

ANALYSIS OF COST AND RETURNS OF CATTLE MARKETING IN BADE LOCAL GOVERNMENT AREA, YOBE STATE, NIGERIA

¹Ishaya Dauda B., ^{2*}Makinde O. John, and ³Oyediran Bukola O.

¹Department of Agronomy, Ahmadu Bello University, Zaria, Nigeria.

²Department of Animal Science, Federal University, Gashua, Nigeria.

³Department of Agricultural Economics and Extension, Federal University, Gashua, Nigeria.

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The cost and returns from cattle marketing among farmers in Bade LGA, Yobe State, Nigeria were analyzed using structured questionnaires for data collection from 200 cattle farmers and analyzed with descriptive statistics and gross margin analysis. Findings showed that cattle farmers between the age of 40-59 years old dominated ownership of cattle (55.50%). Semi intensive system was still practiced with majority dependent on forage grazing for the animals. The mean gross margin per cattle was ₦ 32,448.58, the mean total revenue was ₦ 114,148.58 and the mean total (variable + fixed) cost was ₦ 81,700.00 while feed cost was the highest cost incurred by the respondents. It was recommended that extension workers and other relevant organizations should provide training for cattle farmers on the best way of combining the various inputs used in cattle production as this will enhance their efficiency level. Also, the use of alternative feed resources could help to solve the problem of high cost of feeding so as to ameliorate the problems faced by the farmers.

KEY WORDS: cost, cattle, return, Bade LGA, rural.

INTRODUCTION

Cattle marketing has played a vital role in Nigeria. The importance includes economic, social and cultural contributions to the people involved in rearing and marketing of cattle (Mubi et al., 2012). In Yobe State, it is an important part of agricultural and economic activities. It is a source of income and protein to a cross section of the populace. The goal of any nation is geared towards achieving food sufficiency, improvement in living standard and

overall economic growth through increase in the level of agricultural production and marketing. Generally, the rate of development of Nigeria's agricultural marketing has been very low and the marketing of cattle has not performed satisfactorily in the past and particularly in the last decade. Therefore, it is imperative to find out why it is so and possibly suggest ways of improving it.

Since cattle is a preferred source of protein, an assessment of the cost and returns of cattle marketing in the study area is very important as this may possibly lead to the discovery of problem areas that deserve immediate attention and recommend


*Corresponding Authors' Email ✉: johyinmak@yahoo.com



Figure 1. Map of Nigeria Showing Gashua Town.

suitable options that could help in reducing or eliminating the bottlenecks associated with it. The objective of the study was to create enabling opportunities for improving existing conditions as well as educating cattle marketers on how to allocate their resources optimally with a view to increasing agricultural productivity in Bade LGA, Yobe State, Nigeria.

METHODOLOGY

Study Area

The survey was conducted in Bade Local Government Area of Yobe State, Nigeria with its headquarters in the town of Gashua having an area of 772km² and Coordinates: 12°52'5"N 11°2'47"E and population of 139,782 at the 2006 census. Gashua is a community on the Yobe River, a few miles below the convergence of the Hadejia River and the Jama'are River (Figure 1). Average elevation is about 299 m. The hottest months are March and April with temperature ranges of 38-40°

Celsius. The months of June to September are characterised with average rainfall of between 500 mm to 1000 mm and temperature of 23 -28°C. The local languages spoken in Bade LGA are Bade and Duwai. Bade is one of the seven languages of the Chadic family indigenous to Yobe State. The town lies near the Nguru-Gashua Wetlands, an economically and ecologically important ecological system. The town is the location of the court of Mai Bade, the Emir of Bade. Gashua is well-known for its fishery. Agricultural production is, however, not large-scale nor is it mechanized. There are 10 wards under Bade LGA, these are Sugum/Tagali, Dagona, Sarkin Hausawa, Lawan fannami, Zango, Katuzu, Lawan musa, Gwio-Kura, Usur/Dawayo and Sabon Gari wards.

Sampling Techniques, Data Collection and Analysis

The study adopted a structured questionnaire to assess the socio-economic determinants of cattle production among farmers in Bade LGA. Direct survey and oral interview were also conducted

among the 200 cattle farmers in the selected wards. Information was also obtained from both primary and secondary data such as gazettes, reports, publications, journals and newspapers. Random sampling technique was used to select six (6) wards out of ten in Bade Local Government. Structured questionnaires were administered in six different wards selected randomly across Bade Local Government.

Method of Data Analysis

Both descriptive (frequency, percentage and mean) and gross margin analysis were used for analyzing the data generated from the study.

Descriptive Statistics

For grouped data, the mean;

$$X = \frac{\sum x_i}{N} \dots\dots\dots (1)$$

Where,

N= number of observations

X= mean

$\sum x_i$ = Sum of variables (i = 1, 2, 3.....n)

For grouped data;

$$X = \frac{\sum fx_i}{\sum f} \dots\dots\dots (2)$$

Where x = mean

$\sum fx_i$ = sum of products of all variables (i = 1, 2, 3n)

$\sum f$ = sum of all frequencies

Gross Margin Analysis

Gross margin Analysis is a model that is used to estimate the costs, returns, profitability or loss per cattle. The total revenue represents the amount of money received from the sales of cattle. The total cost is the cost incurred in purchase and handling of cattle and it is made mainly of variable costs (VC) and fixed cost (FC).

The Gross Margin (GM) analysis was expressed as:

$$GM = TR - TVC \dots\dots\dots 1$$

Where;

GM= Gross Margin

TR= Total Revenue

TVC= Total Variable Cost

This estimation will serve as a profit index of cattle farmers in the study area. The higher the GM, the more likely a cattle farm is considered to be profitable and the smaller the GM, the lesser the profit possibility.

$$\text{Benefit cost ratio (BCR)} = \frac{\text{Total Return}}{\text{Total Cost}}$$

RESULTS AND DISCUSSION

The result of socio-economic characteristics of the cattle farmers in the study area is shown in Table 1.

Sex of Respondents

Sex plays a vital role in the rural community. It also determines to a larger extent the activities or roles which an individual perform in the society. All the respondents (100 %) were male while no female was involved in the cattle production in the study area. This implies that cattle production is a male dominated activity given the strength and ruggedness involved through the culture and tradition of majority of people residing in the study area. Ogunlade (2007) established male dominance of agricultural production activities such as fish farming in most parts of Nigeria, including Yobe State.

Age of Respondents

The results showed that the highest percentages of the respondents (55.50 %) were between the ages of 40-59, while (35.50 %) were between 20-39 years of age. This implies that majority of those involved in cattle production in the study area is within their economically active, productive and energetic age. Hence, they will be able to withstand the pressure and rigors involved in cattle production activities. This finding disagreed with that of Girei et al., (2013) who carried out similar study in Adamawa State and found out that 36.7 % and 22.2 % of the respondent's ages were within the range of 28-38 years and 39-49 years respectively.

Marital Status of Respondents

The relevance of marital status is to determine the size of the family which influences the decision making of farmers. Large family size may have large and readily supply labour. The marital status of respondents as presented shows that 91% were married, 7.5% were single, 0.5% were divorced, 0.5% were widowed while 0.5% were separated. This finding agrees with that of Mohammed et al., (2015) who opined that marriage is a sacred institution that is cherished among humanity which

Table 1. Distribution of respondents according to Socio economic characteristics.

Variables	Frequency	Percentage
Sex		
Male	200	100.00
Female	0	0
Total	200	100.00
Age		
<20	1	0.50
20 – 39	67	33.50
40 – 59	111	55.50
60 – 79	19	9.50
>79	2	1.00
Total	200	100.00
Marital Status		
Married	182	91.00
Single	15	7.50
Divorced	1	0.50
Widow	1	0.50
Separated	1	0.50
Total	200	100.00
Household Size		
1 – 10	49	24.50
11– 20	75	37.50
21 – 30	44	22.00
31 – 40	26	13.00
>40	6	3.00
Total	200	100.00
Cattle Farming Experience (Yrs)		
1-10	78	39.00
11-20	85	42.50
21-30	31	15.50
31-40	5	2.50
>40	1	0.50
Total	200	100.00
Level of Education		
No Formal Education	107	53.50
Adult Education	15	7.50
Primary Education	10	5.00
Secondary Education	32	16.00
Tertiary Education	26	13.00
Total	200	100.00
Farm Record		
Yes	31	15.50
No	169	84.50
Total	200	100.00

Table 1. Contd.

Extension visit		
Yes	27	13.50
No	173	86.50
Total	200	100.00
Major Means of Transport		
Pick-up Van	144	72.00
Motor Cycle	34	17.00
Foot	12	6.00
Others (trailer)	10	5.00
Total	200	100.00
Membership of association		
Yes	54	27.00
No	146	73.00
Total	200	100.00
Length of membership (years)		
1-10	178	89.00
11-20	12	6.00
21-30	2	1.00
31-40	1	0.50
>40	1	0.50
Total	200	100.00
Benefits derived		
No benefit	168	84.00
Access to soft loan	5	2.50
Better prices	5	2.50
Training	12	6.00
Extension service	5	2.50
Good relationship with other marketers	5	2.50
Total	200	100.00
Source of capital		
Personal	161	80.50
Loan	39	19.50
Total	200	100.00

confers and expands the frontiers of responsibilities on individual.

Household Size of Respondents

The results showed that majority (62.00 %) of respondents had between 1 and 20 household sizes, 22.00 % reported a range of between 21 and 30 persons, while only 16.00 % respondents fell

within 31 and above household size. The result reveals that majority of respondents' maintained large household sizes, probably given the need to complement their cattle farm labour requirements. This finding agrees with the outcome of the study by Adegbite et al., (2007) who established that household size is an important factor in any rural development intervention. Besides, the children assist on the farm.

Cattle Farming Experience (Years)

The result reveals that 81.50 % of the respondents had cattle farming experience ranging from 1-20 years, 18.00 % had 21–40 years cattle farming experience while 0.50 % had above 40 years of experience, implying that majority of the respondents have many years of cattle farming experience. The combination of cattle farming experience with the ability to manage resources efficiently is expected to translate to higher returns for cattle production in the study area. The more the farmers' experience the more their abilities to manage general and specific factors which affect the cattle business and other household activities.

Educational Level

Education is the process of acquiring knowledge, experience, skills and sound attitude through teaching and learning process. The findings showed that 53.50 % had no formal education, while 7.50 %, 5.00 %, 13.00 % and 19.00 % had adult, primary, secondary and tertiary education, respectively. The result suggests that substantial population of respondents had no formal education. This implies that lack of education may likely not enhance the awareness and adoption of new technologies needed to enhance their cattle production. Agwu and Anyanwu (1996) established that educational status of farmers had direct influence on farmers' perception and adoption of improved technologies.

Farm Record

The result shows that majority of the respondents (84.50 %) had no farm record while only 15.50 % had. Lack of formal education of the cattle farmers might have responsible for this.

Extension visit

The results indicate that a substantial number (86.50 %) of the respondents had no contact with extension agents. Mgbada (2006) affirmed that enhanced extension contacts increases the chance of redressing farmers farm level problems and the uptake of modern technologies necessary for improving production.

Means of Transport

The results revealed that the major means of

transportation of cattle in the study area were pick-up, use of trailers etc. This result is in line with the report of Mubi et al., (2012) who in their study of cattle production in Adamawa State reported that majority of the respondents transport their cattle in vehicles.

Membership of Associations

The results showed the distribution of respondents based on membership of cattle rearer association, 73.00 % of respondents were not members while only 27 % of respondents reported that they were members. This shows that only small percentage of cattle farmers belong to one form of association or the other. According to Thomas et al., (2014), association assists their members in production, and thus would be able to access information and markets that would otherwise not be available to them.

The results of cost and returns of cattle marketing is shown in Table 2. The results show that the total cost of cattle production in the study area was ₦ 81,700.00 per respondent. The result indicates that labour and feeding cost of cattle production were ₦ 17,500.00 and ₦ 22,500.00 respectively. Further analysis indicates that the Total Variable Cost constitutes ₦ 61,700.00 of the Total Cost of cattle production for the respondents in the study area, while the Total Fixed Cost accounted for ₦ 20,000.00, with a Total Returns of ₦ 114,148.58 per farm.

Financial analysis was done to determine the economic viability of cattle production for the sampled farmers. As shown by the Total Returns and Gross Margin of ₦ 114, 148.58 and ₦ 32, 448.58 per farm respectively. This result indicates that cattle production in the study area is profitable. Girei et al., (2013) had earlier reported the profitability of cattle marketing in central zone of Adamawa state.

The Benefit Cost Ratio (BCR) was 1.40, implying that benefit is greater than the cost which means that the investment is profitable. That is, for every naira invested in cattle production, a benefit of ₦1.39 was realized by cattle farmers as net income in the study.

CONCLUSION

The results of the present study showed cattle marketing to be profitable in Bade LGA, Yobe state,

Table 2. Cost and Returns of Cattle Marketing.

Returns from sales		Production cost	
Return item	Amount (Naira)	Cost item	Amount (Naira)
Selling price of cattle	114,148.58	Variable Cost	
		Feed	22,500.00
		Drug/Vaccine	4,200.00
		Labour	17,500.00
		Loading & Off-loading	5,000.00
		Commission	
		Tax	2,000.00
		Transportation	3,000.00
		Association Dues	500.00
		Miscellaneous	2,000.00
		Total Variable Cost (TVC)	5,000.00
			61,700.00
		Fixed cost	
		Land rent	20,000.00
		Total Fixed Cost (TFC)	20,000.00
Total Returns	₦ 114,148.58	Total Cost (TC) = TVC + TFC	₦ 81,700.00
Gross Margin, GM=TR –TC	₦ 32,448.58		
Benefit cost ratio (BCR)= TR/TC	1.40		

Source: Field Survey, 2017.

Nigeria with the mean gross margin per cattle of ₦ 32,448.58, the mean total revenue of ₦ 114,148.58 and the mean total cost of ₦ 81,700.00. This complements the government macroeconomic goal of diversifying the livelihood base of Nigerians. The profit translates to increased household consumption, increased aggregate demand and brings about sustainable development. However, feed cost was the highest cost incurred by the respondents. The study therefore recommends that the use of alternative feed resources could help to solve the problem of high cost of feeding so as to ameliorate the problems faced by the farmers. Also, cattle farmers cooperative should be initiated to offer opportunities to members to have access to capital/credit and other inputs and extension workers and other relevant organizations should provide training for cattle farmers on the best way of combining the various inputs used in cattle production as this will enhance their efficiency level.

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REFERENCES

- Adegbite DA Momoh S and Alade A (2007). Determinants of savings mobilization in Ogun State, Nigeria. *J. Sust. Dev.*, 4(1&2): 43 – 48.
- Agwu EA and Anyanwu AC (1996). Socio-cultural and environmental constraints in implementing the NALDA programme in South eastern Nigeria. A case study of Abia and Enugu State. *J. Agric. Edu.*, 2: 68-72.
- Girei A, Dire AB and Belle BH (2013). Economics of cattle marketing on the Socio-economic

- Characteristics of cattle marketers in central zone of Adamawa State, Nigeria. *Br. J. Mark. Stud.*, 1(4): 1-10.
- Mgbada JU (2006). Effectiveness of information sources on improved farming practices to women farmers in Enugu State, Nigeria. *Global Approaches to Extension practices*. 2(1): 67 – 78.
- Mohammed AB, Lawal AT and Musa SA (2015). Economics of Physical Attributes Influencing cattle prices in cattle prices in Ngazarma Livestock Markets, Yobe State. *J. Agric. Sustain.*, 7(1): 72-86.
- Mubi AA, Michika SA and Midau A (2012). Cattle Marketing in Mubi Area of Adamawa State, Nigeria. *Agric. Biol. J. North Am.*, 4(3): 199 – 204.
- Ogunlade I (2007). Back yard fish farmers information needs in Osun State, Nigeria. *Proceedings, Africa Association of Agricultural Economists Conference held in Accra, Ghana*. Pp. 165-169.
- Thomas, D., Zerbini, E., Parthasarathy Rao, P. and Vaidyanathan, A. (2014). Increasing animal productivity on small mixed farms in South Asia: A systems perspective. *Agric. Syst.*, 71: 41–57.