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FEEDS AND FEEDING STUFFS FED SMALL RUMINANTS IN AKWA IBOM STATE, NIGERIA

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ABSTRACT

A survey was conducted to identify the different feeding stuffs of small ruminants (SR) in Akwa Ibom state, Nigeria. Seasonal availability of these stuffs was also noted. Results indicated that most SR farmers fed grasses (53.90 %), browses (29.30 %) and legumes (16.80 %) to their stock in the rainy season, while during the dry season 56.90 %, 23.30 % and 19.80 % of the SR farmers fed browses, legumes and grasses respectively to their animals. The study revealed that there were more part-time SR farmers (37.13 %) than full time farmers (30.54 %). Majority of the farmers (67.67 %) raised goats only, with an average flock size per household of 2 – 4 animals kept by 49.40 % of the SR farmers. It showed that natural pasture/range provided feed to the SR population if even at a subsistence level. The study indicates the need for SR farmers to be encouraged to establish feed gardens to ensure more regular forage supplies.

Keywords: Feeds, Small ruminants, Small ruminant farmers, Akwa Ibom State.

INTRODUCTION

Livestock feeds and feeding stuffs have always been production constraints in sub-Saharan Africa. Feed stuff quantity, quality and especially availability directly influence the intake by small ruminants (SR) (Rinehart, 2008) as a result of changes in seasons (dry and wet) and chemical composition; this in turn influences weight and condition of animals, reproductive capacity and mortality rate (Ajayi *et al.*, 2005) in many densely populated parts of Nigeria. Most of the small holder stock comprising mostly local breeds are reared under subsistence, semi-intensive or free range systems. They are either confined or tethered within homesteads or allowed to roam the village precincts in small groups and thrive on local grazing, browsing and/or scavenging (Obua and Okorie, 2000). The feed problem is further exacerbated by the handling of small ruminant production as a minor enterprise with few or no inputs in rural areas even though these animals (goat and sheep) are a common source of meat. However, documentation on the various feeds and feedstuffs prevalent in the State has not been done. Hence, this study was undertaken to serve as a modest attempt to document baseline data on identifying the available feeds and feeding stuffs in Akwa Ibom State.

MATERIALS AND METHODS

The study areas

Itu and Uyo are two Local Government Areas (LGA's) of Akwa Ibom State in the South-South geo-political zone of Nigeria. Both typically belong to the High or Rain Forest Belt of Nigeria (Iloeje, 1973). Sadly, though, this High Forest had all but disappeared in these two LGA's mainly due to human activities. The two LGA's are contiguous and lie in the north-eastern part of Akwa Ibom State. The climate of the study areas, characterised by a mean annual rainfall of 2190 mm, generally high relative humidity (over 80 %), long wet season of 8 -10 months and an average annual ambient temperature of 28°C, is quite favourable for plant growth. Thus, the area of study easily supports vigorous plant growth: whether trees, shrubs, herbs or grasses, thereby making it conducive for SR production, barring diseases and pests. With but a little investment suitable forage plants can be grown to support SR production in these areas.

The survey

Five hundred questionnaires were administered, by trained enumerators, to small ruminant owners (SRO's) in two Local Government Areas (Uyo and Itu) of Akwa Ibom State, South-South geo-political zone of Nigeria, during the wet and dry seasons of 2006. The questionnaires gathered information on the type of feeding stuffs used by the farmers, rainy season feeding stuffs, those that are available all year round, source of feeding stuffs, and why they keep small numbers of sheep and goats. The same trained enumerators were used in the two LGA's using 25 villages in each LGA in order to minimise error. Some of the illiterate farmers were interviewed and their responses used to complete the questionnaire, while questionnaires were left with literate ones to complete and retrieved at a later date. Samples of the feeding stuffs used by the respondents to feed their stock were collected for identification. Descriptive statistics were used to present the results of the study.

RESULTS AND DISCUSSION

Stock ownership, years of experience and flock size

A total of 334 questionnaires were recovered out of 500 administered (i.e. 67 %). The remaining 33 % were reported either misplaced or lost, while some of the respondents could no longer be located at the time of retrieving the questionnaires. SRO's in the study areas clearly preferred goats to sheep. Table 1 shows that 67.67 % of the respondents owned goats while about 9.00 % owned sheep. This finding is in agreement with that of Onwuka *et al.*, (1992).

With regard to the respondents' years of experience in goat and sheep production (Table 1), slightly more (36.53 %) of the respondents had been involved in goat and sheep production for 1 – 5 years followed by those of 6 – 10 years experience (35.33 %). It was observed that despite the years of experience, the average flock size was small (Table 1). Most of the farmers had 2 – 4 and 5 - 8 sheep and goats respectively per household. Data obtained from the survey (Table 1) showing small number of sheep and goats probably was due to the following reasons: feed problem (i.e. availability of feed), lack of space as well as funds insufficiency for investment in the livestock project since they were mainly subsistence farmers. Onwuka *et al.* (1992) made a similar observation that the major constraints to the farmers propagating forage crops were availability of land and capital (investable funds). This is in agreement with Humphrey (1987) who observed that man's activity to provide himself with fuel and shelter and to supply various industrial needs have influenced the amount of pasture land that is available for grazing and space for raising animals. Lack of incentives from government to small scale small ruminant farmers might be one of the reasons these farmers do not have enough funds to invest in livestock raising enterprise.

Occupation and management system employed by farmers

Most of the respondents were businessmen and crop farmers who used family labour to take care of their livestock. More businessmen (37.10 %) than full time farmers (30.50 %) and civil servants (9.00 %) engaged in goat and sheep rearing (Table 1). The system of management observed from the area of study was mainly extensive. Table 1 shows the method of feeding sheep and goats. Results show that 66.67 % SRO's practiced cut-and-carry system of feeding made up of grasses, legumes and browses. However, 33.33 % allowed their animals to roam freely and fend for themselves. Household kitchen wastes were also given to stock as supplements. These included cassava, yam, potato, plantain and banana peels, Telfairia vines, unwanted cooked food, orange and other fruit peels and pulps, maize and cassava sievates, etc. The small number of SRO's operating free range system of feeding was as a result of reduced farming activity in the areas (Uyo urban). Reason for high number of those practicing cut-and-carry system of feeding in many communities was predicated on the communal injunction forbidding free movement of sheep and goats which, through their feeding habits, may destroy cultivated crops. Also, reduced space and feeding resource were implicated in the free range practiced in the urban areas.

Source of feeding stuffs and type of feeding per season

As regards the source of feeding stuffs, it was observed that most of the forages were obtained from uncultivated plots and fallow land, road sides as well as school fields (Table 1). The feeding stuffs of small ruminants in the State were mainly forages supplemented with crop residues. The supplements came mainly from the stock owners' farms. It was observed that some of the forages were not cut to feed the animals but the animals fed on them while grazing. Table 1 showed that more farmers (53.90 %) fed grasses to ruminants during rainy season and more farmers (56.90 %) fed browses during the dry season though mixed with crop residues. The differences in the forage used during the rainy season were probably because of availability and palatability. All respondents agreed that feeding stuffs were more abundant during rainy season than during dry season. The reason was not far-fetched: the climatic condition was favourable to the growth and flowering of forage plants.

Commonest feeds and feeding stuffs in use in the two LGAs are presented in Table 2 while the proportions of farmers using grass, legume and browse were as shown in Table 3. It was observed that browses were mostly used largely due to all-year-round availability compared to grass which was seasonal. Browses appeared to be more palatable than grasses (Ifut, 1987; Onwuka *et al.*, 1992). Browses were the most used (73.08 %) while legumes were the least (9.61%) probably due to seasonal availability.

CONCLUSION

The production of sheep and goats in the State is low and they depend on forages and crop residues from their immediate environment. Grasses, legumes and browses were fed to small ruminants according to seasonal availability. However, the low number of animals/farmer/household was as a result of feeding problem, lack of space and lack of investable fund. Despite these, Akwa Ibom State still has considerable unexploited potential in forage resources for SR production, seasonal fluctuations notwithstanding.

Table 1: Characteristics and practices of goat and sheep farmers in Akwa Ibom State, Nigeria

Respondents activities/practices		
Parameters	Frequency	Percentage
1. Stock ownership: Goat only	226	67.67
Sheep only	30	8.98
Goat & Sheep	78	23.35
Total	334	100.00
2. Average flock size/household		
Goats: 2 – 4	165	49.40
5 – 8	110	32.93
Total	334	100.00
Sheep: 2 – 4	190	56.88
5 – 8	124	37.13
9 and above	20	5.99
Total	334	100.00
3.Reasons for small flock size		
Feeding problem	170	50.90
Lack of space	108	32.34
Insufficient funds	56	16.76
Total	334	100.00
4.Years of experience		
1 – 5	122	36.53
6 – 10	118	35.53
11 – 15	60	17.96
16 – 20	20	5.99
20 and above	14	4.19
Total	334	100.00
5. Occupation: Fulltime farmers	102	30.54
Civil servants	30	8.98
Businessmen	124	37.13
Others	78	28.35
Total	334	100.00
6. Method of feeding: Cut and carry	223	66.67
Grazing	111	33.33
Total	334	100.00
7. Source of feeding:		
Uncultivated plot/bushes	190	56.89
Roadside/School field	98	29.34
Crop residues	46	13.77
Total	334	100.00
8. Type of feeding/season		
Rainy: Grasses	180	53.90
Browses	98	23.90
Legumes	56	16.80
Total	334	100.00
Dry: Grasses	66	19.80
Browses	190	56.90
Legumes	78	29.30
Total	334	100.00

Table 2: Common feeds and feeding stuffs used in Uyo and Itu LGAs of Akwa Ibom state, Nigeria.

Class	Botanical name	Vernacular/Common names
Browses	*Aspilia africana*	Ndinuene
	Barteria nigritiana	Editan
	Dacryodes edulis	Eben
	Gmelina arborea	Melina
	Hippocrates african	Mbansang
	Lasienthera africanum	Atama ebot
	Microdesmis puberula	Ntabit
	Allophylus africanus	Etap atikoriko
	Acioa barteri	Ukang okot
	Havea brasiliensis	Okpo/Rubber
	Baphia spp.	Ofuo
	Glyphaea brevis	Ndoridos
	Landolphia dulci	Mba
Grasses	*Axonopus compressus*	Aya akpara
	Cynodon spp	Star grass
	Imperata cylindrica	Spear grass
	Panicum maximum	Guinea grass
	Pennisetum purpureum	Elephant grass
Legumes	*Cajanus cajan*	Pigeon pea
	Centrosema pubescens	
	Gliricidia sepium	
	Leucaena leucocephala	
Crop residues	*Dioscorea spp*	Yam
	Manihot utilissima	Iwa
	Musa sapientum var. paradisiaca	Plantain
	Zea mays	Maize

Table 3: Proportion of grasses, legumes and browses in feeding stuffs

Types of forages	Frequency	Percentage (%)
Browses	38	73.08
Grasses	9	17.31
Legumes	5	9.61
Total	52	100

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REFERENCES

Ajayi, D. A., Adeneye, J. A. and Ajayi, F. T. 2005. Intake and nutrient utilization of West Africa dwarf goats fed mango (*Mangifera indica*), ficus (*Ficus thionningii*), gliricidia (*Gliricidia sepium*) foliages and concentrates as supplements to basal diet of guinea grass (*Panicum maximum*). *World journal of agricultural sciences 1(2): 184 – 189.*

Humphrey, L. R. 1987. Tropical pastures and fodder crops. International Tropical Agricultural Series. lefesisePp1–5.

t, O. J. 1987. The nutritional value of *Gliricidia sepium, P. maximum* and peels of *Manihot spp.* fed to West African Dwarf goats. Ph.D. Thesis University of Ibadan. Pp. 239.

Iloeje, N. P. 1973. A new geography of Nigeria. New ed. Longman Nigeria Ltd. Enugu. Pp. 221.

Obua, B. E. and Okorie, A. U. 2000. Characteristics of smallholder sheep and goat management practices in south east Nigeria: Observation from Enugu and Imo state. In: Animal production in the new millennium: challenges and options. (Eds – Ukachukwu, S. N.; Ibeawuchi, J. A.; Ibe, S. N.; Ezekwe, A. G.; and Abasiekong, S. F.) Proceedings of the 25th Annual Conf. of the Nig. Soc. of Anim. Prod. (NSAP), Umudike, Abia state. March 19 – 23, 2000. Pp 98 – 99.

Onwuka, C. F. I., Taiwo, B. B. A., and Adu, I. F. 1992. Browse species and supplements utilized for small ruminant feeding in Ogun state of Nigeria. In: Stares, J. E. S., Said, A. N., and Kategile, J. A. (Ed.). The complementarity of feed resources for animal production in Africa. Proceedings of the joint feed resources networks workshop held in Gaborone, Botswana, 4 – 8 March 1991. Africa feeds research network. ILCA (International Livestock Centre for Africa). Addis Ababa, Ethiopia. Pp 173 – 180.

Rinehart, L. 2008. Ruminant nutrition for graziers. A publication of ATTRA – National Sustainable Agriculture Information Service. 1-800-346-9140. Retrieved from http://www.attra.ncat.org/attra-pub/PDF/ruminant.pdf; 08-02-2010.