Journal of Veterinary Research Advances
ISSN: 2582-774X

Research Article
Open access

Goat rearing study of selected towns in cross river state of Nigeria

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Received on: 22/05/2024 Accepted on: 28/09/2024 Published on: 05/10/2024

ABSTRACT

Aim: The aim of study was to ascertain the level of development of goat production in seven towns in Cross River State and to identify the major constraints affecting goat production in the area.
Method and materials: It was conducted in eight major towns of Cross River State, Nigeria: Akamkpa, Calabar, Ikom, Obubra, Obudu, Odukpani, Ogoja and Ugep through the use of structured questionnaires. A total of 1200 questionnaires were administered randomly in eight towns. Questions were asked based on background production systems, constraints to goat production of the respondents. The data were analyzed separately using descriptive analysis..
Results: The results showed that 92% of household owners of goats were females while the major farms employed male labour. West African Dwarf goats were the common breed of goats raised in the seven towns. Majority of the household owners of goats practiced free-range system of production (84.7%) while a large percentage of the major farms practiced intensive system of production (79.8%).
Conclusion: It was concluded that free-range system of production was mostly used and the breeds of goats kept were limited the West African Dwarf Goats that is adaptable to the area.

Keywords: Goat Rearing, Cross River State, Nigeria, Management.

Cite This Article as: Ahaotu EO (2024). Goat rearing study of selected towns in cross river state of Nigeria. J. Vet. Res. Adv., 06(02): 61-65.

Introduction

The importance of goat production in the livestock industry in Nigeria cannot be stressed enough. Goat represents about 60% of the total grazing domestic livestock in Nigeria (Ahaotu and Ayo-Enwerem, 2008). These animals display a unique ability to adapt and survive in areas where they are found and consequently their wide geographical distribution in Nigeria. Goats have multiple uses (meat, milk, hair, skin and other products) and serve as a flexible financial reserve for the rural population as well as play other socio-cultural roles in the customs and tradition of many Nigerian societies. It has been observed that only 8.0gm of the 53.8gm of protein consumption level of Nigerians is derived from other animal sources (Gatenby, 2009; Ahaotu *et al*. 2009), suggesting less than 16% contribution of animal products to protein consumption of Nigerians.

This is very poor indeed when compared with countries like U.S.A with about 69% of total protein being derived from animal sources (Berger *et al*. 2003 and Steel, 2004). Contribution of meat from goats to the total meat supplies in Nigeria may be related to the population of these animals in the country. The keeping of goats also serves as an investment alternative and source of additional income to the owners, the income so derived goes a long way in supplementing family and personal incomes.

Of the three major production systems recognizable in Nigeria, the traditional (extensive) village system is the most prevalent especially in areas with low population density. This production system has a low-labour-input and low priority adjunct to traditional arable and cash crop farming (Ahaotu, 1991). The predominant breeds kept in the study area (West African Dwarf Goats) are ubiquitous especially in the rural areas and because they are trypanotolerant, their population out-number cattle (Ayo-Enwerem *et al.* 2009). Under the observed traditional village system of production, animals may be confined or allowed to graze (scavenge) on natural pasture.

The growing human population in Cross River State in particular and Southern Nigeria in general coupled with rapid urbanization and the subsequent land squeeze will compel further conferment of grazing animals which will directly necessitate intensive management practices (Ayo-Enwerem *et al.* 2008a). It was felt the need to develop appropriate feeding strategies in consonance with perceived agricultural intensification. The unique position of browse plants in goat production feeding system underscores the need for research to fully exploit their feed resource (Ayo-Enwerem *et al*. 2008b). The study was designed to ascertain the level of development of goat production in seven towns in Cross River State and to identify the major constraints affecting goat production in the area.

Materials and Methods

The study areas were Ogoja, Ugep, Odukpani, Obudu, Obubra, Ikom, Calabar and Akamkpa towns in Cross River State. The state occupies 23,074.42km^2 but densely populated. The state is located within the lowland coastal plain of Nigeria and it lies between latitudes 5^o 32^1 and 4^o 27^1 North and longitudes 7^o 50^1 and 9^o 28^1 East. The major occupations of the people are trading, public service and farming. Many do combine farming with other occupation like tailoring, brick layering, transporting and embroidery making.

Total 1200 questionnaires were distributed among selected areas in eight major towns in Cross River State. The selected areas from the towns were Adim, Bla-Kpan; and Nkumaya in Akamkpa; Ikot Anasa, Ikot Omin and Bia Qua in Calabar; Nsadop, Nde and Okundi in Ikom; Apiapun, Mbebe and Ekori in Obubra; Lisheche, Amukwong and Sankwala in Obudu; Usua-Esuk, Akpaboyo and Adiagbo in Odukpani; Odajie-Mbube, Okpudu and Ogoja-Urban in Ogoja; Idomi, Nko and Igboimabana in Ugep respectively. The areas were selected randomly and divided into villages. Fifty questionnaires were distributed per village. One hundred and fifty were distributed per town. Out of one thousand two hundred questionnaires distributed, only seven hundred and twenty (720) were collected back for analysis. The household owners of goats filled 700 questionnaires and major farms in the areas filled twenty questionnaires.

Data obtained from the study (the eight towns combined) were analyzed using the descriptive statistics i.e. range, mean, frequency and percentages.

Results and Discussion

Two different sets of data were collected during the study. The first set was from twenty major farms in the sampled areas and the second set from 700 household owners of goats in the areas. The results were analyzed separately (Tables 1, 2 and 3).

The background information of the respondents was expressed in percentages and their absolute values (Table 1). Goat production, the sampled areas are common among adults. Majority of household owners (95.2%) were females while 4.8% were males. This was similar to the observation made under village production of goats (Nlemadim, 2010). Majority of the major farm hires only male laborers to handle the goats (80%). Majority of respondents was educated, having a minimum of secondary education. It was in agreement with works conducted in peri-urban towns in Imo State (Nlemadim, 2010 and Okafor, 2010). Ninety six percent of household owners of goats take goats production as a part time business while all of the major farms take goats production as a full time business.

Free-range system of management is common method of production among household owners (57.57%) while 75% of the major farms practiced intensive system of production. Majority of household owners does not have houses for their goats, instead of goats sleep around houses and along streets at night, while majority of major farm housed their animals in concrete floored houses. A large percentage of both farmer and household owners purchased their parent stock and the herd than increase through new births (Opara, 2010; Matthewman, 1999 and Saunders, 2002).

The common diseases of goats in sampled areas were diarrhea, mange, pneumonia and *Peste des petite ruminate* (PPR). Among the major farms, foot disease and *helminthiases* were prevalent.

The type of crop residues includes cassava peels, cowpea husk, corn starch meal residues and coconut meal. The type of forage given to animals included *Leucaena leucocephala*, *Gliricidia sepium*, *Centrosema pubescens, Panicum maximum, Alchornea cordifolia, Elaeis guinnensis* leaves, *Bracharia brasilantha and Costus afer*. Among e major forms, 80% get their feeds from the farms while 20% bought crop residues from the market. Fifty-seven percent of the household owners of goats bought their feed from the market while 18.20% fed waste from the farm to the goats. Both parties of sheep keepers fed their goats on a regular basis.

Table 1: Characteristics of goat rearers in Eight major towns in Cross River State.

Characteristics	**Figure**	**%**	**Figure**	**%**
Sex of Respondents				
Male	5	80	4	4.8
Female	0	0	80	95.2
Age of Respondents				
0 – 18	2	2.4		
19 – 30	3	60	13	15.7
31 – 50	2	40	44	53
750	0	0	22	28.9
Form of Business				
Part Time	0	0	81	96
Full Time	5	100	2	4
Types of Animals Kept				
Goats	1	20	76	91.6
Sheep	-	-	-	-
Mixed	4	80	7	8.4
Systems of Management				
Intensive	15	75	105	15
Semi-Intensive	4	20	192	27.43
Free Range	1	5	403	57.57

Table 2: Feeding Pattern of Goats in Eight Major Towns in Cross River State.

	Major Farms		**Household Owners**	
Characteristics Type of Feed.	Figure	%	Figure	%
Kitchen wastes	2	40	5	5.5
Forage	5	100	19	20
Crop Residue	5	100	82	91.1
Crop by Product	2	40	0	0
Source of Feed				
Farm	4	80	16	19.3
Market	1	20	45	54.2
Processors	0	0	7	8.4
Kitchen Wastes	0	0	15	8.1

Total observation for the type of feed is greater than 100% due to multiple responses

Table 3: Level of Developments

	Major Farms		**Household Owners**	
Characteristics **Type of Feed.**	**Figure**	**%**	**Figure**	**%**
Access to Extension Agent				
Yes	2	40	10	12
No	3	60	73	88
Access to Agricultural Journals				
Yes	3	60	3	3.6
No	2	40	80	96.4
Goat's Manure				
Spread on the Farm	3	60	3	3.6
Thrown away	2	40	80	96.4

Household owners of goats did not practice control breeding while 80% of the major farms did not practice control breeding. Both parties practice loose buck mating, large percentage of goats had multiple births; the young does gives birth to 1one kid, initially and then starts giving birth to two or three kids afterwards. Findings were in agreement with Ahaotu and Ayo Enwerem, (2008) on the prolificacy of West African breed of goats, which are predominant in the area.

Table 3 shows the level of goat production development in terms of access to extension services and agricultural journals. Eighty-eight percent of household owners and 60% of major farms did not have access to extension services while majority of the major farms and very few household owners, 60% and 3.6% respectively had access to agricultural journals and magazines. Other constraints to goat production in the area include: diseases, accidents, seasonality of feed supply, theft, destructive habit of goats, lack of capital and land. Due to the high level of literacy reported, it was observed that 60% of the major farms made use of the goat's manure to fertilize the soil, while only 3.6% of the household owners utilized the manure.

Goat rearing in Calabar was basically on a part-time basis. This is in agreement with Ahaotu, (1991) that goats in the humid tropics are generally kept as a low cost adjunct to arable and tree crop production. The distribution of goats in the area shows that the household owners are the major producers of goats in the area. The productivity of the goats in the areas was very low due to the free-range system of production. This is because under this system, the animals received minimum inputs in terms of nutrient content of the feed and breeding control programme.

The goat producers in the areas had access to veterinary services, which would help to reduce the rate of mortality among the goats. Crop residues are the most common feed type fed to goats, although these feed resources are abundant and cheap sources of nutrients for ruminants especially during crop growing season.

Conclusion

It was concluded that goat keeping is a common practice among the people of Cross River State especially among the households. Free-range system of production was mostly used and the breeds of goats kept were limited the West African Dwarf Goats that is adaptable to the area. Goats were kept to supplement the family income and for consumption during the festive seasons and special occasions. The level of development of goats' production in the area can be said to be low because the services of the extension agents in the area were virtually none existing.

The management system used in raising goat is poor; they tend to leave the production of goats more to chance than well-organized management. The gene pool of the goats in the area was not being improved since no form of genetic improvement was done due to lack of controlled breeding practice. The constraints to goats' production were seaonality of feed supply, accidents, theft, poor management system and disease. Goat keepers should provide housing for goats or practice tethering to reduce the occurrence of theft and accidents.

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