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Authors *B. B. Esu and A. E. Akam*

CRDEEP Head Office:315/10, Kaulagarh Road, Rajendranagar, Indervihar, Dehradun, 248001, Uttrakhand, India.

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Women Participation in Oil Palm Processing in Nigeria: A Case Study of Akwa Ibom State

B. B. Esu and A. E. Akam

Department of Agricultural Economics and Extension, Faculty of Agriculture,University of Uyo, Uyo. Nigeria

Abstract

This study assessed participation of women in oil palm processing in Etim Ekpo Local Government Area of Akwa Ibom State. A multi-stage sampling procedure was used to select one hundred (100) women oil palm processors in the study area. Data were obtained through the use of questionnaire and analyzed using frequencies, percentages, means and t-test statistical tools. Results revealed that the mean age of the processors was 39 years. Majority (78%) of the processors were married. The educational levels revealed that most of the respondents (93%) had one form of formal education or the other. The mean household size of the respondents was 7 persons. The mean year of involvement in oil palm processing was 16years. Majority of the respondents (95%) were Christians while 37% of them had trading as their primary occupation and made between 1000 (USD 6.00) and 10,000 (USD 60.00) Naira as their monthly income (53%). Purchase of palm fruit (60%) was their common source of acquiring oil palm fruit for processing. Majority of the respondents (82%) did not belong to any oil palm related Cooperative Society while few (33.3%) of those who belonged to such Cooperative Society benefited from the Cooperative Society financially. Majority of the respondents (88%) processed the oil palm for both home consumption and for sale. The study indicates that women oil palm processors should form more oil palm related cooperative societies with the objective of giving financial assistance to the members.

Keywords: *Women, participation, Oil palm Processing, Akwa Ibom, Nigeria.*

Introduction

Oil palm (*Elaeis guineensis)* ,a perennial plant, is believed to be indigenous to West Africa. In Africa, wild palm groves are found mainly in a 300 to 500 hundred kilometers wide Western coastal belt stretching from Gambia to Angola and extending inland towards the East as far as the equator in the region of the great Lakes (Omereji, 2005). Oil palm belongs to the family *Palmae*, sub-family *Cocoideae* and has three basic forms namely the *dura*, *tenera* and the *pisifera* (Opeke, 2005). Oil palm is a low land crop although it can grow well up to an altitude of 900 m. It has fibrous root system and prefers deep fertile well-drained soil; require plenty sunshine, thus productivity reduces drastically when subjected to areas with excessive humidity. The oil palm has large compound leaves (fronds), unbranched stem, fibrous root system, the oil palm fruit is a sessile drupe and consist of a leathery exocarp, fleshy oily mesocarp and a hard endocarp (shell) which encloses the kernel (seed) (Udoh *et. al.*, 2005). A well ripe oil palm fruit changes in colour of the fruit. The changes in colour at ripening which may be from black to red, green to reddish orange with greenish tip, from white to pale yellow, depends on the type of oil palm fruit. Udoh *et. al.* (2005) also discussed various agronomic practices involved in oil palm production including:- nursery establishment, time of planting, nursery maintenance, transplanting, pest and disease control, fertilizer application, harvesting and processing of palm fruits. However, this research will dwell much on the processing of the oil palm fruits. Several traditional methods of oil palm processing still abound in Nigeria including fermentation, manual separation of kernels from fibre after maceration, pounding in a mortar, squeezing out of oil by hand and water displacement.

Nonetheless, most of these processes/operations are being replaced by modern methods (Omereji, 2005). The oil palm processors are however seen to be reluctant to adopt modern processing techniques. Beside this, virtually all the processors engage in small scale of oil palm production leading to decrease in the total quantity of product. Notwithstanding this decline in palm oil production, oil palm fruit processing still provides employment for about 70% of rural small-scale farmers, in which women forms a great percentage. However, with the tripartite burden of child bearing, domestic chores and other agricultural activities, women in the study area are sand witched between several constraints in the processing of oil palm fruit. Despite the constraints, the participation of women in processing of oil palm fruit is increasing as a result of increasing demand of the growing urban population for palm oil. Since the major processors of oil palm fruits are the rural farm households in which majority are women, this study targeted the role women play in the processing of oil palm fruit in Etim Ekpo Local Government Area of Akwa Ibom State, Nigeria.

Often women's opinions are ignored when research priorities are set and their needs are, thus, not addressed even though women are to be highly involved in agricultural activities (Adekanye , 1996, 2004). Findings from other researchers (FAO,1996; Ibe and Nweke

1981; Onah,1987; Ogbona,1989) indicated that female labour are more productive than the male labor in food processing and that women account for more than half of the labor force in oil palm processing. But for the fact that women contribute immensely to socio-economic development of the rural areas with less authority and opportunity than men implies that the socio-economic constraints militating against their efficient resource management must be fully understood. This would suggest possible solutions to their efficient performance. It is against this background that the following research questions become relevant: What are the socio-economic characteristics of oil palm processors? What is the level of women involvement in oil palm processing in the study area? What are indigenous knowledge practices used by women oil palm processors in the study area? What are the different technological practices available to them in the study area? The study was specifically focused on the following objectives; to identify the socio-economic characteristics of oil palm processors, to ascertain the level of women's involvement in oil palm processing as well as to assess the indigenous knowledge practices used by women oil palm processors in the study area.

Methodology

The study was conducted in Etim Ekpo Local Government Area of Akwa Ibom State in 2012. Etim Ekpo is located in the coastal South-southern part of Nigeria lying between latitude 4^0 96^1, and 5^0 10^1 North and longitude 7^0 29^1 and 7^0 37^1 East. Etim Ekpo is bordered on the North by Abak Local Government Area, South by Azumini and Aba in Abia State, East by Ukanafun Local Government Area and West by Ika and Essien Udim Local Government Area. It occupies a total land mass of about 259,85km^2 with a population of about 105,418 spreading over its five (5) Clans (Utu, Uruk Ikono,Obong and Annang), seventy four (74) villages and ten (10) Wards (NPC,2006). Etim Ekpo is a rural area with a humid tropical climate marked by two distinct seasons, the dry and wet. The mean annual rainfall is 2220mm with daily mean temperature ranges from 23^0C to 31^0C.

Agriculture remains the mainstay of their economy with much concentration on food crops such as cassava, yam of various varieties/species, vegetables, maize, plantain, banana and oil palm. They also raise livestock such as goat, sheep, poultry and pigs. However, processing of farm produce such as cassava, melon, palm wine and oil palm is a major trade of women living there and virtually all the women take part in the processing of oil palm either as a sole occupation or in combination with other businesses. A multi-stage sampling technique was used. In stage one, five Clans were identified in the study area, the second stage involved the selection of two (2) villages from each of the five (5) Clans making a total of ten (10) villages. The third stage involved the collection of lists of processors in each of the ten villages. From the list, a total of ten (10) women oil palm processors were randomly selected from each village; hence a total number of 100 women oil palm processors were interviewed for the study. Data were collected using interview schedule. The socio economic characteristics of the respondents were analysed using frequency, percentages and mean.

Results and Discussion

Results on the socio economic characteristics of the respondents showed that the mean age of the processors was 39 years (Table 1). Majority (78%) of the processors were married. The educational levels revealed that most of the respondents (93%) had one form of formal education or the other. The mean household's size of the respondents was 7 persons. The mean years of involvement in oil palm processing were 16. Table 1 also shows that majority of the respondents (95%) were Christians while 37% of them had trading as their primary occupation and made between 1000 (USD 6.00) and 10,000 (USD 60.00) Naira as their monthly income (53%). Purchase of palm fruit (60%) was their common source of acquiring oil palm fruit for processing while only 18% of them belong to Cooperative Society.

Table 2 shows that oil palm processing activities such as oil extraction (X = 1.96), Boiling of oil palm fruits (X = 1.93), removal of oil palm fruits from spikelet's (X = 1.62) and separation of kernel from fibre (X = 1.84) were mostly carried out by women. However, cutting of spikelet's (X = 0.73) and maceration (X = 0.70) recorded a low involvement by the women in the study area. The results of the findings corroborate with Onweagba and Nwaihu (2004) who reported that women are the major actors in the oil palm produce industry, notably in palm fruits processing in Imo State. To ascertain the level of women involvement, the critical mean was used. Critical mean of 1.00 serves as the cutoff point between high and low level of involvement.

Table 3 shows indigenous knowledge practices used by the oil palm processors in the study area. From the result, fermentation (X = 1.98), use of machete /axe to cut spikelets from bunches (X = 1.94) and mat screening of fruit as well as water displacement of oil (X = 1.91) were the most utilized indigenous techniques of oil palm processing while use of ground mortar, trampling of boiled oil palm fruits in canoe (X = 0.05), hand/sag squeezing of oil from fibre (X = 0.21) and pounding of oil palm fruits in mortar (X = 0.26) were the least indigenous technique of oil palm processing utilized by the processors in the study area. Considering the number of indigenous practices used in oil palm processing in the study area with critical mean $\geq$ 1.0 (table 3), the result revealed that most indigenous methods of oil palm processing are still in use in the study area. This result is in line with that of Omeriji (2005) who reported that several traditional methods of oil palm processing still abound in Nigeria.

Table 1: Distribution of the respondents by socio- economic characteristics

Variable	%	Processors (N= 100) Mean
Age (years)		39.4
21- 30	12	
31- 40	49	
41- 50	29	
51- 60	8	
61- 70	2	
Marital status		
Single	5	
Married	78	
Divorced/ separated	2	
Widowed	15	
Educational level		
No formal education	7	
Primary	57	
Secondary	25	
Adult literacy	5	
Tertiary	6	
Religion		
Christianity	95	
Traditional beliefs	5	
Households Size		6.8
1-4	15	
5-9	78	
10-14	5	
15-19	2	
Years of Involvement		15.8
1-10	33	
11-20	36	
21-30	26	
31- 40	5	
Primary Occupation		
Trading	37	
Farming	30	
Civil Service	28	
Seamstress/ Tailoring	5	
Monthly Income		
1000- 10,000	53	
10,001- 20,000	39	
20,001- 30,001	5	
30,001- 40,000	3	
Acquisition Source		
Personal farm	8	
Family farm	29	
Community farm	3	
Purchase	60	
Processing purpose		
Home consumption	6	
Sale	6	
Both	88	
Membership of cooperative society		
Yes	18	
No	82	

Source: Field Survey, 2012.

Table 2: Oil palm processing operations and level of women involvement

Oil palm operations	Never involved	Lowly involved	Highly involved	Mean	Remark
Cutting spikelets from bunches	8*(48.0)**	31*(31.0)**	21*(21.0)**	0.73	Low
Removal of fruits from spikelets	6(6.0)	26(26.0)	68(68.0)	1.62	High
Boiling of fruits	2(2.0)	3(3.0)	95(95.0)	1.93	High
Maceration	60(60.0)	10(10.0)	30(30.0)	0.70	Low
Kernel separation	4(4.0)	8(8.0)	88(88.0)	1.84	High
Oil extraction	1(1.0)	2(2.0)	97(97.0)	1.96	High

*Source: Field survey, 2012, Note * = frequency and ** = percentage.*

Table 3: Indigenous knowledge practices used by women in the study area

Indigenous knowledge practices	Never utilized	Rarely utilized	Often utilized	Mean	Rank
Machete/Axe cutting of spikelets	1*(1.0)**	4*(4.0)**	95*(95.0)**	1.94	2
Fermentation	-	3(2.0)	98(98.0)	1.98	1
Mat screening of oil palm fruits	3(3.0)	3(3.0)	94(94.0)	1.91	3
Boiling of fruits in drum	17(17.0)	60(60.0)	23(23.0)	1.06	6
Pounding of fruits in mortar	76(76.0)	22(22.0)	2(2.0)	0.26	7
Use of ground mortar	96(96.0)	3(3.0)	1(1.0)	0.05	9
Trampling of boiled fruits in canoe	96(96.0)	3(3.0)	1(1.0)	0.05	9
Manual separation of kennel from fibre	13(13.0)	22(22.0)	65(65.0)	1.52	5
Hand/sag squeezing of oil palm fibre	84.(84.0)	11(11.0)	5(5.0)	0.21	8
Water displacement of oil	4(4.0)	1(1.0)	95(95.0)	1.91	3

Conclusion

Despite high involvement of women in various oil palm processing activities, their outputs were low owing to predominance of several traditional methods even though such indigenous techniques have been replaced by modern techniques world over. The following policy recommendations are deemed appropriate that: Women oil palm processors should form more oil palm related Cooperative Societies with the objective of giving financial assistance to the members, oil palm processors in the study area should acquire more training beyond primary educational level as well as subjecting themselves to the training of Agricultural Extension Agent on the improved techniques in oil palm processing. To facilitate the processing of oil palm by the women, government at all levels should establish oil palm plantation of improved varieties, provide and install mechanized processing plant that are gender friendly.

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