People, Land and Livestock

Proceedings of a Workshop on the
Socio-Economic Dimensions
of Livestock Production in the
Communal Lands of Zimbabwe

Edited by
Ben Cousins

PEOPLE, LAND AND LIVESTOCK

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LIVESTOCK OWNERSHIP AND INEQUALITY
WITH PARTICULAR REFERENCE TO CATTLE :
THE CASE OF SOME COMMUNAL AREAS IN ZIMBABWE

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1. SUMMARY

The main objective of this paper is to demonstrate the extent
of inequality in livestock ownership patterns, particularly in
respect of cattle, from a selected number of districts in
Zimbabwe. For the purpose of this presentation, data relating
to cattle, goats and sheep have been examined. Evidence led
in this paper shows the following:

> The distribution pattern of livestock holdings in
> communal areas is highly uneven, with a larger number
> of farmers having less livestock than those that have
> more livestock. This has been illustrated by the
> very high Pearsonian coefficient of skewness, the
> consistently high coefficient of variation in all the
> communal areas from which data was analysed and to
> a lesser extent, by the high range in the ownership
> patterns of the different types of livestock.

The major reasons cited in this paper for this unfavourable
situation are:

i)   general poverty in rural areas, which is highlighted
      in the stratified nature of rural society;

ii)   the impact of a series of droughts during previous
      agricultural seasons which have led to high livestock
      deaths over the past few years;

iii) the status symbol/traditional role cattle play in
      communal farming areas - those communal farmers with
      large herds of cattle have not been very willing to
      sell their cattle, even following   the tragic
      experiences of recent droughts.

2. INTRODUCTION

Over the period 1986 to 1988 the Monitoring and Evaluation
Section of the Department of Agricultural Technical and
Extension Services (Agritex) gathered livestock data from
specific districts in Zimbabwe. The livestock data were
collected from the following areas; Nyanga and Buhera districts
(Manicaland Province); Gweru district, Chiundura and Shurugwi
Communal Lands (Midlands Province); Mudzi district (Mashonaland
East Province); Bikita, Masvingo South and Chivi Communal Lands
(Masvingo Province); Umzingwane district, Nswazi Communal Land
(Matabeleland South Province, and Rushinga district
(Mashonaland Central Province).

The livet k data collected from the various districts had a
particular emphasis on cattle, the most important type of
livestock in Zimbabwe, although data for other livestock types
like goats and sheep were also gathered.

3. RESEARCH METHODOLOGY - A SUMMARY

Livestock data were collected from samples of farmers or
households from the various communal areas and districts
mentioned.   This was done after the construction of
comprehensive farmer or household lists for the particular

areas. The data were collected through the process of interviewing using the household as the basic unit of analysis.

Problems associated with collection of livestock data from communal areas, especially with reference to cattle, were well appreciated. For example, it is admitted that it may be difficult to determine precisely how many cattle a particular communal household owns, given the problems associated with household definition. Hence it has been asserted, "it can simply never be said that such and such a household owns so many cattle" (Scoones and Wilson 1988, p27).

In our study this problem was overcome by ensuring that enumerators responsible for collecting data distinguished between cattle owned by the household and those in the household's possession. This distinction was critical in ensuring that there was high reliability in the livestock data that were collected.

4. SURVEY RESULTS

4.1 Livestock ownership and inequality pattern

The cattle ownership pattern throughout the communal areas from which data were analysed showed greatly skewed distribution patterns (see Tables 1 and 2). In most of these areas, however, the average total number of cattle owned was about the same, ranging between 6 and 7 cattle. About 17 percent of the farmers from a sample of farmers from Gutu district did not have any cattle at all (1988), 19 percent from Buhera district (1988), about 23 percent from Gweru district (1987), 11 percent from Nyanga district (1987), about 18 percent from Bikita district (1986), about 20 percent from Chivi district (1986),

about 19 percent from Masvingo South Communal Land (1986), and about 14 percent from Rushinga district (1987). Although in aggregate terms, these figures seem to be quite low, they do obscure important variations in the pattern of cattle ownership and the great inequalities that exist in all the Communal Lands from which livestock data have been analysed. A large range in numbers of cattle owned was also observed for all the districts.

A more important measure of the distribution pattern, the Pearsonian measure of skewness, also demonstrated a highly positive skew of the cattle holdings in the communal areas. In most areas Pearson's measure of skewness is closer to or greater than 1, showing that a larger proportion of communal farmers tended to have less cattle than those that had more. Pearson's measure of skewness was calculated using the following formula:

$$SK = \frac{Mean - Mode}{standard\ deviation}$$

The coefficient of variation of all sets of cattle data examined also showed a very high variation demonstrating a high inequality in number of cattle owned in the communal areas. The coefficient of variation ranged from about 85 percent in Bikita district to 117 percent in Mudzi district. This wide disparity in the distribution of cattle among the communal farming families is one of the most important single explanatory factors in the success or failure of communal agricultural production in Zimbabwe (Chipika, 1988).

Similarly, a highly skewed distribution of cattle among different households was also evident with respect to different

types of cattle owned throughout all the communal areas examined (Tables 3, 4 and 5).

With respect to goats and sheep, a similar pattern of distribution was observed (see Tables 6 and 7). There was a very high coefficient of variation in the distribution pattern of the two types of livestock. This ranged from 97 percent to 124 percent for goats, and was even higher for sheep.

As with the distribution of cattle, this uneven pattern of distribution of the smaller livestock types is also a cause for concern. The critical question is: what strategies or options are available to narrow the gap between those that have and those that do not have, given the high impact that livestock ownership, especially of cattle, has on communal farm productivity and production?

4.2 Main reasons for inequalities in livestock (cattle) ownership

(a)   General poverty: The general poverty of a stratified rural society explains in a large measure the skewness in the livestock distribution pattern. Most communal farmers lack finance to purchase livestock. Recent research has shown that there is a marked differentiation in levels of remittances of off-farm incomes. This directly influences levels of asset accumulation in rural areas, including purchase   or   acquisition   of   livestock.   Also, differentiation in agricultural income, which is dependent to a large extent on the level of initial assets (e.g. access to land, farming implements, number of cattle owned, etc.) contributes to the reinforcement of rural inequality.   This situation leads to the creation of a vicious circle of socio-economic inequality not only in

livestock ownership, but also in the ownership pattern of other essential resources. General living standards of households are also affected.

Poverty in the communal farming sector is also closely associated with the historical development of the so-called "Native Reserves". During the colonial period the vast majority of peasant farmers were forced onto infertile sandy soils with low productivity. The dualistic pattern of development of Zimbabwean agriculture whereby the large scale commercial farming sector (dominated by white farmers) received a disproportionately large share of essential scarce resources, e.g. more fertile land, supportive inputs and infrastructure at the expense of the communal farming sector largely explains the poverty of a large number of communal farmers in Zimbabwe. Although the post-independence government has made some attempt to redress this situation, the problems that emanated from the colonial period still exist today. However, whilst some communal farmers have over the years managed to become surplus producers of agricultural products, a large number of the communal farmers have not been able to break out of the vicious circle of poverty.

(b) Drought. In the severe consecutive droughts from 1982 to 1985 many farming families lost much of their cattle, and sometimes their entire stock. Even up to the present period, many of the peasant farmers have not been able to rebuild their stock. The rebuilding exercise has been aggravated by the rapid rise in the purchase price of cattle over the past four years, which has risen by some 65 percent, without a corresponding increase in incomes.

(c) Cattle have traditionally not been regarded as a major
     source of cash in communal areas because of their status
     symbol functions. This has contributed to fewer cattle
     being available for sale in the markets, with the
     distribution pattern of cattle among communal farmers
     remaining much in favour of those with more cattle over
     the years.

5. SOME CONCLUSIONS AND RECOMMENDATIONS

Recommendations relating to the elimination or alleviation of
livestock inequalities in communal areas should be viewed
within the context of a broad based rural development programme
focusing not only on livestock issues but on the elimination
of rural poverty, especially for the very disadvantaged
communal farmers. The following recommendations may be worth
considering.

A holistic resource development approach to the elimination of
insecurity and poverty is essential, ensuring that the basic
needs requirements of communal farmers are first met through
a multi-sectoral approach. Among other things, this should
include the following:

(a) Given the very real limitations of the communal farming
     sector in Zimbabwe, an expansion of non-farm informal
     sector and formal sector income and employment generating
     activities is essential in order to   alleviate real
     poverty.   Such activities   could   include   small
     agro-industrial projects starting from the growth points.
     However, these activities require certain levels of
     capital investment, organisational and managerial skills
     if they are to succeed.

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(b) Generation and implementation of "appropriate technology"
     leading to sound and appropriate production systems which
     give high net incremental return to resource poor peasant
     farmers. Through increased sales, this might increase the
     ability of farmers to save more cash to purchase
     livestock, particularly cattle.

(c) Implementation of sound and well managed grazing schemes,
     together with the construction of water facilities (dams),
     where these are required;

(d) Improvement of livestock marketing facilities and
     embarking on rigorous campaigns to encourage farmers with
     large cattle herds to sell some of their cattle to both
     official and unofficial markets, i.e. selling directly to
     other farmers. In order to eliminate the problem at hand,
     it is definitely undesirable to have a single sectoral
     approach. The inter-linkages between the various sectors
     certainly needs to be examined and appropriate steps taken
     by the responsible people or organisations.

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LIVESTOCK STATISTICS FROM SAMPLES OF FARMERS
IN SOME DISTRICTS IN ZIMBABWE
(unless otherwise stated, all figures
relate to the 1987/88 season)

Table 1: Total cattle owned

Total Cattle Owned	Gutu	Buhera	Gweru	Nyanga	Bikita (1986)	Chivi (1986)	Masvingo South (1986)
Mean[1]	6,7	7,1	7,3	7,1	7,2	5,8	6,5
Range	29	4C	28	40	26	24	29
Skewness (SK)	1,17	1,13	1,05	1,16	1,19	1,06	1,08
Coefficient of Variation	85,5%	88,2%	95,4%	86,2%	84,6%	94,6%	92,5%[2]
n	267	128	138	228	103	112	115

Table 1 (continued): Total cattle owned

	Nswazi	Rushinga	Mudzi[3]
Mean[1]	7,6	6,0	3,5
Range	44	33	23
Skewness (SK)	0,60	0,61	0,85
Coefficient of variation[2]	100%	110%	117%
n	54	64	149

[1] Note that cattle averages do not necessarily reflect those of whole districts

[2] The high coefficient of variation indicates that small proportions of farmers own large numbers of cattle while large proportions of farmers own few cattle

Table 2: Distribution of cattle

Total cattle owned (%)	Gutu	Buhera	Bikita	Chivi	Masvingo S. (1986)
0	16,5	18,8	18,4	19,6	19,1
1 - 3	13,9	10,9	13,6	23,2	19,1
4 - 7	32,1	28,1	29,1	26,8	25,2
8 and over	37,1	42,1	38,8	30,4	36,5
n	267	128	103	112	115

Table 2 (continued): Distribution of cattle

Total Cattle Owned[4] (%)	Gweru	Nyanga	Nswazi	Rushinga	Mudzi[3]
0	23,2	11,4	3,7	14,1	32,9
1 - 3	14,4	17,5	31,5	32,8	37,5
4 - 7	21,0	32,9	25,9	28,1	24,8
8 and over	41,3	38,2	38,9	25,0	14,8
n	138	228	54	64	149

[3] Calves have not been included in the total number
   of cattle owned in Mudzi district

[4] Figures not necessarily reflecting those of whole
   districts

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Table 3:   Cattle ownership by cattle type : oxen

Total Oxen Owned	Buhera	Mudzi	Gweru	Bikita (1986)	Chivi (1986)	Masvingo S. (1986)
Mean	2,4	1,6	2,3	2,6	1,7	2,4
Range	12	14	14	10	13	14
Skewness (SK)	1,06	0,78	0,84	1,10	0,86	0,99
Coefficient of variation	95%	129%	119%	91%	116%	101%
n	128	149	138	103	112	115

Table 4:   Cattle ownership by cattle type : cows

Total Cows Owned	Buhera	Mudzi	Gweru	Bikita (1986)	Chivi (1986)	Masvingo S. (1986)
Mean	3,3	1,7	2,2	2,4	1,9	2,0
Range	24	15	10	14	8	10
Skewness (SK)	0,98	0,74	1,02	0,16	0,96	0,94
Coefficient of variation	102%	135%	98%	48%	105%	107%
n	128	149	138	103	112	115

Table 5: Cattle ownership by cattle type : calves

Total Calves Owned	Buhera	Mudzi	Gweru	Bikita (1986)	Chivi (1986)	Masvingo S (1986)
Mean	1,3	-	1,3	1,1	1,0	1,0
Range	6	-	10	5	10	6
Skewness (SK)	0,91	-	0,72	0,80	0,66	0,72
Coefficient of variation	110%	-	139%	125%	152%	139%
n	1	149	138	103	112	115

Table 6: Goat ownership

Total Goats Owned	Buhera	Mudzi	Gweru	Bikita (1986)	Chivi (1986)	Masvingo S. (1986)
Mean	5	4,5	4	5,9	6,1	4,9
Range	25	21	20	33	32	30
Skewness (SK)	1,03	1,01	0,87	0,2	0,81	0,90
Coefficient of variation	97%	99%	115%	109%	124%	111%
n	267	128	138	103	112	115

Table 7:   Sheep ownership

Total Sheep Owned	Buhera	Mudzi	Gweru	Bikita (1986)	Chivi (1986)
Mean	0,85	0,54	0,57	0,27	1,0
Range	17	22	11	9	23
Skewness (SK)	0,38	0,21	0,31	0,19	0,28
Coefficient of variation	263%	471%	318%	521%	351%
n	267	138	103	112	115

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