Assessment of Oil Palm Fruits Processing Methods in ETCHE Local Government Area of Rivers State, Nigeria

Harry, A.T. & Bakare, O.

Department of Agricultural Extension and Rural Development Rivers State University,P.M.B 5080, Port Harcourt, Nigeria
Corresponding Author: HARRY, A.T.

Abstract: These study assess the oil palm fruits processing methods in Etche Local Government of Rivers State. The objectives of the study was to, described the socio-economic characteristics of the Oil Palm fruits Processors, identify the different methods os oil palm fruits processing ascertain the most effective methods of oil palm fruits processing and identify the constraints to oil palm fruits. The sample size of the study was 120 processors who were randomly selected. The interview schedule was for data collection, frequency, percentages and mean score were used for data analyses. The results indicated that 26% of respondents were in the active age bracket of 41-50 years, 24% of the respondents were between the ages 31-40 years while 17% were between age brackes of 51-60 years. The mostly used methods of processing oil palm fruits was traditional methods (52%) because it is less expensive and affordable but the most effective methods of processing was semi-mechanized method (x =3.60). followed traditional method (x=3.05). Major constraints to oil palm fruits were inadequate. Storage facilities (x = 3.44), lack of modern equipment for processing (x=3.33), and high cost of palm fruits (x = 3.12). The study recommended that farmers should be open to new technique and improved methods of oil palm fruits processing and also be ready to adopt such new technology.
Keywords: Assessment, oil palm fruits, processing method Etche

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I.   Introduction

Oil Palm (*Elacis guineensis*) is a tropical tree crop which is mainly grown for its industrial production of vegetation oil. It is a typical estate crop, grown and harvested over large uniform areas (3,000 to 5,000 ha) around a central oil mill to allow rapid industrial handling after harvesting. Palm trees can also be observed in village Ugardens where they provide oil for Local consumption, but in that ase both yield and oil quality are much lower (Dimelu, Enwelu, Nwalieji, and Onyenkwo, 2016) Palm oil can be used in both edible (cooking and frying for various traditional dishes and cooking fats i.e searing for the manufacturing of Margarine, ice Creams, etc and non-edible (Soap manufacturing production of useful chemical as emulsifier in food processing and pharmaceutical industries, production of toiletries, paints etc.

(Dimelu, Enwulu, Nwalieji And Onyenkwo, 2016). In years past, palm produce was harvested and processed via traditional ways. However in recent time there have been a major shift from traditional ways which involved cooking the palm fruits and mashing it with legs within earthen clayed area to press out the oil from the fruits.

As improved methods and changes are brought to replace these old methods, it becomes imperative to have an insight on the roles played by both male and female farmers in the adoption of thse improved methods and the gain, therein (Omerije, 2005). In the oil palm produce in the sicties and become a net importer of palm oil by the mid seventies recording as much as 200,000-300-300,000 tonnes of vegetable oil import between 1984 and 1985 (Ejamba, 1989). This drastic rail in supply of oil palm produce is attributable to the effects of the oil boom lack of adequate processing infrastructure and the prevailing exchange rate which makes Nigerian Palm Produce uncompetitive in the world market. According to (Udo, 1982) as a rule the density of oil palm per hectare is greates tin areas of great population concentration. An increasing number of farmers now cultivate small farms of palm fruits using improved seedlings supplied by ministeries of agriculture. There are also large of government owned and private oil palm plantation and research institutes. Example is the Nigerian institute for oil palm Research (NIFOR). Because of the increased demand for palm oil resulting from an increase in population and income growth, relative to the low productivity of the oil sector. Nigeria has become a net importer of palm oil. At the same time, a rapid devaluation of the naira combined with high transportation costs from ports to internal markets put imported oil in a competitively disadvantage position Nigerian palm oil

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production is potentially competitive in the domestic market if oil palm industry would enhance, the overall economic development through the income and employment effects in the rural and urban economics. Principal among the factors responsible for this declines is the inefficiency that exists in the production system, for palm oil inefficincy that exists in the production system for palm oil processing such inefficiencies arise from high cost of labour, lack of linking roads for transportation, electricity, water, inadequate credit facilities, oil palm fruits processing enterprise is mainly dominated by small-scale processors. The methods and techniques of processing are highly tradition. In addition absolute equipment is mostly used in processing activities. Oil palm fruits is principally processed by traditional or semi-mechanized methods whose system is highly inefficient. These methods are laborious, time consuming and inefficient, yield very low oil, often of poor quality, usually 25-75% of potential palm oil is lost (SARKY 2016).

High cost of processing equipment is a serious problem faced by processors. This problem has discourage intending processor from establishing their own mills. Therefore majority of the processors resort to luxing of processing equipment and this has resulted to delay in processing of the policy fruits oil palm fruits processors are influenced by determinants which includes cost of palm fruits, cost of purring equipment, transportation of the palm bunches, availabilities of labour, inadequate storage facilities, price of palm oil among other .

II. Objective Of The Study

The broad objective of this study was Assessment of oil palm fruit processing method in Etche Local Government Area of Rivers State Nigeria.
(i) Describe the socio-economic characteristics of the oil palm fruits processors
(ii) Identify the different methods of oil palm fruits processing.
(iii) Ascertain the most effective methods of processing
(iv) Identify the constraints to oil palm fruits processing in the study area

III. Methodology

Etche occupies our area of one thousand five hundred square Kilometer (Sq. km) in Northeastern part of Rivers State. It lies between latitude 405927'N of the equator and between longitude 700316'E east of the Greenwich. It is bounded in the east by Abia State in the North by Imo State, in the west by the Ikwerre Local Government Area and in the south by the Obio/Akpor Local Government Area.

Presently it population is estimated to be two million inhibitions (Ogbueri, 2014) and has a land mass of over 2000sqkm Etch is made up of five clans namely: Igbo, Mba, Okehi, Ozuzu and Ulakwo/Umuselem. The are experience two main seasons (The rainy and dry season) And average annual rainfall of 1500mm and 2000mm and temperature range of 26c-290C during rainy season (Ahmedu 2000). The major occupation practiced is farming, which accounts for the dubbing of Etche as the bread basket" of Rivers State. Almost every household depends on one form of agricultural activity. The major crops and livestock's produced in the area are oil palm, yam, cassava maize plantain etc poultry production and goat rearing is mostly engaged in oil palm processing one of the major economic activities of the rural people Etche Local Government Area of Rivers State (Ekene, 2008). The people are predominant Christians although some farms of traditional African religious are widely practiced. The major means of transportation are buses, Taxi cabs, Okada Lifecycles

IV. Sampling Technique

Five clans were purposively selected because of ease of accessibility. Systematic sampling method was used to choose two communities each from each claim that made a total of ten (10) communities 12 processors were randomly selected for community given a total of 120 processors that was surveyed for the study.

V. Data Collection

Both primary and secondary data were utilized in data collection. The primary data were made simply through a well structured questionnaire as well as personal interview and focus discuss, Group (FDG) that were scheduled to suit the farmers convenience. One hundred and seventy questionnaire were administered to the oil palm fruits processors in the study area.

A reasonable number of the farmers were interviewed orally. The secondary data include information obtained from written ways, journals, internet, Duttetius, text books, and other relevant materials in the subject

VI. Data Analysis

Data obtained were analysed using descriptive statistical tools such as percentages, means frequency distribution

VII. Results And Discussion

Socio-Economic Characteristics of the oil palm fruits processors

Result in Table 1 show, that majority (74%) of the respondents were women while (26%) of the respondents were male. This shows that oil palm fruits processing were mainly the work of women. The same table 1 shows that 36% of the respondents were in the age bracket of 41-50 years, followed by the respondents in the age bracket of 31-40 years with 17% and the respondent. Between 51-60years was 15% and 8%, respectively. The mean age was 43 years, indicating tha thte respondents were young people, who were in their productive ages involved in active service work. Both male and female had majority of the respondents between the age brackets of 41-50 years. According to FAO (2011) age determine the level of efficacy of an individual. The marital status result showed that most of them were married. The Household size of the respondents shows that most (44%) has a large family size of 1 to 5 followed by *34%) which indicated 6 and above per. House hold size may be due to division of labour in oil palm fruits production.

The educational qualification of the respondents shows that most *44%) of then had SSCE. Major occupation of the respondents shows that most (53%) of them was farming and 27% of them were oil palm processors while (20%) were trading years of experiences (37%) of the respondents had 7 years and above. Followed by 1-3 years (25%), 4-6 years was (21%) and less than one year (17%). Majority (41%) had income range of between N20,000-40,000 per annum, indicating low level income level based on how USD per day poverty line

Table 1: Socio-economic characteristic of Respondents

Variables	Frequency	Percentage (%)
Ser	26	26.00
Male	74	74.00
Female	100	100
Total	15	15.00
Age Range:	24	24.00
21-30	36	36.00
31-40	17	17.00
41.50	8	8.00
51-60	100	100
60-70	28	28.00
Total	59	59.00
Status	5	5.00
Single	8	8.00
Married	100	100
Divorce	44	22.00
Widowed	34	44.00
Total	00	34.00
Household Size	14	100
None	48	14.00
1-5	17	48.00
6 and above	21	17.00
l'o1al	100	12.00
Educational Qualification	53	100
No formal education	20	53.00
SSCF	27	20.00
13.SC/HND	100	27.00
ONDINCE	17	100
Total	25	17.00
M2jor Occupation	21	25.00
Farming	37	21.00
Trading	100	37.00
Oil palm processing	10	10
Total	41	10.00
Years of Experiences	25	41.00
Less than one year	24	25.00
1-3	100	24.00
4-6		100
7andabove		
Total		
Income Per Annum		
Less than 20,000		
20,O00-40,000		
40,000-60,000		
60,000 and above		
Total		

Methods of oil palm fruits processing

Results from Table 2 shows that (52%) of the respondents use traditional method of processing followed by (38%) of who use semi-mechanized while (10%) of the respondents usefully mechanized becaused the fully mechanized method were quite expensive which majority of the respondents cannot afford

Table 2: Method of Oil Palm Fruits Processing

Variable methods	Frequency	Percentage %
Traditional	52	52.00
Semi-mechanized	38	38.00
Fully-mechanized	10	10.00
Total	**100**	**100**

Sources" Field Survey, 2018

The Results in Table 3 shows that the semi-mechanized method (x = 3.60) is the most effective method followed by traditional (x = 3.05) and fully mechanized method (x = 2.90) from the results, it reveals that semi-mechanized method was the most effective method of processing though the respondents. Mostly use traditional method because it is less expensive and affordable

Table 3: Most Effective Method of Processing

Method	Most effect	More effective	Effective	Not Effective	Total score	Mean score (x)
Traditional	55	20	10	5	305	3.05
Semi-mechanize	65	20	15	9	359	3.60
Full-mechanize	35	25	22	18	277	2.80

≥ 25 = most Effective
≤ 2.5 = Not Effective
Source: Field Survey, 2018

Using a mean score of 2.50 to measure constraints to palm oil fruits processing the Table shows that inadequate storage facilities (x = 3.44), high cost of palm fruits (x = 3.12), lack of rady markets (x = 2.58), low capital (x – 2.98), high coast of (x = 3.26), lack of modern equipment for processing (x = 3.33)) and poor price of oil (x = 3.21), were the major constraints, this implies that all these variable that directly affected the output level to the profit margin negatively in processing oil palm fruits in Etch LGA.

VIII.   Conclusion And Recommendations

The study revealed that some socio-economics factors such as age, family size, source of labour and capital were important variables, and constraints like inadequate storage facilities, lack of ready markets, high cost of labour, poor price of the product et. Affect oil palm fruits processing. These constraints and provide incentive to those involved in it to boost up oil palm fruits productive and make more people to be fully engaged in this vivile sub-sector of agribusiness venture. The study therefore recommended that farmers, should bee open to new and improved methods of processing and also be ready to adopt to such new practices. They should make themselves available for training. Storage facilities should be provided for the farmers in the study area to assist them in storing their product sin order to maintain the quality of the product for a long term without contamination.

Table 4: Processing Constraints

		SA (4)	A (3)	D (2)	SD (1)	Total Score	Mean Score (x)
1	Seasonality of fruits	18	20	39	23	233	2.33
2	Inadequate storage facilities	57	33	7	3	344	3.44
3	High cost of palm fruits	48	25	9	312	312	3.13
4	Lack of ready markets	24	28	30	18	258	2.58
5	Low capital	35	38	17	10	298	2.98
6	High cost of labour	49	36	7	8	326	3.26
7	Availability of water	16	27	39	18	241	2.41
8	Lack of modern equipment for processing	48	39	11	2	333	3.33
9	Poor price of oil	57	23	10	10	321	3.21

* ≥ 2.50 = A Constraint
* ≤ 2.5   = Not Constraint
Source: Field Survey, 2018

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