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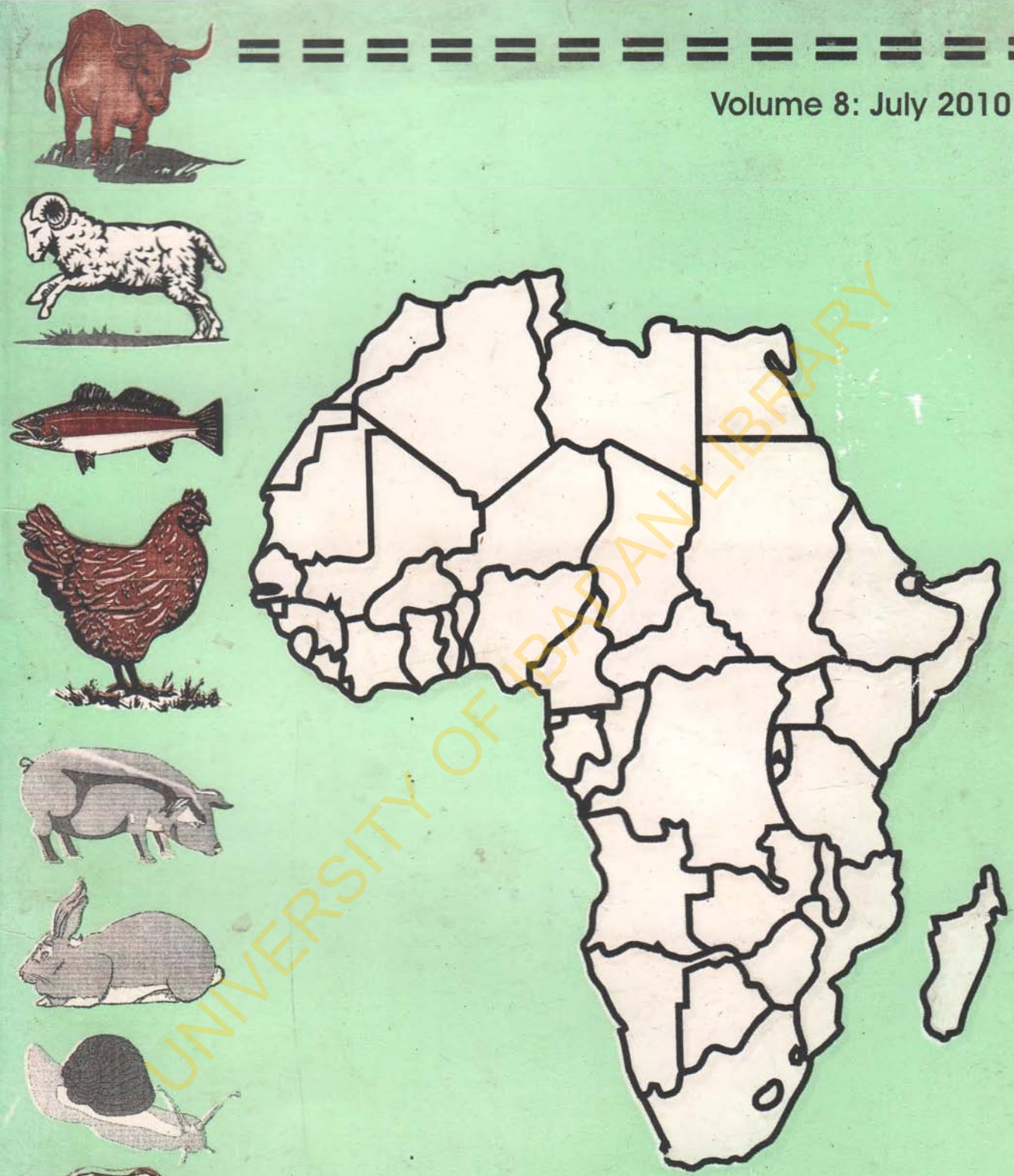

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INFORMATION NEEDS OF SMALL RUMINANT REARERS IN PERI-URBAN AREAS OF SOUTHWEST NIGERIA

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ABSTRACT

The study aimed at recognizing the information needs of small ruminant rearers within households in three peri-urban areas of Oyo state and Ile-Ogbo in Osun state. The respondents were purposively selected and snowball technique was used to identify them. Focus group discussion and questionnaire/interview schedule were used to collect information for the study. It was discovered that 51.3% of respondents were aged 50years and above indicating that the rearing of small ruminants was also suitable for the more settled and slower citizens and that 73.6% of the respondent had some form of education. Majority of the respondents (87.6%) earned less than ₦5,000.00 monthly from small ruminants and 94.2% of them think rearing small ruminants is profitable. In addition, 77.7% of them reared small ruminants primarily for income generation.

The study also revealed that the most important constraints to small ruminant production were theft, death from vehicles and pests and disease infestations and that the respondents needed information on small ruminant rearing in areas like feeding, management system, housing, disease identification and record keeping.

Keywords: Small ruminants, peri-urban, information need.

INTRODUCTION

Livestock have been contributing to overall wellbeing of resource-poor households in rural economies and many people, including landless families, can own a few small ruminants (Conroy, 2005). Livestock contributes about 12.7% of the total agricultural GDP of Nigeria. Thornton *et al.*, (2002), cited by (Conroy, 2005) reported that livestock are an important source of income for households in every district of Kenya and that in 40% of Kenya's district income from livestock contributes more than 25% of the total income. Sale of the animal generates income to meet contingencies like unexpected medical bills or to cope with crop failure, provides input to crop production by serving as draught power and source of manure, the latter being a way of integrating livestock into a farm system, reducing use of chemical fertilizers as animal wastes serve as farm yard manure (Ghotge 2008). The field contributes to food and nutrition security for resource-poor farmers by providing protein from meat, milk and eggs. According to Van't Hoeft *et al.* (2008), the multifunctional role of the animals contributes directly and indirectly to most of the millennium goals for poverty alleviation. According to SPORE magazine (2009) livestock is one of the fastest growing sub-sectors in agriculture as it accounts for 30% of agricultural Gross Domestic Product (GDP) in the developing world, and about 40% of global agricultural gross domestic products.

Livestock keeping also serve as source of employment. Shicai and Jie (2009) reported that in 2008, 29% of farmers' incomes in south west China came from animal husbandry. Evidence suggests that small ruminants are owned by a large proportion of the rural population in the humid zones of Nigeria (Sumberg and Cassaday, 1985). Sheep and goat are a source of income for the farmers, contributing to the livelihood of the people. Nigeria is reported to have over 45.06 million sheep and 855.43 million goats (Magaji, 2004). Unfortunately, small ruminant production in South West Nigeria is limited in scale and it is insufficient to meet demand. It is therefore necessary that small ruminant farmers have access to necessary information to expand and improve production.

The dwarf sheep and goats are the most common species found in the humid zone of West Africa and they are owned by a large proportion of the rural population (Sumberg and Cassaday, 1985). Bosman *et al.* (1996) reported that the farming systems in South Western Nigeria can be characterized as crop based with livestock as a secondary activity and that the most important livestock species are poultry and small ruminants both of which are predominantly kept on free range but because of increased incidence of crop damage by small ruminants, especially sheep, the species are banned or confined. In south west Nigeria, individual owners typically keep two to four breeding animals and goats are more commonly kept than sheep (Sumberg and Cassaday, 1985; Upton, 1985). The owners usually provide no special feed, housing or veterinary care for their

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animals and production is risky due to high mortalities from disease but nevertheless, potential returns are high (Okali and Upton, 1985). The major investment is in acquiring new stock. Upton (1985) stated that though majority of farm households keep sheep and goats, but only as a supplement to crop production and that they are ubiquitous in rural and even urban areas. He further stated that since they are trypano-tolerant, they are much more important than cattle in terms of total livestock units. The average number of sheep and goats per owner is about three to four animals with goats predominating. Although sheep are generally larger than goats, they are also less prolific. Josserand (1985) reported that small ruminants in the humid zone are usually not herded, there is no breeding control or selection carried out and little veterinary care is given.

Information is the basic element in any development activity and that it must be available and accessible to all. They maintained that this information is useful only if it is communicated and exchanged. There is no gainsaying that, for a market oriented activity, sheep and goat farmers need information about new farming ideas and innovations to enable livestock husbandry practices move from low-input minor farm enterprise to a more intensive and specialized enterprise that can overcome the problem of inadequate production of livestock products. The provision of production and management information can best take off by understanding the production situation of the farmers with a view to appreciate what they cope with and thus how best to provide needed assistance. The overall gain will be an improvement in the standard of living and poverty reduction of the farmers.

Objectives of the study

The general objective of the study is to identify information needs of sheep and goat rearers in peri-urban areas of southwest Nigeria. The specific objectives are:

1) To identify the sources of information for small ruminant rearers in the study areas.
2) To ascertain the production information needs of small ruminant rearers in the study areas.
3) To identify constraints faced by small ruminant rearers in their production activities.

METHODOLOGY

Area of study

This study was carried out in selected peri-urban areas of the states (Ileogbo in Osun state and Onidundu, Alabata and Alakia in Oyo state).

Population of the study

The population of the study consists of all households engaged in small ruminant rearing.

Sampling procedure and sample size

Purposive sampling was used to select three peri-urban settlements in Ibadan. They are Alabata, Onidundu and Alakia. Snowball technique was used to identify small ruminant rearers in the areas. In Osun state, Ileogbo was purposively selected because of the intervention of MacArthur Foundation involving an on-going project between the University of Ibadan and the Ileogbo community. Seventy respondents were interviewed in Ileogbo, 20 in Onidundu, 16 in Alakia and 15 in Alabata making a total of 121 respondents.

Dependent variable

The dependent variable (information needs of small ruminant rearers) was measured through assessment of current practice and opinion expressed by the farmers on livestock practice. Using a three point Likert type scale of no need = 0, low need= 1 and high need =2, the responses were scored and the information need computed from the scores. The opinions of the respondents having a score of between 7 and 11 was regarded as having low level of information need while a score above 11 was recognised as having high level of information need.

Data analysis

Frequencies and Percentages were used to describe the socio-economic characteristics while Pearson Product Moment Correlation (PPMC) and Chi-square were used to test relationships.

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

The study revealed (Table 1) that most of the respondents were above middle age with the implication being that young persons are not into the profession probably due to slow financial returns also. For the older folks to take to livestock may also be due to having permanently settled in the area and in a family thereby encouraging rearing of animals even as a secondary occupation.

Table 1 shows that gender of the respondents was almost balanced although more males participated. This is contrary to what is generally believed that women in the area seem to rear more small ruminants. And in line with the age distribution, most of the respondents are married while Islam was the dominant religion in the area. About 75% of the respondents had one form of education or the other, a situation that is promising for development communication especially concerning production technologies.

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The mean family size was 6, which is considered financially manageable especially with the enterprise of livestock as a support. And this is why many (46.4%) of the respondents have been involved in livestock rearing for 11-30 years and generating as much as 5,000.00 naira

Table 1: Personal characteristics of respondents

Respondents' personal characteristics	Freq.	Percent
Age in years:		
Less than 30	4	3.2
30-49	32	26.4
50 and above	62	51.3
No response	23	19.0
Sex : Male	71	58.7
Female	50	41.3
Marital status : Single	18	14.9
Married	102	84.3
No response	1	0.8
Religion : Islam	69	55.4
Christianity	54	44.6
Level of Education :		
No formal education	32	26.4
Primary Education	41	33.9
Secondary Education	33	27.2
Tertiary Education	15	12.4
Family size : Less than 5	9	7.4
5-10	72	59.4
11 and above	3	2.5
No response	37	30.6
Number of Years : 1-10	51	42
11-20	40	33.2
21-30	16	13.2
Above 30	12	9.9
No response	2	1.7
Income (N) :		
Less than 5,000	106	87.6
6,000-10,000	11	9.1
1,000-15,000	1	0.8
16,000-20,000	2	1.7
Above 20,000	1	0.8

Profitability of small ruminant rearing

Most (94.2%) respondents considered rearing small ruminants profitable but this may be because they invest very little in the management of the animals so that whatever was realized was seen as enough profit. This is in agreement with the findings of Pollot and Wilson (2009) that small ruminants are favoured because of low investments. The low investment is also apparent in the number of animals with most of those who responded having less than 10 animals (Table 2). The no response group may be those who merely fatten animals for sale and thus ready to sell anytime resulting in dynamic animal population. However, reason adduced for livestock rearing was mainly income with only 9.9% considering direct consumption of the animals. Apparently, income so generated will play a part in food and nutrition security.

Table 2: Distribution of respondents on rearing small ruminants

Number of small ruminants	Freq	Percent
1-5	17	14.1
6-10	19	15.7
11-15	10	3.3
16-20	3	2.4
Above 20	3	2.4
No response	69	57.0
For income generation	97	80.2
For food	12	9.9
Can easily be sold for money	31	25.6

Sources of information

This shows the major sources of production information of the respondents. The survey revealed that only few sources were available to the ruminant rearers. The implication of this is that the sources where the rearers obtained their information were those that were easily accessible to them. Media for information was not popular as a source.

Table 3: Distribution of respondents' sources of information

Sources of Information	Freq.	Percent
Contact farmers	41	33.9
Friends and Neighbours	73	60.3
Radio and Television	21	17.4
News Papers	6	5.0
Extension Workers	5	4.1
Health officers	4	3.3

Feeds and Feeding

Most of the respondents were deficient in the area of properly feeding the animals (Table 4). This implies that the respondents need information in areas of small ruminant feeding. This is in agreement with FAO (1988) that feed, especially concentrate (supplement) rich in carbohydrate, protein and minerals are very essential for optimum productivity of small ruminants. Convincing information on the significance of adequate and balanced ration will change the current feeding practice. The Table also shows that about 95% of the respondents fed the animals at least twice daily. This implies that the acceptable number of times for feeding animals daily was being followed and so the respondents did not need information in this area.

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Table 4: Feeding of small ruminants by respondents

Feeding pattern	Freq	Percent
Type of feed		
Forage only	22	18.2
Forage + compounded feeds.	4	3.3
Forage + dried Cassava peels	90	74.4
Forage + others	5	4.1
Times animals are fed		
Once a day	1	0.8
Twice a day	58	47.9
Thrice a day	55	45.5
More than thrice	5	4.1
No response	2	1.7

Common pests and diseases of small ruminants

This looked at the most common pest and diseases the respondents have noticed among the animals. The result showed that over half of the respondents had problems with diarrhoea and ticks. FAO (1988) and SPORE magazine (2010) cited PPR, pneumonia, foot and mouth disease, bovine virus diarrhoea (BVD) and blue tongue as the most common diseases of small ruminants. The respondents could not really recognise some of the disease conditions they were treating the animals for but could only describe the symptoms and hence need information in areas of disease identification.

Method of pests and disease prevention in small ruminants

Majority of the respondents were aware of one disease preventive measure or the other and they use them. The table 5 shows vaccination as the most common practice while very few utilise other practices. FAO (1988) suggested that small ruminants should be vaccinated against PPR, drenched against internal parasites like worms and sprayed against external parasites like ticks and mites to prevent poor performance. This finding implies that the respondents need some information about pest and disease prevention especially in areas of drenching, spraying and dipping.

Methods of treating sick animals

The survey revealed that almost all the respondents use the orthodox method as against the traditional methods (Table 5). This suggests that traditional methods of treating sick animals are almost completely replaced by the orthodox medicine. The implication of this is that endogenous livestock development becomes highly weakened since ethno-veterinary medicine is a major component of the endogenous livestock development.

Table 5: Pests and diseases of small ruminants

	Freq.	Percent
Common Pests and Disease		
Peste des petit ruminant (PPR)	4	3.3
Foot and mouth disease	28	23.1
Bloat	12	9.9
Pneumonia	50	41.3
Diarrhoea	81	66.9
Mastitis	15	12.4
Mites, ticks or flies	57	47.1
Prevention Methods		
Vaccination	106	87.6
Drenching	22	18.2
Spraying	4	3.3
Dipping	26	21.5
Method of treatment		
Call the Veterinarian	119	98.3
Traditional + orthodox methods	2	1.7

Cleaning of animal's pens.

This looked at the number of times the animals' pens were swept in a day in order to access the cleanliness of the respondents. The survey showed that 97.5% of the respondents cleaned the animal pens daily while others were less frequent. The implication of this is that the respondents already have enough information in this area.

Type of housing for small ruminants

Table 6 shows that at least 60% of the respondents provided some form of housing for the animals. FAO (1988) in their training manual recommended that small ruminants be kept in an enclosure at night with free access to well ventilated shelter. Ajayi *et al.* (2009) recommended that the housing type provided for small ruminants should keep them from harsh weather and theft. This implies that the housing type provided for the animals by the respondents was inadequate and hence they need information in this area.

Table 6: Distribution of livestock housing pattern

Type of Housing	Freq	Percent
Veranda	58	47.9
Separate pen	8	6.6
A space/room within the house	15	12.4
No special housing	35	28.9
Others	3	2.5
No response	2	1.7
Total	121	100

Marketing of animals

This shows the marketing outlets of respondents. The survey revealed that at least 60% of the respondents sold the animals at the market and that over 90% of them were sold to

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middlemen. This implies that a lack of an organised marketing system prevents the respondents from selling directly to the consumers and overcoming the problems of middlemen.

Table 7: Distribution of livestock marketing outlets

Marketing Outlets	Freq	Percent
Farm gate	38	31.4
Market	80	66.1
No response	3	2.5
Total	121	100

Records of operation

This looked at the types of records kept by the respondents. The survey revealed that 78.5% of respondents did not keep any form of records. This is in agreement with previous studies by (Okali and Upton) that most small ruminant rearers do not keep records of their operations because they are unaware of the importance of record keeping. This implies that the respondents need information on how to keep simple records as lack of record keeping is a constraint to production.

Management system of small ruminants

Survey showed that over 90% of the respondents reared the animals under the extensive system (free range). Previous studies by FAO (1988) showed that the semi-intensive system of management was the most ideal for rearing small ruminants for optimum productivity. This implies that the respondents need information on the most ideal system of managing small ruminants.

Table 8: Distribution of livestock management system

Management system	Freq	Percent
Free range (extensive)	109	90.1
Paddocking (semi-intensive)	7	5.8
Cut and fed (intensive)	1	0.8
Others	2	1.7
No response	2	1.7
Total	121	100

Production constraints

Some constraints that include inadequate feed (especially during dry season), starting capital (to buy the animals), Marketing information, theft, limited availability of health services, waste disposal, death from vehicle accidents, odour, space (housing) and inadequate water resources have been identified as limitations and challenges of small ruminant productivity. To encourage small ruminant production therefore, possible solutions to some of the more severe constraints is necessary. The study revealed that theft, deaths from vehicle accidents, pests and disease infestations, feeding and housing were constraints. The implication of this is that respondents need information in these areas to help them remove the constraints and improve production.

Table 9: Distribution of production constraints

Constraints	Most severe	Severe	Moderately severe	Not Severe	Not a Constraint	No Response
Feed	6(5.0)	9(7.4)	9(7.4)	6(5.0)	42(34.7)	49(40.5)
Starting -Capital	7(5.8)	11(9.1)	6(5.0)	10(8.3)	33(27.3)	54(44.6)
Marketing	1(0.8)	5(4.1)	7(5.8)	2(1.7)	31(25.6)	75(62.0)
Theft	43(35.5)	37(30.0)	14(11.6)	2(1.7)	15(12.4)	10(8.3)
Deaths from vehicle accidents.	8(6.6)	22(18.2)	31(25.6)	21(17.4)	24(19.8)	15(12.4)
Pests and Diseases	6(5.0)	10(8.3)	19(15.7)	27(22.3)	32(26.4)	27(22.3)
Waste Disposal	5(4.1)	-	5(4.1)	3(2.5)	32(26.4)	76(62.8)
Odour	7(5.8)	1(0.8)	3(2.5)	3(2.5)	32(26.4)	75(62.0)
Space (housing)	10(8.3)	5(4.1)	5(4.1)	6(5.0)	43(35.5)	52(43.0)
Water	3(2.5)	2(1.7)	1(0.8)	1(0.8)	37(30.6)	77(63.6)

Percentage in parentheses

Small ruminant information needs

From the response of respondents to earlier questions on the management of small ruminants which include type of feed and frequency of feeding, health and sanitation, system of housing, breeds of animals, record keeping and management system of animals, a scale of no need = 0, low need =1, and high need = 2, was generated for each item. These points were summed to give a composite need score which gave a mean of 11.19. The respondents having a mean score (11.19) and below were regarded as having low level of information needs while scores above mean were termed as having high information needs. In general, a high proportion (40.5%) of the respondents had a high small ruminant information needs which implies they require information in this subject matter area.

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Table 10: Distribution of small ruminant information needs by respondents

Information need score	Freq	Percent
7.00	2	1.7
8.00	4	3.3
9.00	4	3.3
10.00	22	18.2
11.00	40	33.1
12.00	31	25.6
13.00	13	10.7
14.00	4	3.3
15.00	1	0.8
Total	121	100

CONCLUSION

Supplying the necessary information to peri-urban small ruminant rearers will help them to improve the productivity of their animals. This way, the contributions of the animals to their income generation and hence their livelihoods will increase substantially to the extent that it can help to reduce their poverty level, improve nutrition and reduce malnutrition and also improve their self esteem.

The more severe constraints to small ruminant production are theft, deaths from vehicles and disease and pests infestations. For the overall development in small ruminant production, that improvement in health, nutrition, record keeping and management as well as improved breeding and marketing strategies are essential. Therefore, the respondents need information on nutrition, management, health care, record keeping and housing. Indeed small ruminants can help to solve some of the problems of the urban poor and contribute significantly to the livelihoods if animals are properly managed.

REFERENCES

Ajayi, F. T., Salami, W. A., Lawal, B. O. and A. A. Taiwo (2009). Rearing sheep and goats and indigenous knowledge practices. Ibadan, Tunmid Printeronic., 52 pp.

Bosman, H.G.: Ayeni A.O.; Platteeuw, W.L., Oludimu, O.L. and H.A.G. Koper Limbourg (1996). From station to farm in goat production systems research: Southern Nigeria. In Roeleveld, A.C.W., Vanden Broek, A. (eds). Focusing Livestock System Research. Amsterdam, The Netherlands, Royal Tropical Institute 1512pp.

Conroy, C. (2005). Participatory Livestock Research: A guide ITDG Publishing, London, UK. 304pp.

FAO (Food and Agriculture Organization of the United Nations) 1988). The development of Village-Based sheep production in West Africa: A success story involving women's groups. Food and agriculture organization of the United Nations, Rome, Italy. Pp. 90.

Ghotge, N. (2008) Integrated Local Systems for Mitigating Climate Change: LEISA Magazine, Amersfoort, The Netherlands, ILEIA. December, 2008, vol.24,No.4,p.23.

Josserand, H.P. (1985). A strategy for small ruminant development in Africa in: Sumberg, J.E. and Cassaday, K. (eds). Sheep and Goats in humid West Africa. Proceedings of the workshop on small ruminant production systems in the humid zone of West Africa, held in Ibadan, Nigeria, 23-26 January, 1984. ILCA, Addis Ababa. Pp. 6-10.

Okali, C. and M. Upton (1985). The Market potential for increased small ruminant production in South west Nigeria. In: Sumberg, J.E. and Cassaday, K. (eds). Sheep and goats in humid West Africa. Proceedings of the workshop on small ruminant production systems in the Humid zone of West Africal, held in Ibadan, Nigeria, 23-26 January, 1984. ILCA, Addis Ababa, pp 68-74.

Pollot, G. and Wilson, R.T. (2009) Sheep ad Goats for diverse products and profits (FAO, Rome).

Shicai, S. and Q. Jie (2009). Livestock projects in South West China; Women participates, everybody benefits. LEISA (Magazine on low external input and sustainable agriculture) Amersfoort, The Netherlands, ILEIA, Sept. 2009, Vol. 25, No. 3, Pp. 23-25.

SPORE Magazine (2009) Livestock Briefing, Wagengen, The Netherlands, CTA October, 2009, No. 143, pp. 15.

SPORE Magazine (2010). Urban agriculture. Food from Waste water. Wagenigen, The Netherlands, CTA. No. 147, p.9.

Spore Magazine (2010). Small Ruminants-herds and hides. Wagenigen, The Netherlands, CTA, June-July, 2010. No. 147, p.20.

Sumbert, J.I. and K. Cassaday (1885). Sheep and Goats in humid West Africa. In: Sumerg J.E. and Cassaday K. (eds) Sheep and goats in humid West Africa. Proceedings of the workshop on small ruminant production system in the humid zone of West Africa, held in Ibadan, Nigeria, 23-26, January, 1984. ILCA, Addis Ababa, pp. 3-5.

Upton, M (1985). Models of improved Production systems for small ruminants in: Sumberg, J.E. and Cassaday, K. (eds) Sheep and Goats in humid West Africa. Proceedings of the workshop on small ruminant Production systems in the humid zone of West Africa, held in Ibadan,

UNIVERSITY OF IBADAN LIBRARY

Nigeria, 23-26 January, 1984 ILCA, Addis Ababa pp. 55-67.

Van't Hoeft, K., D. Millar, E. Geerlings and Django, S. (2008). Endogenous Livestock Development in Cameroon". Exploring the potential of Local initiatives for Livestock development. ELD network series No.1. Wagenigen, The Netherlands agromisa Publishers. 62pp.

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