

Goat farming in South Africa: Findings of a national livestock survey

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Abstract

During a national livestock survey held in 2003 under the FAO/UNDP/SADC Project RAF/97/032, a total of 892 goat keepers completed questionnaires covering aspects of management and production. The majority of the keepers came from the communal farming areas (892), with 127 from the emerging sector and 13 from the commercial sector. The comparison of production and product development between the different farm sectors highlighted the necessity of improving management in the communal and emerging sectors. Herds in the communal sector were generally small with the 56.8% of keepers owning less than ten goats as against 10% in the emerging sector. Presented in this paper is the comparison of production systems, health and herd management, mortalities, breeding and choice of breed between the different farm systems.

Keywords: Production, goat keepers, farm sectors

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Introduction

The hardy, disease tolerant indigenous goats in the rural areas of South Africa may provide a valuable resource for the future, particularly in the communal and emerging farming sectors (Campbell, 1995; Raats, 1998; De Villiers & Letty, 2001). They also represent a valuable contribution to the rich biodiversity of the region.

A national livestock survey was conducted in 2003 under the FAO/UNDP/SADC Project RAF/97/032. This was the first survey to be held at breed level in South Africa. The mandate of this survey was to identify, characterise and establish the status of livestock breeds in the country. The survey was designed to collect demographic information in addition to data on production systems, animal health, exits and entries, breed and age structure and phenotypic descriptions. The field work of the survey was completed by the end of November 2003. Following a number of delays, sufficient analysis was completed to contribute towards the South African Country Report on Farm Animal Genetic Resources, finalized in 2006. However a lot of secondary information is still available from this survey.

This article summarizes the results of the survey in respect of goat farming in South Africa. More information on the survey and the analyses of the data can be obtained from Bester & Ramsay (2005), Bester *et al.* (2008) and Scholtz *et al.* (2008).

Materials and Methods

Questionnaires were designed by the University of Zimbabwe and the International Livestock Research Institute at the request of the FAO. The design of the sample framework was based on the input variables of the different biomes and urban/rural/deep rural enumerator areas. Areas chosen were the enumerator areas used in the South African population census of 1996 and were identified by fusing the census information onto the biomes. Weighting was applied towards the communal areas where available information was scanty and unreliable.

A total of 2 570 households owning livestock were visited by enumerators as reflected in Table 1.

The protocol required that questions such as the reasons for keeping goats, should be ranked from 1st, 2nd and 3rd with an (X) if more were applicable. As this complicated the analysis, scores were allocated to the different rankings in order to give an index of importance as seen in Table 2. This was then expressed as a percentage of the total points (Scholtz *et al.*, 2008). A total of 892 goat keepers completed questionnaires

covering aspects of management and production. The majority of the keepers came from the communal farming areas (892), with 127 from the emerging sector and 13 from the commercial.

Table 1 Percentage enumerator areas visited per province

Eastern Cape	Free State	Gauteng	KZN	Mpumalanga	Northern Cape	Limpopo	North West	Western Cape
26%	4%	2%	19%	9%	1%	25%	11%	3%

Table 2 Scores allocated to the rankings to obtain the index (total points)

Ranking	1 st	2 nd	3 rd	X
Score	4	3	2	1

Results and Discussion

The overriding proportion of goat farmers sampled belonged to the communal and emerging sectors. Too few commercial farmers were sampled to allow for a meaningful analysis of data. In the communal sector, 474 of the goat farmers sampled were primary farmers (63.1%) and 277 (36.9%) secondary. In the emerging sector 14 (10.9%) were primary goat farmers and 114 (89.1%) secondary. It is also important to note that 86% of the emerging goat farmers were found in the Eastern Cape.

Table 3 summarizes the reasons for keeping goats in the communal and emerging sectors. In both sectors the primary reason for keeping goats was as a form of cash or investment. The use of goats for cultural activities was common in both sectors. There was a substantial neglect of product development other than meat production (10.7%). The lack of value-adding was surprising; especially of the skin which is a high quality, marketable product easily produced using simple technologies. Use for milk production was minimal and although higher in the emerging sector, was still low at less than 10%.

Table 3 Goat product development

Purpose	Communal	Emerging
Cash/investment	43.9	34.4
Products: Meat	26.7	24.1
Milk	4.7	9.7
Cashmere	2.7	2.8
Mohair	1.1	2.8
Manure	1.2	0.0
Skin	1.0	1.4
Total: Products	37.3	40.7
Cultural	18.7	24.8

In the communal sector men and women shared the responsibility of activities of buying, selling and health management. Herding was largely shared between the men (46%) and boys (31%). In the emerging sector the majority of activities were the domain of the adult, male, household head with the balance being provided by hired labour.

The level of health management was low in the communal and emerging sectors both of which relied heavily on a combination of extension services (54.6% and 63.2% respectively) together with the services of government vets. The incidence of disease in the communal and emerging sectors is given in Figure 2.

Heartwater was the predominant disease in the communal sector, possibly due to a lack of dipping as only 30.5% of the farmers dipped their animals. Pour-on and hand dressing was used preventatively only in the emerging sector. Levels of vaccination were low in both the communal and emerging sector (11% and 33% respectively). Treatment for internal parasites was low, only 25.8% of communal farmers drenching their animals and 42.9% of the emerging farmers. Antibiotics were used to treat 28% of diseases in the communal sector and 67.9% in the emerging sector. Few traditional treatments were recorded.

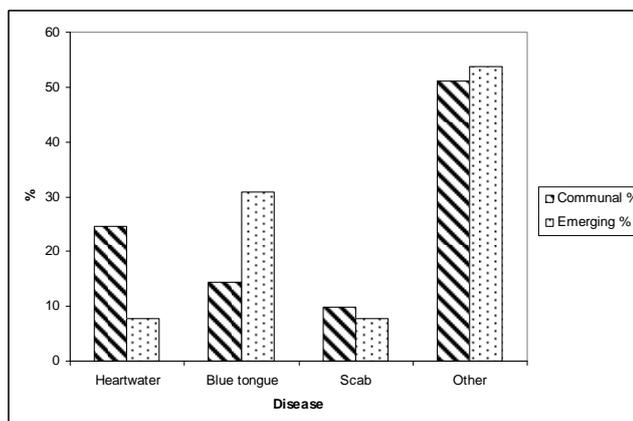


Figure 2 Incidence of diseases in the communal and emerging sectors.

Goats were generally herded together with cattle in communal grazing areas and at night 68.4% were protected against predators and theft in kraals. Emerging farmers relied less on kraals, possibly as a result of fenced camps where they were generally kept together with sheep. Raats (1997) found that milk production in goats dropped radically after the first 30 days in a new camp. The practice of keeping the goats in the same communal area for an extended period is likely to have the same effect and is possibly responsible for a lack of milk production which in turn, prevents the development of dairy products. In the communal sector this was compounded by the lack of supplementation as crop residue was the sole source during the dry season and was provided by only 31.1% of the farmers. The situation in the emerging sector was better with 66.7% of the farmers feeding their goats crop residues together with limited minerals and bought-in rations.

The lack of management and inadequate nutrition in the communal sector resulted in a high mortality, particularly of kids and females (Table 4). In the emerging sector the mortality was much lower at 12.5% and theft at 3.1%.

Table 4 Annual exits of goats in the communal sectors %

Exit	Kids	Weaners	Males	Females
Died	97.7	15.7	9.0	38.1
Sold	0.0	41.2	38.8	41.8
Slaughtered	0.0	35.3	45.5	10.3
Donated	0.0	0.0	0.7	1.5
Stolen	2.3	7.8	6.0	8.2

Bucks were own-bred by the farmer in both sectors and mating was uncontrolled (communal 98.3% emerging 92.3%). Bucks in both sectors were selected mainly for size, conformation and availability but not for performance. Herd numbers were stable or rising in 81.2% of the emerging sector and in 58.4% of the

communal sector. The buck to doe ratio was 1 : 11 in communal areas and 1 : 30 in the emerging sector. Information on breed and flock size is given in Tables 5 and 6.

Table 5 Purebred goats per farm sector (%)

Breed	Communal	Emerging
Unimproved veld goat*	53.3	1.0
Angora	28.3	62.8
Improved Boer goat	15.4	36.1
Others	3.0	0.1

* Unimproved veld goat refers to the unimproved indigenous genotypes of South Africa.

Table 6 Flock size of purebred goats per farm sector (number)

Breed	Communal	Emerging
Angora	29.1	39.7
Improved Boer goat	13.6	90.6
Unimproved veld goat	9.4	17.5

The unimproved veld goat dominated in the communal sector (53.3%), followed by the Angora goat (28.4%). The number of Angora goats in the emerging sector was higher (62.8%) with the balance provided by Improved Boer goats (36.1%). Angora goats were found almost exclusively in the Eastern Cape. The Angora flock size was considerably higher than the indigenous veld goats in the communal sector indicating increasing production of mohair. Dairy breeds were not recorded in the sample set.

Conclusion

The future scenario of a rising population and climate change will result in a growing pressure on livestock production in South Africa. Adapted, hardy livestock species have the potential to alleviate a future shortfall of meat and milk for consumption and provide by-products that can be used as a source of income for poor households.

Results of the survey indicated that many farmers in the communal and emerging sectors are goat keepers rather than farmers. Although goats were used for meat, it was often equally important as a form of investment or cash generation and it may be that ownership is already fulfilling their present requirements. In general, there was a marked lack of management and a negligible development of products. The lack of management resulted in very high levels of mortality, particularly of kids and females. Combined with a lack of development of by-products and stock theft, the lack of management has reduced economic activities to a minimum.

However, an initiative in the Eastern Cape showed that, despite reduced levels of management, keepers of sheep in communal areas have become commercial producers (National Wool Growers Association of South Africa, 2008). The average number in these flocks was higher than the national average and was continuing to rise. A similar scenario was seen with Angora goat farmers in the same province where evidence of controlled breeding resulted in an improved flock size and a low level of crossbreeding with the indigenous veld goat. This improved management holds hope for the future. However, in general, there was considerable evidence of crossbreeding. Despite this there were substantial numbers of purebred unimproved veld goats remaining countrywide.

The challenge for the future is to raise production in the communal and emerging sector by improving management practices but it will become necessary to monitor the numbers of locally adapted goat breeds

and to develop them for the commercial market. Adding value to goat products such as cheese and skins has the potential to bring a much needed income into impoverished communities.

References

- Bester, J., Ramsay, K.A. & Scholtz, M.M., 2008. Further findings of a South African National Livestock Survey: Community-based resources. Proc. 7th Global Conference on the Conservation of Domestic Animal Genetic Resources, 14 – 18 September 2008, Hanoi, Vietnam.
- Bester, J. & Ramsay, K.A., 2005. Preliminary findings of a South African National Livestock survey: Community based resources. Proc. 6th Global Conference on the Conservation of Domestic Animal Genetic Resources. 9 -13 October 2005, MagaliesPark, South Africa.
- De Villiers, J.F. & Letty, B.A., 2001. Information collected during the diagnostic phase in the Nkwezela Sub-Ward, Hlanganani District. KZN Agri Report N/A/2001/68. Farming Systems Research Section, KwaZulu-Natal Department of Agriculture and Environmental Affairs, Hilton, South Africa.
- National Wool Growers Association of South Africa, 2008. Wool sheep development and veld management programme for communal farmers of the Eastern Cape: Integrated livestock and crop development for the Eastern Cape, a rural community development project. Progress Report: 1 July–30 June 2008.
- Raats, J., 1997. Goat research at the University of Fort Hare. In: Commercialisation of indigenous goat production and products in South Africa. Ed. Roets, M., Advisory Bureau for Development (Pty) Ltd., Pretoria.
- Scholtz, M.M., Bester, J., Mamabolo, J.M. & Ramsay, K.A., 2008. Results of the national cattle survey undertaken in South Africa, with emphasis on beef. *Appl. Anim. Husb. Rural Develop.* 1, 1–9.