

*Review***Aspects of smallstock production in Ciskei**

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Levels of sheep and goat production, as well as aspects of the distribution of ownership of pigs and poultry, in three livestock-producing areas of Ciskei are discussed. Findings show low levels of production and reproduction and high mortality rates in sheep and goat production. Only 50% of farmers keep pigs, while practically all households keep poultry. Smallstock have an important potential role in the economy of small-scale farmers.

Die produksie van beide skape en bokke, asook aspekte met betrekking tot die verspreiding en eienaarskap van varke en pluimvee in drie veeproduserende gebiede van Ciskei word bespreek. Die resultate toon lae vlakke van produksie en reproduksie asook hoë mortaliteit in beide skape en bokke. Slegs 50% van die boere besit varke terwyl feitlik alle huishoudings pluimvee besit. Kleinvee kan 'n potensieel belangrike rol speel in die ekonomie van die kleinboer.

Keywords: Goats, pigs, poultry, production, sheep

Introduction

Because of increasing human and livestock pressure on the land in developing areas of southern Africa, small stock have an important potential role to play in the subsistence household economy of those areas.

Apart from their main functions in the production of meat, milk, fibre and skins, sheep and goats are also important in developing areas, in a number of other ways. Like cattle, they are used as an investment, for slaughter during festive occasions and for manure. Sheep and goats fulfil the same uses as cattle insofar as hides, meat, milk, sacrifices and even lobola (bride wealth) payments are concerned (Schapera & Goodwin, 1956). Goats, however, are generally more important than sheep for sacrificial purposes (Van Wyk, 1967). Nevertheless, goats and sheep do not arouse the same emotions in rural people as do cattle (Hunter, 1936). Poultry and, to a lesser extent, pigs have for many decades played a role in the economy of small-scale subsistence farmers in developing areas.

There is a dearth of information on smallstock production in the developing areas (Homelands) of southern Africa. The object in this article is to review aspects of efficiency of sheep and goat production, as well as ownership of pigs and poultry, with special reference to a study undertaken during the 1979/80 season in three typical livestock-producing areas in Ciskei (Bembridge, 1987).

Research procedure

The survey area comprised three representative semi-intensive mixed farming areas of Burnshill, Mbem's Location and Khama's area in the Keiskammahoek and Middledrift districts of Ciskei. Sampling was carried out on a random basis from lists of heads of households who either had land rights or who owned one or other form of livestock, excluding pigs and poultry. For the purposes of this study, 'farmer' is defined as any household with

land rights and/or possessing cattle, sheep or goats. The sample size was 15%, and the sample was stratified according to the number of farmers in each village. Whenever possible, actual counts, measurements and observations were made of livestock numbers and categories. Weaning percentage was calculated as total lambs or kids weaned per 100 ewes mated, while mortality was calculated as percentage deaths in the flock over a 12-month period. Off-take was calculated as the percentage of total flock sold, consumed, or used for cultural and other socio-economic purposes (Tables 1 and 2). It was not possible to obtain reliable efficiency data on poultry and pig production. Although accuracy cannot always be assured, the results give a good indication of the smallstock situation in Ciskei.

Results**Sheep production**

Sheep were introduced into Ciskei more than 150 years ago (Thom, 1936). Most of the sheep population were woolly Döhne Merino or Merino-type sheep.

Only 19% of farmers owned sheep. The average flock size was 29 head (Table 1) and on average ewes comprised 62% of the flock compared to a normal commercial flock of 76% (Boshoff, 1981).

Table 1 shows an extremely low weaning percentage of 47%, high lamb and flock mortality and low turnover. The average wool yield of 1,90 kg per sheep is low compared to commercial farming standards of up to 6 kg, and also somewhat lower than the 2,6 kg found by Steyn (1982) in a similar agro-ecological area of Ciskei.

Only 29% of the total sheep income from mutton and lamb was derived from actual sales. Wool sales accounted for 32% of the gross value of production, including home consumption. This confirms that in terms of meat, sheep are kept mainly for subsistence production (Bembridge, 1987).

Table 1 Sheep flock size, reproduction, mortality, off-take and wool sold, 1979/80 (n = 39)

Efficiency factor	Efficiency factor by area		Mean \pm S/D
	Khama's (n = 24)	Mbem's (n = 15)	
Mean flock size	39,63	11,47	28,80 \pm 15,6
Weaning %	69,19	62,92	66,77 \pm 23,4
Lamb mortality %	13,86	28,00	19,30 \pm 11,4
Flock mortality %	3,83	13,94	7,71 \pm 4,9
Off-take %	4,31	11,92	7,24 \pm 3,8
Wool sold/sheep (kg)	1,37	2,76	1,90 \pm 1,1

Goat production

As with sheep, goats have played an important role in the rural economy of Ciskei for a long time. Most of the indigenous goats are a short-hair type, although there was evidence of crossing with Angora and, in a few cases, with Boer Goats. Only 36% of farmers possessed goats, and the average herd size was approximately 13 goats (Table 2).

As in the case of sheep, goat production shows low levels of efficiency (Table 2). Surprisingly, because of the known hardiness of goats, the reproductive rate in terms of kids weaned per 100 ewes mated was lower than with sheep; the flock mortality was also higher than with sheep. Goats are used almost entirely for home consumption and for social purposes. The average gross value of off-take of goats per farmer was less than one-third of that recorded for sheep (Bembridge, 1987).

Pig production

Pigs are used almost exclusively for home consumption and are kept by 50% of farmers. Many of these pigs are the small, black, indigenous type of animal with a long tail and it is believed that many are measled and therefore a health hazard (Table 3).

The average pig owner possessed approximately two pigs, the majority (92%) possessed three or fewer pigs (Table 3) and the gross margin of profit after allowing for purchases was negligible (Bembridge, 1987).

Poultry production

Poultry production, both for eggs and meat, has been part of the domestic scene in Ciskei for many years, and poultry have also been used as sacrificial offerings to the spirits (Schapera & Goodwin, 1956). Practically all rural households, including non-landholders, have at least some laying hens, many of them indigenous 'hut fowls'. Most of the birds are kept for home consumption and scavenge for food in the cattle kraal and around the homestead. Thirty-one percent of the poultry owners kept broilers as well as laying hens (Table 4).

Income from livestock

Smallstock production accounted for 59% of the total

Table 2 Reproduction, mortality, and off-take of goats, 1979/80 (n = 73)

Variable	Reproduction, mortality, turnover and income by area			Mean \pm S/D
	Burnshill	Khama's	Mbem's	
Kidding %	46,30	77,23	83,43	72,32 \pm 16,21
Kid weaning %	34,49	65,18	63,70	54,45 \pm 13,92
Kid mortality %	25,50	15,60	23,64	21,58 \pm 12,71
Flock mortality %	10,95	3,41	14,27	9,54 \pm 4,52
Av. goat herd size	8,73	15,68	13,95	12,78 \pm 8,26
Herd off-take %	10,41	5,96	8,60	8,32 \pm 6,23

value of livestock production and there was considerable variation between individual areas (Table 5).

Of all the livestock enterprises, poultry production on a per-farmer basis was almost as important as cattle in terms of gross value of production, which on average amounted to R155,41 per farming family at 1980 values (Table 5).

Discussion

In the light of the current shortage of grazing land, the smaller size of sheep and goats, and consequently their lower food requirement compared to cattle, offer the small-scale farmer in Ciskei and other developing areas a low-cost opportunity to improve nutritional and living standards.

Although sheep and goat management practices were not investigated *per se*, the low reproduction rate of these animals and the poor efficiency of sheep and goat enterprises may be seen as a reflection of poor management. In particular, the data suggest that pregnant ewes have a low level of nutrition, which is usually the most important factor affecting reproduction (Le Roux, 1970). There is tremendous scope for improving efficiency of management, nutrition and genetic resources.

There is no doubt that, under good management, sheep can play an important role in the economy of Ciskei, both for wool and meat. The potential is

Table 3 Size of pig herds, 1979/80 (n = 102)

Herd size category	Herd size by area							
	Burnshill (n = 39)		Khama's (n = 40)		Mbem's (n = 23)		Total (N = 102)	
	No.	%	No.	%	No.	%	No.	%
<1	30	76,9	19	47,5	17	73,9	66	64,7
2-3	7	18,0	16	40,0	5	21,7	28	27,5
4-5	1	2,6	3	7,5	1	4,4	5	4,9
>5	1	2,6	2	5,0	0	0,0	3	2,9
Total	39	100,0	40	100,0	23	100,0	102	100,0
Mean No.	1,43		2,08		1,43		1,70	

Table 4 Distribution according to number of laying hens and broilers per household, 1979/80 (n = 203)

Category	Laying hens and broilers by area							
	Burnshill (n = 50)		Khama's (n = 95)		Mbem's (n = 58)		Total (N = 203)	
	No.	%	No.	%	No.	%	No.	%
Laying hens								
1 - 2	10	20,0	27	28,4	17	29,3	54	26,6
3 - 4	15	30,0	28	29,5	13	22,4	56	27,6
5 - 6	11	22,0	20	21,1	12	20,7	43	21,2
7 - 8	5	10,0	4	4,2	10	17,2	19	9,4
9 - 10	6	12,0	10	10,5	4	6,9	20	9,9
10	3	6,0	6	6,3	2	3,5	11	5,4
Total	50	100,0	95	100,0	58	100,0	203	100,0
Mean No.	5,91		5,04		4,75		5,19	
Broilers								
Nil	32	64,0	58	61,1	51	87,9	141	69,5
1 - 2	15	30,0	23	24,2	2	3,5	40	19,8
3 - 4	3	6,0	9	9,5	4	6,9	16	7,9
4	0	0,0	5	5,3	1	1,7	6	2,9
Total	50	100,0	95	100,0	58	100,0	203	100,0
Mean No.	0,58		74,32		0,35		36,57	

illustrated by the disparity between average levels of efficiency and those achieved by the few progressive farmers.

Until recently, in southern Africa there has been an official bias against the goat as a destroyer of vegetation. Because of this prejudice, efforts to exploit the full potential of this animal have generally been minimal compared to efforts with cattle and sheep. Compared to cattle, goats produce more milk on less food and are not adversely affected by declining veld conditions (Kurtze, 1982). They are also less susceptible to disease and are adaptable to harsh environmental conditions.

The goat's contribution to animal production, particularly with small-scale subsistence farmers, can be increased by substituting goats for cows in milk production. Better use can be made of scarce resources in developing areas because of the potentially higher fertility of the goat, and its higher feed conversion in relation to body mass for meat and milk production (Teuscher, 1982).

At present, most pigs are allowed to free-range and scavenge, and there is virtually no management. With good management, pig production can undoubtedly play an important economic role in an integrated farming system in Ciskei.

Chicken production in Ciskei has expanded in recent years. Raising birds for commercial purposes in the rural areas can be a paying proposition and it can fall within

Table 5 Gross value of livestock production in R/c per farming household 1979/80 (n = 203)

Enterprise	Burnshill (n = 50)	Khama's (n = 95)	Mbem's (n = 58)	Weighted average (N = 203)	
				R/c	%
Cattle	42,03	57,19	82,73	63,23	40,7
Sheep	-	26,76	17,43	17,70	11,4
Goats	8,87	7,55	10,96	9,12	5,9
Pigs	1,83	3,75	5,45	3,67	2,4
Poultry	7,92	83,21	74,09	61,69	39,6
Total	60,65	178,46	190,66	155,41	100,0

the means of small-scale farmers, provided that locally available resources such as crop by-products are utilized.

Any prospect of influencing change in smallstock production in developing areas must depend on an understanding of smallstock farming systems and the complex cultural and institutional constraints on these. It seems logical, therefore, to concentrate on understanding, building up and improving traditional livestock systems, rather than on sophisticated technology and breeding systems. Moderate investment in infrastructure, marketing and skilled extension workers is a necessity for success.

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