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Species contribution as source of meat and their foetal wastage in Taraba State, Nigeria

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ABSTRACT

The study was carried out at the Wukari and Jalingo main abattoirs in Taraba State, Nigeria to investigate the contribution of various livestock species as sources of meat and their foetal wastage. A daily visit was paid to these abattoirs to record the total number of animals slaughtered as influenced by species, sex and pregnant females, which lasted over a period of four months (April-July). The data were subjected to analysis of variance and simple descriptive statistics to calculate means and percentages. The results showed that there were significant ($P < 0.05$) differences with respect to the total number slaughtered, number of males and females as well as incidence of foetal wastage (slaughter of pregnant females) among the three species studied in the two abattoirs. The results also revealed that the goat species had the highest (58.0%) contribution, followed by cattle (29.8%) and sheep (12.2%) in terms of their numerical number. There was an established pattern of marketing where large volume of these livestock, especially goats were disposed off during the on set of rains (April to June). Based on these results, it can be concluded that the goat meat/chevon is more cherished in the locality as compared to beef and mutton. Generally, prospect of livestock production is at stake in the area considering the high incidence rate (4.58-17.35%) of slaughtering pregnant females in the name of meat production and supply to the populace. It is therefore suggested that the growing practice of indiscriminate slaughtering of these pregnant animals be check-mated in order to enhance their productivity and to brighten the future of livestock industry in the country.

Key words: livestock, meat supply, foetal wastage.

INTRODUCTION

In Nigeria, there is an acute shortage of protein supply especially of animal origin among the populace. It has been reported that animal protein is one of the most important components of

human meals and its consumption varies from country to country [1]. The average per person daily intake stands at over 50 grams in the developed countries, while in the developing countries including Nigeria, it is only between 12 and 20 grams or 3 to 4 times lower [2]. It is recommended that a minimum protein intake per caput per day of 70 grams and protein of animal origin should contribute up to 35 grams or 50% [3]. It has been observed that animal products in the diet of an average Nigerian has been diminishing year after year due to marginal improvement in animal population and productivity [4]. It has also been reported that Nigeria is one of the four leading livestock producers in sub-saharan Africa [5]. Its livestock population was estimated at 15 million cattle and 49 million sheep and goats with growth rates of 0.8 and 2.9%, respectively.

There is various government policies aimed at achieving self-sufficiency in animal protein production in the country. One of the confronting challenges in attaining such level of production is the indiscriminate slaughtering of pregnant animals nationwide; Gombe [6], Lafia [7], Kano [8], Sokoto [9], Makurdi [10], Kaduna [11], Akure [12], Abeokuta [13], Bauchi and Jos [14]. It has been reported that the slaughter of these pregnant animals in our abattoirs will no doubt aggravate the already precarious supply of animal protein to the ever-increasing human population in the country [15]. The practice, if not check mate, will no doubt have a far-reaching implication on income of the livestock producers. It has been reported that the practice may impede the current policies of the nation on food security [14]. This study was therefore designed to investigate the contribution of livestock species as sources of meat and their corresponding foetal wastage in Taraba State of Nigeria.

MATERIALS AND METHODS

Location and Climate

This study was carried out at the main abattoirs of Jalingo and Wukari towns of Taraba State. These towns are the major cities in the State. The State lies between latitude $6^{\circ} 25'$ and $9^{\circ} 30'$ north and between longitudes $9^{\circ} 30'$ and $11^{\circ} 45'$ east. It has an estimated land area of about 54,428 square kilometres. The State borders to the west by Gombe and Plateau, south-west by Benue, north-east by Adamawa States. An international boundary on the east separates the State from Republic of Cameroon. The topography is largely made up of undulating plains and rising hills. It is transverse by many rivers; the major one being River Benue which rises from the highlands of the Cameroon and flows southwards to join the River Niger [16].

The State has an estimated human population of more than 3.0 million, using the annual growth rate of 3 per cent [17]. The society is primarily agrarian. The climate is suitable for both animal and crop production. It is characterized by two distinct seasons; dry and wet. The wet season usually starts from April to end in October while the dry season is from November to March. April is the hottest month of the year with a mean maximum temperature of about 28°C . The average yearly rainfall is about 1,350 mm. The mean monthly hours of sunshine is highest in December and lowest in August. The mean relative humidity is highest in August and lowest in February [18].

Source of data

A large number of domestic ruminants (Cattle, sheep and goats) are slaughtered daily in Taraba State, Nigeria. Data for this study were collected from Wukari and Jalingo main abattoirs. The number of these animals were taken daily at the two abattoirs by trained personnel over a period of four months (April - July). Most of these animals were brought by butchers as early as around 6:00 am, but few others were brought by other people to be slaughtered there. The animals were mostly purchased from the surrounding village markets and small-holder farmers. These animals were mostly managed under the traditional/free-range system; where animals were allowed to fend for themselves, with little or no supplementary feeding during the cropping season. In some cases, medical care is practically non-existent or provided at rudimentary level.

A total of 11,454 animals were studied in the two abattoirs (Wukari and Jalingo). Out of these, 3,415 were cattle, 1,398 sheep and 6,641 goats. The number of these animals with foetus (es) were identified and recorded to get an assessment of their foetal wastages.

Data analysis

The data generated from this study were subjected to analysis of variance using species as factor, and simple descriptive statistics (means and percentages) were also used to describe other relevant information, as described by [19].

RESULTS

Data on mean monthly number of various livestock species slaughtered in Wukari and Jalingo main abattoirs are presented in Tables 1 and 2. The results showed that there was significant ($P < 0.05$) difference in the total number of livestock slaughtered in Wukari abattoir, with higher number of cattle followed by goats and sheep as shown in Table 1.

Table 1: The monthly average of various livestock species slaughtered at Wukari main abattoir

Item	Cattle	Sheep	Goats	LOS
Total number animals slaughtered	250.0 \pm 8.5 ^a	172.5 \pm 11.9 ^C	200.0 \pm 23.5 ^b	*
Number of males	122 \pm 10.3 ^a	85.0 \pm 6.45 ^b	110 \pm 09.1 ^{ab}	*
Number of females	127 \pm 10.3 ^a	87.5 \pm 9.46 ^b	90 \pm 17.32 ^b	*
Number pregnant	7.5 \pm 1.44	10.0 \pm 1.58	11.75 \pm 2.02	NS
% pregnant	6.19 \pm 1.6 ^b	11.53 \pm 1.4 ^a	13.64 \pm 7.84 ^a	*

*LOS = Level of significance, NS = Not significant at 5%, *P < 0.05*
a,b,c means in the same row having different superscripts differed significantly

There were also significant ($P < 0.05$) differences in the contributions of male and female animals as source meat in the slaughter slab. The results revealed that generally more males were

slaughtered than their female counterparts. The number of pregnant females slaughtered among these three species did not differ significantly in Wukari. However, the per cent pregnant animals slaughtered (foetal wastage) was significantly ($P < 0.05$) different in the three species; being highest in goats ($13.64 \pm 7.84\%$) followed by sheep ($11.53 \pm 1.4\%$) and lowest in cattle ($6.18 \pm 1.6\%$) (Table 1).

Table 2 shows slaughtered figures of cattle, sheep and goats in Jalingo main abattoir. The results showed that the total number of slaughtered animals, number of males, number of females, number pregnant animals and % foetal wastage were all significantly ($P < 0.05$) different among the species studied. The results also revealed that higher number of goats was slaughtered as compared to the other two species (cattle and sheep) in Jalingo abattoirs.

Table 2: The monthly average of various livestock species slaughtered at Jalingo main abattoir

Item	Cattle	Sheep	Goats	LOS
Total number animals				
Slaughtered	596.25 ± 123.0^b	177.0 ± 87.1^C	1460.25 ± 629.0^b	*
Number of males	237.75 ± 38.4^b	87.75 ± 64.37^C	786.75 ± 464.5^a	*
Number of females	358.5 ± 88.9^b	81.75 ± 31.6^C	673.5 ± 442.8^a	*
Number pregnant	15.5 ± 5.2^{bc}	7.25 ± 2.39^C	24.0 ± 6.6^a	*
% pregnant	4.58 ± 0.9^{bc}	17.35 ± 9.4^a	6.53 ± 2.3^b	*

*LOS = Level of significance, * P < 0.05*
a,b,c means in the same row having different superscripts differed significantly

Table 3 depicts the overall monthly slaughter of these livestock species in the two abattoirs. The results revealed that goats contributed more (58.0%) in terms of slaughter figure, followed by cattle (29.8%) and lowest by sheep (12.2%). Similarly, the results also showed that the month of June had the highest (36.4%) followed by April (32.5%) and lowest in July (10.6%) in terms of their contribution to local meat production and supply in the State (Table 3).

Table 3: Overall monthly slaughtered of various livestock species in Wukari and Jalingo abattoirs

Month/species	Cattle	Sheep	Goats	Overall
April	1,025	211	2,490	3,726 (32.5)
May	1,020	617	711	2,348 (20.5)
June	880	350	2,940	4,170 (36.4)
July	490	220	500	1,210 (10.6)
Overall	3,415 (29.8)	1,398 (12.2)	6,641 (58.0)	11,454 (100.0)

Values in parentheses column-wise are percentages of the monthly total while those in the row are species total of slaughter figures.

DISCUSSION

The contribution of the various livestock species as source of quality meat in the study area cannot be over-emphasized. Livestock species of different sexes are used in the domestic meat supply in the State. The goat species had higher contribution (58.0%) in terms of numerical number of slaughter figure as compared to the other species; cattle (29.8%) and sheep (12.2%). This was similarly reported by [20] in Bauchi. The variation in the number of slaughter figure of these species and in favour of goats might have been due to smaller-bodied size of these animals as compared to either cattle or sheep, in which they require more space in terms of their housing requirements. The feeding habit of goats put them at advantage over other ruminant animals, as they can tolerate and adapt to wide range of climatic conditions especially during periods of feed scarcity, as similarly observed by [21]. Goats are also easier to manage under the traditional/free-range system since they are not usually given supplement under the system. These animals are liquid asset compared to sheep and cattle because of their low value or price in the market and their meat is well-cherished by most people across various ethnic groups in the country. Cattle and sheep attract huge sum of money in their upkeep or management and this might have been the reason why the butchers preferred to go for goats as they are low income earners and most of them operate their businesses of meat processing and handling at a small-scale level and locally. This probably accounted for the large number of goats slaughtered in the two abattoirs in the State.

The present study further revealed that the most livestock producers disposed off their animals during the onset of rains in the State. Thus enable them to purchase farming inputs at affordable prices for crop farming. This probably might have accounted for the large number of animals slaughtered during the period and also as reported by the farmers themselves. However, the larger number of goats slaughtered in April in the locality might also be linked with the fact that the month has coincided with the festive season of Easter, where animals, especially goats are purchased in large number to celebrate the occasion. This agrees with the reports of [22] in their studies using goats in Bauchi State.

The present study also revealed large number of pregnant females was slaughtered in the two abattoirs studied leading to colossal foetal wastages from these species. This actually puts the future of domestic ruminant production in the urban centres in the country under threat due to this mass destruction/ extermination of foetuses in the name of meat production and supply to the populace. The negative consequence of this practice is that eventually the slaughter figure will exceed growth rate of these animals, which aggravates the present acute shortage of animal protein consumption in the country. It has been reported that ignorance on the part of the livestock producers, ill-health and urgent needs of the family were implicated in the current practice [23]. It has been shown that the collapse of proper inspection of the animals, above all lack of legislation prohibiting the slaughter of pregnant animals in the country have also been attributable to the menace[24].

CONCLUSION

There is colossal contribution of cattle, sheep and goats in the domestic meat production and supply in Taraba State. Beef, mutton and chevon are well-cherished by most people in the area,

but the growing practice of slaughtering pregnant animals would have negative consequences on their overall productivity and if not checkmated to allow for their rapid multiplication through enhanced animal production, the future of Nigerian livestock industry will be bleak.

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