

Aspects of cattle production in Transkei

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The importance and problems of cattle production in Transkei are discussed in this paper. Findings show a situation of low levels of production and deteriorating natural resources owing to mismanagement and overstocking.

In hierdie artikel word die belangrikheid en probleme van beesproduksie in die Transkei bespreek. Bevindings dui op lae vlakke van produksie en 'n situasie van agteruitgang van natuurlike hulpbronne as gevolg van wanbestuur en oorbewyding.

Introduction

There is a dearth of information on cattle production by small-scale stock owners in the less developed areas of southern Africa. The object of this paper is to briefly review cattle production in Transkei, with special reference to a study of three typical livestock-producing areas.

Livestock in less developed areas of southern Africa

The less developed areas of southern Africa, which comprise the four independently governed TBVC states and the six national states, constitute some 16,72 million hectares, of which approximately 76% enjoy a rainfall of greater than 500 mm and therefore have good potential for semi-intensive livestock production supported by dryland, food and cash crops.

Only 14% of the areas are suitable for arable production. Livestock production is a major resource and component of agriculture production, and it always will be, because approximately 84% of the areas can potentially be used only for grazing. Yet livestock contributes very little to the cash economy in terms of sales for slaughter to the market.

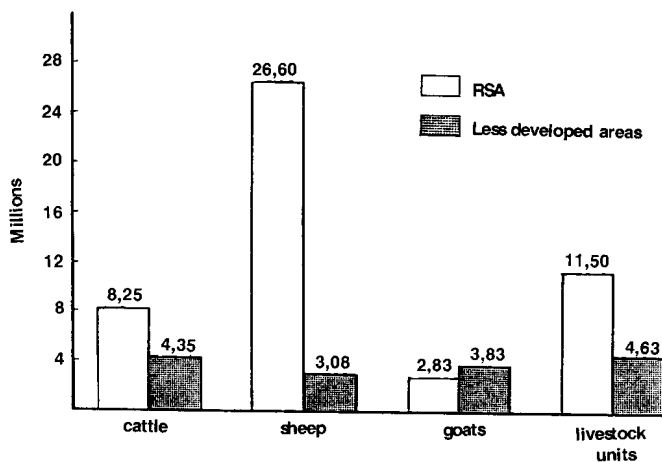


Figure 1 Relative importance of livestock in the commercial and less developed farming areas of southern Africa, 1984. Sources: Department of Statistics and statistical data from TBVC countries and national states agricultural departments.

The relative importance and potential of livestock production in these areas is illustrated by the fact that 35% of the cattle, 57% of the goats and 10% of the sheep population are run in the less developed areas of southern Africa (Figure 1). Approximately 40% of the livestock units in the less developed areas are in Transkei. A livestock unit is calculated on the basis of six sheep or goats per LU and cattle are taken as averaging 0,80 LU's.

During the 1960s and 1970s stock numbers of all species increased considerably. In the recent dry years cattle numbers have declined again but small stock, especially goats, have continued to increase (Bembridge, 1986 p.30).

The commercial farming sector is considered to have 5 million (78%) more livestock than the assessed carrying capacity (Department of Agriculture and Water Supply, 1985). Despite the potentially higher carrying capacity of the less developed areas, there is, in general, far greater gross overstocking with progressive deterioration taking place over much of the grazing land in these areas.

Livestock trends in Transkei

Figure 2 shows that Transkei's potential as a livestock-producing country has long been recognized. From the earliest days, livestock has been an important factor in the lives and economy of rural people. In terms of animal units, cattle, followed by sheep and goats, form the major proportion of economically useful stock in Transkei.

Similar to southern Africa as a whole, cattle numbers have declined during recent drought years, while sheep and goats have increased (Figure 2). Food production in Transkei is not a matter of competition between crop, vegetable and animal production, but a traditional complementary process.

Available data show that the cattle herd composition has varied according to seasons over a very long period. Comparative data going back to 1891 (Cape of Good Hope Province, 1892) and more recent data (Hawkins Associates, 1980) show a higher proportion of cows and young stock in earlier years, which suggests the calving percentage has declined probably owing to increased pressure on grazing land.

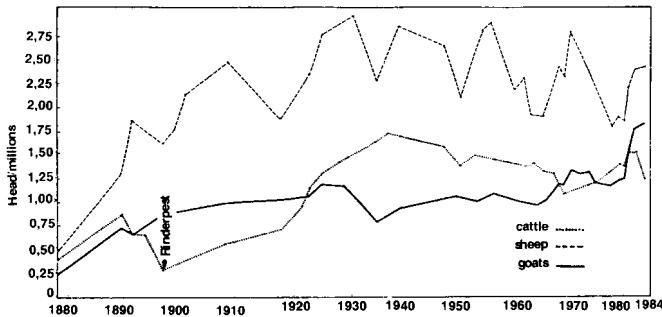


Figure 2 Adjusted cattle, sheep and goat population in Transkei, 1880–1984 (after Bembridge, 1984, p.69)

The cattle herd off-take is estimated at 5,4% including all slaughterings, compared with 20% for farmers in South Africa (Tapson, 1982).

Because of the fundamental differences between the socio-economic principles which govern the use of communally owned land and those governing the use of individual land, comparisons between traditional livestock production and commercial livestock production are useful only to the extent of illustrating the gap between current and potential production. Animal and pasture scientists have given a great deal of attention to understanding the relationship between animals and their substrata, but far less attention has been given to the relationship between man and his grazing animals.

The Transkei survey

Data presented in this study are from a survey carried out in Transkei during the 1978/79 season (Bembridge, 1984).

Procedure

The survey area comprised Administrative Areas in representative semi-intensive mixed farming areas in the Qumbu district and the Emgwe area of Nqamakwe districts as well as from the semi-extensive farming area of Qamata. Semi-intensive farming areas are suited to the production of dryland food and cash crops, whereas semi-extensive farming areas can only support drought-resistant grain and fodder crops.

Because the rural population consisted of a high percentage of illiterate people, field observation and recording supplemented by interviewing was the only feasible way of obtaining reasonably accurate information. Sampling was carried out on a random basis from lists of heads of households who had land rights and/or possessed livestock. The sample size varied from 10,0 to 20,0%, depending on the population.

Fortunately, subsistence farmers, where farming activities are small and they have few livestock, can recall with reasonable accuracy their broad activities for their last farming season. Wherever possible, actual counts, measurements and observations were made of livestock numbers and categories, livestock practices and milk yields. Although accuracy can not always be assured, the results give a good indication of farmer performance and related factors.

Cattle production

In less developed countries the level of productivity of cattle for both meat and milk falls far below their potential, and the output in Africa is considerably lower than in the rest of the world (Crotty, 1980). The same situation applies in Transkei.

Herd size and composition

The average cattle owner in Transkei possesses six head of cattle (Table 1). This is similar to the finding by the Tomlinson Commission (Union of South Africa, 1955). The low percentage of cows (34%) compared with a commercial herd (50%) is a reflection of low reproduction and off-take. Because of uncontrolled grazing, it is advantageous to the owner to hold animals until they are in an advanced age; therefore the number of followers tends to be high.

An analysis of herd ownership in the research area (Table 2) revealed that most farmers (78%) owned fewer than eight livestock units (1 head — $\pm 0,8$ LU's), which is the minimum number considered necessary for primary needs of survival and subsistence, as well as for sociological needs such as lobola (bridewealth), funerals, weddings and other socio-cultural needs before any secondary income needs can be catered for (Bembridge, 1979). Some researchers maintain that as many as 18 head are necessary for primary needs (Tapson & Rose, 1984, p.43).

The findings in Table 2 are supported by Seobi (1980) in Bophuthatswana and Steyn (1982) in Ciskei who both found a high percentage of farmers who owned less than eight livestock units.

A further constraint towards satisfying even primary needs was the fact that 19% of cattle owners did not possess any cows, and therefore were unable to supply milk for family needs. A cow being defined as any animal which has calved and a heifer as an animal over 3 years of age which has not calved. The shortage of individual animal draught power is illustrated by the fact that 47% of cattle owners did not possess any oxen (Table 3).

Table 1 Cattle herd composition and number of head per household by area, 1979 (N=251)

Class of animal	Herd composition by area							
	Qamata (N=65)		Emgwe (N=89)		Qumbu (N=97)		Overall (N=251)	
	No.	%	No.	%	No.	%	No.	%
Cows	3,02	38,2	1,98	36,1	1,51	27,9	2,06	33,9
Heifers	1,94	24,6	1,22	22,2	1,18	21,8	1,39	22,9
Calves	1,22	15,4	0,51	9,3	0,44	8,1	0,66	10,9
Steers (1-3 years)	1,22	15,4	0,51	9,3	0,9	16,7	0,84	13,8
Oxen	0,28	3,6	1,15	20,9	1,0	18,5	0,81	14,3
Bulls	0,22	2,8	0,12	2,2	0,38	7,0	0,25	4,1
Total	7,9	100,0	5,49	100,0	5,41	100,0	6,07	100,0

Table 2 Distribution of cattle herd size in the three study areas, 1979 (N=234)

Herd size category	Cattle herd size by area							
	Qamata		Emgwe		Qumbu		Overall ^a	
	No.	%	No.	%	No.	%	No.	%
1 - 2	13	23,2	8	9,0	25	28,1	46	19,6
3 - 4	13	25,0	10	11,2	20	22,5	44	18,8
5 - 6	10	17,9	11	12,4	15	16,9	36	15,4
7 - 8	5	8,9	16	18,0	8	9,0	29	12,4
9 - 10	4	7,1	17	19,1	7	7,9	28	12,0
11 - 15	3	5,4	19	2,3	10	11,2	32	13,7
16 - 20	3	5,4	7	7,9	3	3,3	13	5,5
> 20	4	7,1	1	1,1	1	1,1	6	2,6
Total	56	100,0	89	100,0	89	100,0	234	100,0

^a 17 respondents excluded because of unreliability of data on ownership

Table 3 Patterns of ownership by sex and functions of cattle, 1979 (N=234)

Category	Cows, bulls and oxen by area							
	Qamata		Emgwe		Qumbu		Overall ^a	
	No.	%	No.	%	No.	%	No.	%
Cows								
Nil	9	16,1	8	9,9	24	27,9	41	18,2
1 - 2	29	51,8	47	58,0	49	55,1	125	55,3
3 - 4	10	17,8	24	29,6	14	15,7	48	21,2
>4	8	14,3	2	2,5	2	2,2	12	5,3
Total	56	100,0	81	100,0	89	100,0	226	100,0
Bulls								
Nil	46	82,1	79	88,8	69	77,5	194	82,9
1	10	17,9	9	10,1	12	13,5	31	13,3
>1	0	0,0	1	1,1	8	9,0	9	3,8
Total	56	100,0	89	100,0	89	100,0	234	100,0
Oxen								
Nil	22	39,3	53	59,6	30	38,0	105	46,9
1 - 2	27	48,2	15	16,9	28	35,4	70	31,2
3 - 4	3	5,4	17	19,1	10	12,7	30	13,4
>4	4	7,1	4	4,4	11	13,9	19	8,5
Total	56	100,0	89	100,0	79	100,0	224	100,0

^a17 respondents excluded because of unreliability of data on ownership

Efficiency factors

The productivity of beef cattle may be expressed in various terms, such as mass of beef per animal, per unit of land, per unit of feed consumed or per unit of capital invested. Because of the traditional subsistence nature of livestock production in Transkei, it was not possible to study mass of beef as a unit of measure of productivity.

Indirectly, weaning percentage is a function of management. It is a good measure of beef production in the herd (de Klerk, 1980) and the major single factor determining profit in a beef herd (van Wyk, 1968, pp.37-39).

Cattle deaths from low levels of nutrition and disease have a significant effect on the profitability of cattle farming, and the mortality rate in a herd is a direct reflection of management efficiency (Carstens, 1971, p.112). Although stock diseases cannot be eliminated completely, they can be controlled by sound management and effective disease control (Louw, 1975, p.42).

Reproduction, mortality and off-take

In comparison with commercial production in South, Central and East Africa, Table 4 reflects an appallingly high level of herd mortality, low reproduction rates and herd off-take. However, the situation is similar to that found in the other less developed countries of Africa.

Weaning and calving percentage in Transkei is lower than that recorded in other National States in Africa (du Casse, 1974 (KwaZulu); Bishop & Stampa, 1975 (Ciskei); Bessel & Iles, 1976 (Zambia); Seobi, 1980 (Bophuthatswana); Mdhluli, 1981 (Kangwane)), and where weaning rates of between 40 and 50% were recorded, but similar to that (31%) recorded by Steyn (1982 p.90) in Ciskei.

A herd mortality of 17% compares poorly with 3% for commercial farmers in South Africa, but is higher than findings of between 8 and 15% in other National States (Brown, 1969; du Casse, 1974; Seobi, 1980). It is, however, in line with Steyn (1982, p.91) who recorded a 16% herd mortality in Ciskei. Such a high mortality obviously represents a considerable loss to producers, so much so that the 14% difference in cattle mortality represents more than twice the herd off-take (Table 4). At the same time it should be remembered that in many instances of cattle deaths, part or all of the carcass, is used as food.

The average off-take of 6,9% is similar to the estimated off-take for Transkei as a whole of 5,4% (Tapson, 1982). The value of actual sales of cattle was 9,3% of total off-take, which corresponds closely with national off-take through auction sales of 0,3% of the herd.

It was found that only 8% of cattle owners sold any stock during the year. The majority of these sold only

Table 4 Cattle reproduction, mortality, and off-take by area, 1979 (N=251)

Factor	Efficiency factor by area (%)			
	Qamata	Emgwe	Qumbu	Overall
Calving rate	38,30	52,87	25,91	38,68
Weaning rate	32,87	30,49	20,24	27,14
Calf mortality	13,90	41,54	21,88	26,78
Herd mortality	7,11	30,45	13,40	16,66
Off-take	1,73	6,78	10,34	6,85

Table 5 Estimated average value of cattle off-take, 1979 (N=251)

Off-take category	Average take-off by area (R)			
	Qamata (N=65)	Emgcwe (N=89)	Qumbu (N=97)	Overall (N=251)
Sales	27,50	15,05	1,41	7,85
Slaughterings	1,16	69,47	29,27	36,24
Home consumption	16,41	68,81	29,90	40,20
Total	25,07	152,33	60,64	84,28

one animal. A greater number (14%) slaughtered animals mainly for ceremonial purposes, including marriages, funerals and tombstone ceremonies. In most cases only a portion of meat was kept for the owners' families. Almost equal proportions of animals were sold as were slaughtered. Average value of total off-take was R84, with significant differences between areas (Table 5), for which there appeared to be no logical explanation except possibly varying seasonal needs for cash resources.

Purchases of stock were equal to 74% of total sales and slaughterings. Furthermore, cattle deaths (excluding calves) were more than double the sales and slaughterings, which confirms the supposition that off-take was insignificant.

Fenyés (1982, p.288) found a similar low level of sales in Lebowa. Understandably from the data in Table 2 most cattle owners (92%) gave the reason for not selling as 'insufficient number of animals'. As found by Devitt

Table 6 Cattle ownership distribution according to number of cows milked and milk yield (N=234)

	No. of cows and milk yield / area							
	Qamata		Emgcwe		Qumbu		Overall	
	No.	%	No.	%	No.	%	No.	%
No. of cows								
Nil	19	33,9	29	32,6	46	51,7	94	40,0
1	17	30,4	44	49,4	23	25,8	84	35,9
2	12	21,4	11	12,4	16	18,0	39	16,7
>2	8	14,3	5	5,6	4	4,5	17	7,2
Total	56	100,0	89	100,0	89	100,0	234	100,0
Milk off-take litre/cow								
0,1 - 1	16	43,3	22	36,7	24	55,8	62	44,3
1,1 - 2	9	24,3	6	10,0	11	25,6	26	18,6
2,1 - 3	0	0,0	16	26,7	1	2,3	17	12,1
3,1 - 4	5	13,5	6	10,0	1	2,3	12	8,6
4,1 - 5	3	8,1	9	15,0	4	9,3	16	11,4
>5	4	10,8	1	1,6	2	4,7	7	5,0
Total	37	100,0	60	100,0	43	100,0	140	100,0
Mean daily milk off-take per cow								
	1,30		2,10		1,55		1,72	

(1978) in Swaziland, high prices do not necessarily encourage selling.

Milk Production

Despite the fact that the use of cattle for milk production is generally considered more important than draught power, only 60% of cattle owners' families benefitted from milk production (Table 6). Milk production is marked by a strong seasonal influence on yields. Milk off-take at 1,72 l per cow were low and corresponded with the figure recorded by Soga (1932), which suggests that there has been no improvement in milk yields. On the assumption that daily requirements of milk are approximately 2 l per family of six, present yields do not provide sufficient milk for most families. Between 50 and 60% of all families in the study areas did not consume any milk in their daily diet (Bembridge, 1984, p.164).

Stock management

As to be expected with the low levels of production pertaining in the study areas, adaption rates of cattle management practices such as winter supplementary feeding, effective control of internal parasites, culling and selection, as well as grazing management and control were very low or in many cases non-existent. All three study areas were grossly overstocked (104-234%). It was found that lack of knowledge of livestock practices was a major reason for low adoption of cattle management practices (Bembridge, 1984).

Conclusion

The livestock industry in Transkei and other less developed areas of southern Africa is not realizing its potential and makes a relatively small contribution to economic development.

From the foregoing it may be argued that all cattle owners have to do to increase production is to adopt modern technology. In Transkei society, cattle play important social, spiritual and economic roles. The various roles are complex and inter-related. In Transkei tribal society a man's status and security is enhanced by the number of cattle he owns. Cattle tend to be regarded as an investment, because of lack of other rural investment opportunities. Because cattle are kept mainly to satisfy subsistence needs they are therefore not beef-producing animals, but dual or multi-purpose animals.

The southern African experience in less developed areas to date has shown that there are no easy or cheap technical and other solutions to increasing livestock production. Smallholder livestock production is a complex business. There is a clear need for social change regarding land tenure, community organization as well as improvements in veld and animal management. In order to bring about such changes it is essential to understand livestock production systems in traditional societies (Upton, 1985, p.55). In Transkei and other less developed areas ownership of livestock is an individual and family affair, whereas grazing land is essentially a community affair. This gives rise to conflict between

individual and group interests. Any strategy to improve cattle production involves complex socio-economic and political factors. It is a sobering thought to note that livestock owners in less developed areas will never be well off, unless there are fewer of them per unit area.

Various solutions to the problem of smallholder livestock production in less developed areas have been propounded. So far there is little recorded success of tribal authorities being able to improve livestock production and management and control of grazing areas. The author would argue that it hasn't worked because no country has really seriously been committed to implementing solutions to livestock production.

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