



## **Small ruminant ownership and production systems among rural residents of Ibarapa Region of Oyo State, Nigeria**

**Adeosun Ayodele Olayinka**

**Animal Science Unit, Agricultural Science Education Department,  
College of Education, Lanlate, Oyo State, Nigeria  
Email: ayoadeosun2020@gmail.com**

### **ABSTRACT**

This study was carried out to assess small ruminant ownership and production systems among village residents of Ibarapa region areas. A total sample size of 120 respondents was used. The results obtained reveal that majority (55%) were male while most of the small ruminant keepers were adults. This shows that small ruminant production is an adult dominated activity in the study area. Majority of the respondents were married. The results also reveal that most (52%) of the respondents practiced semi-intensive system of rearing small ruminants. With (43%) feeding their animals mainly natural pasture during the rainy season but depend on by-products of farm produce during the dry season. Furthermore, about 20% of male and 22% of female keep small ruminants for financial and other purpose. Gender, household size and occupation were found to be contributory factors to types and purpose of keeping small ruminants within the study area. It is concluded that small ruminant rearing is practiced by all age groups and gender. Thus, opportunities for improvement interventions are to be targeted at all age groups and gender since the younger generation will inherit the production practices along with any improvement technology. It is however recommended that livestock improvement strategies for sheep should be propagated during festive periods while that on goat should be year- round.

**Keywords:** small ruminant, rural residents, Ibarapa region, traditional production

### **INTRODUCTION**

The structure of the Nigerian livestock industry is such that 80-90% of the nation's livestock lies in the hand of small-holders or other traditional groups (Olaloku, 1999). Subsistence animal agriculture is the main contributor to the meat industry in Nigeria. This consists of small herds and flocks in the rural, urban and peri-urban areas (Momoh and Ochaba, 2002). Although, Sheep and goat population is higher than that of cattle in Nigeria connoting great potentials for productivity; sheep was reported to be 33,000,000, goats: 52,000,000 and cattle: 16,000,000 (FMA 2008). Small ruminant rearing is an age long traditional production system where animals are managed under extensive system but in the last decade, they are been reared alongside with cultivation (Ajala *et al* 2008). Their importance is primarily assonated with their small size, which is significant for the advantage of mankind as it favours low investments, small risk of loss and preference over large ruminants for food and reproductive efficiency and economic use of available land (Omoike *et al*, 2006).

Furthermore, majority of rural owners of small ruminants are farmers involved in food and tree crop production, or women involved in food processing and marketing (Rivera *et al.*, 2004). A large percentage of the rural people satisfy their subsistence needs through livestock production which involves the rearing and marketing of livestock (Oladele, 2004). Diseases and inadequate nutrition (in terms of quality or quantity) constitute serious constraints to small ruminant production in Africa (Tadesse, 2012). This paper therefore examines the Production preference of Small ruminants among village residents of Ibarapa Region of Oyo State

## **METHODOLOGY**

The study was carried out in Ibarapa Region of Oyo State, Southwest geo-political zone of Nigeria. Ibarapa region is one of the four divisions of the State; it comprises of three Local Government Areas (LGA). Primary data was collected from the respondents with the aid of well structured questionnaire. The questionnaire survey was conducted with a total of 142 small ruminant farmers in case data to be surveyed are erroneous or incomplete. Twenty-two surveys were excluded from the study as they contain incomplete data and were found to be unreliable. Multi-stage sampling technique was employed for the purpose of this study. In the first stage, two (2) Local Government Areas were randomly selected from the region; namely: Ibarapa East LGA (comprising of two towns i.e. Eruwa and Lanlate) and Ibarapa Central LGA (comprising of two towns i.e. Igboora and Idere). In the second stage, two (2) villages from each of the selected LGA were randomly selected. In the final stage, fifteen (15) households were sampled proportional to the population of the village/town. The procedure gave a total sample size of one hundred and twenty (120) respondents used in the study.

### **Hypothesis Testing**

The study also tested a hypothesis at the 0.05 level of significance which is stated below:

Ho: There is no significant relationship between selected Socio-economic characteristics of respondents on the types and purpose of keeping small ruminants

## **RESULTS AND DISCUSSION**

Table 1 shows the effects of gender of respondents on types of small ruminant production in the study area. From the table, majority (55%) were males while 45% were females and both sexes keep small ruminants for one purpose or the other. Respondents were ranged between 20 and below, and above 50; also, that 11% and 13% of the respondents fall within the age range of 31-40 years and 41-50 years respectively. This shows that most of the small ruminant keepers were adults. This indicates that high proportions of the respondents were adult which could be due to urban migration of the youth from the communities. This shows that small ruminant production is an adult dominated activity in the study area. Majority of the respondents were married. However, effects of marital status of respondents on the type of small ruminant produced (Table 1) shows that majority (32%) of the people were married and they were into small ruminant production with most of them keeping goat only, about 18% keep both goat and sheep while less people keep sheep only. This is in with Okunlola (2002) and Oyesola (2002). This high proportion of goat to sheep rearing may not be unconnected with hardiness and twin births of goat.

It was found out that most of the people in the study area produce more than one type of small ruminant. On the basis of the type of small ruminant produced, goat only ranked the highest representing 55%, this was followed by both goat and sheep production with 33% while only 12% of the respondents keep sheep only. This work affirms the work of Chah et al 2013 who recorded Fifty five percent of the respondents that kept goats only while 23.3 and 21.7% kept sheep only and both goat and sheep, respectively. However, the finding contrasts that of Ajala et al. (2008) in the Northern Guinea Savannah region of Nigeria, where majority of the respondents kept sheep only rather than goats only.

**Table 1: Relationship between Socio-economic characteristics of respondents and types of small ruminant production**

	Keep Small Ruminant		Types of Small Ruminant		
	Yes	No	Goat only	Sheep only	Goat and Sheep
<b>Gender</b>					
Male	33	0	14(23%)	4(7%)	15(25%)
Female	27	0	19(32)	3(5%)	5(8%)
Total	60	0	33(55%)	7(12%)	20(33%)
<b>Marital Status</b>					
Single	6	0	3(5%)	0(0%)	3(5%)
Married	35	0	19(32%)	6(10%)	11(18%)
Divorced	8	0	5(8%)	0(0%)	3(5%)
Widowed	11	0	6(10%)	1(2%)	3(5%)
Total	60	0	33(55%)	7(12%)	20(33%)
<b>Age</b>					
30 and below	8	0	3(5%)	1(2%)	4(7%)
31-40	10	0	6(10%)	2(3%)	2(3%)
41-50	18	0	11(18%)	1(2%)	6(10%)
Above 50	24	0	13(22%)	3(5%)	8(13%)
Total	60	0	33(55%)	7(12%)	20(33%)
<b>Household size</b>					
Less than 4	21	0	15(25%)	2(3%)	4(7%)
4-6	28	0	14(23%)	3(5%)	11(18%)
7-9	4	0	1(2%)	1(2%)	2(3%)
10-12	4	0	2(3%)	0(0%)	2(3%)
12 and Above	3	0	1(2%)	1(2%)	1(2%)
<b>Occupation</b>					
Farming	20	0	10	2(3%)	8(13%)
Civil Servant	7	0	5(8%)	1(2%)	2(3%)
Artisan	7	0	4(7%)	0(0%)	3(5%)
Trader	20	0	14(23%)	2(3%)	4(7%)
Pensioner	5	0	0(0%)	2(3%)	3(5%)
<b>Educational Status</b>					
No Formal	12	0	7(12%)	2(3%)	3(5%)
Primary	15	0	9	0(0%)	6(10%)
Secondary	9	0	6(10%)	1(2%)	2(3%)
Post Secondary	24	0	11(18%)	4(7%)	9

Source: Field Survey, 2017 (percentages in parentheses)

Table 2 shows the profile of respondents based on management system. The results obtained reveal that most (52%) of the respondents practiced semi-intensive system of rearing small ruminants. However, a high proportion (45%) of the respondents has a flock size of between 6 and 10 animals. Many of the respondents (52%) indicated the use of the semi-intensive system of production which may be due to convenience and low management cost associated with semi-intensive system of keeping small ruminants.

Sources of feeds for livestock as reported by respondents were mainly from natural pasture (43%) during the rainy season but depend on by-products of farm produce during the dry season. While 38% reported cut and carry as their major source of livestock feed while only 14% of the respondents combine kitchen waste with natural pasture. Majority of the respondents had rearing experience of between 6 and 10 years. This is an indication that most of them have been embarking on small ruminant for quite some years.

**Table 2: Profile of respondents based on management system**

	N	%
<b>System of Rearing</b>		
Extensive	41	34
Semi-Intensive	62	52
Intensive	17	14
<b>Flock Size</b>		
1-5	41	34
6-10	54	45
11-15	16	13
16-20	6	5
Above 20	3	3
<b>Feeding Method</b>		
By-product of farm produce	7	6
Natural pasture	51	43
Kitchen waste +Forage	17	14
Forage cutting	45	38
<b>Rearing Experience</b>		
Below 5	31	26
6-10	64	53
Above 10	25	21

Source: Field Survey, 2017

Figure 1 shows the relationship between gender and purpose of keeping small ruminant in the study area. From the table, small ruminants were kept for different purposes by both male and female. Furthermore, about 20% of male and 22% of female keep small ruminants for financial and other purpose while percentage that keeps small ruminants for financial purpose was next.

The implication of these findings is that keeping of small ruminants in the area has high socio-cultural and economic significance. This support the assertion of Hooft *et al* (2008) that animals have a social role in status identification, social occasions, local organization and also in social transactions.

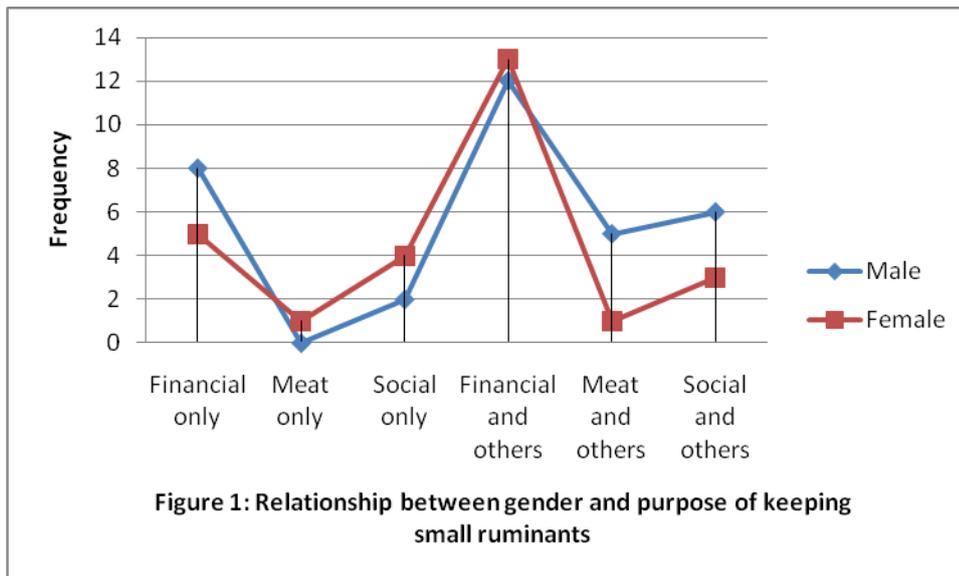


Table 3 shows the level of involvement by respondents in rearing small ruminants. The results obtained reveals that most of the decisions made on small ruminant production according to the respondents were made by the owners (71.7%) with their spouses (20%). Finding on labour for feeding reveal that livestock feeding was basically carried out by the owner (55%) with 37.5% of feeding carried out by other members of the family. This result implies that farmers have extra family members (i.e., spouses and children) to contribute to household small ruminant management practices. In addition, it may explain the rationale behind the positive relationship between animal ownership and married farmers. Hired hand was so low in the study area. Sanitation was carried out most by the members of the family (60%) with about 29.2% of the work being carried out by the owner. This is an indication that members of the family are more involved in clearing of the shelter provided for the animal.

**Table 3: Respondents' level of involvement in small ruminant production activities**

	Lanlate	Eruwa	Igboora	Idere	Total	%
<b>Decision making</b>						
Owner	20	23	20	23	86	71.7
Household	7	0	0	0	7	5.8
Spouse	1	7	9	7	24	20.0
Owner+ Household	2	0	1	0	3	2.5
<b>Labour for feeding</b>						
Owner only	8	15	23	20	66	55.0
Household	17	15	4	9	45	37.5
Hired hand	3	0	0	0	3	2.5
Household+ Hired hand	2	0	3	1	6	5.0
<b>Labour for sanitation</b>						
Owner only	8	4	10	13	35	29.2
Household	20	25	14	13	72	60.0
Hired hand	1	0	0	0	1	0.8
Household+ Hired hand	1	1	6	4	12	10.0

Source: Field Survey, 2017

Table 4 shows the causes of loss and constraints of small ruminants as perceived by the respondents. From the table, disease of small ruminant cause major loss (31.7%) of animals while both accidents and thieves cause 27.5% loss of small ruminants each. Lack of access to drug and veterinary services (27.5%) is the major constraint. Other constraints are disease and pest (24.2%), poor management practices (21.7%), inadequate feed especially during the dry season (16.6%) and lack of access to credit facilities (10%). This finding is in line with the work of Tadesse (2012) who concluded that diseases and inadequate nutrition (in terms of quality or quantity) constitute serious constraints to small ruminant production in Africa. This is also in congruent with Olomola (1990) who stated access to credit as a major factor militating against agricultural production and development in the country.

**Table 4: Causes of loss and constraints of small ruminants**

	Lanlate	Eruwa	Igboora	Idere	Total	%
<b>Causes of loss</b>						
Diseases	10	5	12	11	38	31.7
Accidents	6	10	6	11	33	27.5
Thieves	9	11	7	6	33	27.5
Miscellaneous	5	4	5	2	16	13.3
<b>Constraints</b>						
Lack of access to drugs	7	9	8	9	33	27.5
Poor management	5	6	6	9	26	21.7
Diseases and pests	9	6	7	7	29	24.2
Lack of credit	4	5	1	2	12	10.0
Inadequate feed	5	4	8	3	20	16.6

Source: Field Survey, 2017

Result of the test of hypothesis on table 5 shows that gender, household size and occupation were significantly related to their perception on the types and purpose of keeping small ruminants while Age, Marital status and educational status were not significant. This implies that gender, household size and occupation are contributory factors to types and purpose of keeping small ruminants within the study area. Findings that individuals with different educational status whether they have formal or non formal education rearing small ruminants is an indication that small ruminants is an occupation that could be practiced by all as it requires little expertise and skills in terms of husbandry practices. Since age does not have any significance on the types and purpose of small ruminants kept, this is also an indication that small ruminant production is meant for people at all age. It was also revealed that household size was significantly related to the production of small ruminants, this is an indication that family size dictates interest in livestock production.

**Table 5: Chi square distribution of significant relationship between selected socio-economic characteristics and purpose of keeping small ruminants**

Variables	df	X <sup>2</sup> cal	X <sup>2</sup> tab	Decision
Age	6	8.19	12.59	Not significant
Gender	2	66.51	5.99	Significant
Marital Status	6	11.56	18.55	Not significant
Educational Status	6	12.46	12.59	Not Significant
Household size	8	29.97	15.51	Significant
Occupation	8	24.65	15.51	Significant

Source: Field Survey. 2017

## CONCLUSION

It is concluded that goat and sheep production is practiced by all age group and gender with or without formal education. People keep both goat and sheep more than keeping goat only or sheep only. It is therefore recommended that livestock improvement strategies for both goat and sheep be conducted and propagated around the village areas.

## REFERENCES

- Ajala M. K. (2004). Household decision-making in the production of small ruminants in Giwa Local Government Area of Kaduna State of Nigeria. In: Proceedings of the 29th Annual Conference of the Nigerian Society of Animal Production. Sokoto, Nigeria. pp 399–402
- Ajala MK, Adesehinwa AOK (2008). Analysis of pig marketing in Zango Kataf Local Government Area of Kaduna State, Nigeria. *Tropicultura* 26:229-239.
- Ajala MK, Lamidi OS, Otaru SM (2008). Peri-urban small ruminant production in Northern Guinea savanna, Nigeria. *Asian J. Anim. Vet. Adv.* 3:138-146.
- Momoh O. M. & Ochaba A. O. (2002). Herd structure of smallholder goat production in Otukpo LGA of Benue State, Nigeria. *Trop. J. Anim. Sci.* 5(2):53-57.
- Oladele OI (2004). Livestock farmers' awareness, access and benefits of Veterinary Extension Services in Southwestern Nigeria. *Livestock Research for Rural Development*, 16, Art.#39. Retrieved Nov. 14, 12, from <http://www.Irrd.org/Irrd16/6/olad16039.htm>.
- Olaloku E. A. (1999). Sustainable animal production for self-sufficiency in the 21st century. In: Animal Science at the University of Ibadan: The way forward. 25th Anniversary Commemorate Brochure. De-Ayo pub. Ibadan. pp 29-44.
- Rivera SF, Okike I, Manyong V, Williams TO, Kruska RL, Tarawali SA (2004). Classification and description of the major farming systems incorporating ruminant livestock in West Africa. Sustainable crop–livestock production in West Africa. Available at [http://ilri.org/InfoServ/Webpub/fulldocs/SustainableCropLivestock/Pg087\\_122%20Fernandez.pdf](http://ilri.org/InfoServ/Webpub/fulldocs/SustainableCropLivestock/Pg087_122%20Fernandez.pdf) . Accessed 27/10/12.
- Tadesse Y (2012). Success and failure of small ruminant breeding programmes: Impact of indigenous knowledge, genotype and local environment (Review). Available at <http://www.articlesbase.com/science-articles/success-and-failure-of-small-ruminant-breeding-programmes-impact-of-indigenous-knowledge-genotype-and-local-environment-review-6164993.html>.
- Hooft, K, Milar, D., Geerlings, E. and Django, S. (2008). Endogenous Livestock Development in Cameroon. Agromisa Publishers, Wageningen, The Netherlands.
- Oyesola, O.B. (2002) Livestock activities of Yoruba and Fulani women in Iseyin Local Government of Oyo State. *Proc. Niger. Soc. Anim. Prod.* 351-354
- Omoike, A. (2006). Nigeria. *Journal of Agriculture and Social Research*, Vol. 6, No. 2, pp.23-31.
- Okunlola, J.O. (2002) Socio-economic factors affecting large scale goat and sheep production in Ogun State. *Niger. Soc. Anim. Prod.* 355-358