

# MARKETING OF HOOVES AND HORNS IN MAIDUGURI METROPOLITAN AREA OF BORNO STATE, NIGERIA

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## ABSTRACT

Livestock by-product marketing is an important economic activity which provides an additional employment for Nigerians. This study examined the marketing of hooves and horns in Maiduguri, the Borno State capital. Primary data were collected through questionnaire administered to all the 17 marketers in the area. The data was collected in 2005 and lasted two months (August – September), data collected was repeated twice (i.e. within the same period each marketer was visited twice for the same questionnaire). Descriptive statistics was used to analyze the socio-economic characteristics of the marketers as well as the problems associated with the marketing. Gross margin was used to determine the profitability, while Ginni coefficient was used to determine the market concentration. The results show that all the marketers were male and none of them attended tertiary education. The gross margin shows that hooves and horns marketing was profitable with a gross margin of N5,320 per marketer per week. The concentration of sellers is low with ginni coefficient of 0.351. The market is thus an oligopolistic in nature. And the problems associated with the marketing include low supply and low profit among others. It was recommended that the poverty alleviation strategies be geared towards improving the purchasing power of people in the area, which will go a long way in increasing the demand for livestock meat and hence increased supply of hooves and horns and improved structure of the market.

**KEY WORDS:** Hooves and horns, profitability, market structure, market channel.

## 1.0 INTRODUCTION

The role of livestock in the economic development of Nigeria need not be exaggerated. From 1994 – 1998, the contribution of livestock to the Gross Domestic Product (GDP) of the country increased from 5.22 to 5.89% (CBN Annual Report, 1999). Besides the importance of livestock for its monetary value and its contribution to the national GDP, Okumadewa (1998) stated that production generates raw materials for agro-based industries that provide additional employment for Nigerians.

Cattle are the most important livestock species in Nigeria (in terms of supply of hooves and horns). Other species include sheep, goats and camels. They supply not only meat and milk, but also by-products such as bones, hooves and horns. A hoof is a hard blunt growth on the feet of mammals called ungulates. It is made of protenous substance called keratin. Hoof encases the toes or foot (Jerry, 1994). While horn is a pointed, bony structure on the head of many mammals such as livestock, which has a bony core which is an extension of the skull bone (Lawrence, 1994). Hooves and horns are used in making fertilizer and fire extinguishing fluid, they may be burnt to get calcium (or one meal) used in making livestock and poultry feeds and also in making chalk (Maff, 1998).

Borno State is the major supplier (producer) of livestock in Nigeria, accounting for 25% of the national supply, (Balami *et al.*, 1999). The total slaughter figures of livestock in Maiduguri abattoir between 1991 to 1997 totalled 884,809 out of which 29.29%, 43.59%, 21.08% and 6.04% were cattle, goats, sheep and camel respectively.

Despite the importance of livestock and the number of livestock produced and consumed in Borno State and Maiduguri in particular, very little is still known about the marketing of hooves and horns in the area. The choice of Maiduguri, the Borno State capital is also premised on the fact that it plays a dominant role as a bulk trade centre of livestock/livestock by-products in the North East zone of Nigeria. Analysis of the marketing of hooves and horns is therefore considered worthwhile exercise. This was achieved within the framework of the following specific objectives:

- i. examination of the socio-economic characteristics of hooves and horns marketers;

- ii. examining the marketing channels of hooves and horns;
- iii. determining the profitability of marketing hooves and horns;
- iv. determining the structure of hooves and horns market; and
- v. identifying the problems associated with marketing hooves and horns in the study area

## 2.0 METHODOLOGY

### 2.1 Study area

This study was conducted in Maiduguri, the Borno State capital in Nigeria. The area has an annual rainfall of about 500mm (Goni and Amaza, 2006). The major occupation of the people is farming and trading. Crops grown in the area include millet, groundnut, cowpea as well as vegetable. While animals reared are cattle, sheep, goat and poultry.

### 2.2 Data collection

Primary data were collected from questionnaires administered to all the 17 marketers of hooves and horns in the area. This was possible because all the marketers were concentrated around the Maiduguri Abattoir

## 3.0 DATA ANALYSIS

### 3.1 Descriptive statistics

Descriptive statistics which comprised of the use of frequency table and percentages were used to analyze the socio-economic characteristics of the marketers as well as the problems associated with hooves and horns marketing.

### 3.2 Budgetary Technique

Budgetary technique was used to determine the profitability of the marketing, this involved the analysis of the costs and returns of hooves and horns marketing. The gross margin following (Sulumbe, 2004) is expressed as:

$$GM = GI - TVC$$

Where:

GM	=	Gross margin (N)
GI	=	Gross Income (N)
TVC	=	Total Variable Cost (N)

The gross margin was used because the fixed cost of most small scale agricultural operation is negligible.

### 3.3 Market structure

The structure of the market was determined based on the findings on the market concentration.

#### 3.3.1 Market concentration

The Ginni coefficient was used to determine the degree of market concentration of sellers in the market. The Ginni coefficient was computed using the following formula after Okereke and Anthonio (1988) as adapted by Adinya *et al.*, (2007).

$$G = 1 - \sum xy$$

Where: G = Ginni coefficient  
X = Percentage share of each class of seller  
Y = Cumulative percentage of their sales

The Ginni coefficient ranges from zero to one. It is a standardized coefficient such that zero implies perfect equality

in earning. While coefficient of one means perfect inequality in earning. The closer the value is to unity (one) the greater is the degree of inequality and therefore, the higher is the level of concentration. Higher market concentration signifies that a market is monopolistic in nature with few individuals controlling the market.

## 4.0 RESULTS AND DISCUSSIONS

### 4.1 Socio-economic characteristics of hooves and horns marketers in Maiduguri

All the marketers of hooves and horns in Maiduguri were male (100%) between the ages of 16 years to 60 years. This shows that most of the marketers were still active. The analysis of educational status of the marketers shows that 64.7% had no formal education, 23.52% had primary education and 11.77% had secondary education. None of the respondents was educated up to tertiary level (See Table 1). With all the marketers not educated at least up to tertiary level, it could be concluded that hooves and horns marketing has been left in the hands of marketers with low formal education and those who are not educated at all.

**Table 1: Selected socio-economic characteristics of the marketers in Maiduguri**

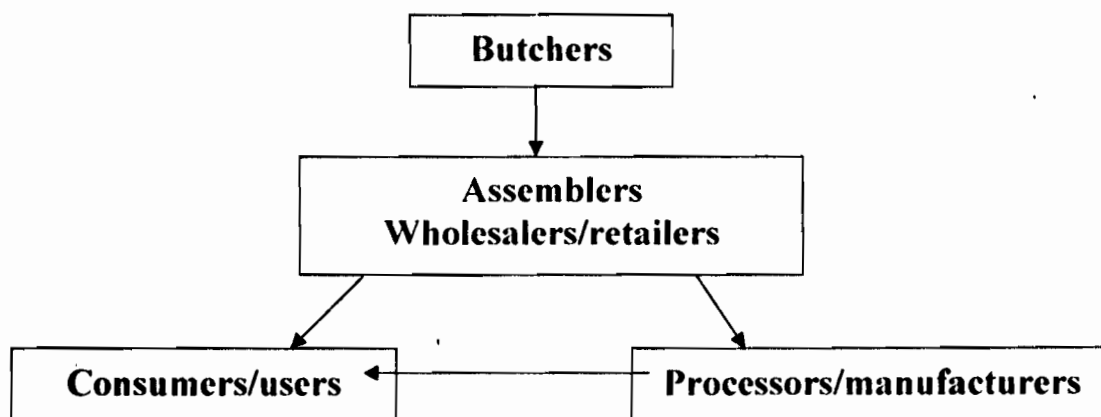
Characteristics		
	Frequency	Percentage (%)
<b>Gender</b>		
Male	17	100
Female	0	0
Total	17	100
<b>Age group (years)</b>		
16-25	4	23.53
26-35	2	11.77
36-45	5	29.41
46-55	5	29.41
>55	1	5.8
Total	17	100
<b>Educational level</b>		
No formal education	11	64.71
Primary	4	23.52
Secondary	2	11.77
Tertiary	0	0.00
Total	17	100
<b>Marketing experience (years)</b>		
1-10	7	41.18
11-20	1	5.88
21-30	8	47.06
>31	1	5.88
Total	17	100

Source: Field Survey, 2005

The analysis of the marketing experience revealed that approximately 58.82% of the marketers have marketing experience of over 20 years. Hence, they can be classified as experienced and can therefore use their experience to obtain higher profit.

### 4.2 Marketing channel for hooves and horns in Maiduguri

The analysis of the marketing channel was intended to provide a systematic knowledge of the path which hooves and horns follow from point of production to the point of usage (consumption). Along the channel are individuals who perform the physical functions in order to obtain economic benefits. Presented below is the marketing channel for hooves and horns in Maiduguri.



**Fig. 1: Market channel for hooves and horns in Maiduguri**  
 Source: Field Survey, 2005

It indicates that the butchers sell to assemblers which comprised of both the wholesalers and the retailers. The assemblers sell to processors or manufacturers of animal feed, fertilizer, chalk, etc, they also sell to individuals who use it for formulating livestock feeds.

**4.3 Profitability of Hooves and Horns Marketing in Maiduguri**

In order to determine the profitability in marketing hooves and horns, the various costs incurred in process of the marketing were identified, summed up and the total variable costs subtracted from the gross returns. Table 2 presents the Gross margin per week of hooves and horns marketing in Maiduguri.

**Table 2: Gross margin per week of hooves and horns marketing in Maiduguri**

Quantity of hooves and horns handled by all the marketers.....	16,606.5kg
Average purchase cost.....	₦8/kg
Average selling price.....	₦ 14/kg
Transport cost incurred by all the marketers.....	₦ 9,200
Total variable cost of all the marketers.....	₦ 142,048
Gross income of all the marketers.....	₦ 232,484
Gross margin for all marketers.....	₦ 90,436
Gross margin per marketer.....	₦ 5,320
Gross margin per kg.....	₦ 5.45

Computed from Field Survey, 2005

NB: The transport comprised of payments for loading and unloading and conveying hooves and horns from slaughter slabs to marketers shade

The analysis revealed that the gross margin per marketer per week is ₦5,320 with gross margin of ₦5.45/kg. Although hooves and horns marketing from the analysis is profitable, the profit is however, considered low, this may be the reason why few people are involved in the marketing in Maiduguri. The profitability analysis is important in order to form a basis for comparison for setting priorities and for ensuring that limited resources are invested in business that are worthwhile. (Ahmed, 1978).

**4.4 Market structure for hooves and horns in Maiduguri**

The Ginni coefficient of the marketers was found to be 0.351 (Table 3). It tends towards zero which implies that there was equality in earning and therefore, lower in the level of concentration. Lower market concentration signifies that a

market is competitive in nature where few individuals control the market. The analysis indicated that the market is pure oligopolistic in nature. This is because there are few people selling homogenous product at identical prices. In this type of market, the entry condition is usually difficult. One market feature of oligopoly market structure is the interdependence of the few sellers involved in the market. Such interdependence could lead to collusion. It could also provide marketing or procurement (of hooves and horns) opportunity difficult in the competitive market structure. These opportunities revolve around the fact that certain actions taken in recognition of mutual interdependence may benefit the whole group. Under this structure, it is common for a big firm among the few sellers that has a large proportion of the market share to play the role of price leadership while others follow suit.

Table 3: Distribution of marketers by weekly sales of hooves and horns in Maiduguri

Quantity of hooves and horns marketed per week (kg)	Mean (kg)	Number of sellers	% of sellers (x)	Average selling price per kg (N)	Total value of sales (N)	% of total sales	Cumulative % of total sales (y)	xy
100-500	300	4	0.057	14	16800	0.072	0.072	0.004
501-900	475.5	4	0.090	14	26628	0.115	0.18	0.017
901-1300	1100.5	3	0.209	14	46221	0.199	0.386	0.081
1301-1700	1500.5	3	0.284	14	63021	0.271	0.657	0.187
1701-2100	1900.5	3	0.360	14	78821	0.343	1	0.360
Total		17			232,491			0.649

Source: Computed from Field Survey, 2005

$$G = 1 - \sum xy = 1 - 0.649 = 0.351$$

#### 4.5 Problems associated with hooves and horns marketing in Maiduguri

A number of problems are encountered by the marketers. Table 4 presents the different types of problems encountered by marketers of hooves and horns.

Table 4: Problems of hooves and horns marketing

Problems	Frequency	Percentage (%)
Low supply	11	64.71
High cost of transportation	3	17.65
Lack of credit facilities	1	5.88
Lack of storage facilities	12	70.59
Low profit	17	100.00
Total	44	258.83

Source: Field Survey, 2005

**NB: Multiple responses existed, hence total exceeded 100**

The result of the study revealed that the major problem facing hooves and horns marketers in the study area were low profit (100%) and lack of storage facilities as revealed by 70.59% of the marketers. The third problem was low supply of the by-products as revealed by 64.71% of the marketers. This might not be unconnected with the high level of poverty in the area in recent times, which limits the consumption of livestock meat. Other problems include high cost of transportation (17.65%) and lack of credit facilities (5.88%).

#### CONCLUSION

The study examined the marketing of hooves and horns in Maiduguri. The findings indicated that all the marketers were male with 94.12% of them being economically active. The gross margin analysis indicated that hooves and horns marketing was profitable with gross margin of ₦5,320 per marketer and ₦545/kg. This return is however, considered low by all the marketers. This low returns and low supply have been considered as the contributing factors for the barrier to entry leading to the few number of marketers in the area. To this end, the study concludes that poverty alleviation strategies be geared toward improving the purchasing power of households/individuals. This will go a long way in increasing the demand for livestock meat and hence increased supply of hooves and horns improved profitability and the structure of the market.

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