

*Full Length Research Paper*

# Economic Analysis of Factors Affecting Marketing of Cowhide (Ponmo) in Akure, Ondo State, Nigeria

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The study was carried out in Akure, Ondo state, Nigeria to analyze the economic factors affecting cowhide (ponmo) marketing. The cowhide (ponmo) marketers were interviewed with the aid of well-structured questionnaire supplemented with oral interview schedule to obtain necessary and detailed information from the respondent. Five markets were purposively selected and used for the survey. Data were collected from one hundred and sixty respondents through purposive sampling in the study area. The findings revealed that majority (87.5%) of the respondents were female; 48.8% were between the ages of 31-40 years; 63.8% were married while 72.5% of the respondents were secondary school leavers deriving their means of livelihood from cowhide marketing. The analysis revealed that the gross margin per seller was ₦25, 162.50 and benefit-cost ratio of 4:1 while the regression analysis revealed that age, numbers of years spent in school, years of cowhide marketing experience, cost of raw cowhide purchase, shop rentage, cost of labour as well as cost of transportation were all significant at 5% level. Ponmo has now become a staple food for consumption and is been demanded everywhere within the country hence has become a very lucrative business. It is therefore concluded that ponmo or cowhide marketing has the potential to create job among the citizens of the nation thereby reducing the poverty status of many homes. It is therefore recommended among others that the cowhide marketers/sellers should be encouraged to form themselves into cooperative societies so that they may be able to enjoy government assistants from micro credit banks and access loan with minimum interest rate so that this could help improve their productivity.

**Key words:** Economic, Analysis, Factors, Marketing and Cowhide.

## INTRODUCTION

Cattle are one of the domesticated livestock from which protein can be obtained. Man has domesticated and multiplied it for his benefits. The importance of the livestock sector to the economy according to Suleiman *et al.*, (2013), are that it contributes to the Gross Domestic Product (GDP) and also supply animal protein to human nutrition. The importance of animal protein in man's diet as a source of essential amino acid cannot be overemphasized. Akande *et al.*, (2011), reiterated that despite increase in the monetary value of Nigerian livestock resources of about six billion US Dollars, daily protein intake has reduced.

In the same vein, Central Bank of Nigeria (CBN) (1999), revealed that Cattle production contributes about 12.7% to the agricultural Gross Domestic Product (GDP) in Nigeria. In addition, cattle industry provides means of

livelihood for a significant proportion of pastoral farming households and participants in the cattle value chain in the sub-humid and semi-arid ecological zones of Nigeria (Adegeye, 1995; Okunmadewa, 1999; FAO, 2006; 2010).

Nigeria is one of the countries having the highest cattle production in Sub-Saharan Africa (Ikpi, 1990). Analysis revealed that the country had over 14.73 million cattle consisting of 1.47 million dairy cows and 13.26 million beef cattle. Less than 1% of this population is managed commercially while the balance is managed traditionally (Tibi and Aphunu, 2010). Furthermore, Abubakar and Garba, (2004) and Mafimisebi *et al.*, (2012) ascertained that under this system, there is the use of native methods in various aspects of cattle production including health and hygiene management.

Ikpi,(1990); Tewe, (1997); Tibi and Aphunu, (2010), opined that cattle are a highly valued livestock in Nigeria and they are kept for beef, hides, milk and traction (Ikpi, 1990; Tukur and Maigandi, 1999) concluded.

Marketing encompasses all business activities associated with the transfer of a product from the producers to the consumers (Filani, 2006). In the case of cattle, it is concerned with the movement of cattle from the pastoralists in the production locations in northern Nigeria to the final consumers who are resident in southern Nigeria (Omoruyi *et al.*, 2000). Cattle marketing process makes possible the delivery of cattle to the buyers in the form, place and time needed. The process of bringing cattle from where they are surpluses (production/origin areas) to where they are shortages (consumption/sink markets), a process known as arbitraging, needs to be fully understood to enhance the efficient working of cattle markets, which is vitally important in achieving sustainable and profitable agricultural commercialization in the livestock sub-sector in Nigeria (Mafimisebi, 2011, Mafimisebi, 2012).

The term hide is used to designate the skin of animals (e.g. cowhide or horse hide), whereas, "skin" refers to that of smaller animals (e.g. calf skin or kid skin). The preservation process employed is a chemical treatment called tanning, which converted the otherwise perishable skin to a stable and non-decaying materials. From time immemorial and long before the "digital age", hides, skin and leather played an important role in the global economy creating the global village, just as they do today. Our ancestor recognizes the value of every part of an animal, to eat, to make tools and to stay warm and hence has reserved as part of those things that provide them with the necessities of life.

Although hides and skins are primarily products or by-products of the meat packing industry, the international trade in skin, hides and leather is more valuable than that of meat. The hides and skins are processed to furnished leather, which is then converted into foot wear industry, furnished leather used for shoes, belts, various types of bags, home/office decoration and fittings, etc. Hides and skins are by far the less utilized by-products of cow in Nigeria because of its conflicting interest of usage. In Nigeria, ponmo (cowhide) is very and most loved delicacy and this makes the product to be scarce. Processing of cowhide into consumable product (ponmo) provides job opportunity for a lot of people. This helps to reduce the poverty level in the country and getting more people engaged every day. Productions of Ponmo include Processing, Marketing and Distribution.

Cowhide marketing is fast becoming a business and a reliable source of employment especially now that it gradually becoming a delicacy particularly among the elders It is therefore important to investigate the costs and revenue structure and factors influencing its production

## METHODOLOGY

### Study Area

The study was carried out in Akure, Ondo State, Nigeria. It lies approximately on 7.15" north of the equator and longitude 5" east of the Greenwich Meridian. The area belongs to the tropical forest with high rainfall of about 1500mm annually spreading through April – October. The population of the town is about 353,211 inhabitants (NPC, 2006) who engaged in various occupations such as trading, driving, artisan, civil servant and both part time and full time farming.

### Sampling techniques and procedure

Five food markets where cowhide (ponmo) is sold were purposively selected. The selected markets are Erekesan, Isinkan market, NEPA market, Iloro market and Isolo market. Thirty two (32) cowhide marketers in each market making a total of One hundred and sixty (160) respondents were purposely selected and used for the survey.

### Method of data collection

The data used for the study were collected through the use of structured questionnaire supplemented with oral interview to obtain necessary information from the respondents. The information collected include the personal characteristics, price of ponmo, quantity sold monthly, marketing costs, revenue e.t.c.

### Method of data analysis

The analytical technique employed includes descriptive statistics, gross margin analysis and regression analysis.

i. **Descriptive statistics:** This includes frequency distribution, and means to analyses the socio- economic characteristics of the respondents.

ii. **Gross margin analysis:** Use in calculating the profitability of cowhide marketing and the benefit-cost ratio.

The Gross Margin analysis was used as shown below

$$GM = TR - TVC$$

$$\text{Profit} = TR - TC$$

Where TR = Total revenue

TVC = Total Variable Cost

TC = Total cost

iii. **Regression Analysis:** For this Study, Linear model was used.

Linear Function as

$$Q_C = P_0 + P_1X_1 + P_2X_2 + P_3X_3 + \dots + P_8X_8 + E_i$$

Where

Y = Income from cowhide sold (₦)

X<sub>1</sub> = Age of the Marketers

**Table1:** Socio – Economic characteristics of Respondents

Variable	Frequency	Percentage
<b>Sex</b>		
Male	20	12.50
Female	140	87.50
Total	160	100.00
<b>Age</b>		
21-30	50	31.25
31-40	78	48.25
41-50	30	18.25
Above 50	2	1.25
Total	160	100.00
<b>Marital status</b>		
Single	48	30.00
Married	102	63.75
Divorced	6	3.75
Widow	4	2.50
Total	160	100.00
<b>Household size</b>		
1-3	14	8.75
4.-6	108	67.50
7-9	36	25.5
10-12	2	1.25
Total	160	100.00
<b>Educational status</b>		
Primary education	22	13.75
Secondary education	116	72.50
Tertiary education	8	5.00
No formal education	14	8.75
Total	160	100
<b>Ponmo marketing experience</b>		
1-5	32	20.00
6-10	36	22.50
11-15	32	20.00
16-20	28	17.50
Above 20	32	20.00
Total	160	100.00

**Source:** Field survey, 2011

$X_2$  = Number of years spent in school.

$X_3$  = Years of cowhide marketing experience of the respondents.

$X_4$  = Cost of raw cowhide (ponmo) bought for sale (₦)

$X_5$  = Rent paid on shop (₦)

$X_6$  = cost of labour (₦)

$X_7$  = cost of transportation (₦)

$X_8$  = Quantity sold (₦)

$E_i$  = Error terms.

## RESULTS AND DISCUSSION

### Socio-economic activities of the respondents.

Table I reveals the socio – economic characteristics of the respondents. From the table, it shows that majority of the respondents (87.5%) were female while male accounted for only 12.5%. This result implies that female

were more involved in the business than male in the study area.

Also from the table, the age distribution of the respondents showed that cowhide marketers were relatively young in age where about 80% of them were 40 years and below. Respondents within these ages would be vibrant and energetic to carry out Ponmo marketing activities which the respondents have described as been tedious and difficult. Only 1.25% of the respondents were above 50 years of age.

The marital status of the respondents revealed that majority (63.75%) were married, revealing that married women dominated the cowhide marketing in the study area which may be due to their involvement in home management.

The household size of the respondents revealed that 67.5% of the respondents had between 4-7 household size while only 1.25% had 10-12 household and only 8.75% had household size less than 4. This result

implied that more of the income generated will be expended on consumptive expenditures but more family labour on the business will be high.

The findings show that majority of the respondents attended up to secondary school (72.50%), hence they are able to read and write which will be an advantage for profitability of the business.

Table 1 showed that more than half of the respondents (57.5%) had more than ten years of experience while only 20% had less than ten years of ponmo marketing experience. This implies that the respondents were well experienced in ponmo marketing business.

**Membership of respondents to social organizations/associations**

**Table 2:** Distribution of the Respondents According to Membership of Association

Association	Frequency	Percentage
Ponmo sellers association	124	77.50
*Egbe omo Imo	24	15.00
*Golden Star Ladies	30	18.75
*Oredegbe Social club	10	6.25
*Ifesowapo Social	15	9.38
*Multiple responses	36	22.50

Table 2 revealed the associational membership of the respondents. Majority (77.5%) of the respondents belonged to the ponmo seller association while 22.5% claimed they did not participate in any social organizations/associations. Among those that belong to ponmo sellers association also belong to other social clubs within the town but greater percentage of the respondent belonging to ponmo sellers association may be as a result of the quest for improvement and financial assistance toward the ponmo marketing business.

**Reason for membership of an association.**

**Table 3:** Reason for Associational Membership.

Reasons	Frequency	Percentage
Financial assistance	80	50.00
Sense of belonging	44	27.50
No association	36	22.50
Total	160	100.00

Source: Field Survey, 2011

Table 3 shows the various reasons for belonging to the association. Those that join association as a result of financial assistance desirable from such association accounted for 50% of the respondents. This may be a confirmation of earlier observation that majority of the

respondents joined ponmo sellers association to boost their financial capability towards the ponmo marketing business while 27.5% joined the association so as to have a sense of belonging and only 22.5% did not see any benefit in joining an association.

**Respondents' sources of finance.**

**Table 4:** Sources of Finance of the Respondents

Sources of Finance	Frequency	Percentage
Money lender	8	5.00
Coop society	12	7.50
Personal saving	104	65.00
Friends and relatives	16	12.50
Banks/Financial Institutions	0	0.00
No response	20	12.50
Total	160	100.00

Table 4 showed the sources of finance of the respondents. It revealed that 65% of the respondents depended on their equity capital for the finance of the business while 5% of the respondent obtained credit from money lenders, those that approaches cooperative society were 7.5% and those that borrow from friends and relatives accounted for 12.50% while none of the respondents were able to assess credit from banks and financial institutions. The number of respondents that resulted to borrow either from money lenders, friends and relatives were few (17.5%) this may be due to high interest rate charged by money lenders and disappointments always witnessed from friends and relatives in credit transactions.

**Result of the regression analysis.**

From the result, it could be seen that variables like coefficient of age  $X_1$  has positive effect and significant denoting that an increase in age will bring about increase in income of the respondents. The coefficients of  $X_2$  (number of years spent in school has positive and significant effect, implies that the more the number of years spent in school the higher the income generated by the ponmo marketers . Regression coefficient of years of marketing experience ( $X_3$ ) has positive effect and significant, denoting that an increase in years of marketing experience in ponmo business will lead to increase in income from ponmo business of ponmo sellers and also lead to marketing improvement.

The regression coefficient  $X_4$  (cost of cowhide bought for sale) has positive effect but insignificant implying that increase in the cost of raw cowhide bought will bring about a decrease in income of the respondents. Regression coefficient of  $X_5$  (rent paid on shop) has positive effect and insignificant at 5% level. This revealed that an increase in the amount paid on shop

will bring about a decrease in the income of ponmo sellers. The regression coefficient of  $X_6$  (cost of labour) was also positive but has an insignificant effect denoting that increase in labour cost will bring about a decrease in the income generated by the respondents. In the same vein, the coefficient of  $X_7$  (cost of transportation) is also positive but with insignificant effect, revealing that increase in cost of transportation will lead to decrease in income of the cowhide sellers and finally the regression coefficient of  $X_8$  (quantity sold per week) has negative and insignificant effect, denoting that as the quantity of cowhide sold decreases per week will bring about a decrease in income generated by ponmo sellers.

Regression analysis model:-

$$Q_C = P_0 + P_1X_1 + P_2X_2 + P_3X_3 + P_4X_4 + P_5X_5 + P_6X_6 + P_7X_7 + P_8X_8 + E_i$$

$$Q_C = 73.462 + 8.44 + 1.140 + 7.260 + 0.006 + 1921.413 + 48.098 + 8.442 - 0.020$$

$$(0.434) (0.472) (0.225) (0.898) (444.332) (50.195) (13.085) (0.245)$$

$$R^2 = 0.731$$

$$R^2 = 0.723$$

$$F = 13.616$$

\* = Significant at 5% level.

### Gross Margin Analysis

The gross margin analysis of ponmo production revealed that the total revenue accruable to ponmo sellers was #5,366,000 while the total cost was #1,884,060. Total gross margin was #4,026,000 and gross margin per seller was #25,160.50. Also the benefit-cost ratio of 4:1 was also calculated denoting high profitability in ponmo marketing in the study area as a profit of #4 was realizable for every #1 invested.

$$GM = TR - TVC$$

$$\text{Profit} = TR - TC$$

$$TC = TFC + TVC$$

$$TR = \text{total revenue}$$

$$TVC = \text{total variable cost}$$

$$TFC = \text{total fixed cost.}$$

$$TC = 544,060 + 1,340,000 = \#1,884,060$$

$$\text{Profit} = 5,366,000 - 1,884,060 = \#3,481,940$$

$$GM = 5,366,000 - 1,340,000 = \#4,026,000$$

$$GM \text{ per seller} = \frac{4,026,000}{160}$$

$$= \#25,160.50$$

$$\text{Benefit-cost ratio} = 5,366,000 / 1,340,000 = 4:1.$$

### CONCLUSION

The rising cost of beef in the market has necessitated most Nigerians to engage ponmo as an alternative to dietary requirement for meat as it has even become a delight in most homes as evidenced by the outcome of

the survey as regard the gross profit realizable and the benefit –cost ratio analysis.

Ponmo is derived from cowhide after it has been tendered in hot water and the hair removed with razor blade or by burning the hair with fire fuelled mostly by wood or plank, destroyed tyres and plastics.

Ponmo has now become a staple food for consumption since everywhere you go in the country, ponmo is being demanded and hence has become a very lucrative business for people who have found a way to make an extra cash/income by preparing it for commercial consumption. It is therefore concluded that ponmo or cowhide marketing has the potential to create job among the citizens of the nation thereby reducing the poverty status of many homes.

### RECOMMENDATION.

In the light of this finding above, the followings are recommended.

Government should assist the marketer by providing alternative/modern methods of processing so as to reduce stress encountered during processing and also to bring down the cost of productions.

Adequate storage and preservative methods should be employed that will not pose any problems to the healthy status of the processors, marketers and the consumers.

Micro credit loans should be made available to marketers through their associations, so that they could be able to have access credit with minimum interest to finance their business.

The government should reduce tax levy on raw cowhide from producers, so as to reduce high cost of purchasing raw cowhide.

Finally, government should as a matter of fact encourage more livestock production through hybrid selection so as to cope with those that will be used as food and the one that will be utilized in the leather industries and organized pasture range for the rearing of the animal to forestall inter communal clashes.

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