



SMALL RUMINANT FLOCK OWNERSHIP PATTERN IN THE GUINEA SAVANNA REGION OF NIGERIA

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ABSTRACT

A survey on the flock ownership pattern of sheep and goats in the guinea Savanna region of Nigeria was carried out using structured questionnaires. Two- hundred and seventy five (275) flock owners were interviewed. Flock sizes were generally small. The total number of sheep and goats in the area were one thousand, one hundred and six (1106) and two thousand two hundred and thirty five (2235) respectively. A total of 61.8 per cent of the small ruminant population is under extensive management system. Breeding was generally uncontrolled. The average number of sheep and goats per farmer was 4.0 and 8.1 respectively. 29.1 per cent of flock owners kept only sheep while 37.5 per cent of flock owners reared only goats. 33.4 per cent of the flock owners kept both species. The ratio of sheep to goat was 1:2.02 respectively. Sheep and goats were usually the property of individual owners. Managerial practices observed may have a limiting effect on optimal productivity of the flock.

KEY WORDS: Flock ownership, Savanna region, small ruminant and productivity.

INTRODUCTION

Sheep and goats are typical cloven-hoofed ruminants of relatively small size collectively referred to as small ruminants. The most simple and effective visual way of separating sheep from goats is the carriage of the tail. In all domestic forms, goats' tails are erect while that of sheep are pendent (FAO, 1991). Both species differ from cattle in normally having only two nipples instead of four. According to FAO (1991) tropical Africa has about one-sixth and about a third of the total world flock of sheep and goats respectively with an average of one sheep or goat on every 10 ha of land. Most families in humid West Africa keep small ruminants (ILCA, 1979). In Nigeria, sheep and goats have always formed an integral part of the domestic economy and source of wealth for Nigerians. The keeping of sheep and goats in any community is related to the value attached to their production. Small ruminants are raised for meat, milk, fiber pelts and skin (FAO, 1982; Williamson and Payne, 1978). Total meat production from African goats and sheep combined is estimated at 1.15 million tonnes, equivalent to about 16 per cent of total world output from these species (FAO, 1985). Sheep and goats do not compete with humans, or poultry for food because they can produce on forage alone and require little grain or concentrates for good production. Therefore, meat from small ruminants should be available at lower prices because of their greater efficiency on no- grain diets than beef or pork and possibly poultry. Small ruminants produce about twice as much meat per animal unit in the tropics than cattle. Furthermore small ruminants compete well with other livestock in quality of meat produced. In addition, they play an important role in the welfare of the smallholder

arable farmer in Nigeria through the income generated when sold. Also, with the increasing frequency of droughts and boom and bust pattern in the cattle population, sheep and goats are playing a significant role in stabilizing households and providing them with a means of recovery after droughts (Peacock, 1983). Thus, their importance in small holder farming systems is rapidly increasing.

Today, small ruminants are widely distributed and are of great importance as a major source of livelihood of the small holder farmer. Flock distribution and ownership pattern are important tools required for economic planning. FAO (1991) reported that the major criteria adopted for assessing the distribution and importance of sheep and goats are: the ratios of sheep to goats; the density per unit area of both species combined; the ratio of goats and sheep to the human population involved in agricultural activities; and the contribution of goats and sheep to the total domestic ruminant biomass. The distribution of sheep and goats in Africa is not even and numbers tend to be higher in the drier areas. Consequently, flock sizes are larger in the drier than in the humid areas. Thus, in some areas flocks size decreases from north to south (ILCA, 1979; Otchere et al. 1987). This study is therefore aimed at evaluating the small ruminant distribution pattern in Benue state of Nigeria based on (FAO, 1991) criteria

MATERIALS AND METHODS

Study area

The study was carried out in Apa Local Government Area of Benue state. Apa Local Government area has a total population density of 790,457 (NPC, 2006), distributed

into eleven (11) council wards. The local government area lies within the Sudan savanna vegetation zone of Nigeria. Thus it experiences both the wet and dry seasons. The study location is almost entirely an agrarian community involved in the cultivation of food crops (cassava, maize, sorghum, yams, melon, and millet) in addition to rearing of animals.

Sampling

Interviews based on a formal questionnaire were conducted with 275 farmers randomly selected from the 11 council wards in the local government area. The main respondents in all cases were the owners. Most feed was provided by natural vegetation and household scraps. Free roaming animals also fed on harvest wastes. Other feed supplementation was rare. Questionnaires were administered to respondents in the eleven (11) council wards of the local government area who rear sheep and goats. The questionnaires were administered to 25 respondents selected randomly from each council ward bringing a total sample size of 275 respondents in the eleven (11) council wards.

Data Analysis

The data collected were analyzed using descriptive statistics.

RESULT AND DISCUSSION

Sheep and goats were usually the property of individual owners. Flock sizes were usually small. 37.5 per cent of the flock (Table 1) owners kept only goats while 29.1 per cent reared only sheep. Similarly, 33.4 per cent kept mixed flocks of sheep and goats. The small flock size observed here is typical of sheep and goat production in developing countries and is comparable with the reports of Mathewman (1980) and Sumberg (1985) for small ruminant herd in southern Nigeria, probably due to insufficient capital for expansion or intensive management or due the fact that the small ruminant rearing was carried out as a secondary business unit as the flock owners are also involved in intensive crop farming.

Table 2 presents the distribution of flock owners by sex. More men (68.36%) are involved in the keeping of small ruminants in this locality than women (31.64%). This observation is however at variance with earlier reports by FAO (1991) that woman own 60 per cent of all small ruminants in tropical Africa. In the present study location, women are not primary flock owners but acquire them mainly through inheritance because livestock keeping is seen as a primary responsibility of men. A total of two thousand, two hundred and thirty-five (2235) goats and one thousand, one hundred and six (1106) sheep gave the flock size in the study area. Of the flock size, 54.5 per cent and 55.6 per cent of the total number were does and ewes respectively. The preponderance of females in both species agrees with earlier observations that females make up more than two-third of most small ruminant flocks in derived savanna and forest areas of Nigeria (Wilson, 1983). Males grow rapidly and are sold in order to meet financial challenges. The average number of goats per farmer was 8.1 and that of sheep was 4.0. These values are lower than the mean flock size per household of 12.6 and 13.0 for sheep and goat respectively reported by Otchere

et al (1987) in Kaduna State but higher than the flock sizes of 3.5 goats and 2.5 sheep reported by Mathewman (1980) and Sumberg (1985) for southern Nigeria. Earlier reports by Otchere (1987) and ILCA (1979) indicate that flock sizes are larger in the drier than the humid areas. The current study demonstrates that the reduction gradient is continuous from north to south since Benue state is in between. Thus, the ownership pattern and the mean number of flocks kept by rearers vary amongst the ecological zones of the country. While Kaduna and southern Nigeria lie within the drier Sudan savanna and rainforest zones of country respectively, the present location is within the guinea savanna zone which experiences less rainfall than the south but more rains than the Kaduna fringes. Also, the higher number of sheep kept per household in Kaduna could be attributed to a higher demand for sheep for religious festivity. Comparatively, less rams and bucks are kept in the flock than ewes and does probably because the selection pressure on males is higher. In the present study location, more goats are reared than sheep. Sheep appear to be less able to withstand the hazards of traditional management than goats and this is probably the underlying reason why sheep are less popular among small ruminant owners in the community. The other possible reason is that goats are more in demand in the south and are cheaper and used in preparing a delicacy known as "isiewu" which means goat head.

Table 3 presents the management systems adapted by the small ruminant keepers in the study location. Three management systems were identified. These were the intensive, semi intensive and extensive systems with percentage occurrence of 1.1, 37.1 and 61.8 per cent respectively. The extensive management system under which 61.8 per cent of the animals in the locality are reared has no provision for any elaborate housing, security or health care considerations for the animals. This system which has characterized the small ruminant production system in Nigeria has its attendant effect on productivity. Moreso, mating is indiscriminate with a high probability of inbreeding since flock sizes are generally small. Consequently, inbreeding depression may set in and genetic gain over time may be minimal. This is supported by the report of Otchere et al (1987) that management factors which limit the rate of reproduction include uncontrolled mating, inbreeding, insufficient feed for lactating females, insanitary conditions in sheds and other forms of inadequate disease control and prevention. These conditions are prevalent in the present study location. It is therefore safe to conclude that in the present locality, managerial factors have a limiting effect on optimal performance/productivity of the small ruminant flock. A breeding programme that requires the selection of the best males within each flock for mating is desirable. This plan can be carried out by extension agents who are more knowledgeable in genetic principles than the farmers. Through this method inbreeding will be minimized and this will be accompanied by an increase in growth rate no matter how small it is. This increase in growth rate will cumulatively result in greater meat production for human consumption.

TABLE 1: Type of livestock kept and percentage of rearers

Type of livestock kept	Number of Farmers (n)	Percentage of rearers
Goats	103	37.5
Sheep	80	29.1
Sheep and Goats	92	33.5

TABLE 2: Distribution of flock owners by sex

sex	frequency	Percentage
Male	188	68.36
Female	87	31.64

TABLE 3: System of Management

Management system	Number of farmers	percentage
Extensive	170	61.8
Semi-intensive	102	37.1
Intensive	3	1.1

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