Presently, Imo State government has launched a robust oil palm programme known as Imo State Oil Palm Development Programme (ISODEP). The programme (ISODEP) targets to establish four million high yielding oil palm trees by the year 2011 (Biopact Team, 2007) All these are to ensure the increase in yield of the products of oil palm, most especially its main product the palm oil.

Palm oil (also known as **dendê oil**, from Portuguese) is an edible vegetable oil derived from the mesocarp (reddish pulp) of the fruit of the oil palms, primarily the African oil palm *Elaeis guineensis*, and to a lesser extent from the American oil palm *Elaeis oleifera* and the maripa palm *Attalea maripa* (Promar Tarim, 2015). It is obtained from the flesh of the fruit and probably formed part of the food supply of the indigenous populations long before recorded history. It may also have been traded overland, since archaeological evidence indicates that palm oil was most likely available in ancient Egypt. Palm oil is naturally reddish in colour because of high beta-carotene content a precursor of vitamin A. It is not to be confused with palm kernel oil derived from the kernel of the same fruit, (Poku, 2002) or coconut oil derived from the kernel of the coconut palm (*Cocosnucifera*). The differences are in colour (raw palm kernel oil lacks carotenoids and is not red), and in saturated fat content: hence it is a viscous semi-solid, even at tropical ambient, and a solid fat in temperate climates.

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Palm oil can be used in both edible (cooking and frying for various traditional dishes and cooking fats i.e. stearin for manufacturing of magarine, ice creams, etc.) and non-edible (soap manufacturing, production of useful oleo-chemical as emulsifier in food processing and pharmaceutical industries, production of toiletries, paints, etc.) (Raw Materials Research and Development Council 2004).

From the onset, palm oil is produced using different methods. The oldest method of palm oil production that still persists today is the traditional method. In Imo State, the earliest traditional processing method involves the use of legs to marsh the fruit after cooking the palm fruit etc. As time went by, modern methods of processing palm fruit to produce palm oil was introduced. The study of Enwelu, Nwalieji and Eze (2012) reveal that women in Oru LGA of Imo state try to adjust to the modern method like the hydraulic press.

Until the early years of the twentieth century, palm oil was produced only by traditional method by which loose fruits were collected from the ground or a few bunches were cut from the tree. Beginning in the 1920s however, the United Africa Company and British colonial officials in Nigeria started experimenting with the stream cookers and hand presses designed to make production at the village level more efficient in terms of labour use and oil yield. Yet lack of cash prevented most processors (farmers), from trying the new machinery with exception of a few lucky recipients of free samples or government subsidies in the 1940s (Martin, 1988).

Production of palm oil involves different gender roles. Gender refers to social constructed role/difference between men and women for the purpose of allocating powers, duties, statuses, responsibilities and role in any given social milieu or context (United States Aid for International Development (USAID), 2005). It is distinct from sex which refers to biological differences (Quisumbing, 1994). Gender role in palm oil production entails the analysis of male and female, issues concerning the part both play in production of palm oil and if properly conceived it refers to male and female concerns and needs and it stands for value equity and equality (USAID, 2005). Involvement of all genders in palm oil production ensures its sustainability. The sustainable production of palm oil is one that meets the needs of the present,

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without compromising the ability of future generations to meet their own needs (UN Documents, nd).

According to Unamma, Onwudike, Uwaegbute, Edoga and Nwosu (2004), many constraints have limited gender participation in its production techniques adopted. Women are faced with problems of inappropriate palm oil production techniques that would suit their physique. It is generally agreed that traditional methods of extracting palm oil are inefficient and tedious.

It is against this background that this study assessed gender role in sustainable palm oil production. Consequently, the following research questions become pertinent: What are the socioeconomic characteristics of the respondents? What are sustainable methods of producing palm oil? What are palm oil production equipment accessible to palm oil producers? What are the major roles performed by different genders in sustainable production of palm oil? What are the constraints to sustainable production of palm oil? Answers to the foregoing questions were the main thrusts of this research.

The overall purpose of the study was to assess gender roles in palm oil production in Imo State, Nigeria. The study was designed to: describe the socio-economic characteristics of palm oil producers; ascertain perceived sustainable methods of producing palm oil in the communities; ascertain accessibility of palm oil producers to modern processing equipment; examine roles across gender in sustainable production of palm oil; anddetermine constraints to sustainable production of palm oil in Imo state.

Methodology

The study was carried out in selected communities of Imo State of Nigeria. The population of the study comprised all palm oil producers. Multistage sampling technique was used to select the respondents for the study. In the first stage, two zones namely Orlu and Owerri were randomly selected from the three senatorial zones of Imo State. In the second stage, Ideato North LGA was randomly selected from 12 local government areas (LGAs) in Orlu zone while Ikeduru LGA was

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randomly selected from nine LGAs in Owerri zone. Third stage involved the purposive selection of Urualla town community from Ideato LGA and Akabo town community from Ikeduru LGA on the basis of existence of palm oil production facilities. In the fourth stage, three village communities were also purposively selected from urualla and Akabo town communities respectively. The selection was based on the existence of palm oil production enterprise in the areas. In the fifth stage, twenty (20) palm oil producers comprising men, women and youth were compiled in each village community of Urualla and Akabo town communities respectively. From the list 10 palm oil producers (3 men, 3 women and 4 youth) were randomly selected from each village community to give a total sample size of sixty (60) respondents for the study. Data collected were analyzed using mean scores and descriptive statistics.

Results and Discussion

Socio-economic characteristics of the respondents

Table 1 reveals that majority (73.3%) of palm oil producers were married while 13.3% were widowed. About 13.0% palm oil producers were single while 13.4% were divorced/ separated. The finding implied that the majority of the respondents were married and as such the family could be a source of labour for production of palm oil.In Nigeria, Ivanda, Igbokwe and Olatunji (2015) recommend that family members should make efforts to put in place food processing and preservation techniques which will make food available to the households all year round. The situation is similar in Cameroon where Nchanji, Tataw, Nkongho and Levang (2013) report that at least 70% of the respondents in the area were married and had their families actively participating in the processing of red palm oil

The mean number of years spent in school by palm oil producers was about 6 years. This shows a low level of formal education and which has a serious implication on the attitude of the respondents on improvement of palm oil production. This is also the same in Cameroon where the level of education are basically primary school leavers and junior high school drop outs (Nchanji, Tataw, Nkongho and Levang,

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2013).On the other hand, the mean year of palm oil production experience was 11 years. This shows that the respondents were fairly experienced in the enterprise and have more years to perform better in future since palm oil production is an age long activity.

The estimated average monthly income of palm oil producers was ₦30,967.00. The implication of this finding is that palm oil enterprise is still a lucrative business and is capable of alleviating poverty in rural areas and more attention should be given to it both by the individual, NGOs and governments. The mean household size was 6 persons. This is fairly a large family but can be useful in supply of labour to the palm oil enterprise.

Table 1: Percentage distribution of respondents according to their socio-economic characteristics

Variable	Percentage (%)	Mean $\bar{X}$
Marital status		
Single	13.3	
Married	73.4	
Widowed	13.4	
Divorced/separated		
Educational qualification		
No formal education	33.3	
Primary education	33.3	**5.9**
Secondary education	33.3	
HND/first degree		
Production experience (years)		
1-10	66.7	
11-20	23.3	**11**
21-30	10.0	
Average monthly income		
10000-20000	10.0	
20001-30000	43.3	**30967**
30001-40000	40.0	
40001 and above	6.7	
Household size		
1-5	30.0	**6**
6-10	70.0	

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Perceived Sustainable Methods of Producing Palm Oil in the Communities

Entries in Table 2 reveal that respondents perceived improved method ($\bar{X}$=3.46) as the only sustainable method of palm oil production in the communities. This may be probably because it is the most efficient, effective and time saving method. Surprisingly higher number ($\bar{X}$=2.33) of palm oil producers perceived traditional method to be more sustainable than combination of improved method and traditional method ($\bar{X}$=1.96). This implies that for any improved method of producing palm oil to be sustainable, it must be adapted from the traditional method. The standard deviation for improved method is close to unity which is an indication of actual situation in the communities.

Table 2: Mean distribution of perceived sustainable methods of palm oil production

Palm oil production methods	Mean ($\bar{X}$)	Std. Deviation
Traditional method	2.33	1.37297
Improved method	**3.46**	0.97320
Both	1.96	1.21721

Cut off mean = $\bar{X} = 2.5$

Extent of Accessibility of Palm Oil Producers to Modern Processing Equipment

Data in Table 3 show that wine press/cage press ($\bar{X}$=2.93) and hydraulic press (manual) ($\bar{X}$=2.80) were the only production equipment accessible to palm oil producers. This implies that respondents have access to improved processing equipment and this may help in reducing drudgery as well as increase their income. However, the implication of not having access to motorized equipment will adversely affect the economics of the producers in terms of efficiency of production. The giants strides witnessed in Malaysia who collected palm fruits from Nigeria can be traced to the sophistication of their palm oil processing technologies.

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Table 3: Mean distribution of extent of accessibility of palm oil producers to palm oil processing equipment

Palm oil processing equipment	Mean ($\bar{X}$)	Std. Deviation
Wine press or Cage press	**2.93**	1.14269
Hydraulic press (Manual)	**2.80**	1.24291
Spindle press (manual)	1.36	0.92786
Motorized horizontal screw press	1.56	1.13512
Combined harvester and motorized hydraulic press	1.00	0.00000

Cut off mean = $\bar{X} = 2.5$

Roles Across Gender in Sustainable Production of Palm Oil

Table 4 shows that harvesting of palm fruits was mostly performed by youths (53.3%) and men (43.3%). This may be because of traditional belief that it is a taboo for women to harvest palm fruits and/or climb a tree in typical Igbo society. On the other hand, it requires a lot of energy which only youths and men can provide. Also, it may be because short hybrid tenera varieties are not cultivated in the communities. This has serious implication for sustainable production of palm oil. There is need for all stakeholder involvement in palm oil production since people are being assigned role by social construct.

About 60.0% of the producers involved in bunch transportation were women (Table 4). However, 33.3% indicated that the operation could be performed by all while 6.7 said that youth could perform the operation. For sustainable transportation of palm bunches for palm oil production, other stakeholders (men and youth) are expected to improve their involvement.

Data in Table 4 indicate that fruit picking was mainly performed by women (60.0%) and all stakeholders (40.0%). Although more women are involved in fruit picking, it is expected that low technology equipment may be developed in future for sustainable production of palm oil giving a lot time wasted in fruit picking operation. About 43.0% of the respondents indicated that fruit fermentation was performed by all while 20.0%, 30.0% and 6.7% said they were performed by men, women and youths,

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respectively. The implication is that all the stakeholders are fairly involved in the activities and as such can boost sustainable production of palm oil.

Table 4 reveals that 50.0% of all respondents were involved in bunch stripping while 26.7% and 23.3% reported that youths and women, respectively, were involved. Also, bunch threshing was performed by 63.3% of all the respondents while 20.0%, 10.0% and 6.7% of youths, women and men, respectively indicated to have performed the operation. The implication is that gender involvement in bunch stripping/bunch threshing is highly encouraged but requires improved method for sustainable palm oil production.

About 57% of women were involved in fruit sorting while 33.3% and 10.0% accounted for all and youths respectively. Again, more women are involved in this operation which requires improved technology to reduce drudgery associated with this operation and ensure sustainable palm oil production.

The majority of women (86.7%) were involved in fruit steaming while 13.3% indicated that all stakeholders perform the operation. About 60.0% of women were involved in oil purification while 30.0% and 10.0% were all stakeholders and youths respectively. Similarly, 60.0% of women were engaged in fiber-nut separation while 36.7% and 3.3% of the respondents indicated it was performed by all and youth respectively. Also, majority (73.3%) of the respondents indicated that oil pressing was performed by women. However, 16.7% and 10.0% indicated that it was performed by all and youths respectively. The implications of these findings reveal women dominated operations probably because some are less tedious but definitely fiber-nut-separation is time consuming and as such requires improved processing equipment. Nevertheless, the operations also require involvement of all stakeholders for sustainable production of palm oil.

The majority (73.3%) of the respondents indicated that second pressing was performed by all stakeholders while 20.0% and 6.7% said it was performed by men and youths respectively. On the other hand, greater proportion (40.0%) of the respondents indicated that all stakeholders were involved in fruit digestion while 23.3%, 20.0% and 16.7% were men, youths and women respectively. These findings

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reveal increasing involvement of all stakeholders which is highly needed for sustainable production of palm oil.

Table 4: Percentage distribution of producers according to palm oil operations performed.

Operations	Percentage (%)
Harvesting of oil palm fruit	
Men	43.3
Youths	55.0*
All	3.3
Transportation of bunch	
Women	60.0*
Youths	6.7
All	33.3
Fruit picking	
Women	60.0*
All	40.0
Fruit fermenting	
Men	20.0
Women	30.0
Youths	6.7
All	43.3
Bunch stripping	
Women	23.3
Youths	26.7
All	50.0
Bunch threshing	
Men	6.7
Women	10.0
Youths	20.0
All	63.3*
Fruit sorting	
Women	56.7*
Youths	10.0
All	33.3
Fruit steaming	
Women	86.7*
All	13.3
Fruit digestion	
Men	23.3
Women	16.7
Youths	20.0
All	40.0
Oil purification	
Women	60.0
Youths	10.0
All	30.0
Fibre-nut separation	
Women	60.0
Youth	3.3
All	36.7
Second pressing	
Men	20.0
Youths	6.7
All	73.3
Oil drying	
Women	73.3*
Youths	10.0
All	16.7

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Perceived Constraints to Sustainable Palm Oil Production in Imo State

Table 5, presents the perceived constraints to sustainable production of palm oil to include: poor access to good road for transport ($\bar{X}$=3.63), lack of finance ($\bar{X}$=3.53), lack of processing equipment ($\bar{X}$=3.50), lack of infrastructure ($\bar{X}$=3.43), difficulty in obtaining credit facilities ($\bar{X}$=3.13), lack of technical information ($\bar{X}$=3.06), poor price of product ($\bar{X}$=2.96) and poor quality product ($\bar{X}$=2.93). Poor access to road is a major factor that constrains palm oil producers in conveying their produce to market or where the produce is needed. This can lead to the spoilage of the produce thereby leading to poor quality product and poor price of the product. Lack of finance and modern processing equipment are twin problems that militate against sustainable production of palm oil. In fact, these constraints operate like chain reactions or vicious cycle because lack of one can lead to the problem of the other.

Table 5: Mean distribution of processors according to constraints to palm oil processing

Constraints	Mean$\bar{X}$	STD
Lack of infrastructure (eg, electricity)	3.43*	0.62606
Lack of modern processing equipment	3.50*	0.57235
Difficulty in obtaining credit facilities	3.13*	0.81931
Instability of government policy	2.43	1.13512
Poor quality of product	2.93*	0.58329
Stealing of products/ raw material	2.23	0.72793
Lack of labour	2.33	1.12444
Poor prices of product	2.96*	0.71840
Spoilage	2.23	0.56832
lack of storage facilities	2.30	0.83666
Lack of factory space	1.96	0.88992
Lack of finance	3.53*	0.57135
Lack of technical information	3.06*	0.58329
Poor access to good road for transport	3.63*	0.71840
Poor extension agent-farmers contact	2.26	0.78492

Cut off mean = $\bar{X} = 2.5$

Conclusion and Recommendations

Palm oil enterprise is still a lucrative business and is capable of alleviating poverty in rural areas. Improved method of palm oil production was perceived as the only sustainable method in the communities. Wine press/cage press and hydraulic press

(manual) although accessible to palm oil producers in the communities but are yet not the most efficient equipment like the motorized screw press. Although women played major role in palm oil production, all gender (women, youth and men) were increasingly getting involved in palm oil production. Lack of finance and modern processing equipment are twin problems that militate against sustainable production of palm oil.

The study recommended training of all stakeholders and provision of capital in form of soft loans to enable the big time processors procure motorized processing equipment.

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