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Research Article

Economics of Palm oil Processing among Women in Ogbomoso Agricultural zone, Oyo State, Nigeria

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Abstract: Profit is a major viability of any business. The amount of revenue realized and operating cost of a business enterprise determines how much gain or loss an enterprise can achieve within a certain period. In most cases, women are in charge of processing oil palm fruits into palm oil. Despite, their involvement in complex households management and pursue of multiple livelihood strategies, the important roles played by women in palm oil processing cannot be over emphasized . It is therefore, expedient to know the profits derived by women in their palm oil processing activities. Thus, the study evaluated the costs and returns of palm oil processing and estimated the profitability ratio of the respondents. The study employed the use of budgetary technique and profitability ratio for data analysis. The study deduced that the average cost of processing palm fruits into palm oil was ₦7201.77K per month, average revenue was ₦8528:23K per month and the net return was ₦159, 176: 00K per month, while the gross margin was ₦139,138:00K per month. The benefit cost ratio (BCR) was 1.184, rate of return (ROR) was 1.841 and the gross ratio (GR) was 0.008. This showed that palm oil processing was a profitable enterprise among women.

Keywords: Economics, Palm oil, Processing, Women.

INTRODUCTION

Palm oil production plays a role in the employment of labour and traditionally remains an essential diet of the people of Nigeria. The proportion of women in agricultural production and post- harvest activities continue to grow from 20%- 70% (IAASTD. 2008). women worldwide continues to get low income (IAASTD. 2008) from their agricultural activities. Rural women often manage complex households and pursue multiple livelihood strategies. Their activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes. The contribution of the women ranges from such tasks as land clearing, land-tilling, planting, weeding, fertilizer/manure application to harvesting, food processing, threshing, winnowing, milling, transportation and marketing as well as the management of livestock. Women also organized labour for harvesting fresh fruit bunches, picking loose fruits and processing for oil extraction and clarification. . They are responsible for managing grove palms owned by individual families (Okolo, C. C. *et al.*, 2015). They are engaged in palm kernel oil extraction, local soap production, etc (Oladejo, J.A., *et al.*, 2011). Many of these activities are not defined as "economically active employment" in national accounts but they are essential to the well-being of rural households. Now that Nigeria plans to regain its lost leadership position in palm oil production (Atser, G. 2007) and the fact that women contribute immensely in the development of the socio-economic of rural areas coupled with their traditional roles of child bearing, home management, etc. It is therefore, expedient to know the benefits derived by women in their palm oil processing activities. There is need to strengthen their ownership and control of economic and natural resources to better their lot and improve women livelihood especially in rural areas. Women also organized labour for harvesting fresh fruit bunches, picking loose fruits and processing for oil extraction and clarification. They are engaged in palm kernel oil extraction, local soap production, etc

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(Oladejo, J.A., *et al.*, 2011). According to (Okolo, C. C. 2002), processing of fresh palm fruits into oil is one of the most difficult activities in traditional processing of oil palm.

In most cases, they are in charge of processing oil palm fruits into palm oil. They also engaged in selling the product within the local environment and even in the national markets (PIND 2011). This connotes that if there is effectiveness and efficiency in the way women produce palm oil there will be solution to poverty challenge and employment among our women and there will be means of livelihood for women without depending on their husbands totally.

METHODOLOGY

The study area is Ogbomoso Agricultural Zone of Oyo State, Nigeria. Ogbomoso agricultural development zone has five local government areas (LGAs). These include, Ogbomoso North, Ogbomoso South, Ogo-Oluwa, Oriire and Surulere LGAs. Two out of these are urban areas i.e. Ogbomoso North and Ogbomoso South Local Government areas while others are rural areas (Ogo- Oluwa, Oriire and Surulere). The geographical location of Ogbomoso is on Latitude 81^0N and longitude 3.29^0N. The land area is about 3547.89 square metres which is bounded in the north by Irepodun LGA, in the West by Oyo LGA, in the South by Ejigbo LGA of Osun State and in the east by Asa LGA of Kwara State. Ogbomoso is situated at the northernmost part of Oyo State. It is regarded as derived savanna vegetation zone and a lowland rainfall area. The food crops grown are maize, yam, cassava, pepper while cocoa, plantain, oil palm, mango and kolanut forms the bulk of the cash crops. They also engage in other occupation such as trading, crafts, weaving, food selling, processing of agricultural products such as palm fruits into palm oil, cassava tubers into gari, yam tuber into yam flour, and marketing of agricultural produce within and without Ogbomoso metropolis. The rainfall pattern is bimodial with peaks, in June, early July and September while November to February is characterized by Harmattan, which is brought about by the effect of north easterly trade wind from Sahara region. A fairly high uniform temperature moderate to heavy seasonal rainfall and high relative humidity characterizes the climate of the region. The mean annual temperature is 26^0C, the lowest temperature is experienced in August with a temperature of 24.3^0C and the highest in March with a mean temperature of 28.7^0C. Humidity is highest in July to September and lowest in December to February.

A multistage selection method was used as the sampling technique. Firstly, three Local Government Areas out of the five local government areas in Ogbomoso Agricultural zone of Oyo State were selected due to their rurality and concentration of women palm oil processosrs (i.e. Ogo-Oluwa, Oriire and Surulere LGAs). Secondly, two villages were randomly selected from each Local Government Area list of villages, making a total of six villages across the three local government areas. Thirdly, random sampling of twenty women palm oil processors from each village, making a total of one hundred and twenty respondents. The villages are Odo-Oba and Ajaawa (Ogo Oluwa LGA), Iresadu and Oko (Surulere LGA) and Fapote and Ahoro Dada(Oriire LGA). Structured questionnaire coupled with interview schedule were used to elicit information from the respondents. The analytical methods employed in the study were descriptive statistics, budgeting analysis and profitability ratio analysis.

Gross Margin Model

Gross margin of an enterprise can be explained as the difference between the total value of production and the variable costs of processing in that particular enterprise:

$GM_i = TR_i - TVC_i$ ..... (i)

$GM_i = PQ_i - \sum C_i X_i$ ..... (ii)

Where:

GM_i = Gross Margin (₦)
TR_i = Total Revenue (₦)
TVC_i = Total Variable Cost (₦)
P = Price of palm fruits/ palm oil (₦)
Q_i = Output of palm fruits/ palm oil (₦)
C_i = Price of input/ material (₦)
X_i = Quantity of input/ material (₦)
NR = $TR_i - TC_i$ ..... (iii)

Where:

NR = Net Returns (₦)
TR_i = Total Revenue (₦)
TC_i = Total Cost (₦)

Profitability Ratio

The profitability ratio is a financial statement which is used to determine the economic worth or how well the respondents perform in terms of profit. The performance or economic worth of the respondents shall be determined using the following;

i. Benefit Cost ratio (BCR)
$$= \frac{\text{Total Revenue (TR)}}{\text{Total Cost (TC)}} \quad \ldots\ldots \text{(iv)}$$

ii. Rate of Return (ROR)
$$= \frac{\text{Net Returns (NR)}}{\text{Total Cost (TC)}} \quad \ldots\ldots\ldots \text{(v)}$$

iii. Gross Ratio (GR)
$$= \frac{\text{Total Cost (TC)}}{\text{Total Revenue (TR)}} \quad \ldots\ldots\ldots \text{(vi)}$$

RESULTS AND DISCUSSION

Costs and Returns of Respondents

Table 16 showed the evaluation of costs and returns of respondents. The total cost of producing palm oil was ₦86,421:12K per month. The total variable

cost was N71,346:11K per month, which include costs of bunches of palm fruits, water, firewood, labour, transportation and packaging kegs. The total variable cost recorded 82.56% of the total cost of production. The total fixed cost (cost of building proceeding shed, cost of land and material for processing) summed up to ₦15,075: 00K and recorded 17.44% of the total cost of production. The average total cost of production was ₦7201: 77K per month. The net returns was ₦159,176:00K per month, while the gross margin was ₦139,138:00k per month. The average revenue realized from the sale of palm oil was ₦8,528:23K per month. It can be inferred from the budgetary analysis that palm oil processing is profitable to the respondents.

Table 1 : Distribution of Respondents by Costs and Returns

Costs and Returns	Amount ₦ : K	Percentage of Total Cost
A. Costs		
Bunches of palm fruits	10,000:00	11.57
Water	8,000:00	9.26
Firewood	8,500:00	9.84
Labour	22,500:00	26.04
Transpiration	16,000:00	18:51
Packaging Kegs	6,346:11	7.34
Total Variable cost	71,346:11	82.56
Total Fixed Cost	15,075:00	17.44
Total cost	86,421:12	100:00
B. Returns		
Gross Margin	139,138:00	
Net Returns	159,176:00	
Averages Revenue	8,528:23	

Source: Field Survey, 2016

Profitability Ratio of Respondents

Table-2 gives full detailed about the profitability ratio of the respondents. The Benefit Cost Ratio (BCR) was greater than 1 (1.184). This implies that palm oil processing is profitable to the respondents. The Rate of Return (ROR) was 1.841 and this implies that for every ₦1 invested in palm oil processing about ₦1:84K was gained by the respondents. The Gross Ratio (GR) was 0.008 and this implies that from every ₦1 return to the respondents, ₦ 0.008 was spent back into the enterprise. The results of the profitability ratio implies that palm oil processing is profitable and dependable for all the respondents in the study area. This is supported by the findings of (Ibekwe, U.C. 2008).

Table 2: Profitability Ratio of Respondents

Items	Estimates
BCR	1.184
ROR	1.841
GR	0.008

Source: Field Survey, 2016

SUMMARY AND CONCLUSION

The study was conducted with the main objective of analyzing costs and returns of palm oil production among women in Ogbomoso Agricultural zone, Oyo State, Nigeria. The study area was chosen due to its rurality and concentration of women palm oil processors. The result of the evaluation of costs and returns showed that the average cost of producing palm oil was ₦7,201.77 K per month, average revenue was ₦8,528:23K per month and the net return was ₦159,176: 00K per month, while the gross margin was ₦139,138:00K per month. The benefit cost ratio (BCR) was 1.184, rate of return (ROR) was 1.841 and the gross ratio (GR) was 0.008. Palm oil processing was found to be profitable and viable enterprises as revealed by the findings. Therefore, women should be encouraged to invest more into palm oil processing so that they can get more returns from the enterprise. Policy issues that will promote the empowerment of women palm oil processors should be formulated.

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