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A preliminary report on  
the distribution and  
approximate size of  
population of some ungulate  
mammals in  
South West Africa

Modern works on the distribution of Ungulate Mammals in South West Africa are those of Wilhelm (1931), Shortridge (1934) and Bigalke (1958). Older accounts are those of Fischer (1914) and that published by the German Colonial Office in 1913.

The purpose of the present study has been to determine the distribution and approximate sizes of the populations of Kudu, Gemsbok, Springbok, Eland, Hartebeest and Hartmann's Mountain Zebra primarily in the farming areas of the Territory, but including also the distribution in the Bantu Reserves within the border of the Police Zone (Fig. 1).

In view of this limitation I have not attempted to compare my findings with those of Shortridge (1934) and Bigalke (1958), as their field of investigation was more extensive. It is, however, my intention to carry out a complete investigation of the distribution of ungulate mammals in the remaining parts of the Territory and comparisons with previous findings will be included in a later publication.

In the summer of 1960 a game census was undertaken by the Police authorities at the request of the Nature Conservation Section of the Administration of South West Africa. Occupiers of farms were asked to record on questionnaires their estimates of the numbers of each species occurring on their properties. The Chief Bantu Commissioner was responsible for the survey in the Bantu Reserves.

Accurate information on the distribution and a sound idea of the number of each species was obtained as the percentage of return of questionnaires for the farming area was 82 per cent and a complete survey of all the Bantu Reserves was made.

The distribution of the six species was firstly recorded on large scale magisterial district maps on which all the farms and Bantu Reserves are annotated. From these maps a summarized map, to illustrate the distribution, was drawn for each species (Figs. 2-7).

The distribution was correlated with the rainfall zones (Fig. 8, Weather Bureau, 1935), and the vegetation regions (Fig. 9).

I have rejected the estimated numbers for the different species in the Bantu Reserves in view of their probable inaccuracy and only that for the farming area was calculated. The numbers quoted must be regarded as conservative estimates.

The nomenclature used is that of Ellerman, Morrison-Scott and Hayman (1953).

## RESULTS OF INVESTIGATION

Kudu *Tragelaphus (Strepsiceros) strepsiceros* (Pallas).

The Kudu is the most widely distributed of all the species considered, occurring between Longitude  $13^{\circ} 48'$  and  $20^{\circ}$  E. and Latitude  $18^{\circ} 30'$  and  $28^{\circ} 54'$  S. (Fig. 2), although approximately 88.5 per cent of the population is found north of Latitude  $24^{\circ}$  S. The size of the population on farms is estimated at 60,810.

Kudu occur in the rainfall zones (Fig. 8) which range from 100 mm. to 550 mm. p.a. and in the following vegetation regions (Fig. 9):

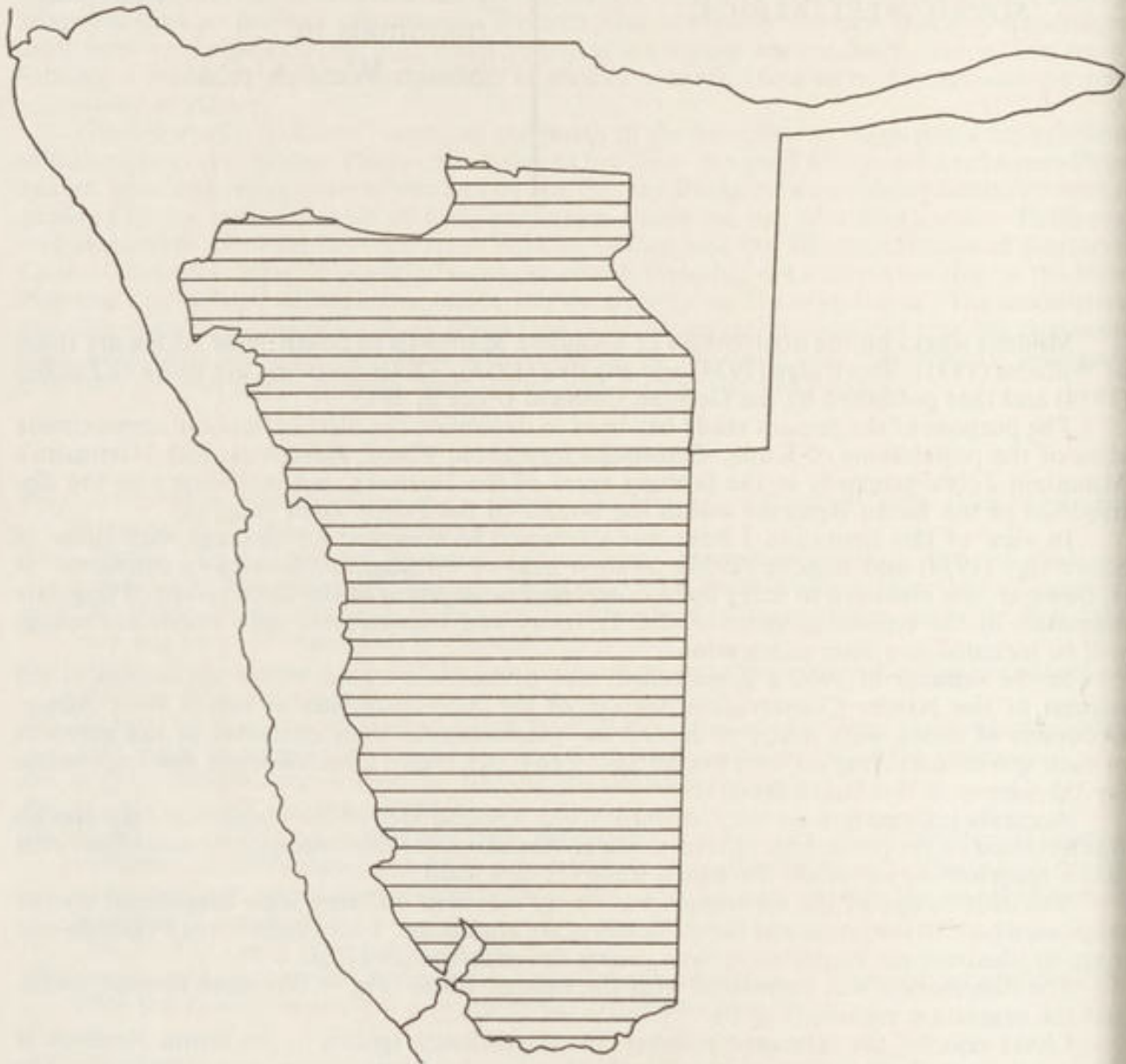


Fig. 1. Map of South West Africa showing the Farming Area including the Bantu Reserves.

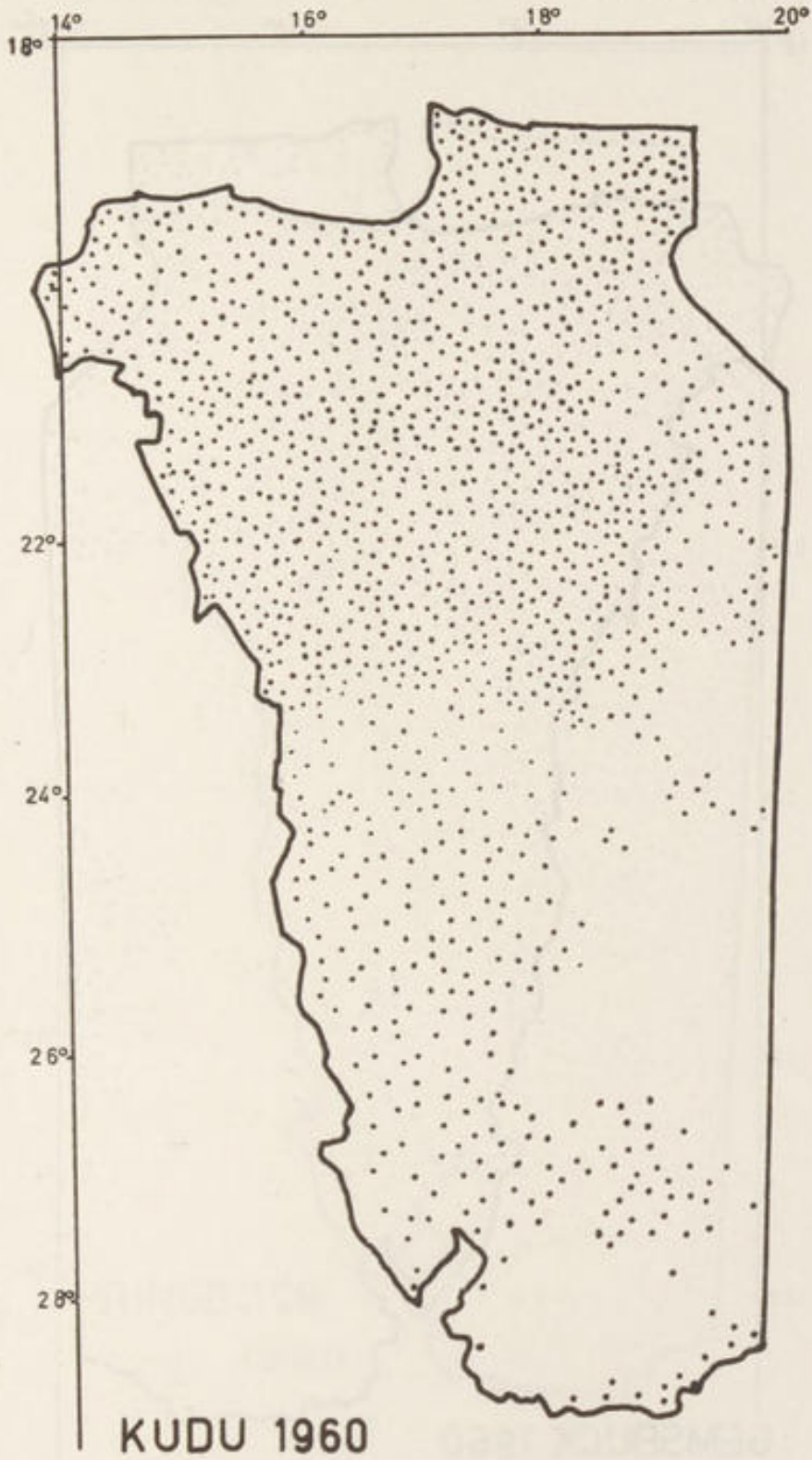


Fig. 2. Map of the Farming Area, including the Bantu Reserves, showing the distribution of Kudu.

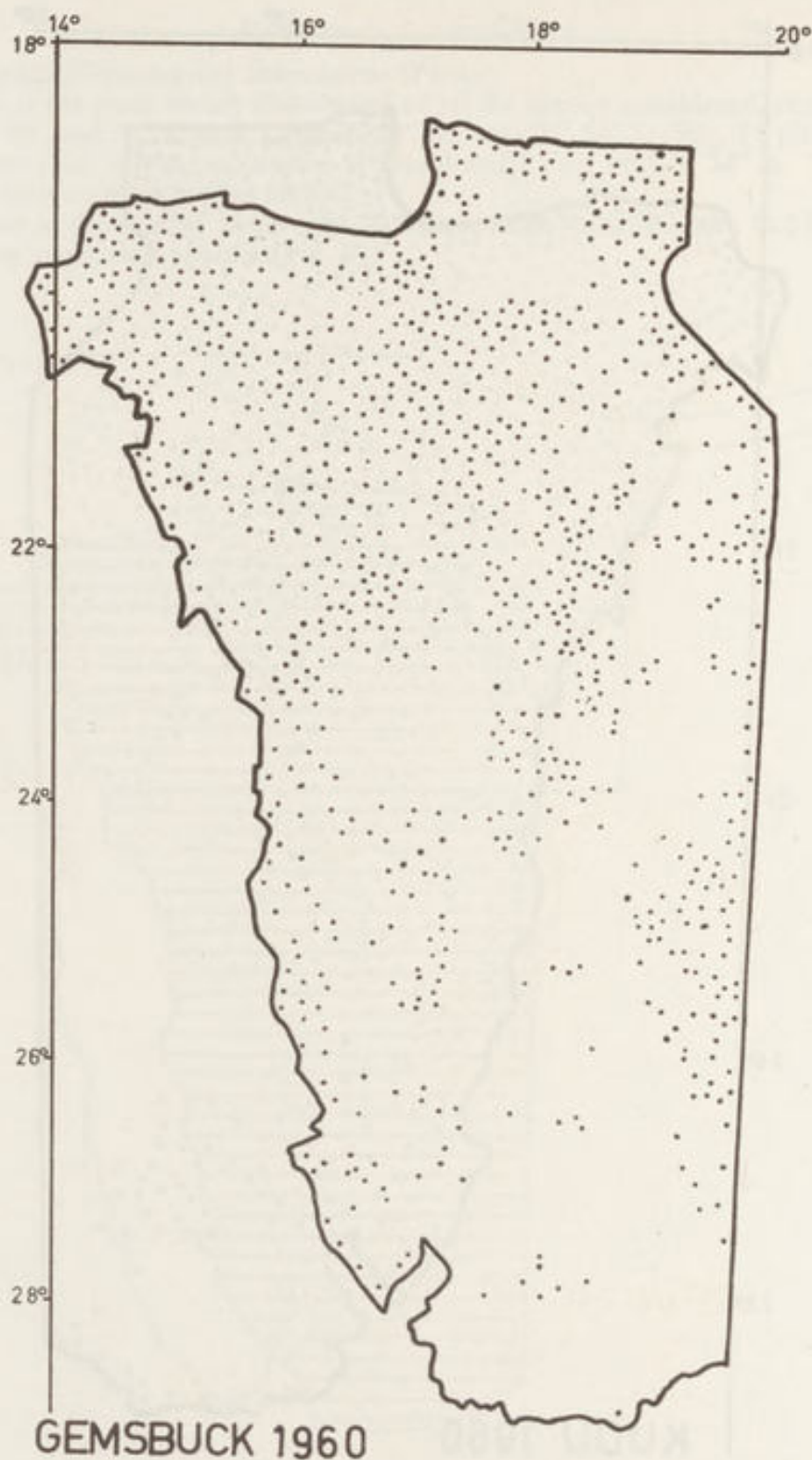


Fig. 3. Map of the Farming Area, including the Bantu Reserves, showing the distribution of Gemsbuck.

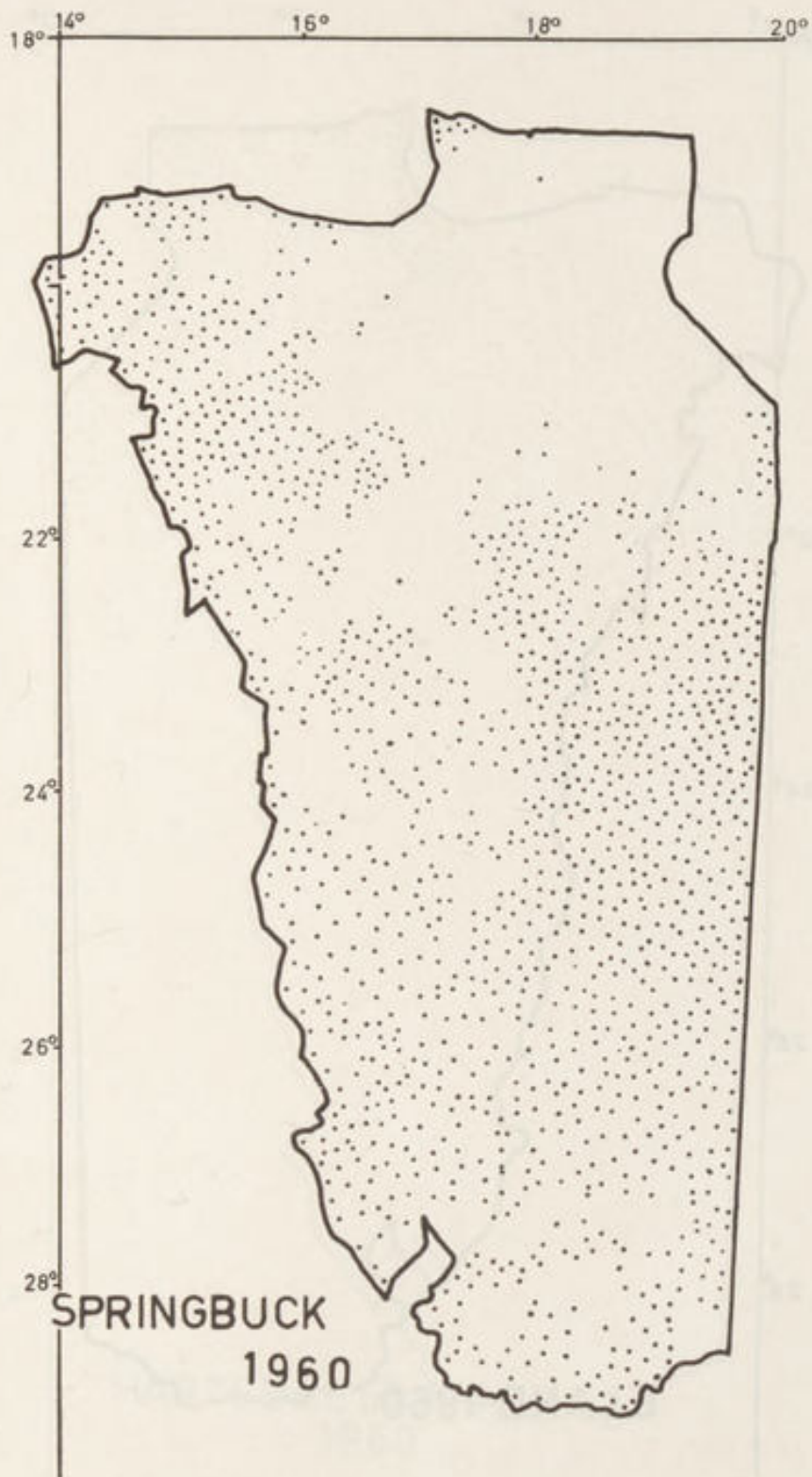


Fig. 4. Map of the Farming Area, including the Bantu Reserves, showing the distribution of Springbuck.

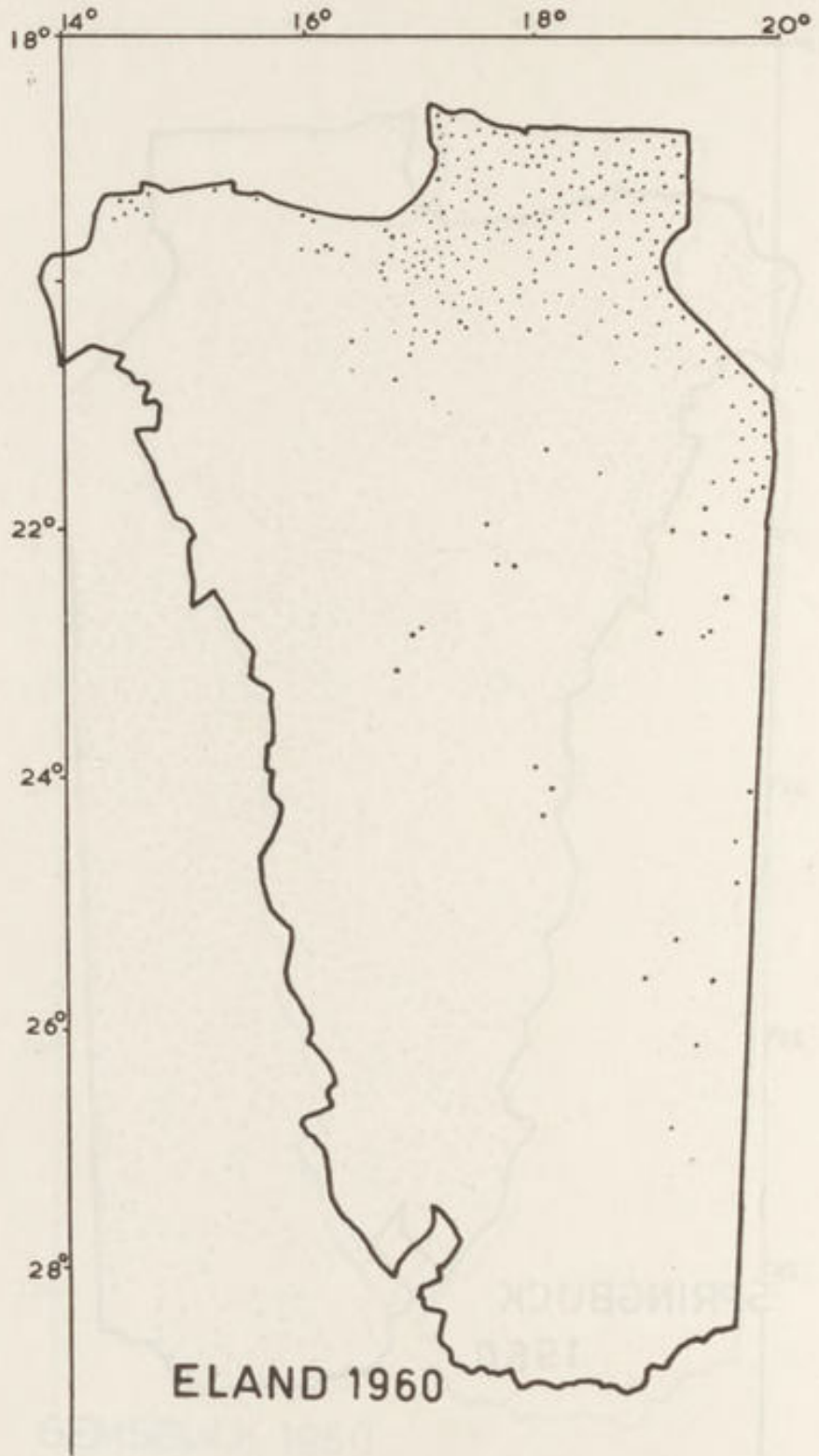


Fig. 5. Map of the Farming Area, including the Bantu Reserves, showing the distribution of Eland.

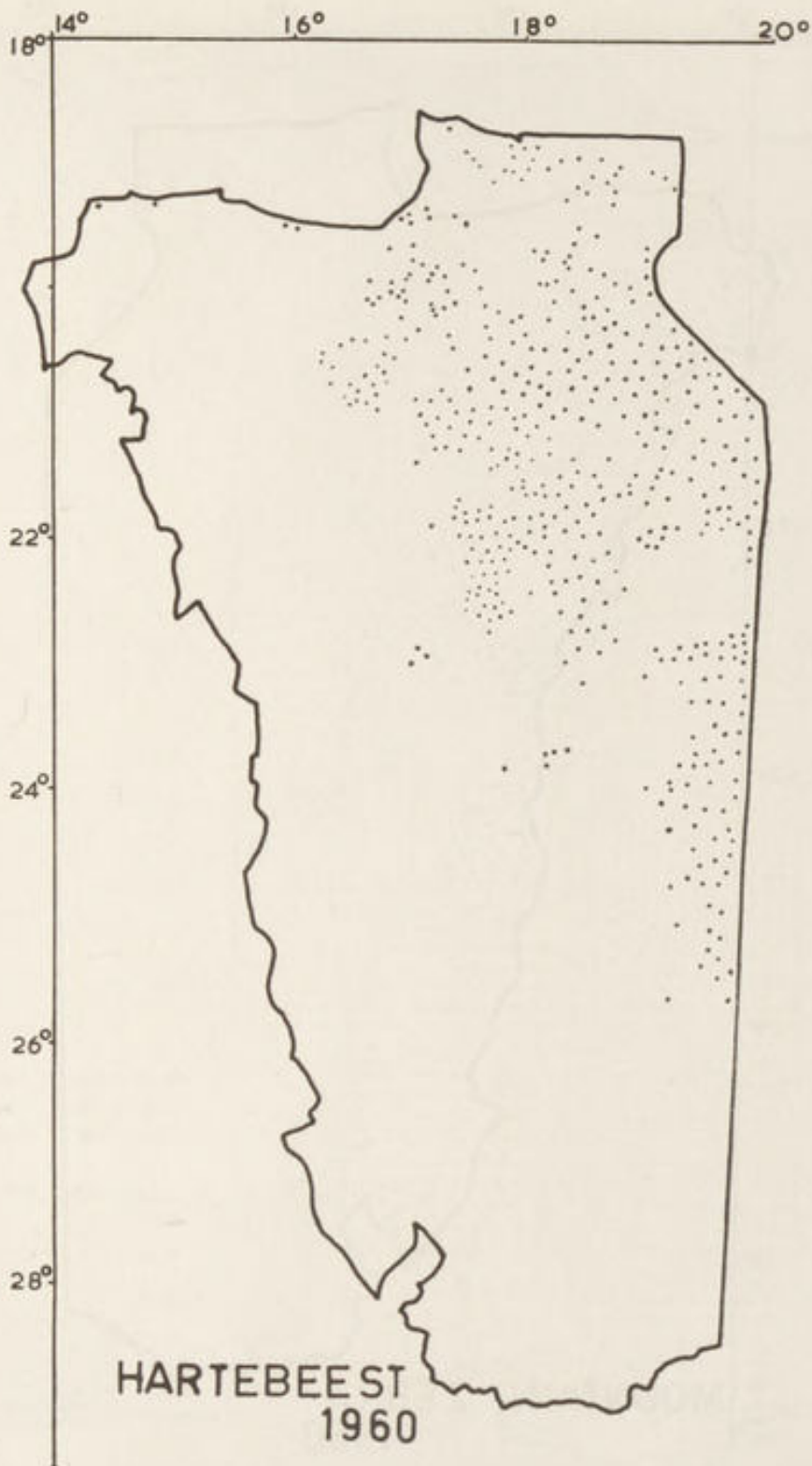


Fig. 6. Map of the Farming Area, including the Bantu Reserves, showing the distribution of Hartebeest.

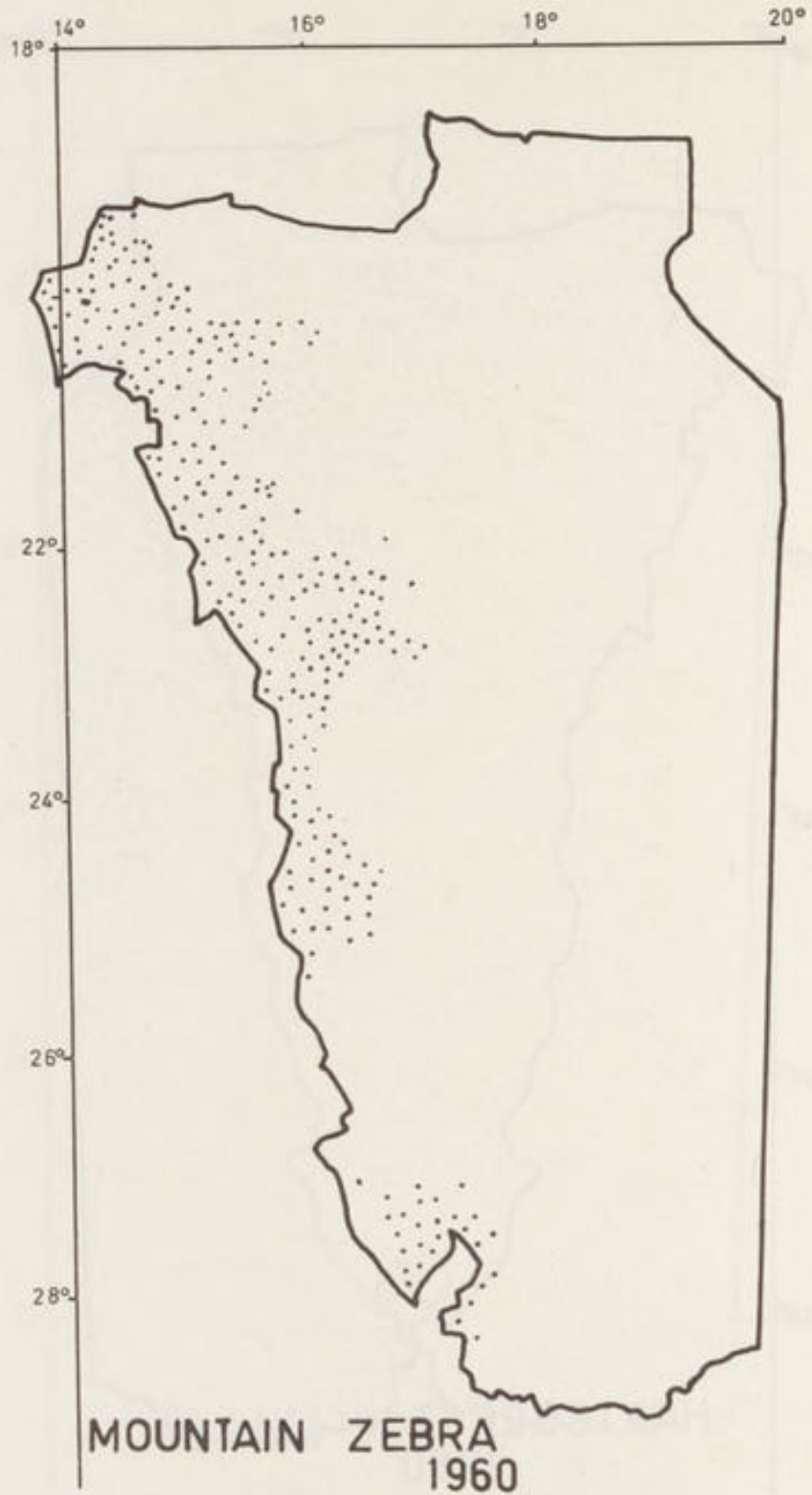


Fig. 7. Map of the Farming Area, including the Bantu Reserves, showing the distribution of Hartmann's Mountain Zebra.



PRELIMINARY REPORT ON DISTRIBUTION AND NUMBER OF S.W.A. UNGULATES

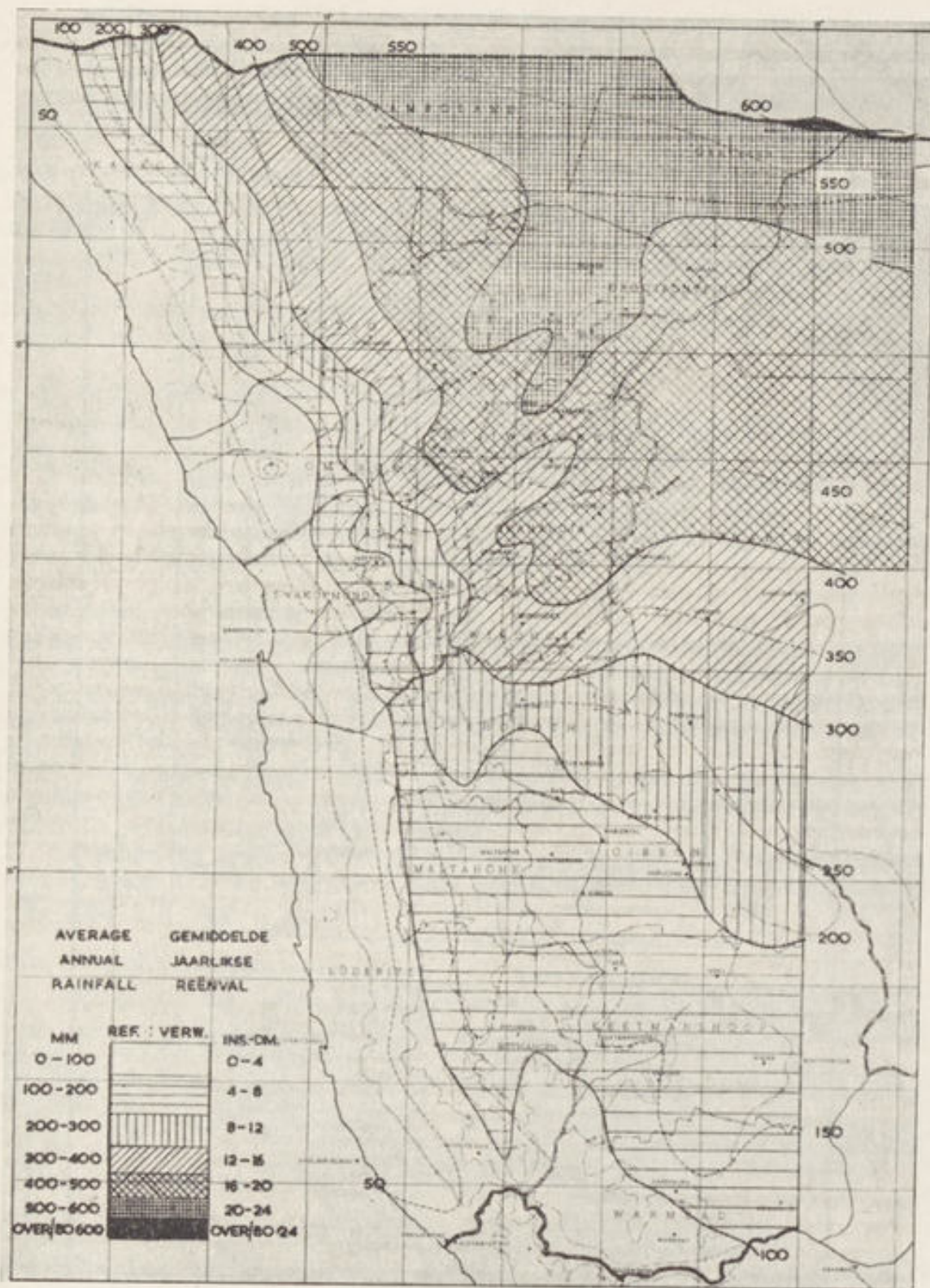


Fig. 8. Rainfall Zones. Reprint from Average Rainfall South West Africa.

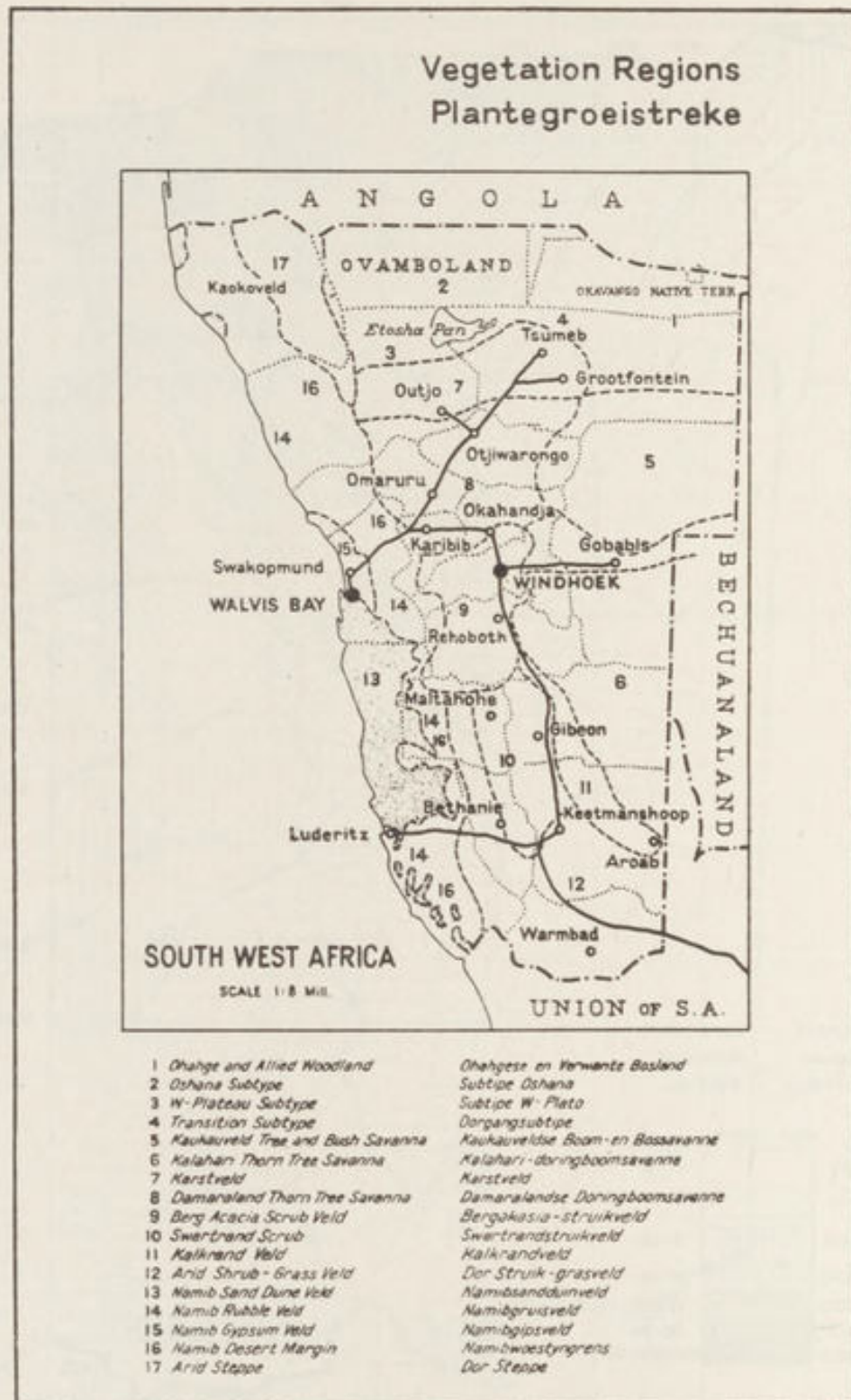


Fig. 9. Vegetation Regions. Reprint from Report of the Long Term Agricultural Commission.

Ohahge and Allied Woodland (1), W-Plateau Subtype (3), Transition Type (4), Kaukaveld Tree and Bush Savanna (5), Kalahari Thorn Tree Savanna (6), Karstveld (7), Damaraland Thorn Tree Savanna (8), Berg Acacia Scrub Veld (9), Swartrand Scrub (10), Kalkrand Veld (11), Arid Shrub-Grass Veld (12), Namib Sand Dune Veld (13), Namib Rubble Veld (14) and Namib Desert Margin (16).

Gemsbok *Oryx gazella* (Linnaeus).

The Gemsbok occurs in the same regions as were defined for the Kudu but is less evenly distributed south of Latitude 22° S. (Fig. 3). Approximately 58·2 per cent of the population occurs between Latitude 20° and 24° E. and the size of the population on the farms is estimated at 24,429.

It is found in the rainfall zones ranging from 50 mm. to 550 mm. p.a., and occurs in the same vegetation regions as the Kudu.

Springbok *Antidorcas marsupialis* (Zimmerman).

The Springbok is distributed between the same Longitude and Latitude lines as Kudu and Gemsbok but is practically absent between Longitude 16° and 20° E. and Latitude 18° 30' and 21° S. (Fig. 4). Approximately 73·5 per cent of the population occurs south of Latitude 22° S. and the size of the population on the farms is estimated at 37,280.

It occurs in the same rainfall zones and the same vegetation regions as the Gemsbok, except that it is absent from Ohahge Allied Woodland.

Eland *Taurotragus oryx* (Pallas).

The Eland is distributed mainly between Longitude 16° and 20° E. and Latitude 18° 30' and 22° S. A small number occur in the most north-westerly section of the farming area and also close to the Bechuanaland border. Scattered groups recorded elsewhere in the farming area represent restockings by individual farmers (Fig. 5). The size of the population on the farms is estimated at 6,080.

Eland are largely confined to higher rainfall zones (i.e. 400 mm. to 550 mm. p.a.) than the preceding three species; and this investigation indicates that the natural habitat of Eland is restricted to the following vegetation regions:

Ohahge and Allied Woodland (1), W-Plateau Subtype (3), Transition Subtype (4), Kaukaveld Tree and Bush Savanna (5), Kalahari Thorn Tree Savanna (6) and Karstveld (7).

Hartebeest *Alcelaphus buselaphus* (Pallas).

The Hartebeest is distributed between Longitude 16° and 20° E. and Latitude 19° and 25° 42' S. (Fig. 6). Approximately 50 per cent of the population occurs between Longitude 18° and 20° E. and the total population on the farms is estimated at 6,325.

Hartebeest occur in rainfall zones which range from 200 mm. to 550 mm. p.a. and in the following vegetation regions:

Ohahge and Allied Woodland (1), W-Plateau Subtype (3), Transition Subtype (4), Kaukaveld Tree and Bush Savanna (5), Kalahari Thorn Tree Savanna (6), Karstveld (7) and Damaraland Thorn Tree Savanna (8).

Hartmann's Mountain Zebra *Equus (Hippotigris) zebra hartmannae* Matschie.

This Zebra is distributed between Longitude 13° 48' and 17° 36' E. and Latitude 19° 18' and 28° 24' S. (Fig. 7), with approximately 83·2 per cent of the population occurring north of latitude 24° S. The size of the population on the farms is estimated at 10,520.

It is found in rainfall zones ranging from 50 mm. to 400 mm. p.a. and occurs in the following vegetation regions:

W-Plateau Subtype (3), Karstveld (7), Damaraland Thorn Tree Savanna (8), Namib Sand Dune Veld (13), Namib Rubble Veld (14) and Namib Desert Margin (16).

#### SUMMARY

The area of investigation has been limited to the whole of the farming area in the Territory as well as to those Bantu Reserves within the border of the Police Zone. The distribution and approximate size of population (for farming area only) of six Ungulates, viz. Kudu, Gemsbok, Springbok, Eland, Hartebeest and Hartmann's Mountain Zebra, has been determined. The distribution has been correlated with Rainfall Zones and Vegetation Regions. This account is an outcome of the Game Census which was held in the summer of 1960.

#### ACKNOWLEDGEMENTS

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