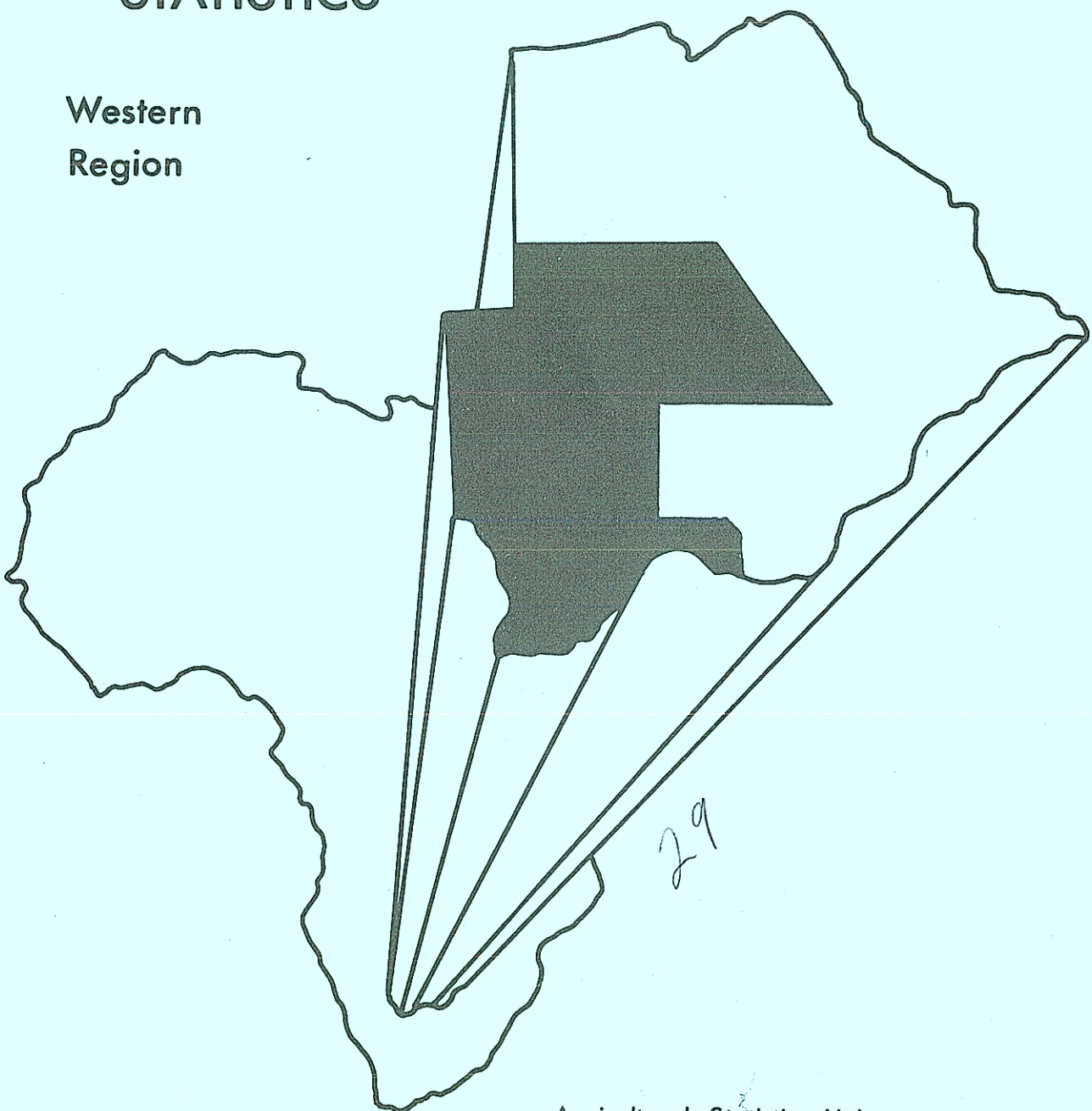
FO 007 886 834

1981 BOTSWANA AGRICULTURAL STATISTICS

Western Region



Agricultural Statistics Unit
Planning & Statistics
MINISTRY OF AGRICULTURE
Central Statistics Office
MINISTRY OF FINANCE & DEVELOPMENT PLANNING

PREFACE AND ACKNOWLEDGEMENTS

This is one of a series of six regional reports that are available from the Agricultural Statistics Unit, Ministry of Agriculture. Agricultural Statistics provides an overall summary on agriculture in the country. This series reflects the latest in a continuing effort to provide meaningful data at the regional level for the formulation and evaluation of local agricultural policy. Although data contained in this report can be used independently, greater benefits will be realized if it is used in conjunction with the national report.

A number of persons contributed towards the successful production of this report. The Division of Planning and Statistics is indebted to the following individuals: G. Sebina, M. Lesope, M. Moapare, L. Tau and F. Tau, Western Region Statistical Team; Geoff Hinchliffe, Systems Analyst/Programmer; and Gerald Bulawa, Cartographer.

GILBERT L. MOTSEMME

Head, Statistics Unit,
Division of Planning and Statistics,
Ministry of Agriculture.

M.G. SINGH

Statistician,
Central Statistics Office,
Ministry of Finance and
Development Planning.

November, 1981.

1981 AGRICULTURAL STATISTICS

WESTERN REGION

Table of Contents

		Page
Introduction		1
TABLES		
	SUMMARY	
TABLE 1:	Summary of Traditional Livestock Estimates with Coefficients of Variation	2
	CATTLE	
TABLE 2:	CATTLE Farms, Animals and Average Size by Districts and Size of Cattle Holding, Traditional Farms	4
TABLE 3:	CATTLE HERD COMPOSITION Bulls, Oxen, Cows, Tollies, Heifers and Calves by Districts and Size of Cattle Holding, Traditional Farms	6
TABLE 4:	CATTLE HERD COMPOSITION Bulls, Oxen, Cows, Tollies, Heifers and Calves by Districts and Size of Cattle Holding, Traditional Farms	7
TABLE 5:	CATTLE INVENTORY Births, Deaths, Sales, Home Slaughter and Purchases by Districts and Size of Cattle Holding, Traditional Farms	8
TABLE 6:	CATTLE INVENTORY Ratio of Births to Cows and Deaths, Sales, Home Slaughter, and Purchases to Total Cattle by Districts and Size of Cattle Holding, Traditional Farms	9
	GOATS, SHEEP, OTHER LIVESTOCK	
TABLE 7:	GOATS Farms, Animals and Average Size by Districts and Size of Goat Holding, Traditional Farms	12
TABLE 8:	GOAT HERD COMPOSITION Number of Males and Females One Year and Over, and Males and Females Under One Year by Districts and Size of Goat Holding, Traditional Farms	14
TABLE 9:	GOAT HERD COMPOSITION Percentage of Males and Females One Year and Over, and Males and Females Under One Year by Districts and Size of Goat Holding, Traditional Farms	15

Page

TABLE 10: GOAT INVENTORY Births, Deaths, Sales, Home Slaughter and Purchases by Districts and Size of Goat Holding, Traditional Farms 16

TABLE 11: GOAT INVENTORY Ratio of Births, Deaths, Sales, Home Slaughter and Purchases to Total Goats by Districts and Size of Goat Holding, Traditional Farms 17

TABLE 12: SHEEP Farms, Animals and Average Size by Districts and Size of Sheep Holding, Traditional Farms 18

TABLE 13: SHEEP HERD COMPOSITION Number of Males and Females One Year and Over, and Males and Females Under One Year by Districts and Size of Sheep Holding, Traditional Farms 20

TABLE 14: SHEEP HERD COMPOSITION Percentage of Males and Females One Year and Over, and Males and Females Under One Year by Districts and by Size of Sheep Holding, Traditional Farms 21

TABLE 15: SHEEP INVENTORY Births, Deaths, Sales, Home Slaughter and Purchases by Districts and Size of Sheep Holding, Traditional Farms 22

TABLE 16: SHEEP INVENTORY Ratio of Births, Deaths, Sales, Home Slaughter and Purchases to Total Sheep by Districts and Size of Sheep Holding, Traditional Farms 23

TABLE 17: DONKEYS/MULES Farms, Animals and Average Size by Districts and Size of Donkey/Mule Holding, Traditional Farms 24

TABLE 18: CHICKENS Farms, Birds and Average Size by Districts and Size of Flock, Traditional Farms 25

FIGURES

FIGURE 1: Traditional Cattle by Districts 5

FIGURE 2: Traditional Goats by Districts 13

FIGURE 3: Traditional Sheep by Districts 19

WESTERN REGION

1981 AGRICULTURAL STATISTICS

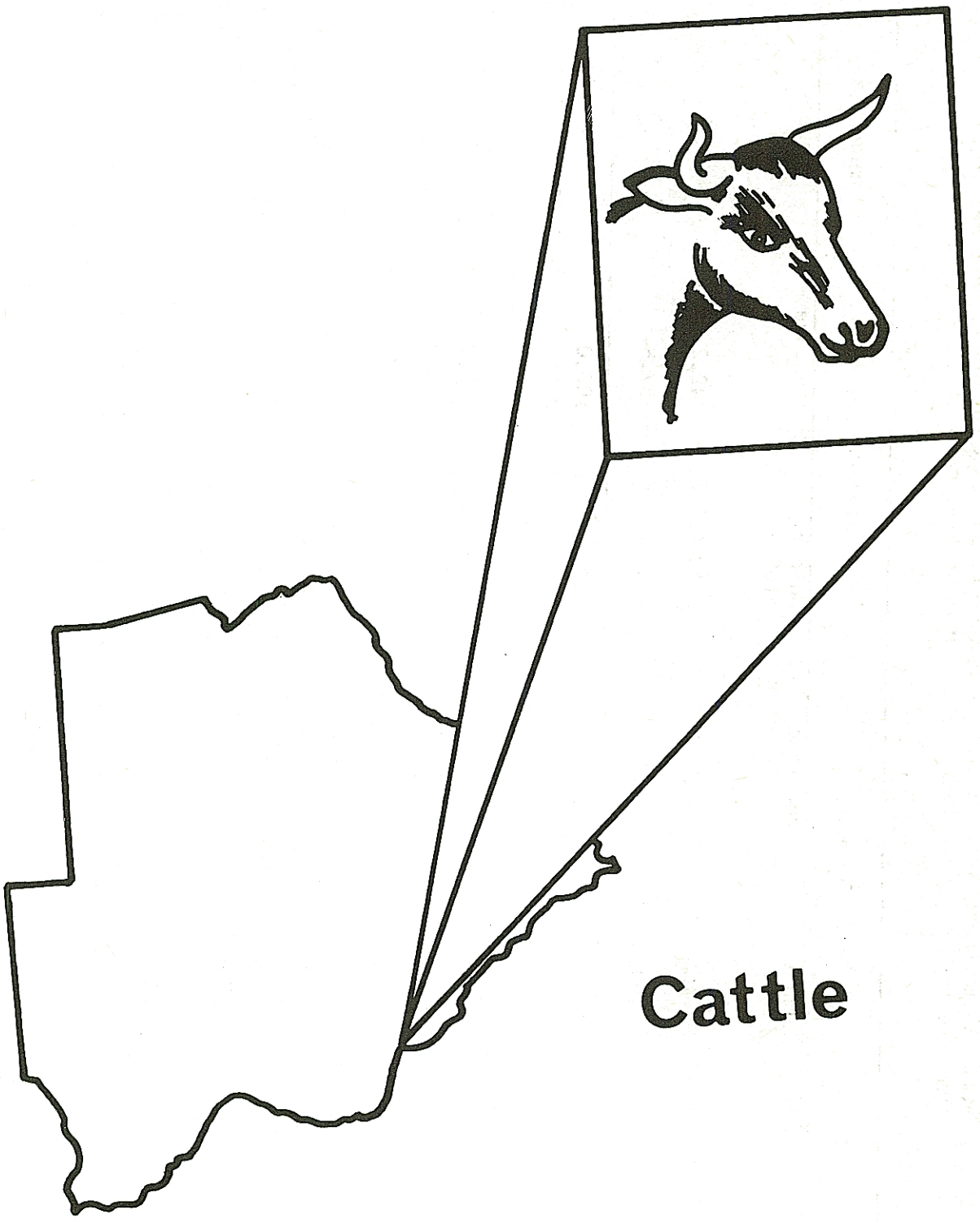
This report presents the results of the 1981 Crop and Livestock Survey for the Western Region. This region is comprised of two Agricultural Districts -- Ghanzi and Kgalagadi. The report is limited to traditional livestock operations only.

Survey data were collected using a multi-stage stratified probability sample design. The region was divided into survey blocks stratified by district according to lands, cattle post and village areas. From a total of 49 first stage survey blocks, a probability sample of 23 blocks was selected. At the second stage 218 randomly selected farm holders (approximately one out of every 11 farm holders in the Region) were interviewed. Those farmers who reported holding 100 or more cattle were selected with a probability of one.

The measure of precision for the regional estimates is given in terms of Coefficient of Variation (C.V.). The Coefficients of Variation are shown in summary Tables 1 and 2.

TABLE 1 : Summary of Traditional Livestock Estimates with Coefficients of Variation for Western Region - 1981 Agricultural Statistics

Category	Traditional	Coefficient of Variation
	Number	Percent
TOTAL FARMS	2,400	10.5
CATTLE:		
Cattle farms	1,700	12.0
Total cattle	102,000	20.1
Bulls	1,800	19.4
Oxen	9,000	24.2
Cows	40,000	20.3
Tollies	12,400	20.7
Heifers	19,100	23.2
Calves	19,700	17.5
Births	81,000	18.1
Deaths	62,000	16.7
Sales	35,700	21.6
Purchases	5,100	26.3
Home slaughter	1,800	27.0
GOATS:		
Goat farms	1,800	10.2
Total goats	47,000	15.0
Males one year & over	5,700	16.1
Females one year & over	25,100	15.8
Males under one year	6,600	15.4
Females under one year	9,600	15.5
Births	19,000	14.8
Deaths	14,500	15.5
Sales	2,900	19.4
Purchases	700	31.2
Home slaughter	3,800	17.1
SHEEP:		
Sheep farms	500	20.6
Total sheep	22,000	43.2
Males one year & over	1,900	32.0
Females one year & over	15,500	48.8
Males under one year	1,800	33.6
Females under one year	2,800	31.5
Births	8,400	45.1
Deaths	3,700	34.9
Sales	2,300	62.2
Purchases	400	88.5
Home slaughter	1,600	51.1
OTHER LIVESTOCK:		
Mule/donkey farms	1,600	11.4
Mules/donkeys	8,200	19.6
Horse farms	900	15.7
Horses	4,300	18.6
Chicken farms	2,000	12.2
Chickens	16,000	16.0

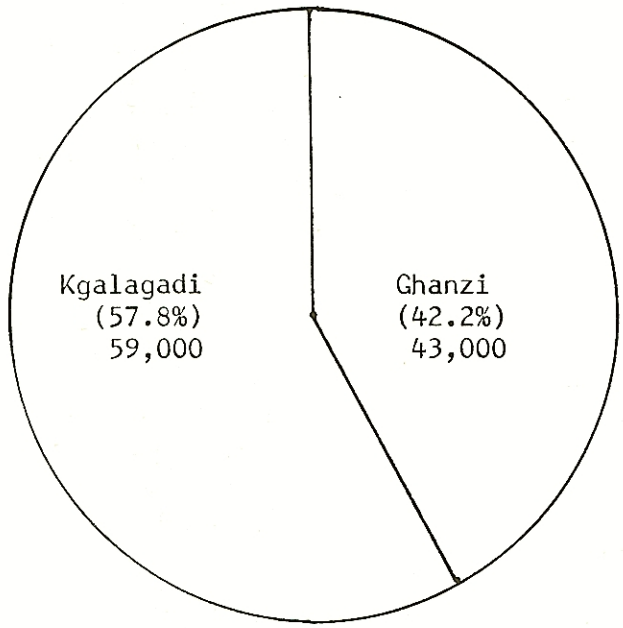


Cattle

TABLE 2 : CATTLE Farms, Animals and Average Size by Districts and Size of Cattle Holding, Traditional Farms, Western Region - 1981 Agricultural Statistics

	Cattle Farms		Total Cattle		Average Size
	Number	Percentage	Number (000)	Percentage	Number
DISTRICTS					
Ghanzi	700	41.2	43.0	42.2	61.4
Kgalagadi	1,000	58.8	59.0	57.8	59.0
TOTAL	1,700	100.0	102.0	100.0	60.0
HERD SIZE					
1 - 10	550	32.4	2.9	2.8	5.3
11 - 20	250	14.7	4.1	4.0	16.4
21 - 30	200	11.8	5.0	4.9	25.0
31 - 40	150	8.8	5.2	5.1	34.7
41 - 50	100	5.9	4.7	4.6	47.0
51 - 60	50	2.9	2.9	2.8	58.0
61 - 100	150	8.8	11.5	11.3	76.7
101 +	250	14.7	65.7	64.5	262.8
TOTAL	1,700	100.0	102.0	100.0	60.0

1981 AGRICULTURAL STATISTICS



TOTAL CATTLE: 102,000

Figure 1: Traditional Cattle by Districts

TABLE 3: CATTLE HERD COMPOSITION Bulls, Oxen, Cows, Tollies, Heifers and Calves by Districts and Size of Cattle Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Bulls	Oxen	Cows	Tollies	Heifers	Calves	Total Cattle
			- Number (000) -				
DISTRICTS							
Ghanzi	.8	4.9	15.3	5.8	8.1	8.1	43.0
Kgalagadi	1.0	4.1	24.7	6.6	11.0	11.6	59.0
TOTAL	1.8	9.0	40.0	12.4	19.1	19.7	102.0
HERD SIZE							
1 - 10	.1	.2	1.3	.2	.3	.8	2.9
11 - 20	.1	.1	1.6	.4	.9	1.0	4.1
21 - 30	.1	.4	2.2	.5	.8	1.0	5.0
31 - 40	.1	.5	2.1	.5	.8	1.2	5.2
41 - 50	.1	.5	1.9	.5	.8	.9	4.7
51 - 60	.1	.3	.9	.4	.7	.5	2.9
61 - 100	.2	.9	4.3	1.4	2.5	2.2	11.5
101 +	1.0	6.1	25.7	8.5	12.3	12.1	65.7
TOTAL	1.8	9.0	40.0	12.4	19.1	19.7	102.0

TABLE 4: CATTLE HERD COMPOSITION Bulls, Oxen, Cows, Tollies, Heifers and Calves by Districts and Size of Cattle Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

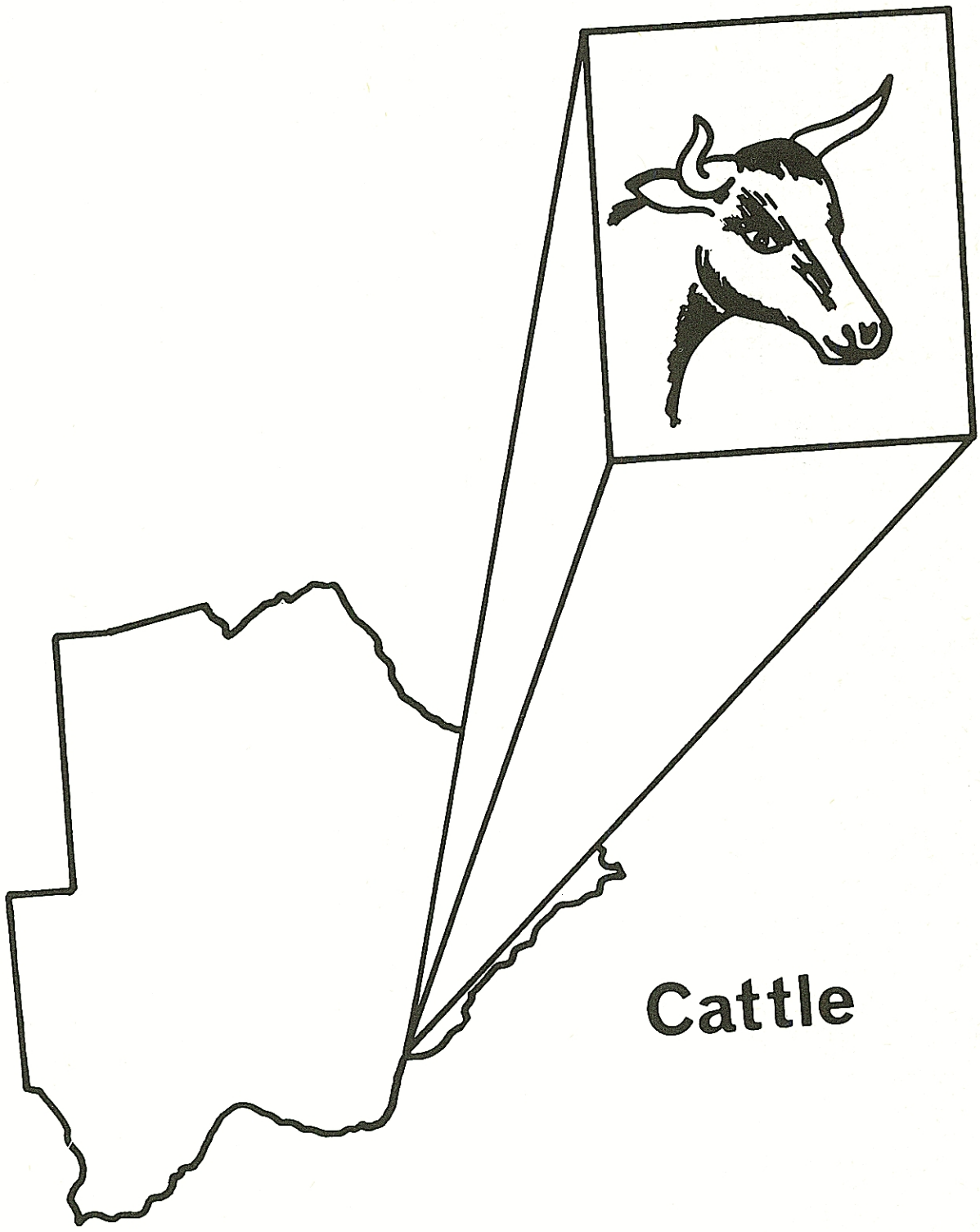
	Bulls	Oxen	Cows	Tollies	Heifers	Calves	Total
			- Percentage -				
DISTRICTS							
Ghanzi	1.9	11.4	35.6	13.5	18.8	18.8	100.0
Kgalagadi	1.7	6.9	41.9	11.2	18.6	19.7	100.0
TOTAL	1.8	8.8	39.2	12.2	18.7	19.3	100.0
HERD SIZE							
1 - 10	3.5	6.9	44.8	6.9	10.3	27.6	100.0
11 - 20	2.4	2.4	39.0	9.8	22.0	24.4	100.0
21 - 30	2.0	8.0	44.0	10.0	16.0	20.0	100.0
31 - 40	1.9	9.6	40.4	9.6	15.4	23.1	100.0
41 - 50	2.1	10.7	40.4	10.6	17.0	19.2	100.0
50 - 61	3.5	10.4	31.0	13.8	24.1	17.2	100.0
61 - 100	1.8	7.8	37.4	12.2	21.7	19.1	100.0
101 +	1.5	9.3	39.1	13.0	18.7	18.4	100.0
TOTAL	1.8	8.8	39.2	12.2	18.7	19.3	100.0

TABLE 5: CATTLE INVENTORY Births, Deaths, Sales, Home Slaughter and Purchases by Districts and Size of Cattle Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Births	Deaths	Sales	Home Slaughter	Purchases
		- Number (000) -			
DISTRICTS					
Ghanzi	12.0	9.0	5.8	.5	.7
Kgalagadi	11.0	8.0	5.2	.5	1.8
TOTAL	23.0	17.0	11.0	1.0	2.5
HERD SIZE					
1 - 10	1.0	2.0	.4	.1	.2
11 - 20	1.2	1.0	.7	.1	1/
21 - 30	1.4	1.7	.2	.1	1/
31 - 40	1.4	.6	.4	.1	.1
41 - 50	1.3	1.6	.6	.1	.3
51 - 60	.6	.3	.2	.1	1/
61 - 100	2.2	1.4	.9	.1	.1
101 +	13.9	8.4	7.6	.3	1.8
TOTAL	23.0	17.0	11.0	1.0	2.5

TABLE 6 : CATTLE INVENTORY Ratio of Births to Cows and Deaths, Sales, Home Slaughter, and Purchases to Total Cattle by Districts and Size of Cattle Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

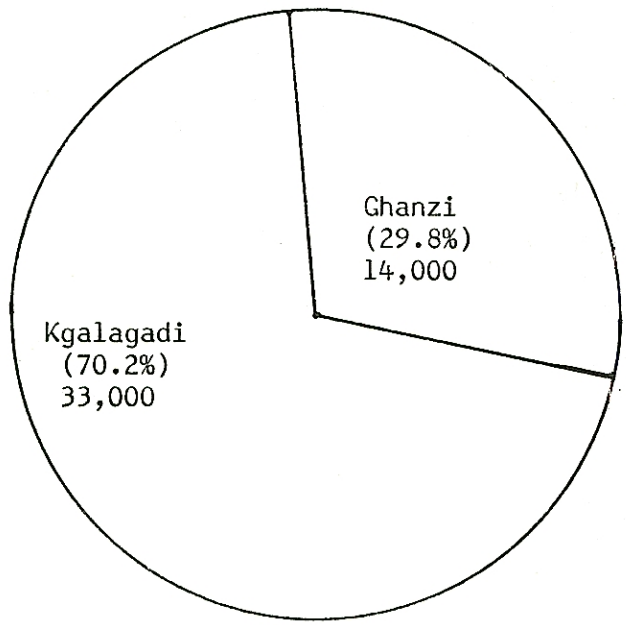
	Ratio of Births to Cows	Ratio of Deaths to Total Cattle	Ratio of Sales to Total Cattle	Ratio of Home Slaughter to Total Cattle	Ratio of Purchases to Total Cattle
		- Percentage -			
DISTRICTS					
Ghanzi	78.4	20.9	13.5	1.2	1.6
Kgalagadi	44.5	13.6	8.8	.8	3.1
TOTAL	57.5	16.7	10.8	1.0	2.5
HERD SIZE					
1 - 10	76.9	69.0	13.8	3.4	6.9
11 - 20	75.0	24.4	17.1	2.4	1/
21 - 30	63.6	34.0	4.0	2.0	1/
31 - 40	66.7	11.5	7.7	1.9	1.9
41 - 50	68.4	34.0	12.8	2.1	6.4
51 - 60	66.7	10.3	6.9	3.4	1/
61 - 100	51.2	12.2	7.8	0.9	0.9
101 +	54.1	12.8	11.6	0.5	2.7
TOTAL	57.5	16.7	10.8	1.0	2.5



Cattle

TABLE 7: GOATS Farms, Animals and Average Size by Districts and Size of Goat Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Goat Farms		Total Goats		Average Size
	Number	Percentage	Number (000)	Percentage	Number
DISTRICTS					
Ghanzi	600	33.3	14.0	29.8	23.3
Kgalagadi	1,200	66.7	33.0	70.2	27.5
TOTAL	1,800	100.0	47.0	100.0	26.1
HERD SIZE					
1 - 5	200	11.1	.7	1.5	3.5
6 - 10	300	16.7	2.5	5.3	8.3
11 - 15	300	16.7	3.8	8.1	12.7
16 - 20	100	5.6	1.7	3.6	17.0
21 - 30	400	22.2	9.0	19.1	22.5
31 +	500	27.7	29.3	62.4	58.6
TOTAL	1,800	100.0	47.0	100.0	26.1



TOTAL GOATS: 47,000

Figure 2: Total Goats by Districts

TABLE 8: GOAT HERD COMPOSITION Number of Males and Females One Year and Over, and Males and Females Under One Year by Districts and Size of Goat Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Males One Year and Over	Females One Year and Over	Males Under One Year	Females Under One Year	Total
		- Number (000) -			
DISTRICTS					
Ghanzi	1.5	7.4	1.9	3.2	14.0
Kgalagadi	4.2	17.7	4.7	6.4	33.0
TOTAL	5.7	25.1	6.6	9.6	47.0
HERD SIZE					
1 - 5	1/	.4	.1	.2	.7
6 - 10	.3	1.5	.3	.4	2.5
11 - 15	.6	1.7	.7	.8	3.8
16 - 20	.2	.9	.2	.4	1.7
21 - 30	1.4	4.7	1.1	1.8	9.0
31 +	3.2	15.9	4.2	6.0	29.3
TOTAL	5.7	25.1	6.6	9.6	47.0

TABLE 9: GOAT HERD COMPOSITION. Percentage of Males and Females One Year and Over, and Males and Females Under One Year by Districts and Size of Goat Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Males One Year and Over	Females One Year and Over	Males Under One Year	Females Under One Year	Total
		- Percentage -			
DISTRICTS					
Ghanzi	10.7	52.9	13.6	22.8	100.0
Kgalagadi	12.7	53.6	14.3	19.4	100.0
TOTAL	12.1	53.4	14.1	20.4	100.0
HERD SIZE					
1 - 5	1/	57.1	14.3	28.6	100.0
6 - 10	12.0	60.0	12.0	16.0	100.0
11 - 15	15.8	44.7	18.4	21.1	100.0
16 - 20	11.8	52.9	11.8	23.5	100.0
21 - 30	15.6	52.2	12.2	20.0	100.0
31 +	10.9	54.3	14.3	20.5	100.0
TOTAL	12.1	53.4	14.1	20.4	100.0

TABLE 10: GOAT INVENTORY Births, Deaths, Sales, Home Slaughter and Purchases by Districts and Size of Goat Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

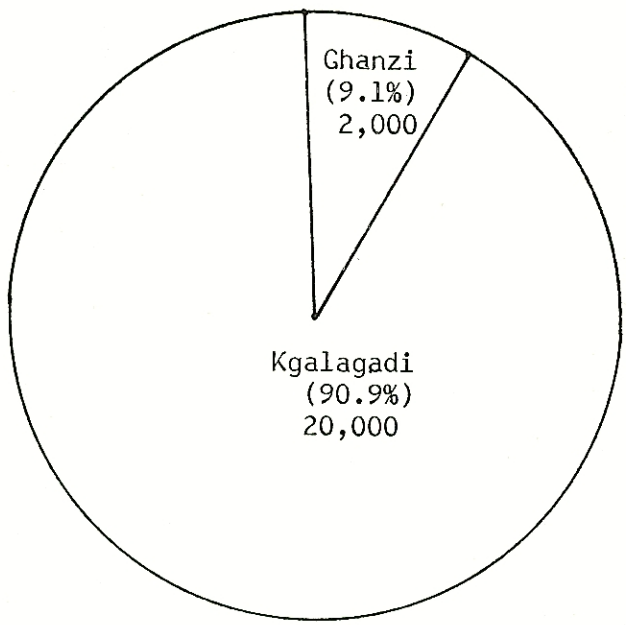
	Births	Deaths	Sales	Home Slaughter	Purchases
	- Number (000) -				
DISTRICTS					
Ghanzi	5.9	6.2	1.5	1.3	.3
Kgalagadi	13.1	8.3	1.4	2.5	.4
TOTAL	19.0	14.5	2.9	3.8	.7
HERD SIZE					
0	--	.1	--	--	--
1 - 5	.5	.5	.1	.1	--
6 - 10	.8	1.5	.3	.5	.1
11 - 15	2.0	1.5	.1	.4	.1
16 - 20	.8	.7	.3	.1	1/
21 - 30	3.4	2.5	.5	.7	.1
31 +	11.5	7.7	1.6	2.0	.4
TOTAL	19.0	14.5	2.9	3.8	.7

TABLE 11: GOAT INVENTORY Ratio of Births, Deaths, Sales, Home Slaughter and Purchases to Total Goats by Districts and Size of Goat Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Ratio of Births to Total Goats	Ratio of Deaths to Total Goats	Ratio of Sales to Total Goats	Ratio of Home Slaughter to Total Goats	Ratio of Purchases to Total Goats
		- Percentage -			
DISTRICTS					
Ghanzi	42.1	44.3	10.7	9.3	2.1
Kgalagadi	39.7	25.2	4.2	7.6	1.2
TOTAL	40.4	30.9	6.2	8.1	1.5
HERD SIZE					
1 - 5	71.4	71.4	14.3	14.3	--
6 - 10	32.0	60.0	12.0	20.0	4.0
11 - 15	52.6	39.5	2.6	10.5	2.6
16 - 20	47.1	41.2	17.6	5.9	--
21 - 30	37.8	27.8	5.6	7.8	1.1
31 +	39.2	26.3	5.5	6.8	1.4
TOTAL	40.4	30.9	6.2	8.1	1.5

TABLE 12: SHEEP Farms, Animals and Average Size by Districts and Size of Sheep Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Sheep Farms		Total Sheep		Average Size
	Number	Percentage	Number (000)	Percentage	Number
DISTRICTS					
Ghanzi	100	20.0	2.0	9.1	20.0
Kgalagadi	400	80.0	20.0	90.9	50.0
TOTAL	500	100.0	22.0	100.0	44.0
HERD SIZE					
1 - 5	100	20.0	1.0	4.5	10.0
6 - 10	100	20.0	1.0	4.5	10.0
11 - 20	200	40.0	2.0	9.1	10.0
21 +	100	20.0	18.0	81.9	180.0
TOTAL	500	100.0	22.0	100.0	44.0



TOTAL SHEEP: 22,000

Figure 3: Total Sheep by Districts

TABLE 13: SHEEP HERD COMPOSITION Number of Males and Females One Year and Over, and Males and Females Under One Year by Districts and Size of Sheep Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Males One Year and Over	Females One Year and Over	Males Under One Year	Females Under One Year	Total
		- Number (000) -			
DISTRICTS					
Ghanzi	.3	1.0	.1	.6	2.0
Kgalagadi	1.6	14.5	1.7	2.2	20.0
TOTAL	1.9	15.5	1.8	2.8	22.0
HERD SIZE					
1 - 5	.1	.2	.1	.1	.5
6 - 10	.1	.4	.1	.1	.7
11 - 20	.3	1.2	.3	.4	2.2
21 +	1.4	13.7	1.3	2.2	18.6
TOTAL	1.9	15.5	1.8	2.8	22.0

TABLE 14 : SHEEP HERD COMPOSITION Percentage of Males and Females One Year and Over, and Males and Females Under One Year by Districts and Size of Sheep Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Males One Year and Over	Females One Year and Over	Males Under One Year	Females Under One Year	Total
		- Percentage -			
DISTRICTS					
Ghanzi	15.0	50.0	5.0	30.0	100.0
Kgalagadi	8.0	72.5	8.5	11.0	100.0
TOTAL	8.6	70.5	8.2	12.7	100.0
HERD SIZE					
1 - 5	20.0	40.0	20.0	20.0	100.0
6 - 10	14.3	57.1	14.3	14.3	100.0
11 - 20	13.6	54.5	13.6	18.2	100.0
21 +	7.5	73.7	7.0	11.8	100.0
TOTAL	8.6	70.5	8.2	12.7	100.0

TABLE 15: SHEEP INVENTORY Births, Deaths, Sales, Home Slaughter and Purchases by Districts and Size of Sheep Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Births	Deaths	Sales	Home Slaughter	Purchases
		- Number (000) -			
DISTRICTS					
Ghanzi	.8	.1	.1	.1	--
Kgalagadi	7.6	3.6	2.2	1.5	.4
TOTAL	8.4	3.7	2.3	1.6	.4
HERD SIZE					
1 - 5	.1	.1	--	--	--
6 - 10	.2	.2	--	.1	.1
11 - 20	.8	.6	.1	.3	--
21 +	7.3	2.8	2.2	1.2	.3
TOTAL	8.4	3.7	2.3	1.6	.4

TABLE 16: SHEEP INVENTORY Ratio of Births, Deaths, Sales, Home Slaughter and Purchases to Total Sheep by Districts and Size of Sheep Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Ratio of Births to Total Sheep	Ratio of Deaths to Total Sheep	Ratio of Sales to Total Sheep	Ratio of Home Slaughter to Total Sheep	Ratio of Purchases to Total Sheep
		- Percentage -			
DISTRICTS					
Ghanzi	40.0	5.0	5.0	5.0	--
Kgalagadi	38.0	18.0	11.0	7.5	2.0
TOTAL	38.2	16.8	10.5	7.3	1.8
HERD SIZE					
1 - 5	20.0	20.0	--	--	--
6 - 10	28.6	28.6	--	14.3	14.3
11 - 20	36.4	27.3	4.5	13.6	--
21 +	39.2	15.1	11.8	6.5	1.6
TOTAL	38.2	16.8	10.5	7.3	1.8

TABLE 17: DONKEYS/MULES Farms, Animals and Average Size by Districts and Size of Donkey/Mule Holding, Traditional Farms Western Region - 1981 Agricultural Statistics

	Donkey/Mule Farms		Total Donkeys/Mules		Average Size
	Number	Percentage	Number (000)	Percentage	Number
DISTRICTS					
Ghanzi	600	37.5	3.0	36.6	5.0
Kgalagadi	1,000	62.5	5.2	63.4	5.2
TOTAL	1,600	100.0	8.2	100.0	5.1
HERD SIZE					
1 - 5	1,150	71.9	3.4	41.5	3.0
6 - 10	350	21.9	2.6	31.7	7.4
11 +	100	6.2	2.2	26.8	22.0
TOTAL	1,600	100.0	8.2	100.0	5.1

TABLE 18 : CHICKENS Farms, Birds and Average Size by Districts and Size of Flock, Traditional Farms Western Region - 1981 Agricultural Statistics

	Chicken Farms		Total Chickens		Average Size
	Number	Percentage	Number (000)	Percentage	Number
DISTRICTS					
Ghanzi	800	40.0	6.0	37.5	7.5
Kgalagadi	1,200	60.0	10.0	62.5	8.3
TOTAL	2,000	100.0	16.0	100.0	8.0
FLOCK SIZE					
1 - 5	800	40.0	2.6	16.3	3.3
6 - 10	800	40.0	5.8	36.3	7.3
11 - 15	250	12.5	3.4	21.3	13.6
16 - 20	100	5.0	1.8	11.3	18.0
21 +	50	2.5	2.4	14.8	48.0
TOTAL	2,000	100.0	16.0	100.0	8.0