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A survey of West African Dwarf (WAD) goats enterprises in Lafia area, Nasarawa State, Nigeria

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Abstract

West African Dwarf (WAD) Goat enterprises were studied using data collected from 120 households where goats are kept. The result revealed that majority of the households heads were male and married, with an average of 46 years and had up to eight years experience in goat production. A very few were members of cooperative societies. Contact with extension agents by the respondents was also minimal, while 40% rear goats for both home consumption and income generation. Goats were kept by the respondents under semi intensive and extensive feeding systems. The average number of goats kept per household was 12. Majority of the respondents sell their goats at home and the selling price was determined by the prevailing market price or by reproductive value. Feed shortage was the major constraint militating against goat production in the study area. There is a high potential to increase the productivity of goats if the technical and managerial constraints can be solved by providing better quality feeds and improved extension service delivery.

Keywords: Ownership, Flock size, Feeding System, Marketing, Constraints

Introduction

Goat production is a traditional farming activity in the humid areas of West Africa and the system aims at producing meat and milk for the teeming population of the region (Gomez-Cabrera, 2003). Goat meat is an important and preferred source of protein in the humid tropics particularly Southern Nigeria. This is because small ruminants (sheep and goats) are the dominant livestock species with an estimated population of about 14 million (Bryma, 2001). Although the intensive, extensive and semi-intensive systems have been used for goat production, current socio-economic conditions have persuaded farmers to employ various feeding systems for sustainable goat production (Ugarte et al., 2001). Small ruminant production is also one of the several farm activities undertaken in humid West Africa where household food needs are met from cereals, root crops and legumes while small ruminants and other livestock are rarely integrated with crop production and account for a small portion of household expenditures (Von kaufman and Francis, 1989). Perhaps the most common small-scale goat production system is that described as traditional, low-input extensive or subsistence system, based on free grazing of roadside and bush forages complemented with kitchen waste (peels of tubers and fruits) and good residues. Another common system of production is the intensive cut and carry feeding of tethered or confined animals, found in densely populated areas where almost all available land is devoted to cultivation. In such densely populated areas, small ruminants are tethered or confined to protect crops and are therefore hand fed (Ademosun, 1988).

The dominant breed of goat in Africa particularly in Nigeria is the WAD goats (Reynolds and Adediran, 1993). A study on the reasons for keeping WAD goats carried out by Matthewmen (1977) indicating that 91% of farmers interviewed gave cash income as the main reason for keeping goats while Okali and Sumberg (1985) also concluded that small ruminants are one of a limited number of sources of income to be used for capital investment. Goat meat production is influenced by many factors including sex, breed, age and nutritional status. Genetic factors and levels of feeding are probably the most important factor influencing growth and thus meat production (FAO, 1999).

It has been estimated that out of a total of 379,000 metric tonnes of meat production from domestic ruminants, 17% of it is obtained from goats (FAO, 1999). The nutrition of goats and sheep is thus the most important factor affecting the performance of these species (Aschalew et al., 2000). This is because feed is the major principal limiting factor in most parts of the

tropics where small ruminants are seldom allowed to express their genetic potentials apart from disease (Ngategize, 1989). The objectives of ensuring high performance through adequate control of nutrition is determined by three related considerations, the availability of nutrients, types of feeding systems and levels of feed management (Devendra, 1985).

Livestock farmers in developing countries are faced with various challenges that led to a considerable fall in the production of certain livestock species. Most of the problems originated from high cost of production due to increase in prices of locally available feed ingredients (Alli-Balogun, et al., 2003). Increase in the human population and the scarcity of production resources exert severe pressure on the small scale farmers and threaten their existence (Alhassan, 1985; Agishi, 1985). Increasing demand for animal protein and the ever increasing competition for land resources call for major structural changes in the agricultural sector. Livestock production and research have been geared towards increasing livestock numbers, rather than raising and intensifying the productivity of individuals' animal breeds and species. Even when research is carried out on ruminants, it has always been to address production of cattle and sheep, little is done to address species like goats (Kosgey et al., 2005). Given the importance of goats to the socioeconomic milieu of the population, a study of goat production and feeding patterns deserves attention. Based on the foregoing, the objectives of the study are to: describe the socio-economic characteristics of respondents, determine the respondents' reasons for keeping goats, identify the goat feeding systems in the study area, determine the flock size and composition of goats and to identify the constraints to goat production in the study area.

Methodology

Lafia is located in the southern part of Nasarawa State, Nigeria and lies within latitude $09^0$33N and $09^0$33E. The main occupation of the inhabitants is farming. It has a population of 330,712 people (NPC, 2006). Data were collected using structured questionnaire administered to 120 purposively selected households where goats were kept. Data collected from the household heads include: gender, age, marital status, occupation, educational level, membership of co-operatives, year of membership, extension contact, ownership system, management practices, reasons for keeping goats and constraint to goat production. Descriptive statistics were used to analyze the data.

Results and Discussion

The socio-economic characteristics of respondents (household heads) are shown in Table 1. The average age of the respondents was 46 years, 83.3% of the respondents were married and have an average of eight years of experience in goat production. The respondents had one form of education or the other implying that a significant proportion of the respondents were literate.

Table 1: Socio-economic characteristics of respondents

	Minimum	Maximum	Mean	SD	CV (%)
Age (years)	30	80	46	2.2	4.78
Membership of cooperative society (years)	0	3	1.10	0.22	20
Years of experience in goat production	4	20	8	7.26	90.62
Gender	Frequency		Percentage		
Male	88		73.3		
Female	32		26.7		
Marital status					
Married	100		83.3		
Widowed	8		6.7		
Divorced	12		10.0		
Education					
Primary	20		16.7		
Secondary	12		10.0		
Tertiary	64		53.3		
None	24		20.0		
Membership of co-operatives					
Yes	12		10.0		
No	108		90.0		
Extension contact					
Contact	24		20.0		
Non contact	96		80.0		

Table 2: Reasons for keeping goats

Reason	Frequency	Percentage
Home consumption	32	26.7
Income generation	40	33.3
Both	48	40.0

Majority of the respondents were not members of farmers' cooperative societies and have had little or no contact with extension agents. This agrees with the findings of Devendra (1988) who observed that goats are for a long time been neglected by extension workers. The respondents' reasons for keeping goats is

presented in Table 2, the result is similar with that obtained from a survey of traditional small stocks farmers by Nsoso et al. (2004) in Botswana, which reported that most farmers sell their goats because of cash needs (income generation). The present findings on the other hand differs from the results of a study on rural community farming systems in South Africa which indicated that meat consumption was the major reason for keeping goats (Alli-Balogun et al., 2003). The goat ownership pattern and feeding system in the study area are presented in Table 3. The major owners of goats are women (50%). Majority (66.7%) of the respondents practiced the semi-intensive feeding system, while 33.3% practiced the extensive system. This might be attributed to the higher cost of production under the semi-intensive system (Roynalds and Adediran, 1994). Majority (59.1%) of the respondents sold their goats at home while 40.9% sold at the nearest market place. The goat selling price was determined either by the prevailing market price or through the reproductive value of goats.

The flock size and composition is presented in Table 4. Total flock size was 1360 goats, with kids accountable for 33.3% followed by weaners with the total flock size of 24.1%. The individual household keeps an average of 4 kids, 3 weaners, 2 bucks and 3 does. Farmers kept their number of goats depending on the availability of labour and land. The number varied from 2 to 12 goats per household. However, this figure was much lower than the figure reported by Phimphachalhvongsod (2001), who found that number of goats per household ranged from 2 to 30 heads. Nsoso et al. (2004) also reported that most small stockholder farmers hold 1 to 40 goats per household in Kweneny district of Botswana. Farmers in the study area mainly retained female goats in the flock for replacement purposes. The ratio of females to males was 2:1. The proportion of does was low when compared to the findings of Bryman (2001) who reported a doe to buck ratio of 11:1 and close to 4:1 ratio for an agro-pastoral society in South Ethiopian, as reported by Peacock (2005). The constraints faced by the respondent are shown in Table 5. Lack of feeds, theft and diseases were the major problems faced by goat keepers in the study area.

Conclusion

Base on the findings of the study it can be concluded that inadequate feeds limits goats' production and productivity in the study area and only a few of the respondents have had contact with extension agents.

Recommendations

1. There is a high potential to increase the productivity of goats, if the technical and managerial constraints can be solved by providing better quality feeds.
2. Agricultural institutions have concentrated their training on beef and dairy development, such attitudes should change and more personnel should be trained specifically in goat management at all levels.
3. Extension staff should be trained at the worker, officer and specialist levels. Once staffs are trained, dissemination of information to farmers should be the next step.

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