An assessment of goat production practices in Jigawa-state

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Abstract

This study evaluated the socio-economic characteristics of goat farmers, their production practices and constraints to production in Jigawa State. Respondents for the study were selected using a two-stage sampling technique. Primary data were collected with the aid of well-structured questionnaire and analyzed using descriptive statistics. The results showed that the majority (73.7%) of the producers are males and most (32.4%) were within the age bracket of 26-35 years, many (39.1%) of them had household sizes of (1-5) and majority of the respondents (53.1%) had informal education. Also, the results revealed that the major constraint to goat production in the study location was lack of initial capital (43.0%), followed by disease and parasites (30.7%), then theft and predators (12.8%). This study recommends that goat farmers should come together and form cooperatives; thereby they could have access to soft loans hence improving production, in terms of medication and capital for investment and expansion.

Keywords: Goat farmers, Socio-economic characteristics, Jigawa State

Introduction

Small ruminants constitute one of the livestock groups which plays a major role in food sufficiency, socio-economic as well as economic development of many developing countries including Nigeria (Luikart *et al.*, 2001). Goats in particular are a rich source of animal protein (meat and milk) as well as good quality skin, they can thrive on poor quality forages and kitchen waste (Adedeji *et al.*, 2011). Their small size and little capital investment, makes it easy to raise by members of the family (FDLPCS, 2007 Abdul-Aziz, 2010). They could be sold to meet the financial obligations of the family and could be slaughtered for meat for consumption during festivals and ceremonies, goats serve as an insurance against crop failure (FDLCS 1991, RIM, 1991). Despite these attributes of goats, challenges of livestock production in Nigeria are becoming more critical as human population increases, while small ruminant production systems still remain constrained by socio-economic

factors. Thus, this study is aimed at examining the socio-economic characteristics, production practices and constraints to production amongst goat farmers in Jigawa State.

Materials and method

Study area

This study covered three (3) local governments namely; Maigatari, Hadeja and Kazaure in Jigawa State, where goats are predominantly reared. Jigawa state has an average elevation of 352 meters above sea level. Its coordinates are 12°48'26" N and 9°25'5" E, the average annual temperature is 27.3°C with an average rainfall of about 418mm per annum. The weather is semi-arid in nature and the soil is very sandy (Ibrahim *et al.*, 2012).

Data collection

Well-structured questionnaires were used to collect data on goat production practices in three (3) local government areas of Jigawa state Nigeria. The information collected included; socio-economic

characteristics of producers, production practices of respondents as well as constraints to goat production in the study area.

Sampling technique

A two-stage sampling technique was used for the study. Three (3) villages were purposely selected from each of the three local government areas. Twenty (20) households were then randomly selected from each of these villages making a total of 180 respondents.

Data analysis

Simple descriptive statistics (frequencies and percentages) was used to analyze the socio-economic characteristics of respondents, production practices as well as constraints to goat production in the study location.

Results and discussion

Table 1 shows the socio-economic characteristics of goat producers in Jigawa State. From the results, majority (78.7%) of the respondents were married. This is not unexpected since the job of keeping animals requires several hands such as in a family and most of the small ruminant farmers depend on family labour. Also, many of the respondents (32.4%) fell within the age bracket of 26-35 years, while 22.3% of them were within the age bracket of 46-55 years, 17.9% were within the age bracket of (36-45 years) while 15.6% fell within the age bracket of 56-65 years. This indicates the great potential that exists for improved production practices since people within this age range are more receptive to new ideas and innovation (Ajala *et al.*, 2008). The results also revealed that those with smaller household sizes (1-5) produced more goats (46.35%) followed by household sizes of 6-10 (41.05%). Male respondents reared more (77.19%) goat than their female counterparts (22.81%). This result is in agreement with Hassan *et*

al. (2015). Also, Braker *et al.* (2002) reported that in most African cultures, women are subordinate to men; as such they are socially marginalized in many areas. However, Kosgey (2004) reported that women and children are more involved in rearing small ruminants in Kenya. Respondents who had informal education were the highest producers of goats (29.1%), followed by those who had primary and secondary school education (26.3%) respectively, while those with tertiary education were the least producers (17.52%). From the results, most of the respondents had other occupations alongside livestock production, although most were involved in crop production. Respondents involved in crop farming produced more goats (53.1%) compared with other occupations. Ajala and Gefu (2003) reported that small ruminants were kept as adjunct to other businesses especially crop farming. This result is also in consonance with findings of Odeyinka and Okunmade (2005) that smallholder livestock production is a part time business. Also, Dar *et al.* (1996) stated that small ruminant production augments the dwindling supply of meat and milk in the country, provides additional income to families of smallholders and optimizes utilization of farm resources.

The production characteristics of goat producers in Jigawa State are revealed in Table 2. Most of the producers (79.21%) obtained their capital from personal savings, 12.92% obtained theirs by inheritance, while 3.93% obtained their initial capital from bank loans and gifts from friends respectively. The poor patronage of goat farmers to bank loans may be attributed to stiff collateral requirements for obtaining loans from financial institutions. This result concurs with Ajala (2008) that most small ruminant farmers obtain finance for production from

Table 1: Socio- economic characteristics of respondents

Variables	Frequency	Percent
Age		
15-25	15	8.4
26-35	58	32.4
36-45	32	17.9
46-55	40	22.3
56-65	28	15.6
66-75	6	3.4
Marital Status		
Single	17	9.5
Married	141	78.7
Divorced	8	4.5
Widowed	13	7.3
Household Size		
1-5	70	46.35
6-10	62	41.05
11-15	12	7.95
>16	7	4.65
Gender		
Male	132	77.19
Female	39	22.81
Education		
Informal	52	29.38
Primary	47	26.55
Secondary	47	26.55
Tertiary	31	17.52
Occupation		
Farming	95	53.0
Civil servant	30	16.8
Trading or business	54	30.2

friends and personal savings. She also stated that loans obtained from friends are usually small since collateral is not required. The table also shows that many (36.84%) goat producers purchased their initial stock from the market, while 36.26% obtained theirs from neighbors and 26.90% inherited initial /foundation stock. Similarly, the majority (70.83%) of the producers practiced semi-intensive system of management, which is characterized by

increased productivity, less incidences of accidents, theft and diseases, while 20.24% practiced extensive system of management and 8.93% practiced intensive system of management. These findings are in agreement with Ajala and Gefu (2008) for the extensive system of management. They observed it to be cheap, with less labour, although characterized by low productivity and high losses due to accidents, disease and theft unlike the semi-intensive system.

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Table 2: Production practices of respondents

Variables	Frequency	Percent
Source of Capital		
Personal savings	141	79.22
Bank loans	7	3.93
Gifts from friends	7	3.93
Inheritance	23	12.92
Source of goat		
Market	63	36.84
Inheritance	46	26.90
Neighbor	62	36.26
Management System		
Extensive	34	20.24
Semi-intensive	119	70.83
Intensive	15	8.93
Housing type		
Permanent	26	18.31
Temporary	116	81.69
Labour		
Hired	9	5.39
Family	158	94.61
Feeding Type		
Concentrate feeding	4	2.23
Zero grazing	11	6.15
Free grazing	45	25.14
Medication		
Monthly	35	22.01
Bi-monthly	27	16.98.
Quarterly	97	61.01
Mating		
Natural mating	161	96.99
Artificial insemination	5	3.01

Table 3: Constraints to goat production

Variables	Frequency	Percent
Lack of Capital	77	43.50
Disease and parasites	55	31.08
Poor management techniques	15	8.47
Theft and Predators	23	12.99
Inadequate Infrastructure	7	3.96

Most (81.69%) of the goat farmers provided temporary houses for their livestock as afforded by the family, while 18.31% provided permanent structures. Housing type usually varies according to the production system, size of operation and environmental conditions. Livestock houses range from very simple structures made only of a roof with no walls to complex systems with solid walls fitted with automatic ventilators, feeders and drinkers (Steele, 1996). Majority (94.61%) of the goat producers used family labour while (5.39%) utilized hired labour to carry out their activities.

The results of Table 2 also showed the feeding regime practiced by goat farmers in the study location. Most (66.48%) of the respondents combined grazing with concentrate feeding, 25.14% practiced free grazing while 6.15% practiced zero grazing. Only 2.23% of the producers provided concentrate diets. The table also revealed that most (61.01%) of the goat producers in the study location provided medication quarterly, while (22.01%) provided monthly medication and 16.98% provided medication bi-monthly. Livestock health is very important to production and reproduction because diseases, pests and parasites can result in high morbidity and mortality (Chukwuma, 2012) as such majority of the respondents administered one form of medication or the other quarterly.

Many (96.99%) of the goat producers practiced natural (indiscriminate) mating, while 3.01% practiced artificial insemination. With indiscriminate mating, there is high probability of inbreeding since flock sizes are generally small. Consequently, inbreeding depression may set in and genetic gain may gradually decline. This result is in consonance with reports by Hassan *et al.* (2015), who stated that uncontrolled mating limits

reproduction rates.

Table 3 Shows the constraints to goat production in the study area. From the study the major constraint to goat production was lack of initial capital (43.50%), followed by diseases and parasites (31.08%) then theft and predators (12.99%). This result is in agreement with Kipronoh *et al.* (2016), who reported that incidence of disease is one of the main (88.9%) constraint affecting goat production. They also stated that other factors such as shortage of feed/ browse, scarcity of water, rustling by neighboring communities and poor market prices were amongst the other constraints affecting goat production.

Conclusion

Arising from the findings of this study, it can be concluded that majority of the goat producers are males within the age bracket of 26-35 years and most of them had informal education. Lack of initial capital as well as diseases and parasites were the major constraints to goat production in the study location. It is therefore recommended that goat producers should come together to form cooperatives thereby enabling them have access to loans as well as consult livestock and veterinary officers to assist them with the health challenges of their goats.

References

- Abdul-Aziz, M. 2010.** Present status of the world goat populations and their productivity. *Lohman Information* 45: 42-52.
- Adedeji, T. A., Ozoje, M. O., Peters, S. O., Sanusi, A. O., Ojedapo, L. O. and Ige, A. O. 2011.** Coat pigmentation and Wattle gene effect on some haematological characteristics of heat stressed and extensively reared West African Dwarf goats. *World Journal of Life Science*

- Medical Resources* 3:48-55.
- Ajala, M. K. 2008.** Peri-urban small ruminant production in Northern Guinea Savanna, Nigeria. *Asian Journal of Animal and Veterinary Advances* 3(3) 138-146.
- Ajala, M. K. and Gefu, J. O. 2003.** Socio-economic factors influencing small ruminant management practices in Kaduna state. *Moor Journal of Agricultural Research* (4) 274-280.
- Braker, M. J. E., Udo, H. M. and Webb, E. C. 2002.** Impacts of intervention objectives in goat production within subsistence farming. *South African Journal of Animal Science* 32(3) 132-136.
- Chukwuma, O.O. 2012.** Socio-economic factors affecting access and utilization of Veterinary services by small ruminant producers in Izzi Local Government area of Ebonyi state, Nigeria. *Continental Journal of Agricultural Economics* 6(1) 40-45.
- Dar, W.D., Faylon, P.S and Le-Jambre, L.F. 1996.** Small Ruminant Development in the Philippines, Sustainable Parasite Control in Small Ruminant: An International workshop sponsored by ACIAR, held in Bogor, Indonesia 75-81.
- FDLCS, 1991.** Federal Department of Livestock and Pest Control Services, Nigeria Livestock Resources: National Synthesis. Abuja, Nigeria.
- FDLCS, 2007.** Federal Department of Livestock and Pest Control Services, Nigeria Livestock Resources: National Synthesis pp 440. Abuja, Nigeria.
- Hassan, D. I., Mbap, S.T and Naibi, S.A 2015.** Socio-economic characteristics of Yankasa Sheep and West African Dwarf Goat's Farmers and their Production Constraints in Lafia, Nigeria. *International Journal of Food, Agriculture and Veterinary Sciences* Vol. 5 (1) pp82-93.
- Ibrahim, S., Cadmus, S. I. B., Umoh, J. U., Ajogi, I., Farouk, U. M., Abubakar, U.B and Kudi, A.C. 2012.** Tuberculosis in Humans and Cattle in Jigawa State, Nigeria: Risk Factors Analysis, *Veterinary Medicine International*, pp5.
- Kipronoh, K. A, Kiara, H. K., Binopal, Y.S., Thuraira E. and Ombi, J.N. 2016** Pastoralists perception of constraints affecting goat production in the Rift valley region of Kenya. *Livestock Research for rural Development* 28(3).
- Kosgey, I. S. Rowlands G.J, van Arendonk JAM and Baker R.L 2006b.** Small ruminant production in small holder and pastoral/extensive farming systems in Kenya. *Small Ruminant Research*.
- Luikart, G., Biju-Duval, M. P. Ertugrul, O., Zagdsuren, Y., Maudet, C and Taberlet, P. 1999.** Power of 22 Microsatellite markers in fluorescent multiplexes for parentage testing in goats (*Capra hircus*). *Animal Genetics*, 30: 431-438.
- Odeyinka, A. M. and Okunmade, G. K. 2005.** Goat production in Oyo State. A case study of Ogbomoso town. *Nigeria Journal of Animal Production* 32(1) 108-115.
- RIM, (Resource Inventory and Management Limited) 1991.** Nigerian National Livestock Resource Survey (IV

vol.). Report by (RIM) to (FDL)
Federal Department of Livestock,
Abuja, Nigeria.

Steele, M. 1996. Goats. Costa, R and Smith,
A.J. (eds). Tropical Agriculturalist
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Agricultural and Rural Co-
operation, Wageningen,
Netherlands 152.

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