

N. Mashonaland

MINUTES OF MEETING OF ASSESSMENT COMMITTEE, APPOINTED BY THE
MINISTER IN TERMS OF SECTION 4 OF THE NATIVE LAND HUSBANDRY
ACT, FOR MADZIWA RESERVE IN THE SHAMVA DISTRICT

1. DATE OF MEETING

11th April 1957 held at Madziwa Reserve.

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describes it as being in the Darwin district
Forestry Rpt missing*

2. MEMBERS

M. CAMPBELL	Provincial Native Commissioner (Chairman)
E.D.K. MACLEAN	Native Commissioner
P.A. DAVIES	Acting Provincial Agriculturist
D.J. GILES	Land Development Officer
D. AYLEN	Representative, Natural Resources Board
MUTUMBA	Chief
NYAMAROPA	Chief
MUSHUWAHI	Native Councillor
MADZIWA	Native Councillor

CO-OPTED MEMBERS:

A.F. JACKSON	Native Commissioner, Darwin
F.H. DODD	Administrative Officer

3. DATE OF TOUR

10th April 1957

General Impressions

- (a) Grazing: Good. Some localised overgrazing due to bad herding. Improvement in previously overgrazed areas due to *where?* introduction of rotational grazing. Bush encroachment should be watched.
- (b) Stock: Overall condition good, especially where rotational grazing is being practised. Culling of runts and old cows would lead to an improvement. Incidence of exotic blood not high and not much evidence of internal parasites.
- (c) Agriculture: Standard on the red soil area is excellent. Crops on the sandveld are not good due to late planting and waterlogging. Too much maize is being grown. Alternative crops must be encouraged.
- (d) Erosion: Is limited to cattle paths. Gully erosion almost negligible. No indications of sheet erosion.
- (e) Centralisation: Centralised about 1950. Generally good. Some adjustments necessary to release locked-up grazing.
- (f) Other: Dominant species of vegetation is mfuti which shows that country is prone to waterlogging. Reserve is well watered, making stock distribution under rotational grazing easy. Amount of community work on protection of dips and on stream crossings, and construction of small dams is encouraging.

4. THE STANDARD AREA

- (a) Rainfall: Average 32 inches.
- (b) Director of Native Agriculture's Recommended Standard Area: 8 acres.
- (c) Soils: Heavy contract in the north. White sandveld and sandy loams in the centre. A belt of red sandy soil on the south.

/(d)...

(d) Average yields and types of crops grown by average plotholders:

<u>Crop</u>	<u>Yield (bags per acre)</u>
Maize	11
Groundnuts	5
Rupoko	4½
Beans	2
Nyemo	2½
Rice	3

(e) Basis and extent of previous allocations: Only block allocations done.

(f) Acreage under cultivation:

No. of Cultivators:	15,323 acres
Average acreage cultivated by present landholders:	1,788
Potential arable:	8.5 acres <i>3,43 ha</i>
	60% of reserve <i>1?</i>

(g) (i) Views of Technical Members: Standard area of 6 acres in Headman Madziwa's area (zone 1). 8 acres in the rest of the reserve.

(ii) Administrative Members: Agree with technical members.

(iii) African Members: Seven acres on the red soils and nine acres on the sandveld. *NB*

(h) Recommended Standard Area: 6 acres in Zone 1. 8 acres in the rest of the reserve.

(j) Reasons for differing from Director of Native Agriculture's recommendation in (b) above: Zone 1 soils are red and far more fertile than the rest of the reserve.

(k) (i) Arable acreage required for allocation in terms of Section 27(1) of the Act, Zone 1, 3,084; Rest, 9,689 acres.

(ii) Arable acreage required for allocation in terms of Section 27(2) of the Act (tight formula): Nil

(iii) Committee recommends allocations should be in terms of Section 27(1).

(l) Period within which application for farming rights should be made in terms of Section 27(1)(b): 1st June 1957 to 30th September, 1957.

5. MAXIMUM CARRYING CAPACITY

(a) <u>Total acreage of area:</u>	
MINUS Waste Land	127,360
Usable acreage	<u>6,368</u>
LESS arable area (see (3)(j) above)	120,992
Sub-total (1)	<u>12,773</u>
PLUS 1/6th of arable area	108,219
Sub-total (2)	<u>2,129</u>
LESS 7% of sub-total (2)	110,348
Grazing Area per D.N.A.'s formula	<u>7,721</u>
	<u>102,627</u>

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(b) Previous destocking: Nil.

(c) Present assessed carrying capacity: 9,097.

(d) Present number of Animal Units: 8,450

(e) Present Grazing Pressure: 1:12

- (f) Stock distribution: Fairly even.
- (g) Average number of animal units per owner: 5.8
- (h) Recommended carrying capacity:
 - (i) Views of Pasture Officer: Under present management 1:12
maximum potential 1:10.
 - (ii) Views of Technical Members: 1:12 until rotational grazing
is complete and something is done about bush encroachment.
 - (iii) Views of Administrative Members: Agree with technical members.
 - (iv) Views of Native Members: Agree - leave the position as
it is at the moment.
 - (v) Views of Representative, Natural Resources Board: 1:12.

(iv) Recommended carrying capacity: 1:12

Maximum Number: 8,450. *as at present*

Period within which application for grazing rights should be made
in terms of section 11(b): 1st June 1957 to 30th September 1957.

6. STANDARD NUMBER OF ANIMAL UNITS

- (a) Director of Native Agriculture's recommended standard number: 6
- (b) (i) Views of Technical Members: 6
- (ii) Views of Administrative Members: 6
- (iii) Views of African Members: 6
- (iv) Recommended Standard number: 6

7. NUMBER OF SMALL STOCK TO COMPRISE ONE ANIMAL UNIT

- (i) Views of African Members: 10 sheep, 20 goats.
- (ii) Views of Technical Members: 5
- (iii) Views of Administrative Members: Mr. Jackson recommends 10 goats
and 5 sheep. Mr. Maclean 5.
- (iv) Views of Representative, Natural Resources Board: 5
- (v) Recommended number of small stock to equal one animal unit: 5

8. FORESTRY

- (a) (i) Forestry Officer's views on sufficiency of indigenous timber
and present plantations for needs of inhabitants: Sufficient.
- (ii) Views of Committee: Sufficient.
- (b) (i) Areas of indigenous forest which Forestry Officer recommends
should be reserved: None.
- (ii) Recommendations of Committee: None.
- (c) (i) Afforestation recommendations of Forestry Officer: Existing
plantations should be extended to cover 5-10 acres each. ?

- (d) (i) Forestry Officer's recommendations for management: Nil.
- (ii) Recommendation of Committee: Nil.

9. ROADS

- (a) Main roads (a total width of 103 ft. required for right of way)

<u>Description</u>	<u>Approximate Mileage</u>
Bindura-Darwin	15
	—
Total Mileage	<u>15</u>

- (b) Subsidiary roads:

- (i) Committee recommends that a width of 45 ft. be allowed as a right of way.

10. STOCK ROUTES

- (a) Existing or proposed local stock routes:

- (i) State where existing or local stock routes do not follow established roads and width to be reserved as right of way:

Follow main roads.

- (ii) State where outspans or staging posts are to be reserved and acreage required in each case: Nil.

- (b) National stock routes:

State and describe the routes of existing or proposed national stock routes in the area and any comments from the Committee:

Follows main Bindura-Darwin road.

11. VILLAGE AREAS

Recommended maximum size of residential sites: $\frac{1}{2}$ acre. African members recommend one acre.

12. BUSINESS CENTRES

Areas and size of areas to be set aside as business centres to be recommended:-

- 4 existing
- 2 at 5 acres (Nyamaharuru and Bradley II)
- 1 at 20 acres (Goora)
- 1 at Madziwa Central (see 13(b))

13. TOWNSHIPS

- (a) Township sites set aside in terms of part IV of the Act to be detailed with acreages: Nil.

- (b) Any further site to be set aside to be recommended: 500 acres at Madziwa Central.

14. ADMINISTRATIVE CENTRES AND RESERVATION AREAS

(a) Administrative Reservations already declared to be stated with acreages:

1 Roads Department	10 acres
1 Clinic	14 acres
1 Rest House	2 acres
5 Demonstration Centres	2 acres

(b) Aerodromes in existence or required: Nil

15. SCHOOLS AND MISSION SITES

(a) Missions in existence to be stated: Bradley Institute - 100 acres. NB

(b) Recommendations for further Mission sites: Nil.

(c) Schools: Seven Kraal schools existing, 2 pending, 2 possible higher primary.

16. GENERAL

(a) Following recommendations are made by the Committee for future Development:

(i) Two additional dip tanks are required.

Much or all was done during UDI

(ii) Money is required for a direct access road through to Bushu Reserve and Shamva, and for four causeways on this road.

(iii) An additional Agricultural Demonstrator is required.

(iv) The Committee finds that the Land Development Officer Madziwa is now committed to complete the allocation in Bushu Reserve as well, and regards this as unsatisfactory - assistance should be given to complete the allocations in Bushu. The Land Development Officer Madziwa having got so far in the implementation of the Act, should be allowed to complete Madziwa without undue delay.

(v) Recommended that a telephone be put in the Land Development Officer's house to give contact to Shamva.

(Sgd.)	M. CAMPBELL	Provincial Native Commissioner
	E.D.K. MACLEAN	Native Commissioner
	P.A. DAVIES	Provincial Agriculturist
	D.J. GILES	Land Development Officer
	D. AYLEN	Natural Resources Board
	A.P. JACKSON	Native Commissioner
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	MUTUMBA	Chief
	NYAMAROPA	Chief
	MUSHUWAHI	Councillor
	MADZIWA	Councillor

REPORT ON

MADZIWA RESERVE, DARWIN DISTRICT

1. The Overall Picture:

Estimated population	8,311	
Number of kraal heads (villages)	111	
Number of Taxpayers	2,180	
Number of adult resident males	1,353	62% of taxpayers
Estimated average density of population per square mile	42	
- Total area of reserve	127,360	acres 51,542 ha.
Estimated wasteland	6,368	" 2,577 ha.
Estimated usable land	120,992	" 48,965 ha.
Total cultivated acreage	15,323	acres 6,201 ha. 12% of usable
Acreage of wet lands and gardens	131	acres 53,015 ha.
Arable land uncultivated	177	" 71,631 ha.
12.1% - Total estimated arable potential	15,500	acres 6,273 ha. 12.9% of usable
Total number of landholders	1,788	65% of taxpayers
Total number of landholders with stock	1,382	77% of landholders
Total number of landholders without stock	406	23% of landholders
Number of female landholders/stockowners	235	13% of landholders
Estimated acreage required for allocation to present landholders, with a standard area of eight acres:		
	13,789	acres 5,580 ha.
Estimated surplus for future allocation and/or return to grazing:		
	1,534	acres 621 ha.
Number of stockowners	1,635	63% of taxpayers
Number of stockowners without lands	142	10% of stockowners
Animal units declared	8,450	
Total cattle	8,050	<i>Section 14 shows 7,842 diped in Dec '55</i>
Average number of animal units per stockowner:		
landholder	5.8	
taxpayer	4.7	
	3.8	
Present ratio of animal units to cultivated acreage:		
	1 animal unit to 1.8 acres	
		9,728 ha.
Present grazing density		
	1 animal unit to 12.7 acres of grazing.	
		5,139 ha.
Assessed carrying capacity	9,097	animal units
Therefore understocked by	647	animal units.

2. Land: Situation, Extent, Topography, Boundaries:

Madziwa Reserve is situated to the south of Mount Darwin, it is roughly rectangular in shape but the northern boundary forms a V into the reserve. The area of the reserve is 127,360 acres, from north to south the distance is from 16 to 12 miles and approximately 12 miles from east to west. The north-eastern corner beacon of the boundary is on Pfura (Mount Darwin), the eastern boundary is with Crown Land, the southern boundary is the Mupfurudzi river, to the north and west the reserve is bounded by European farms. The boundary forming the north-western corner is fenced, this fence runs along the boundary with Katenya and Nyamaropa farms and from the corner beacon along the northern boundary, to where the Mupfuri river crosses this boundary. The eastern and western boundaries are poorly defined, the lines need to be re-cut, in June 1956 the beacons on Denda and Rushinga were moved 200 yards into the reserve by surveyors.

The northern portion of the reserve has very undulating country, there are many tree covered kopje slopes not excessively steep and small areas of level land are to be found. The central area is fairly flat with gentle slopes, the south-eastern area is very broken country with steep slopes and a number of kopjes. The south-western portion has a line of kopjes to the north, the country slopes from these sometimes steeply to the Mupfurudzi.

Madziwa is a catchment area, as a result of this many streams have their source in the reserve. These flow into three large rivers: the Mupfurudzi, Mupfuri and Gwetera.

Heavy red soil occurs in a belt along the northern boundary. 75% Of the cultivated land in Headman Madziwa's area has this soil. White and brown sand loams form a large percentage of the cultivated areas in the central and southern portions of the reserve. Red sandy loams are to be found along the valley of the Mupfurudzi.

3. Historical and Tribal Background:

There are two chiefs and two headmen. These are Chiefs Nyamaropa and Mutumba, and Headmen Madziwa and Mushowani.

The only evidence of very early habitation are some Bushmen paintings at Goors; these have been damaged by weathering and are not very distinct. Stone walls which once formed part of fortifications are to be found on Aramba, Denda and some of the small kopjes in the north of the reserve.

Of the tribal groups now present in the reserve, Madziwa's ancestors were the first to come to the district. Driven from their original home which they call Gurunzwa, near where Bulawayo stands today, by the Matabele, they settled in what is now Chinamora Reserve. A dispute over the inheritance of chieftainship arose, with the result that a man by the name of Samabita had to flee for his life.

In his travels Samabita came to the Mazoe river; here he met the Vatsenga who collected alluvial gold from the river and he joined these people. Samabita married wives of the Vatsenga tribe and eventually settled by Pfura (Mount Darwin). He and his family collected alluvial gold from the streams near the mountain; this was bartered with the Vatsenga who in turn bartered the gold with the Portuguese. Samabita was also known as Madzivanyika. From this was derived the Headman's title and the name of the reserve. The original mutopo was "Tsoko" and the chidau was "Mrewa". Through their gold trading Madziwa's people collected a wealth of beads and other trinkets with the result that they became known as Chuma or the People with the Beads. Thus they adopted the present chidau "Chuma". The present incumbent is the 19th headman Madziwa. His kraal is hidden away in the hills under Pfura, as were the homes of his forebears, and it is very difficult to reach.

No one in Chief Nyamaropa's area was able to give the exact position of their original ancestral land, they only were able to say that it was in the south. It appears that a man named Chakambeta traveling with a group of his people, came to the district and settled near a hill named Chitsinga where they linked forces and became subordinant to a Mukorekore named Sauchi. This man had only daughters as he indulged in infanticide of any sons born to him so that his power would not be usurped. Chitsinga and his comrades were given these girls as wives. Chakambeta who had led his people during their journeyings, resented the authority of Sauchi; when the two of them were out together collecting honey on Chitsinga Chakambeta killed Sauchi and thus became ruler. When the Mukorekore in the Rusambo area heard of the murder from the dead man's wife, they sent a raiding party out which massacred Chakambeta and his people. Only one man, named Reza, escaped into what is now Bushu Reserve.

Later Reza returned with a band of followers to avenge the death of his brother, but on reaching Chitsinga they found that the Mukorekore had returned to Rusambo. The group occupied the area with Reza as their leader. After his death his son took his place and became the first Chief Nyamaropa. The main food crop grown by these people was Brown Kaffir Corn, so they adopted the mutupo "Shava"; the chidau "Nematombo" related to the stones in the area. Mazengera, the present chief, is the 7th of the line. The area around Chitsinga is Crown Land and Nyamaropa's people were moved into the reserve when it was demarcated.

Headman Mushowani's ancestors originated from Mashayangombe in Hartley District. A woman had often passed through this area on her way to trade with the Portuguese for salt. When the lives of her two grandsons Chinguwa and Chikuwanyanga were threatened as they were of the chief's line, the woman Mhari, brought the two boys to safety and stayed with Nyamaropa's people. The two grew to manhood and married daughters of Nyamaropa, but they still retained their own mutupo and chidau "Mhara Gusho". Other people from Hartley joined them and the group was given its own area by Chief Nyamaropa at a place they called Maramba; Chinguwa became Headman. The present Headman Mushowani is the 13th of the line; reigns appear to have been short in this group as it was the practice for the heir-apparent to murder the headman in order to succeed to the title.

Chief Mutumba's people originated from Chief Chiota's country in the Marandellas district; three men named Rukorowori, Kumborehemwe and Chipando, used to come into this area hunting elephant in order to sell the meat and ivory in their own country. They became acquainted with Madziwa who enlisted their help in a campaign against the Vatsenga, with whom he had become estranged. The Vatsenga were defeated and driven back across the Zambesi. Madziwa invited Rukorowori and his people to settle in this area; the first settlement was near the Mazoe river and later where Bradley Institute stands. The present chief Mutumbe is Kakunguwo, he is the 8th chief.

The Mondoro Spirit exercised a strong influence over Mutumba's people and still does today. The spirit is that of Chipendo, one of the first three who came there hunting. It is embodied in a man living at Chidembo Kraal who goes by the name of the Spirit. Chipendo is held in awe and respected by the Chief and his people. He would be the person to proclaim the new chief should succession to the chieftainship of Tembo Mazwimbakupa be in question.

Although all the taxpayers living in the reserve are registered under one of the four heads mentioned above, they are in fact a very mixed bunch as far as tribal background is concerned, quite a variety of mutupos and chidaus were collected. These groups are small. Their movements into the area were caused through famine, a desire to join relatives and in recent times the reputation of Darwin as a grain growing district has attracted many.

4. Zones and Acreages

The reserve will be divided into four zones for the purpose of applying the Act. These are based on three factors; geographical situation, tribal areas and the arable area.

Zone 1: Northern Madziwa: This is Headman Madziwa's area, comprising 26 kraals and a total arable area of 3,506 acres.

Zone 2: Eastern Madziwa: This is made up of Chief Nyamaropa's area and Headman Mushowani's area, with a total of 32 kraals and an arable area of 2,821 acres.

Zone 3: Central Madziwa: This is part of Chief Mutumba's area, made up of arable blocks 2, 3b, 9, 10 and 14, with 38 kraals and an arable area of 5,596 acres.

Zone 4: Southern Madziwa: This is the southern portion of Chief Mutumba's area and is made up of arable blocks 1, 2 and 15, with 19 kraals and an arable area of 3,151 acres.

Zone	Total Arable	Appropriate Acreage	Sufficiency of Land
1. Northern	3,506 acres	4,100 acres	- 594 acres
2. Eastern	2,821 acres	2,673 acres	+ 148 acres
3. Central	5,596 acres	4,412 acres	+ 1,184 acres
4. Southern	3,151 acres	2,604 acres	+ 547 acres

5. Population and Distribution

The estimated total population of the reserve is 8,311. This gives an average population density of 42 persons per square mile. The percentage of taxpayers and resident males in each zone is given below:

1. Northern Zone:	29.3%	of taxpayers	30.5%	of res. males
2. Eastern Zone:	25.0%	" "	20.9%	" " "
3. Central Zone:	27.2%	" "	31.9%	" " "
4. Southern Zone:	18.5%	" "	16.7%	" " "

These figures indicate that the population is reasonably well distributed throughout the Reserve, the greatest percentages being in the Central Zone on the large arable blocks and the Northern Zone on the better type soils.

6. Stock

The Reserve is understocked by 647 animal units; this was not brought about through destocking, but it is an indication of the native's interest in arable cultivations. The standard of livestock husbandry is extremely poor. The animals are only looked upon as a means to pay lobola for which purpose condition appears to be irrelevant. Calf mortality is high through virtual starvation. The young calves are kept shut up all night and most of the day, only being allowed to run with their dams for a few hours in the afternoon after the cows have milked at midday.

Stock details are as follows: 8,050 cattle, 396 calves, 33 donkeys, 82 sheep, and 745 goats.

Pigs only 25 Chart I

Cattle show evidence of some exotic blood, but there are also some very good strains of indigenous "Sanga" cattle in the reserve. Regular castrations have been carried out twice yearly by the Land Development Officer at each dip, for the past three years. Rotational grazing has operated in some parts of the reserve for two years; in other parts for one year. Further paddocks are to be demarcated this year. A Star Bull Scheme is to be started in the Northern Zone, in conjunction with which a block of Napier Fodder is to be laid down. The sheep population appears to be increasing as they have a greater cash value than goats. It is only when the native learns the economic value of his stock that improved husbandry will come about.

7. Rainfall

There are three rainfall recording centres in the reserve: at Goora, Northern Madziwa, Central Madziwa and at Kasimbwi Dip in the south of the area. Rainfall average over the last three seasons has been 32 inches; details of the last seasons for the three centres are set out below:

	<u>Goora</u>	<u>Madziwa Central</u>	<u>Kasimbwi</u>
Oct. 1954 - April 1955:	31.58	30.95	41.5
Oct. 1955 - April 1956:	34.31	35.4	33.12

8. Soil

70% Of the soils in the reserve are white and brown sand loams. These occur in the Central, Eastern and part of the Southern Zones. Heavy red contact soil occurs in a belt along the northern boundary. About 75% of the soil in the Northern Zone is of this type. Red sandy loams are to be found along the banks of the Mupfurudzi river.

9. Water Supplies

The water supply situation in Madziwa is very good. The Mupfuri river and the Mupfurudzi river flow throughout the year.

Most of the other rivers and streams have large pools in them throughout the year. There are many wells and water holes in all parts of the reserve. Four large dams in the reserve were built by the Irrigation Department and keep a plentiful supply of water through the year. Of the five smaller dams four were built by the community as voluntary efforts in the past two years. A medium size dam is at present under construction. In the north eastern corner of the reserve, an area where cattle had to travel out of the reserve to get water in the dry season, two small T dams are being built.

10. Grazing

The great problem in the grazing areas is bush encroachment. There is also a problem of overgrazing in the Central Zone; here some improvement will occur when allocation takes place, through a certain acreage of arable returning to grazing and the opening up of some of the locked up grazing in the large arable block.

Rotational grazing schemes have been operating in the northern, eastern and southern zones.

11. Timber

The timber situation in the reserve is good. The Forest Officer, Native Areas, visited Madziwa on the 20th July 1956, and he has submitted a detailed report on the timber and forestry situation. *no copy*

12. Centralisation, Soil Conservation and Erosion

Centralisation was completed in Madziwa some years ago, it is functional in the northern zone, fairly good in the eastern and southern zones. The Central Zone has some very large blocks which are far too close together in places in this area. It will be necessary for some arable land in blocks 2, 3, and 10 to revert to grazing. It is suggested that block 14 returns completely to grazing. By carefully planning the allocation programme the faults in the centralisation can be rectified.

In the dry season of 1955 all arable lands in the reserve were grass buffer stripped; this year a lot of consolidation of this work has been done especially with regard to drainage channels which had been left for

There are 4
see Section 14

Anti-erosion contouring has been carried out at the three dips which are badly sited near streams, a badly eroded area near Kasimbgwi Dip has been fenced, check barriers have helped to heal eroded gullies.

13. Agriculture

The tendency among the cultivators is toward the monoculture of maize, even among those influenced by the demonstrators. While following advice on such subjects as compost making and the manuring of lands, they are just not interested in reducing their maize acreages in order to balance their rotations. Some alternative rotational cash crop is urgently needed in the area to stop this drain of fertility in the maize bag. Such a crop must not be exhaustive and must have a definite cash incentive for it to succeed. Soya Bean might prove to be such a crop. Cotton which had value in the above respect when first introduced, has ceased to be economic through the increase of insect pests. The only cotton grown last season was a trial growth for Gatooma Research Station.

The approximate percentages of the arable area covered by the main field crops are as follows:

Maize	80%
Rapoko	10%
Groundnuts	5%
Sugar Beans	0.5%
Other Legumes	3.5%
Rice	0.5%
Potatoes	0.2%
Sorghums	0.3%

Average yield in bags/acre on recorded plots last season was:

Maize	11
Groundnuts	5
Rapoko	4½
Beans	2
Nyimo	2½
Rice	3

14. Dip Tanks

There are four dip tanks in the reserve. These are named Madziwa, Kaziro, Kasimbgwi and Zwisokwe. The latter was the most recent to be constructed and is well sited. The other three are badly sited, very near streams.

Cattle Dipped: Figures for December 1955:

Madziwa	1,483
Kaziro	2,368
Kasimbgwi	1,295
Zwisokwe	2,696

7,842

15. Communications

The reserve is well served with roads: the main

PASTURE OFFICER'S REPORT

1. Dates of visit over which report based : MADZIWA RESERVE.

Dates of any previous visits and history of past reports : NIL

2. Classification of area : Brief notes on rainfall, soils, vegetation, topography :

Rainfall : 28 ins to 32 ins.

Altitude : + 3,500 ft.

Soils : Mostly derived from granite. Fertile red clay soils along North boundary. Reddish sandy soil to South East (contact)

Vegetation : Mfuti is dominant, Msasa, Mnondo in association. Other common tree species:- Pseudolachnostylis sp. Bouhinia sp. Diplorhynchus sp. Combretum spp. C. ternifolium noted on vleis margins Mahobohobo occurs on ridges. Perennial grasses of good vigour.

Vleis : Not well developed often with Mfuti, Bauhinia and Combretum on anthills. Setaria sp. common in vleis.

3. Present stocking rate and figures on which rate determined - Director of Native Agriculture formula to be used :

Usable Acreage 120,900

Less Acreage cultivated 1956 15,300 6191

Sub total (1) 105,600

Plus 1/6th of cultivated 2,550

Sub total (2) 108,150

Less 7% 7,570

Total grazing area 100,580

Total Animal Units 8,450

D.N.A. Formula 40704
see main report

= 1 : 11.9 acres.

4. Report on grass and browse. Suitability for grazing. Conditions of grazing areas :

Browse : Some useful browse species occur but for the most part browse unpalatable and intake probably low.

Grass : Veld grasses generally high in succession and well grown with the following species common on topland. Hyparrhenia spp. Andropogon spp. Digitaria spp. Heteropogon sp. Eragrostis sp. In some areas Themeda triandra noted on vlei margins. In vleis Setaria sp. common and Paspalum comersonii noted. The grazing areas for the most part in fairly good condition but ground cover often poor due to tree competition. The veld grasses would show a quick response to tree clearing. The use of drainage lines as cattle tracks is a common practice and great damage is being caused to these vital areas.

5. From Officer's observations is the whole area overstocked or understocked, or are certain areas overstocked and others understocked? Any such areas to be detailed :

Overgrazing evident (1) Round L.D.O.'s house, (2) On North bank of Nymaruru River, (3) In vicinity Zwisokwe Dip, (4) Along Gwetera River below Dikatera Dam.

6. Should stocking rate be uniform throughout whole area, or should there be different stocking rates for different sections of the area? Such sections to be detailed and stocking rates recommended for each section :

Uniform.

7. Report on any system of pasture management in force :

A 2 camp system has been started towards the North and is achieving better stock distribution.

8. Report on any pasture mismanagement found :

Cattle distribution is poor resulting in too heavy concentrations in some areas (see para 5 above). Close grazing if continued weakens the grasses and reduces ground cover. Results are greater and quicker runoff from veld during storms and consequent sheet erosion, scouring of vleis and silting of rivers.

9. Detail type of stock that the pastures are suitable for and recommend proportion of bovines, equines and small stock that should be grazed, and recommend number of small stock to equal one beast :

Cattle and a limited number of goats, suggest 20 goats to 96 head cattle. As few donkeys as possible.
5 head small stock to equal 1 head large stock.

10. Report on bush encroachment and possible ways of dealing with it :

Mfuti regrowth is to be found growing thickly throughout the reserve and with it are associated Msasa and Mnondo. These species coppice from stumps and roots and have a severe depressing effect on grass growth. If allowed to develop unchecked these trees will dominate completely and drastically reduce carrying capacity. Possible methods of dealing with problem
(1) Direct systematic stumping (organised sale of firewood if feasible)
(2) Allowing controlled shifting cultivation for a period with proviso that all lands are properly stumped (3) Ensuring that all lands to revert from cultivation to grazing are first cleared of coppice regrowth.

11. Report on noxious or harmful weeds or grasses and methods for their eradication :

Upright Star Burr is found throughout the Reserve. Control (1) Spraying in young stage at sources of infestation with $\frac{1}{2}$ to 1-lb./acre of 2-4,D or MCPA.
(2) Protection from trampling and heavy grazing will allow grass to increase in vigour to the eventual exclusion of this weed.

12. (a) Recommend stocking rate under present management :

The stocking rate may remain as at present which, on D.N.A. formula, is roughly 1 beast per 12 acres. If redistribution of stock is achieved by adjustments to the existing centralisation the productivity of the veld could be maintained. Any increase in stocking at present is not recommended.

(b) Recommend maximum potential stocking rate under good management :

1 beast per 10 acres on D.N.A. formula. It is recommended that this rate of stocking be considered only when trees have been greatly reduced in the grazing areas.

(c) Recommend system of management which should be followed and future development for improvement :

Continue with the 2 camp system making certain that pairs of paddocks are equal in size accessibility and productivity. A January, February, March rest to each camp may be given to each paddock in alternate years.

(d) Detail basis on which recommendations made :

The 2 camp system provides an important rest period for the grasses to replenish root reserves and set seed. For the system to maintain a stable and productive grassland, the stocking rate must be correct. In order to expand and improve the existing grassland, tree competition for moisture, nutrients, and light, must be removed. The 2 camp system is intensive and does not provide for a bush control burn. The population is high, and the people should therefore be induced to stump as a pasture improvement measure.