Trop. J. Anim. Sci 2(1): 151- 157 (1999)
ISSN: 1119-4308

MARKETING OF SHEEP AND GOAT IN OGUN STATE OF NIGERIA

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Target Audience: Agricultural economists, farmers, marketing participants, consumers.

ABSTRACT

Low comsuption of sheep and goat in some parts of south western Nigeria can be attributed to short supply of livestock occassioned by inadequate marketing of the livestock.

This study evaluated the structure, conduct and performance of the sheep and goat marketing in Ogun state by collecting data from both sellers and buyers in four markets in the four agricultural zones of the states.

It was found that most of the retailers were in the economically active age group of 25-40 years, consisting of both women and men. There were no wholesalers in the markets except in Sabo market. These set of people are from the northern parts of the country. The animals sold in these markets were obtained from the northern parts of the country. In Guffanti market, the animals are obtained from Alaba market which is a terminal market for small ruminants from the north.

The lowest market concentration ratio (Gini coefficient) of 0.42 was obtained in Guffanti market showing that there was much competition among the retailers. Retail marketing margin ranged from N277.47 per head of animal in Guffanti market to N445. 71 per head in Imowo market. Analysis of variance test showed that there was significant difference in the net margin of the four markets at = 0.01.

The contraints to increased small ruminant marketing included the extremely high purchase cost and the transportation cost of getting the animals down south which were almost twice the normal prices.

Key words: Market structure, conduct, performance, sheep and goats

DESCRIPTION OF PROBLEM

The sheep and goat sector of the small ruminant livestock industry in Nigeria is a very important one. Sheep are estimated to be about 22 million while goats are about 35 million in Nigeria (2, 4). The animals display a unique ability to adapt and survive in areas where they are found. Consequently, they have a wide geographical distribution in Nigeria. The position of these small ruminants is further explained by the fact that these animals provide the most economical returns in terms of farmers investment. They are able to increase their numbers faster than cattle. The ability of these animals to survive on variety of feed and browse plants under harsh village conditions also gives them an edge over the other types of livestock kept by farmers.

Sheep and goats contribute about 16.85% of Nigeria's animal protein yield

per annum (4) and are second only to cattle in important (1). Despite these attributes, the consumption of animal protein is not as high as is expected. Low consumption may be attributed to short supply of livestock as a result of insufficient production or perhaps as a result of high prices of the animal among other causes. Insufficient production as a reason for low consumption does not seem tenable because it has been indicated that over seventy percent of rural households in south western Nigeria keep small ruminant (1) This notwithstanding, the climatic conditions in the northern parts of Nigeria favour the production of these small ruminants to a reasonable levels. Given this situation, the probable reasons for low consumption in the south western parts of Nigeria could be because it lies outside the major production centres. This study is an attempt to evaluate the performance of the sheep and marketing system in Ogun state and identify constraints to increased marketing.

MATERIALS AND METHODS

Sources of Data

Data used for this study were collected from sellers and buyers in four small ruminant markets in different parts of Ogun state in 1995. The report of the 1990 National Livestock Survey identified three major small suminant markets in the state as Sabo market in Sagamu, Imowo market in Ijebu-Ode and Kuto market in Abeokuta. In addition, a small ruminant market, Guffanti market located in Ifo local government was included to make the sampling exercise representative.

Sampling technique

The respondents were purposively selected. Of the two hundred initially proposed, (made up of twenty retailers, ten wholesalers and twenty buyers in each market,) only one hundred and fourteen (114) respondents made up of 52 retailers and 62 buyers were actually interviewed.
This was due to the fact that there were no wholesalers in the markets, except in Sabo that experienced an influx of wholesalers during festival seasons.

Analytical Techniques

1. Simple percentages were used to describe some of the socio-economic characteristics of the retailers.
2. The gini coefficient

   The Gini coefficient is an intuitive measure of inequality which in a market situation determines the share of a certain percentile or decile of the population in the market. It is usually plotted as a Lorenz curve (See appendix). The coefficient lies between zero and one. It market shares are distributed equally, the coefficient is zero. On the other hand, if one person controls all the market, the index of inequality is equal to 1. When comparing two distributions, the higher the ratio, the higher the inequality of the distributions.

Generally, the coefficient can be written as

$$G = \frac{\int_0 (x - f(x))\, dx}{1/2\,(100)^2}$$

where x is cumulative percent retailers and f(x) is cumulative percent sales. In this study, the Gini coefficient was used to analyse the market structure in each of the four markets. it was used to show the distribution of the volume of sales among retailers.

As a measure of seller concentration, it is also an indication of the degree of competition. Economic theory suggests that the vigour of competitiveness, however, the number of sellers in a market does not take into consideration the extent to which a few sellers may dominate the market. The lorenz curve, which is a graphical method of showing to what extent various magnitudes vary from uniformity, is used to show how the sales volume are shared among the sellers. Resting on the assumption that perfectly competitive markets maximise efficiency of allocation, the degree of competition can give an indication of efficiency of allocation.

3. Market Margin analysis, was used to determine the marketing cost struture as well as the marketing margin spread between all the participants in the market. (For this study, the retailer marketing margin is the difference between selling price and the purchase cost. The retailer's net margin is the difference between the retailer marketing margin and the marketing costs). Analysis of variance was employed to ascertain whether the differences in the retailer's net margin in the various markets were statistically significant.

RESULTS AND DISCUSION

Sheep and goats were considered in this study as the same enterprise because the marketing functions performed in the sale of both animals were basically the same. Akin to this, is the fact that the selling price of the animals is a function of size and had nothing to do with the breeds of the animals.

Socio-economic characterticss of the Retailers

Most (75%) of the retailers in the markets were in the 25 - 40 age group. The marketers consisted of both men and women except in Imowo where there were no female retailers. Kuto market was dominated by female retailers (80%) whereas in Sabo market, 91% were male. In Guffanti market, the ratio is 3:2 in faviour of women. Generally, about 55% of the retailers were male. With this situation, one can assuredly say that gender inequalities in the marketing of sheep and goat in Ogun state are lacking.

Operational Structure of Small ruminant marketing in Ogun state

The marketing operations of retailers depend on the presence of other participants in the market. Hence their functions are not homogenous in all the markets. In Imowo market, the retailers are non indigenes. There are some individuals known as *"Baale"* who are the heads of communities or landlords in the market areas who provide accomodation for the retailers. They provide the feed troughs, feed, water and security to aid marketing operation. These *"Baale"* are remunerated through commission (known as la 'ada) paid by buyers at a fixed rate of fifty Naira per animal.

There is a need for a more formal organisation of markets in the Imowo market by the local government authorities to take charge of the services and facilities so that the commision when paid on the animals can be channelled through the retailers to the governemnt who can as a matter of fact take care of the markets.

In Kuto market in the Abeokuta zone, some individual called *representative buyers*, perform the purchasing and assembly functions in various central markets in the north. The unique feature of these representative buyers is that they only handle the animals, they do no take title to them.

As noted before, there are no wholesalers in the markets except in Sabo market during festive occassions. These wholesalers are from the northern parts of the country and they disappear from the markets immediately after festive periods.

The animals which are sold in Sabo, Kuto and Imowo markets are obtained from the northern parts of the country - Borno, Kano, Kaduna, Katsina and Sokoto either from the rearers or the dealers in the central markets. The source of the animals in the Guffanti market is the central market in Alaba in the Lagos State.

There are no barriers to entry and exist in Imowo, Sabo and Guffanti markets whereas in Kuto, only family members of the present sellers are allowed to learn the business. There are no ruminant sellers associations in Imowo market, the ones in Sabo and Guffanti markets are very weak, whereas it is compulsory in Kuto for each retailer to join the sellers association. The presence of weak seller associations means that formal collusion amongst the retailers is virtually impossible since there will be no formal sanctions against traders that decide to either raise price far above (or below) market prices. In the case of the Kuto market where it is compulsory to join the seller's association, it gives the traders a joint formal voice to call on the market authorities for amenities in the market. There is some degree of product differentiation in all the markets because of breed differences. The northern breeds are preferred to the southern breeds due to the perceived better taste of the former.

Evaluation of Small ruminant Martket Structure using Gini coefficient

The lowest market concentration ratio (Gini coefficient) of 0.42 was obtained in Guffanti market. This means that there was much competition among the retailers. This is comfirmed by its Lorenz curve which showed that 58% of the retailer accounted for 50% of the sales. This might have been due to the fact that retailers all had equal access to the Alaba centra market which serves as a terminal market for small ruminants from the north. In Kuto Sabo markes, the ratio was 0.525 and 0.513 respectively which showed a comparable degree of competition among retailers in both markets. The Lorenz curves revealed that 65% and 67% respectively of the among of the retailes accounted for 50% of the sales in the markets. Imowo market was the least competively small ruminant market in Ogun state with a market concentration ratio of 0.56. In

this market, 75% of the retailers accounted for 50% of the sales showing that the remaining 25% hold the other half of the sales. The market though devoid of barriers with respect to entry and exit, favoured those that could communicate in the Yoruba language. Generally, in these four markets as a whole, about 66% of the retailers accounted for 50% of the sales of sheep and goats.

Small ruminant Market Conduct

The price at which the animal is sold is determined through a process of bargaining. The retailers determine the weight and worth of the animals by feeling the muscles. Apart from the price for the animals, the consumers also pay other market charges such as "la' ada" which varied from one market to the other.

Market Margin Analysis

The retailer marketing margin ranged from N277.47 per head of animal in Guffanti market to N445,71 per head in Imowo market (Table 1) while the retailer's net margin ranged from N197.47 per head of animal to N243.38 per head respectively in both markets. The percentage of the retail price due to the marketing margin ranged from 16,67% in Guffanti market to 26.06% in Kuto market. For the net margin, the percentage ranged from 13.21% in Guffanti market to 13.97% in Imowo market. The analysis of variance test showed that there was a significant difference in the net margin in the four market at a = 0.01 (see Table 2).

The differences in net margin in the four markets mean tha where the differences are more than transportation costs per animals and other added market cost, it pays the buyer to move to the market of his convinience. From this study, no consumer would reap such an advantage because even the inter-market travel of areas per individual are far above the observed differences. The biggest difference of N45.91 is between the Guffanti market in Ifo and the Imowo market in Ijebu-Ode, which is far less than transport fares of one individual not to talk of an individual and the animal. However for bulk purchases of animals, and perhaps for wider array for animals to select from, it might be a worthwhile venture.

The relatively higher prices in Imowo market and Sabo market are a function of the high transport prices. The fact of the higher demand for the animals at certain seasons necessitating wholesalers to come in from the north also means that their return transport fares must be guaranteed.

Constraints to increased marketing.

The constraints to incresed small ruminant marketing revealed from the study included the extremely high purchase cost of the animals. This was so much that it affected home consumption that it constituted only a small proportion (3%) of total small ruminant purchases. Majority of the purchases were for ceremonies (63%). Other reasons for purchase were for rituals (12%) and

Table 1. Marketing Margin Analysis for the Markets

Market	Location	Retailer marketing margin N/head	Percentages Retail price (%)	Retailer net margin N/head	Percentage of Retail price (%)
Ciuffanti	Ifo	277.47	16.67	197.47	13.21
Imowo	Ijebu-Ode	445.71	25.37	243.38	13.97
Kuto	Abeokuta	413.15	26.06	215.09	13.57
Sabo	Sagamu	430.34	24.42	234.62	13.26

Source: Feild Survey. 1995.

Table 2. Analysis to test difference between retailers net mergin in all markets

Source of variaton	Sum of squares	Degree of freedom	Means of squares	Fcalc
Treatment	10050	33	3350	17.53*
Error	6880	36	191.11	
Total	16930	39	191.11	

F 0.01 - 4.31
*Sgnificant at 1%.

canteen services (17%).

The transportation of the animals down south from the northern markets was almost at twice the normal price because the transporters were not sure of profits on their hometown journeys. The other inefficiency in the determination of prices arose from the absence of grading and standard measures. This allowed a situation where sheep and goat prices did not properly reflect sources prices.

Diseases were also a major problem particularly during the wet season's due to lack of adequate market facilities such as covered stalls and veterinary services. The diseased animals were sold at cheaper rates.

CONCLUSION

The small ruminant markets in Ogun State were characterised by few sellers and buyers. The usually wholesaler-retailer relationships that exist in the marketing of many agricultural products were not a common feature in small ruminant marketing in Ogun State. The performance of the sheep and goats market in the State can be said to be fairly efficient in the alloction of resources. There is the need for well organised co-operatives amongst the marketers to take care of bulk purchases not only of the animals, but where drugs and other facilities are needed, the costs can be spread over more animals. These

co-operatives which also double as the market organisations can help enforce the presence of good market facilities and veterinary services.

As has been noted elsewhere, there is a need to develop and to mass produce weigh bands for small ruminants to help in grading the animals for correct prices (3). Animals are transported from the north by road. There is the need to reduce dependence on road transportation because it means that any small shock to the system particular from the petroleum sector will sent prices soaring. Train services mist be developed to reach every area of the country particularly this market area. That will allow many more marketers a chance to purhase more and the prices will be such that marketers can make good profits and consumers do not have to pay too high a price to purchase the animals.

The Gini coefficcewhich is the degree of inequality is represented by

$$G = (1/1+ U) =(I/T) \quad (0 \leq G \leq 1)$$

where I is the area between the line OO′ and the curve OO′

U is the complement of the area I in the triangle OBO′

T is the area of the triangle OBO′

$$G = I / T = (T - U / T) = (I - U / T)$$

It we consider the population group denoted as ab in the figure,

$$U_{ab} = (bd)(ab) + 1/2\,(ce)(ab)$$
$$= (bd)(ab) + (ac - bd)(ab)$$
$$= (bd)(ab) + 1/2\,[(ac)(ab)-(bd)(ab)]$$
$$= (ab)[ac + bd]$$

In order to calculate an overall coefficient of inequality, one would have to sum the area under the curve, (U), for all the retailers. Since

$$T = (1/2 * 1 * 1),$$
$$G = 1 - \Sigma\,(ab)(bd + ac)$$

More genarally, it can be written as

$$G = \frac{\rho_0 [x - f(x)]\,dx}{1/2\,(100)^2}$$

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