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**ECONOMICS OF CATTLE MARKETING IN MAI'ADUA INTERNATIONAL BORDER MARKET OF KATSINA STATE, NIGERIA**

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**Abstract**

*The study examined the economics of cattle marketing in Mai'adua International Border Market of Katsina State, Nigeria. Data were collected from sixty (60) randomly selected cattle marketers with the aid of structured questionnaire and analyzed using descriptive statistics, farm budgeting technique and marketing margin. The results revealed that fifty percent (50%) of the marketers fell between 31-40 years. About 87% of the marketers were married while the remaining 13% were single. Similarly, 30% of the marketers purchased fifteen heads of cattle weekly and sold between 9-12 heads which also constituted 30%. The net income per average head of Cow and Bull were ₦2, 120 and ₦4, 820 respectively. Returns per naira were ₦1.07 and ₦1.11 for Cow and Bull respectively. The gross, operating and fixed ratios were 0.93, 0.82, 0.11 and 0.89, 0.82, 0.07 for Cow and Bull respectively. The marketing margin of Cow and Bull were 24.76% and 22.22% respectively. Marketing of Cows and Bulls was profitable in the study area. The viability of the enterprise can be increased if the major constraints such as high transportation cost, inadequate credit facilities, high charges of Niger export duty, lack of cooperative societies and price fluctuation during rainy season are tackled by both market participants and government.*

**Keywords:** Economics, Cattle, Marketing and International Border

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**Introduction**

Cattle belong to the group of domesticated farm animals called *Bovidae*. They are ruminants with hollow horns and hoofs and an even number of toes. They are kept as farm animals for their milk, meat or as wealth etc (Youdeowei et al., 1986). In Nigeria cattle are mostly reared by Fulani, Shuwa Arab and a few non Fulani farmers. They are predominantly produced and marketed in the Northern parts of Nigeria and largely exchanged between Northern and Southern markets (Akinsoye, 1986). Some of the major producing areas in the north include Borno, Sokoto, Katsina, Adamawa and Bauchi States. Livestock subsector provides an important role in the Nigeria economy not only in terms of its contribution to GDP but also contributes substantial supplies of animal protein (Adesipe, 1984; FDL, 1992). Three important sub-classes of this subsector include sheep, goats and cattle. Cattle are kept principally to provide milk, meat for subsistence or draught power for agriculture. Minor functions include drawing of carts, lifting water from deep wells and provision of manure.

Marketing means different things to different people, to the housewife it means shopping for food; to the farmers it means the sale of their produce; and to the middlemen it means buying and selling while some think of marketing as high pressure salesmanship (Abbot and Makeham, 1991). Olukosi et al. (2005) also views agricultural activities which direct the flow of goods and services to the

consumers in order to accomplish the producers' objectives as marketing. The need for marketing is really a method for bringing the impersonal forces of demand and supply together, irrespective of the location of the market. An efficient marketing system is beyond doubt a precursor to the development of cattle production sector or livestock sector in general. Efficient marketing among other things ensures that cattle producers receive reasonable price for their products and that consumers get good value for their money paid, such a marketing system guarantee that middle man do not exploit either the producers or the consumers. There has been efforts by the Federal and State governments in supporting cattle production, however little has been done in the area of its marketing although improved transportation system has helped to increase the scope of its distribution. A properly functioning market like Mai'adua International Border Market is generally perceived as the best organizational structure to achieve efficient production and consumption decisions.

Little study has been done about marketing of cattle in Mai'adua International Border Market of Katsina State, Nigeria despite the fact that it is one of the major livestock producing and marketing area in the State. Hence the broad objective of this study is to examine the economics of cattle marketing in Mai'adua International Border Market of Katsina State, Nigeria. The specific objectives were to:

- (i) examine the socio-economic characteristics of cattle marketers,
- (ii) determine costs and returns of cattle marketing,
- (iii) determine the marketing margin of cows and bulls, and
- (iv) identify the constraints of cattle enterprise in the study area.

### Methodology

The study was conducted in Mai'adua International Border Market of Katsina State, Nigeria. It is situated on the furies of Nigerian border with Niger Republic to the North and located between latitude 13° N and 13°15'N and longitude 8°E and 8°15'E. It also shares boundary with Daura, Zango, Sandamu, Dutsi and Mashi Local Government Areas. The climates can be described as Sudano-Sahelian, characterized by sparse vegetation and extension formation of sandy soil (KTSG, 2006). The dry season starts from October and extends almost eight months to May while the wet season is of four months duration from June to September. The area has an annual average rainfall of 450mm, an ambient temperature as low as 13° C during harmattan period (November-January) to 45°C in March and April. Random sampling technique was used in selecting sixty (60) cattle marketers who were administered structured questionnaire in the International Border Market within Mai'adua Local Government Area. The data collected were analyzed using descriptive statistics, farm budgeting technique and marketing margin. Descriptive statistics such as mean, frequency and percentages were used to satisfy specific objectives I and IV. The farm budgeting technique was employed to determine the costs and returns structure of cattle marketing (Specific objective II). This was aimed at determining the profitability of the business. The Net Farm Income (NFI) was used in estimating the profitability. It is expressed as:

$$NFI = TGM - FC \text{-----}(1)$$

Where: NFI= Net Farm Income

TGM= Total Gross Margin

FC= Fixed Cost

The Gross Margin (GM) is the difference between Gross Farm Income (GFI) and the Total Variable Cost (TVC). It is presented as:

$$GM = GFI - TVC \text{-----}(2)$$

Where: GM= Gross Margin

GFI= Gross Farm Income

TVC= Total Variable Cost

According to Olukosi et al. (2005) the Gross Farm Income (GFI) is the total physical product multiplied by the unit price of the product. Variable Cost (VC) is cost that varies with output and is incurred on variable inputs. To determine the financial success of cattle marketing, gross, operating and fixed ratios were calculated. They are presented as follows:

$$GR = TC/TR \text{-----}(3)$$

Where: GR= Gross Ratio

TC= Total Cost

TR= Total Revenue

$$OR = TVC/TR \text{-----}(4)$$

Where: OR= Operating Ratio

TVC= Total Variable Cost

TR= Total Revenue

$$FR = TFC/TR \text{-----}(5)$$

Where: FR= Fixed Ratio

TFC= Total Fixed Cost

TR= Total Revenue

The marketing margin was employed to determine the difference in price paid by the consumers and that received by the producers (specific objective III). It is the cost of performing marketing activities or functions plus normal profit or loss. These were calculated for Cows and Bulls respectively using the following formulae:

$$\text{Marketing Margin} = \frac{\text{Selling Price} - \text{Supply Price}}{\text{Selling Price}} \times 100 \text{-----}(6)$$

### Results and Discussion

#### Socio-economic characteristics of the cattle marketers

The socio-economic characteristics of the cattle marketers described in the study include age, marital status, household size, educational status, and years of experience.

Table 1: Socio-economic characteristics of the cattle marketers

Class	Frequency	Percentage (%)
<b>Age (years)</b>		
20 and below	1	1.67
21-30	4	6.66
31-40	30	50.00
41-50	19	31.67
Above 50	6	10.00
Total	60	100
<b>Marital status</b>		
Married	52	86.67
Single	8	13.33
Total	60	100
<b>Household size</b>		
5 and below	6	10.00
6-10	18	30.00
11-15	26	43.33
Above 15	10	16.67
Total	60	100
<b>Educational level</b>		
Never been to school	10	16.67
Qur'anic	20	33.33
Primary	8	13.33
Secondary	22	36.67
Total	60	100
<b>Marketing experience (years)</b>		
5 and below	5	8.33
6-10	20	33.33
11-15	25	41.67
Above 15	10	16.67
Total	60	100

The age of the marketers is presented in Table 1. Age of an individual to a certain extent affect his/her managerial ability in any given enterprise and society. This is especially true in some traditional society in Nigeria where responsibilities are assigned based on age. The result from Table 1 showed that majority of the marketers were within the middle age group of 31-40 and constituted 50% while the age bracket of 41-50 years constituted 31.67%. The result revealed that 88.33% of the marketers were within the ages defined by Food and Agriculture Organization as economically productive in a population. Only 11.67% fell within the age groups classified as dependent. The marital status of the respondents is also shown in Table 1. Majority (86.67%) were married while the remaining 13.33% were single. This result implies that majority of the marketers had family responsibilities hence the need to work very hard in order to sustain their living. Table 1 likewise showed the distribution of marketers according to household size. The result revealed 43.33% of the marketers had between 10-15 persons while 10%, 30% and 16.67% had 5 and below, 6-10

as well as 16 and above persons respectively. The implication is that there is likelihood for marketers to pay more attention to their household than the marketing on the one hand, and higher household labor on the other hand. The higher the household size, the more the availability of potential labor.

The distribution of respondents according to educational level can also be seen in Table 1. The result showed that 33.33% had Qur'anic education, those with primary, secondary and never been to school constituted 13.33%, 36.67% and 16.67% respectively. Table 1 further showed that 41.67% had been in cattle marketing for between 11-15 years while 33.33% had experience of 6-10 years. This implies that the marketers had acquired experience to maximize profit and can justify the profitability or otherwise of the business. Similarly to extreme age brackets 5 years and below and above 15 years constituted 8.33% and 16.67% respectively.

**Heads of cattle handled** Table 2 showed the heads of cattle purchased. This depends on the capital at hand and the prices of the cattle.

Table 2: Distribution of marketers according to number of cattle purchased weekly

Number of cattle	Frequency	Percentage (%)
5	19	15.00
10	16	26.67
15	18	30.00
20	11	18.33
25	6	10.00
Total	60	100

Result from Table 2 revealed that most of the marketers (30%) purchased 15 heads of cattle weekly, 26.67% purchased 10 cattle while purchases

of 5, 20 and 25 heads of cattle were represented by 15%, 18.33% and 10% respectively. Table 3 showed the heads of cattle sold.

Table 3: Distribution of the marketers according to number of cattle sold weekly

Number of Cattle	Frequency	Percentage (%)
1-4	6	10.00
5-8	16	26.67
9-12	18	30.00
13-16	11	18.33
17-20	6	10.33
21-24	3	5.00
Total	60	100

The result in Table 3 revealed that 30% of the marketers sold between 9-12 heads of cattle per week, 26.67% sold between 5-8 cattle, 18.33% sold between 13-16 cattle. Only 5% sold between 21-24 cattle weekly. The number of sales however varies according to season or festivals, age, size or structure

of the animal. It also means that not all the cattle purchased were sold in the same week.

#### **Costs and returns associated with cattle marketing**

The costs and returns associated with cattle marketing in the study area are shown in Table 4.

Table 4: Average costs and returns from marketing of cattle per head

Costs and Returns	₦/Cow	Percentage of total cost	₦/bull	Percentage of total cost
<b>Costs</b>				
<b>A. Variable Costs</b>				
Purchase Price	23,400	80.75	36,400	86.71
Transportation	400	1.38	400	0.95
Niger Export Duty	1320	4.55	1320	3.14
Local Govt Revenue	20	0.07	20	0.05
Commission for middlemen	460	1.59	460	1.10
Total Variable Cost	25,600	88.34	38,600	91.95
<b>B. Fixed Costs</b>				
Niger PAYE	3,380	11.66	3,380	8.05
Total fixed cost	3,380	11.66	3,380	8.05
Total cost	28,980	100	41,980	100
<b>Returns</b>				
Sales (gross income)	31,100		46,800	
Gross margin (Gm)	5,500		8,200	
Net business income	2,120		4,820	
Return per naira invested	1.07		1.11	
Gross ratio	0.93		0.89	
Operating ratio	0.82		0.82	
Fixed ratio	0.11		0.07	

The average total cost incurred in the marketing of cattle (Cow and Bull) were ₦28, 980 and ₦41, 980 per head of cattle respectively. Total variable cost constituted 88.34% for cow and 91.95% for bull respectively. Average purchase price was 80.95% and 86.71% for both cow and bull respectively. Transport cost, export duty, revenue and commission to middlemen are the same on both cow and bull and constituted different percentages of the total cost as shown in Table 4. The Gross margins were ₦5, 500 and ₦8, 200 for cow and bull respectively. The net income remains positive ₦2, 120 and ₦4, 820 for cow and bull respectively. This means that the business is profitable with bull having the highest returns, as sex is a determinant of price in this enterprise. Average return per naira invested were ₦1.07 and ₦1.11 for cow and bull respectively. The operating ratio for cow and bull were 0.82 each.

### Marketing margin

The study showed that marketers bought a cow at average cost of ₦23, 400 and bull at an average price of ₦36, 400. Similarly they sold to other wholesalers and/or agent middlemen at an average cost of ₦31, 100 and ₦46, 800 respectively. Hence, the marketing margin for cow and bull were calculated as:

- (i) For cow=  $31,100 - 23,400 / 23,400 \times 100 = 24.70\%$
- (ii) For bull=  $46,800 - 36,400 / 36,400 \times 100 = 22.22\%$

### Constraints to cattle marketing

Table 5 showed that most (33.33%) of the marketers were of the opinion that cost of transportation constituted the major problem. This is true as most of the cattle were transported on hooves hence charges per head are high and cattle suffer stress and loss in weight before reaching the market. This is followed by lack of adequate funds and credit which constituted 23.33%. The least was price fluctuation during rainy season which was 11.67%.

Table 5: Constraints to cattle marketing in Mai'adua International Border Market

Nature of constraints	Frequency	Percentage (%)
Lack of adequate funds and credit	14	23.33
High transportation cost	20	33.33
High charges of Niger export duty	11	18.34
Lack of cooperative society	8	13.33
Price fluctuations during rainy season	7	11.67
Total	60	100

### Conclusion

The marketing of cattle in Mai'adua International Border Market of Katsina State, Nigeria

is profitable. In order to increase the viability of the enterprise all the constraints highlighted in Table 5 have to be tackled.

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