Analysis of Beef Marketing in Song Local Government Area of Adamawa State, Nigeria

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Abstract— *The study analyzed beef marketing in song local government area of Adamawa state Nigeria. Data for the study were primary generated from the respondents through structured questionnaire which spanned for six months (July, - December 2019). Descriptive statistics (frequency count and percentages) and Net Marketing Income (NMI) were used to analyzed the data. The results shows that beef marketing is dominated by males, middle aged, married, experienced and fairly educated people. It also shows that beef marketing is profitable, because, averagely beef marketers were generating ₦116.64 per kilogram of beef marketed and a marketing ratio of 0.35. This revealed that for any one naira invested in beef, marketers were making 35 kobo as profit. Identified problems affecting beef marketing in the area include credit recovery, sales on credit to bulk buyers and end users, poor access to credit, poor road network, high transportation cost, inadequate access to credit facilities, inadequate market information and in effective storage and preservation facilities which lead to beef spoilage and high risk of losses especially for unsold beef. The study concludes that, beef is marketed through simple but in effective channels in the area despite the fact that it is a profitable venture. The study therefore recommended that; rural –urban roads should be improved to minimize cost and ease movement of produce, credit facilities should be made available and affordable for beef marketers, to facilitate acquisition of storage/preservation and other modern marketing facilities.*

Keywords— *Beef, marketing, analysis.*

I. INTRODUCTION

Livestock play important role in Nigerian Agriculture, contributing about 12.7% of the Agricultural Gross Domestic Product (GDP) Central Bank of Nigeria (CBN, 2000). Umar (2007) reported that, Nigerian livestock resources consist of 14 million cattle, 34 million goats, 22 million sheep, 100 million poultry, 1 million horses and others. Understandably, Akande (2011) put on record that, the estimated worth (monetary value) of Nigerian livestock at six billion US Dollars.

Accordingly, the flesh of bovine animal is called beef and Ebewore and Idoge, (2013) reported that beef is the third most widely consumed meat worldwide, accounting for about 25% of meat production after pork and poultry which stood at 38% and 30% respectively. Emokaro and Amadasum (2012) considered beef to be meat from heifer, cow, bull, young bull, bullock or steer. Ikpi (1990) stated that between 1970 and 1989 beef contributed over 70.93% of

the total meat consumed in Nigeria. Consequently, it follows that the cattle industry can provide good nutrition, incomes and raised the standard of living of so many operators and consumers.

The demand for animal protein in Nigeria and other developing countries of the world is far from being met. For instance Okuneye (2002) reported that, the average minimum supply of animal protein per head per day for Nigeria was put at 13.26g which is far below the recommended minimum of 35g of protein expected to come from meat products.

The observed short fall in animal protein intake in Nigeria could be attributed to so many factors such as poor accessibility to forage for grazing, herders – farmers' clashes, ineffective husbandry system, poor veterinary care leading to high incidence of diseases and low productivity, fall in purchasing power of individuals. Additionally, the phenomenal rise in the price of animal feed which accounted

for 60 – 80% of the cost of intensive production, particularly for ruminants. The foregoing, therefore contributed immensely to the poor access of protein of animal origin. Afolabi (2002) also reported that the high cost of feed has the effect of escalating the prices of animal products beyond the reach of average Nigerian.

A lot of factors affects the demand of a particular products for instance literature had it that, taste and income of consumers play significant role in deciding purchase of a product in addition to other factors such as level of awareness of relative importance of a commodity, availability and price. The issues so far raised are matters concerning production and knowing how this beef product reached consumers also is paramount and was not given desirable attention and hence constitute the bedrock of this study.

Marketing involves creating awareness and facilitating exchange of goods and services for money. Infact Olukosi *et al.* (2007) viewed marketing as part and parcel of the production process since it creates utilities of form, place, time and possession with goods and services produced thus constituting a bridge between production and consumption.

Accordingly, the way and manner beef marketing is conducted in the area is not properly articulated. For instance beef is not market based on standardization by weight. Beef marketing supply channels usually describe the flow of beef from the supplies to the consumers. Therefore understanding what happens and how it happens is a good effort with the aim of bringing to knowledge and improving the performance of beef marketing in the area which at the moment is very scanty. Literature such as Okuneye (2002) reported that, there exist a high rate of agricultural products spoilage including beef arising from poor storage and transportation facilities thereby hampering the total supply of food reaching the consumers table. He also lamented that, pricing of cattle in designated urban markets across Nigeria is shrouded in secrecy until a bargain is struck.

Olukosi *et al.* (2007) reported that, the exact number of agents in Nigerian marketing systems is difficult to determine and various unfixed charges and commissions are paid by the buyer depending on his bargaining power. He also reported that, most of the butchers and merchants are registered but the brokers are not recognized to be registered officially. So, they operate without license.

Ekunwe *et al.* (2008) and Emokaro and Amadasun (2012) allged that, the involvement of too many middle men in the marketing of animal products and bye-products leads to an inefficient distribution system, high marketing costs and margin.

He also reported that most agricultural products are bulky, perishable and highly prone to microbial attack which leads to their deterioration in quality and finally results in the spoilage and wastage of these products. Accordingly, beef marketing has been considered as one of the important agribusiness venture globally and hence the need to be clearly understood in Nigeria and Adamawa State in particular.

The Federal Government of Nigeria via, the Federal Ministry of Agriculture had launched, and published the detailed of the Agricultural brief Transformation Agenda in the year 2011. According to the Federal Government of Nigeria (FGN, 2011) document, the transformation action plan for some priority agricultural commodities will be focused in the six geopolitical zones of the country. The commodities are: - rice, cassava, sorghum, cocoa, cotton, maize, dairy, beef, leather, poultry, oil palm, fisheries as well as agricultural extension.

In the same vain Adamawa State government was not reluctant, in it attempt to foster and boost it agricultural production and productivity potentials. It has taken a bold step towards improving the health and economic well- being of it beef industry by establishing modern Abattoirs in all the 21 local government areas in the state. Similarly, the Agricultural diversification and deregulation policies connotes absence of government controls to allow for a free and efficient interplay of market forces. Seemingly, Nigeria an under developed economy is still evolving with increasing deregulation which is a key strategy on which Agricultural Transformation Agenda (ATA) is hinged. The Agricultural Transformation Agenda had recognized a clear need for "value chain coordination, infrastructural investments, private sector leadership, supportive fiscal policies and accessible market information systems to the farmers. Consequently, According to Oshinowo (2012), the vision in the transformation strategy is to achieve a hunger – free Nigeria through an agricultural sector that drives income growth, accelerates achievement of food and nutritional security, generates employment and transform Nigeria into a leading player in global food markets to grow wealth for

millions of farmers. Questions which this study provided answers to include: What are the socio – economic characteristics of beef marketers in the study area? How is beef marketing being conducted in the study area? How profitable is beef marketing in the study area and what are the challenges and opportunities of beef marketing in the study area?

Objective of the study

The main objective of the study was to analyze the conduct and profitability of beef marketing in the study area. Specific objectives however were to: describe the socio-economic characteristics of beef marketers in the study area, describe the conduct of beef marketing in the study area, estimate cost and returns of beef marketing in the study area and identify challenges and opportunities of beef marketing in the study area.

II.   MATERIALS AND METHOD

Study area

The study was carried out in Song local Government Area, Adamawa State Nigeria located between latitude 9º 49' - 9º 82' North and longitude 12º 37' - 12º 62' East respectively. According to National Population Commission census 2006,

it has a total population of 195,188 (NPC, 2006) this could be projected to any current year. The area has a sudan type of vegetation and a tropical climate marked by wet and dry seasons which is good for cattle production (Zemba *et al*. 2010). The rainfall start from month of April to October and the mean annual rainfall distribution is about 100mm (Girei, 2013). This rainfall amount is good to support pasture production. Majority of the people are farmers and few of them are government workers. Crops produced include; Ground nut, cowpea, maize, fruits. The bye-products from these crops could also serve a good feeds to animals including cattle. Additional, cattle rearing, beef trading and fishing are also practiced. The local government has six districts and eleven wards.

Sampling Techniques and Procedure

Multistage, purposive and random sampling technique was used for the study. Stage I: Three (3) districts out of 6 districts were purposively selected. Stage II: Two (2) villages were purposively selected from each of the district. Stage III: List of all registered beef processors and marketer was collected in each of the villages. Stage IV: Fifty (50%) percent of registered beef processors and marketers were randomly selected from each of the villages. The sampling distribution is presented below:

Table 1: Sampling distribution of respondents according to districts, villages and samples

District	Villages	No of beef processors / Marketers	Sample (50%)
Song	Song	40	20
	Loko	30	15
Mboi	Golamtabal	10	5
	Gudu	10	5
Ditera	Dumne	30	15
	Dirma	20	10
Total 3	**6**	**140**	**70**

Source: Survey data, 2019.

Data collection

Data for the study were collected from primary source using structured questionnaire supported with interview by the trained enumerators. Information sourced include those relating to the respondents socio-economic characteristics such as age, length of experience, in beef marketing, educational qualification, household size, family income.

Others were on cost of cow purchase, transportation charges, marketing charges (commission or la'ada in Hausa language), packaging and storage costs, marketing methods and channels.

Method of data analysis

Data collected was subjected to descriptive statistics such as frequency counts and percentages. Descriptive statistics was used to achieve objective (i and iv), flow chart was used to achieve iii conduct, while Gross Income analysis was used to achieve objective (ii) respectively. The explicit model for the Gross Income analysis that was employed is presented below;

GI = TR - TVC

NI = GI – TFC

Where

GI = Gross Income

NI = Net Income

TR = Total Revenue

TFC = Total Fixed Cost (Depreciable items such as table, container, axe, wheelbarrow, knife and small weighting scale).

TVC = Total Variable Cost (consumables such as beef purchased, wrapping materials, transportation cost, market charge, processing, and storage cost).

III.   RESULTS AND DISCUSSION

Socio-economic characteristics of beef marketers

Table 1: Socio-economic characteristics of beef marketers in Song L.G.A.

Characteristics	Frequency	Percentage (%)
Age		
20 – 29	15	22
30 – 39	13	19
40 – 49	24	35
50 – 59	8	12
60 – 69	8	12
Total	**68**	**100**
Gender		
Male	68	100
Female	-	-
Total	**68**	**100**
Marital Status		
Single	24	35
Married	34	50
Divorced	10	15
Total	**68**	**100**
Marketing experience		
1 – 10	30	44

11 – 20	30	44
21 – 30	8	12
Total	**68**	**100**
Educational level		
No formal	38	56
Non formal	30	44
Total	**68**	**100**
Membership of Association		
Affected	45	66
Non Affected	23	34
Total	**68**	**100**
Major occupation		
Butchery	30	48
Farming	28	40
Trading	7	9
Civil servant	3	4
Total	**68**	**100**
Source of capital		
Personnel savings	54	79
Borrowed	14	21
Total	**68**	**100**

Source: Survey data, 2019

Table 1: Presents result on socio-economic characteristics of beef markers in the study area. It shows that majority (35%) of the respondents were between 40-49 years. 20% were within the age brackets of 20-29 years, 12% were between 50-59 years of age. This result reveals that majority of the respondents (76%) are still in their economically active age group (20-49 years), hence their strength can be actively utilized to increase beef marketing output. It could also be deduced that beef marketing is an important economic activity because it has provided employment to youths in the study area. This study disagreed with the studies of (Umar *et al.* 2008) who conducted a study on the economic analysis of small – scale cow fettering enterprise in Bama local government area of Borno State Nigeria and reported that 40% of the respondents (Cattle flatteners) were between the age bracket (31-40) years. This study further concurred with the study of Ebewore and Idoge (2013) who conducted a study on analysis of beef marketing in Oshimili south of Delta state Nigeria and reported that majority (95%) of beef marketers fell within the age bracket of 20-30 years. The result also shows that all (100%) of Beef marketers in the study area were males this implied that beef marketing is

solely a male affairs. The result also shows that majority (50%) of the beef marketer are married. This implied that they are matured and responsible. The result further shows that majority (88%) had between 1-20 years' experience on the business. The result further shows that majority (56%) of the respondent had formal type of education. This implied that majority had attained some level of education furthermore, the result has shown that majority (66%) belong to association. This could mean that, they have group

dynamism and can easily work as a team, therefore formation of cooperative will be easier and could be beneficial to them. The result further indicates that majority (48%) of the respondents operate the business as their major occupation while majority (79%) obtained/sourced their capital though personal savings.

The conduct of beef marketing channels

Table 2: Distribution of respondents according to marketing channels of beef.

Source	Frequency	Percentage (%)
Processor – Customer	-	-
Processor – Retailers – Customer	25	37
Processor – Wholesaler – Customer	8	12
Processor -Agent/Broker- Wholesale – Retarder – Costumer	35	51
Total	**68**	**100**

Source: Survey data, 2019

Table 2: Presents result on beef marketing channel which described how commodity (beef) moves from the point of production usually, raw to processors and to the final consumers. It also described how the various market participants are organized to accomplish the movement of product from producer to consumer. It shows that majority (51%) of beef retailers, obtained their meat from producer through agent (brokers, wholesalers and retailers). The table also reveals that 37% of beef consumers obtained their beef from producer through retailers. Also, it could be seen that, three (3) different beef marketing channels were identified. The longest has five (5) elements while the shortest has three (3) elements. It is expected that the shorter the marketing channel the less the cost of product obtained by beef consumer. The reason is that margins were still available in the distribution channel since no intermediary involvement and vice versa. It can be implied that marketing intermediary usually takes away some margins along the chain before it could reach the consumers however, longer channels may improve efficiency due to competition. This result is in contrast with the finding of Emokaro and Amadasun (2012)

who reported that beef marketing channels consist of many whole salers and retailers in the study area. But it is in agreement with the study of Asumugla *et al.* (2008) who conducted a study on the analysis of the marketing channels and efficiency of the marketing system of yam in Nigeria and reported a complete web of eight possible channels for the movement of yam to complete the chain. The findings also agrees with the findings of Ezekiel (2008) who conducted a study on the marketing channels for beef cattle in Adamawa state and reported two possible marketing channels. The one which comes from producer through wholesalers, retailer and consumers inside the state and the other one linked to terminal markets outside the state capital. It should be noted form the table that there is no present of bulk buyers in the area such as public institution like schools, prisons etc. Processors here refers to those who buy, slaughter and process the cattle, wholesalers refers to those who buy processed beef from processors in bulk and sells to either retailers or direct customers, while retailers are those who buy process beef from processors in small quantities and sales to customer.
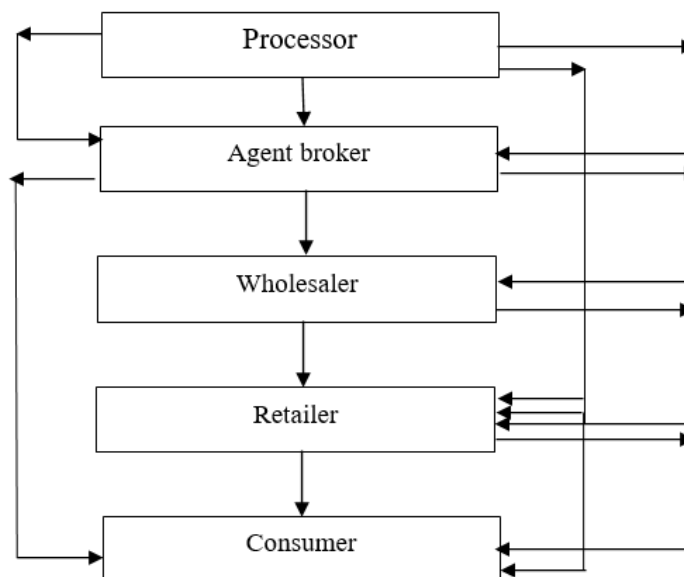
Fig 1: Flowchart of Beef marketing in the study area

Figure 1 presents follow chart of beef marketing which describes how the various market participants are organized to accomplish the movement of product from producer to consumer (end user). It shows that, the most direct and frequently used channels for beef marketing was the one from cattle producers through the agents and brokers who sales directly to wholesalers and retailers (butchers) who than patronize and sell directly to the final consumers in the open markets this appears to be very difficult and probably leads to high cost as a result of complex web chain before

retail butchers could obtained the beef product. Similarly, retailers (butcher) expressed their deep preference of shortest channel that takes beef product to them. This analysis agreed with report by Waziri *et al* (2011) who studied goats and Chevron marketing in Delta State, Nigeria and posited that consumers preferred the shortest channels that take the meet to them in the open market, arguing that meat hawkers usually had little quantity of chevron making it difficult for consumers to compare meats parts before purchase.

Table 3: Distribution of costs and returns of beef marketing

	Items	Price ₦ (per kg)
A.	Variables (kg)	
	Cost of beef purchase	305.30
	Transportation cost	4.70
	Marketing charge	3.20
	Processing cost	9.90
	Packaging cost	3.00
	Storage cost	0.30
	Total Variable Cost (TVC)	326.00
B.	Fixed cost (depreciated at 20% per year)	

Knife	0.78
Axe	0.62
Wheelbarrow	4.22
Bucket	0.51
Pans	0.72
Trays	0.61
Total Fixed Cost (TFC)	7.46
C. Total Revenue	450.50
D. Net Income (NI)	116.64
E Marketing ratio	0.35

Source: Survey data, 2019

Table 3 presents results on cost and returns of beef marketing. It shows that, the Total Variable Cost (TVC) was ₦326.40 per kg, Total Fixed Cost (TFC) which was depreciated at 20% per year was ₦ 7.64 per kg total revenue was ₦450.50 per kg, Net Income (NI) was ₦116.64 per kg and marketing ratio was 0.35. This means that for every ₦1 invested per kilogram in beef marketing, 35 kobo was realized as profit, hence beef marketing is a profitable venture in the study area. This findings establishes that among variable cost components, beef purchased constitute the highest cost with ₦305.30 per kilogram of beef, followed by cost of processing (slaughtering and washing) which was ₦9.90 per kilogram of beef followed by transportation cost which is ₦ 4.70 per kilogram, followed by marketing charges cost which was N3.201, the least cost was that of storage which was N 0.3 per kg. The implication is that, since cost of purchasing beef and cost of processing ranked first and second respectively they must be given attention.

Table 4: Distribution of respondents according to the problems/constants/challenges faced in beef marketing

Variable / problem	Very severe	Sever	Moderately severe	Least severe	Total
Poor transportation facility	30(44)	30(44)	4(6)	4(6)	68 (100)
High transportation cost	21(31)	21(31)	21(31)	5(7)	68 (100)
Perishability nature	40(59)	20(29)	0(0)	8(12)	68 (100)
Marketing charges	12(18)	24(36)	18(36)	14(20)	68 (100)
Inadequate storage facility	39(57.4)	19(27.9)	0(0)	10(14.5)	68 (100)
Inadequate market information	24(34.3)	14(20.5)	12(18)	18(36)	68 (100)
Poor access to credit facilities	28(14.2)	28(14.2)	12(18)	0(0)	68 (100)
End user credit sales	30(44)	14 (20.5)	12 (18)	12 (18)	68 (100)
Credit sales to marketers	40 (59)	10(14.5)	9 (13.2)	9 (13.2)	68 (100)
Credit recovery problems	45 (66.2)	10(14.5)	10(14.5)	3(4.4)	68 (100)

Source: Survey data 2019

Table 4 presents result on constraints facing beef marketing in the study area. It reveals that about 44% of the respondents reported that, they were facing very severe difficulties in terms of transportation. Similarly about (63%) complaint of high transportation cost, implying more burdens to beef marketing business because high transportation cost may increase the marketing cost per kilogram of beef. Similarly, majority (60%) complaints that, the perishability nature of beef is causing severe problem to the business. This could mean that beef marketers are exposed to high risk of product spoilage as a result of inefficient preservation/storage facilities. The problem is more encountered especially for beef that was not sold immediately.

Similarly about (54%) reported that, they encountered high marketing charges in terms of revenue payment. High marketing charges may increase the cost of beef product per kilogram. Further, about (58%) reported that, inadequate storage facilities was a severe problem. This implied that inadequate storage facilities may lead to quick deterioration of beef product.

The table also present result on market information. It shows that, about (50%) of the respondents agreed that inadequate marketing information served as a severe constraints to beef marketing. This implied there is ignorance and inadequate means of transmitting prince as quick as possible was a constant to the business. The table also present result on access to credit facilities it reveals that about (68%) of the respondents reported that poor access to credit facilities was a severe problem to the business. The implication of poor access to credit facilities is that retailers (butchers) may not have enough capital to operate their business activities, hence marketing strength may be retarded. However capital injection, may expand their marketing activities and profit. Also, credit recovery constitute 66% of the problems faced by beef marketer, sales on credit constituted 59%, end user credit 44% while poor access to credit constitute 14% respectively.

IV. CONCLUSION

The findings reveals that, beef is marketed in the area via three (3) channels. The two had 3 elements each that constitute the distribution channel, while the third had five elements. It also shows that, the business is dominated by male, aged 40 – 49 years, majority married and had between 1-20 years experienced on beef marketing. Also majority had formal education and belong to association as members. It is also concluded that beef marketing is profitable in the area since the analysis reveals a net return of N 116.64 per kilogram of beef marketed and a marketing ratio of 0.35 indicating that for every one naira invested per kilogram in beef marketing, 35 kobo was realized as profit, despite challenges face by beef marketers ranking from credit recovery, sales on credit, perishability nature of beef and inadequate storage and preservation facilities. The study concluded that beef marketing is undertaken via simple channel but with myriad of problems but is also profitable. It will be lucrative and more attractive if the proposed recommendations were implemented.

Recommendations

Based on the findings of this study, the following recommendations were proffered;

i. transportation difficulties, beef spoilage and deterioration could be minimized, through support from government, Non- Governmental Organizations (NGOs) community Based Organizations (CBOs) and individuals to purchase transportation facilities and cold – rooms for easy and healthy handling of beef which will consequently result in quality enhancement.

ii. Inadequate capital could be improved through awareness and enlightenment campaign on how to access credit from formal source, so that can expand their scale of beef marketing

iii. Similarly, formation of cooperative society should be promoted among the beef marketers.

iv. Beef marketers should be encourage to using weighing scale at the point of purchase and of the time of disposing beef products. This will go a long way in minimizing market price imperfection.

v. Unnecessary marketing charges in farm of revenue and tax should be avoided. This may reduce the profit by adding to the cost.

vi. Government and community based organizations should construct / rehabilitate roads to ease transportation.

vii. Information on market operation particularly beef should be enhance so that marketers could access and utilize them.

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