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Influence of Market Location, Sex and Species on Weight and Prices of Sheep and Goats Around Jos Plateau State

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Abstract: This study was conducted to investigate some of the factors affecting sheep and Goats marketing in Jos and environ. Data used in the study were collected in five selected local livestock markets, namely Rikkos, Bukuru, Barkin Ladi, Gada and Tilden Fulani. After price bargain between sellers and buyers, the animals are weighed. The weight is recorded against the agreed price and sex of the animal in each of the five markets. A total of 120 animals were recorded in each market location between January and April 2003. The breeds of sheep and goats considered in the present study were Balami (BM), Uda (UD), Yankasa (YK) and West African Dwarf sheep (WS); Sokoto Red (SR), Bauchi Red (BR) and West African Dwarf goats (WG). Data obtained were analysed using simple analyses of variance and the means separated using least significant differences. Weight were significantly ($p < 0.05$) affected by market location in sheep while in goats were not. Mean weight of 28.08±1.70, 29.96±1.13, 25.54±0.87, 27.71±1.44 and 26.71±1.15 kg were recorded in Rikkos, Tilden Fulani, Bukuru, Barkin Ladi and Gada markets, respectively. Weight and prices of sheep and goats were significantly ($p < 0.05$) affected by sex and species; higher mean weight and prices of 27.18±0.85 kg and ₦2727.7±33.4 were recorded on males than the females which recorded 25.45±0.91 kg and 2529.8±33.0. Also higher weight and price of 27.28±0.85 kg and ₦2913.0±19.6 were recorded on sheep than goat which recorded 25.35±0.74 kg and ₦2406.6±41.4, respectively. In goats prices were significantly ($p < 0.05$) affected by breeds; mean prices of ₦2549.2±73.5, ₦2341.3±62.0 and ₦2334.9±74.1 were recorded on SR, BR and WG, respectively. In general, factors considered in the present study play a vital role in sheep and goat marketing especially price determination.

Key words: Market location, sex, weight, prices, small ruminants

INTRODUCTION

Sheep and goat marketing in Nigeria is entirely in the hands of traditional middlemen. Therefore Nigerian livestock marketing system is essentially indigenous with strong cultural control (Adesipe, 1992). It is widely accepted that when ever there is relative increase in income, the consumption of meat, as well as consumer expenditure tend to increase more rapidly than the consumption of most other foods items in their diets (Kings, 1998). The sales of livestock are mainly by visual inspection of the size of the animal, while age may determine size rather than weight (Okaiyeto, 1979). Sales in the market are through the usual haggling over prices without weighing the animal. Many factors however, affect the prices of sheep and goat in Nigeria, principally among them are season of the year, market location, species, breed, sex, age and weight. Therefore the objective of this study is to study how market location, sex, breeds and weight affect the marketing of sheep and goats in some villages market around Jos.

MATERIALS AND METHODS

Data used in the present study were collected in five selected local livestock markets around Jos and environ, namely, Rikkos, Bukuru, Barkin ladi, Gada and Tilden Fulani. After price bargain between seller and buyers of sheep and goats in the respective markets, the animal is weighed using the weighing scale. The weight is then recorded against the agreed price, species, breed and sex-of the animal in each market location. One hundred and twenty sheep and goat each were recorded in each market location between January and April 2003. The breeds of sheep and goats considered in the present study were Balami (BM), Uda (UD), Yankasa (YK) and West African Dwarf sheep (WS); Sokoto Red (SR), Bauchi Red (BR) and West African Dwarf goats (WG). Data were analysed using simple analysis of variance (Steel and Torrie, 1980). Means were separated using least significant difference.

RESULTS AND DISCUSSION

Table 1 depict the effect of market location and sex on the weight of sheep and goats. In sheep, the highest weight of 29.96±1.13 kg recorded in Tilden Fulani and the least weight of 25.54±0.87 kg recorded in Bukuru (Table 1) is as expected. Weight is generally a factor of feeding pattern and availability of feed as well as other environmental conditions such as climate, disease and various management practices (Ikhatua and Olayiwole, 1982). Sheep reared in Tilden Fulani naturally had enough grazing area than those reared in villages close to Jos metropolis such as Rikkos and Bukuru. In most situations, animal reared in villages close to cities are reared under tight conditions due to series of activities such as movement of vehicles and machines, as well as very limited areas for grazing. In goats however, higher mean weight of 28.00±0.8 kg was recorded in Gada market. Goats are generally browsing animals that performs better with browse plants. In all the locations in the present study, Gada seems to be more in browse plants and also more remote and bushy when compare with other locations. Male animals recorded significantly ($p<0.05$) higher weights of 27.18±0.6 kg than females which recorded 25.45±0.91 kg (Table 1). Male animals are usually heavier than females under normal condition due to the presence of testosterone which is anabolic in nature (Zemjanis, 1970). Also sheep had significantly ($p<0.05$) higher mean weight of 27.28±0.85 kg than goats which recorded 25.35±0.74 kg.

Table 2 depicts the effect of market location and sex on the prices of sheep and goats. Conventionally, the more distance and remote a market location is the lower the prices of the commodities being produced in that particular area. However, in the present study highest mean prices of ₦2837.5±17.2 was recorded in Gada market. This was probably due to higher demand of livestock especially sheep and goats during festivities (Okoli, 1995). The period of the present study coincided with the Christmas celebrations by Christians during December 2002 and the Sallah (Ed-elkabir) by muslims in February 2003. Buyers usually have the impression that prices of livestock would be cheaper in the remote markets hence large number of buyers tend to converge in the remote markets, thereby increasing the demand of livestock hence their prices. These has been happening instead, the prices of livestock in villages that are close to the cities will go up due to the resultant increase in the pressure of buyers in those markets. Prices of Rams and Bucks were significantly ($p<0.05$) higher than prices of Ewes and Does. Higher average mean prices of

Table 1: Effect of market location and sex on weight (kg) of sheep and goats

	Sheep	Goat	Mean
Market location	*	NS	
Rikkos	28.08±1.70	23.67±1.10	25.88±1.40
Tilden fulani	29.96±1.13	24.92±1.20	27.44±1.17
Bukuru	25.54±0.87	25.46±1.27	25.50±1.07
Barkin ladi	27.71±1.44	25.79±1.20	26.75±1.32
Gada	26.71±1.15	28.00±0.89	27.36±1.02
Sex	*	NS	
Male	28.36±0.71	26.00±0.64	27.18±0.69
Female	26.19±0.98	24.7±0.83	25.45±0.91
Mean	27.28±0.85	25.35±0.74	*

NS: Not Significant, $p<0.05$

Table 2: Effects of markets location and sex on the prices (₦) of sheep and goats

	Sheep	Goat	Mean
Market location	NS	NS	
Rikkos	2968.00±19.2	2160.40±59.1	2564.20±39.2
Tilden fulani	2977.00±25.6	2286.70±68.0	2631.90±46.8
Bukuru	2621.00±13.1	2538.30±75.7	2579.70±44.4
Barkin ladi	2932.00±19.4	2439.60±75.4	2685.80±47.4
Gada	3067.00±20.6	2608.00±13.8	2837.50±17.2
Sex	*	*	
Male	2987.00±11.7	2468.40±55.1	2727.70±33.4
Female	2776.00±13.0	2283.60±53.0	2529.80±33.0
Mean	2913.00±19.6	2406.60±41.4	*

NS: Not Significant, $p<0.05$

Table 3: Effects of breed on weight (kg) and prices (₦) of sheep and goats

Species/breed	Weight	Prices
Sheep	NS	NS
Mean	27.50±1.17	29131.2±88.9
BM	28.78±1.19	3038.0±18.3
UD	26.71±1.25	2907.0±17.8
WS	26.96±1.27	2834.0±17.0
WK	27.53±0.96	2838.0±17.0
Goats	*	*
Mean	25.62±0.84	2406.0±41.4
WG	23.84±0.96	2334.9±74.1
SR	27.59±0.76	2549.2±73.5
BR	25.45±0.80	2341.3±62.0

NS: Not Significant, $p<0.05$

₦2727.70±33.4 was recorded on Rams/Bucks while lower average mean prices of ₦2529.8±33.0 was recorded on Ewes/Does (Table 2). Under the same conditions males animals are usually heavier than females (Zemjanis, 1970) as the case in the present study (Table 1). Weight and size are among important determinant of livestock prices. Sheep recorded significantly ($p<0.05$) better mean prices of ₦2913±19.60 than ₦2406.6±41.4 (Table 2) recorded by goats. Generally, sheep are normally heavier than goats; animal prices in the standard markets were determine by their weight. Also the specific preference being given to Rams especially in religious obligations such as Sallah (Ed-elkabir) gave sheep a better price than goat during the study period.

Table 3 depicts how weight and prices were affected by breed. In sheep weight and prices were not significantly affected by breed in the present study. However, in goats weight and prices were significantly

($p < 0.05$) affected by breeds. The non significant effect of breed on weight and prices of sheep was probably due to non fully adaptation of the Nigerian bigger breeds of sheep (BM, UD and YK) to the study area. The environmental condition of the study area was not favourable to bigger Nigerian breeds especially BM and UD. The trend in the effect of breeds on weight of goats (Table 3), is as earlier reported by Maire (1985). SR recorded the highest weight followed by BR while the least weight was recorded by WG. High mean prices of ₦ 3038.0 \pm 18.3 and ₦ 2549.2 \pm 73.5 recorded on BM and SR breeds is also as expected. This was a true reflection of superiority in weight and size of BM and SR (Maire, 1985) over other Nigerian breed of sheep and goats. Weight and size are important determinant livestock prices as animal prices in the standard markets were determine by weighing or visual appraisal.

CONCLUSIONS

Market location, animal weight and sex play a vital role in sheep and goats marketing especially price determination. The study reveals that market location is not the sole determinant of better livestock prices, weight, sex and activities such as festivities taken place at a given period of the year are also important.

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