

DR - Cockbell

Article 75

Department of Tsetse and Trypanosomiasis
Control and Reclamation,
P.O. Box 8100,
Causeway,
SALISBURY.

26th February, 1959.

MEETING OF THE TSETSE AND TRYPANOSOMIASIS
CONTROL COMMITTEE - 5th MARCH, AGENDA

The Director, Tsetse and Trypanosomiasis Control
and Reclamation would like to discuss the attached
paper on 5th March. It is regretted that it is
not possible to supply members with the maps,
which will be displayed at the Meeting.

AM. Halden

SECRETARY

THE SABI-LUNDI ANTI-TSETSE OPERATIONS

i. The answer to the tsetse problem lies in the full development of the low veld. Anti-tsetse operations affect and are affected by development projects. Any anti-tsetse operation (whether game destruction, bush clearing or insecticidal) is only temporary in effect unless followed up by or run concurrently with the development of the area concerned.

ii. It follows that anti-tsetse operations should be planned to take advantage of developmental work: e.g. the projected Sabi-Lundi irrigation Schemes will, one day, form an almost complete defence against tsetse North of the Lundi River; current work at Triangle and Hippo provides, for those areas, a solution to the problem.

iii. A choice has to be made between the attempt to integrate anti-tsetse work with rural development and the application of methods which may be hoped to give spectacular results in a relatively short time, but which will not prevent reinvasion. It is here assumed that the former approach will be adopted.

iv. This being so the activities of two Governments and several departments will have to be interrelated.

v. The present position and the proposed plan of operations are illustrated on the enclosed maps.

A. MAP 1 Tsetse and Trypanosomiasis, S.E. Southern Rhodesia January 1959.

(1) The Sabi-Lundi Fly Belt is moving westwards and southwards and unless halted will eventually occupy some 16,000 square miles ($10\frac{1}{2}$ million acres) of the Southern Rhodesian low-veld and will invade the Union of South Africa. Two species of tsetse, G. morsitans and G. pallidipes are involved with, possibly, a third, G. austeni, in limited and, as yet, undefined, localities.

(2) and (3) The G. pallidipes - G. brevipalpis

to the more southerly morsitans-pallidipes belt is not yet determined. A survey in the Mwangazi area has begun. (see B.8 below).

(4) and (5) Cattle are variously infected with trypanosomiasis up to 25 miles from the identifiable limits of known or suspected tsetse belts. They are kept in good health either by individual treatment or by block inoculation in heavily infected herds. Close liaison between tsetse control and veterinary services is most important and is, in fact, very good.

B. MAP 2 Current Operations.

(1) The Sabi West Shooting Area. This was the main defensive operation in the 1955 scheme. It has not worked well because of lack of hunters. At its start tsetse were only known some 15 miles East of the fence on its western boundary. They reached this fence in mid 1958. The scheme is being revised.

(2) The Sabi East Intensive Shooting Area. This covers the only area of relatively dense tsetse infestation in the Sabi valley. Shooting is at one hunter to two square miles and has operated for 9 months. Results are encouraging.

(3) The Mkwadini Fences - Intensive Shooting Area (in abeyance). The 1955 scheme envisaged elimination of all game (and cattle) between an outer game and inner cattle fence, five miles apart, bounding the Sangwe and Ndanga East Reserves. Lack of hunters has prevented implementation of this scheme, except that in November last advantage was taken of a game concentration on the Mkwadini River to make an attack with a small force of hunters. The scheme requires revision.

(4) The Honde-Rupembe Clearing. This operation is nearly completed. It covers the country in which the pressure of the advance from Portuguese East Africa was first felt. It now requires consolidation by settlement.

(5) The Bandai Clearing. Almost completed. The area will be handed back to the Ndanga East Reserve this year. Efforts should be made to control grass fires here so that late burning may be used to prevent regeneration and provide improved pasture for the Ndanga East cattle.

(6) Mkwadini Mechanical Clearing. This is being carried out by two bulldozer teams of the Department of Conservation and Extension. It has a double object:

(a) to eliminate a possible migration route for

Mkwadini drainage basin and

(b) to investigate the economics of this type of clearing.

(7) Lundi Clearing (projected) It is hoped to start this at the beginning of April. It is intended to use naturally open sections of the river banks to create obstacles to tsetse movement. It is desired to avoid destruction of riverine forest, but in certain sections eradication of scrub will be undertaken. The effect of the clearings will be intensified by insecticidal treatment of the untouched forest zones.

(8) Unselezwe - Mwangazi Survey. Continuing heavy infections in the Musikuvanthu Reserve and in farms in the Chikore Mission suggest that a tsetse belt has existed here for a long time. Until it is located and its relationship to the mixed tsetse belts of the Unselezwe River basin in Portuguese East Africa is discovered no plan can be made. An entomologist has now begun work here.

(9) The Black Basalt Defence Zone is being mapped from the point of view of selective clearing.

(10) The South Lundi Survey is concerned with plotting the whereabouts of tsetse, relating them to the vegetation and also opening up the area by bush tracks. Federal Surveys are undertaking the topographical mapping of the area during this year, on a scale of 1:50,000.

(11) Chipinda Pools Survey. A vegetation survey has begun and the first map delineating 10 vegetation communities has been printed. If, as is likely, tsetse appear West of the game fence it is likely that they will be found here. The survey will provide a basis for extending reclamation work.

(12) Traffic Control Points. In Southern Rhodesia as a whole too much weight is attached to "deflying" gates and chambers, and much money is wasted in this way. It is proposed to transfer at least half the staff to survey and reconnaissance work.

(13) and (14). The cluster of camps on the Sabi River is a legacy of the 1955 scheme and is unsatisfactory. It is proposed to base the H.Q. for all operations in the neighbourhood of the new Chiredzi Township.

(15) Game Fences are erected and maintained by Tsetse Control, but the Cattle Fence (16) is kept up by the Native Department (see also para. B(3) above)

(17) In addition to the above it should be noted that equipment is available in the area to mount small scale insecticidal operations West of the Basalt Defence Zone, should persistent re-infection of cattle indicate the approaching establishment of a tsetse colony.

(18) Staff comprises the Entomologist in Charge, two other Entomologists and five Field Officers. As soon as they can be absorbed there is provision for three more Field Officers, two of whom should be Senior Field Officers. There are some 380 Africans on the payroll. The two Europeans and ancillary African staff of the Bulldozer Units are additional to the above.

(19) Finally, a local Tsetse and Trypanosomiasis Committee under the Chairmanship of the N.C. Zaka has met twice. In future the Committee will meet under the Chairmanship of the P.N.C. at Fort Victoria and will include the Native Commissioners of Zaka, Bikita and Nuanetsi, a Farmers Representative, the Provincial Veterinary Officer and the Entomologist in Charge Tsetse Control, Sabi.

C. MAP 3 Proposed Layout of Revised Scheme

- (1) Chiwonja (Chuhanja) - Chipinda Infested Area.
(Also (10), (11) and the southern portion of (9)).
- (2) South Lundi Infested Area.

These areas are being studied from the viewpoint of the relationship of the tsetse fly to local flora and fauna in order to revise means of accelerating the reclamation campaign. The shooting schemes mentioned in B(1) and (2) are continuing. The revised scheme is concerned principally with

- (a) the prevention of extension of the area of tsetse infestation and
 - (b) the provision of a defence against re-invasion from the Portuguese tsetse belt.
- (3) S.W. Gonakudzingwa - Dry Zone Watershed. This covers country unsuited to tsetse, with the exception of certain drainage lines and pans. The aim is to eliminate favourable vegetation to provide a continuous zone 15 miles or more wide in which tsetse will be unable to survive. (see also (6) below).

(4) The Black Basalt Defence Zone. This zone, which continues South of the Lundi through the Matibi II Reserve (6) and North East into the Sabi N.P.A. (see (9) below) is edaphically unsuited to vegetation capable of forming tsetse habitats, except where crossed by rivers or where hills occur.

at the centre of Matibi II with the dry zone noted above (3).

(5) The Five-Mile Fence Zone (see B(3) and (6)).

This cuts across the proposed defence line which will absorb most of it. To what extent country West of the Sabi and North of the Sangwe Reserve ought to be involved in the scheme must depend upon the results of the survey now begun in the Mwangazi area (B.8). The main value of the fences is to prevent contact between the Native Reserve cattle and the European cattle. This function would be equally well performed by normal boundary fences unconnected with any tsetse scheme.

(6) (7) and (8). The Matibi II, Ndanga East and Sangwe Native Reserves.

(Possibly the results of the Mwangazi survey will suggest the inclusion of the Musikuvanthu Reserve).

The object in all these areas is to create a vegetation unfavourable to Glossina. Generally speaking, this means the thinning out of tree growth. The local population will assist by its presence and activity, in stabilising this vegetation and preventing regeneration. In all these areas anti-tsetse operations should be correlated with plans for agricultural development and it is suggested that where anti-tsetse work can be integrated with development, funds should be handled by the Native Affairs Department.

(9), (10) and (11). The Sabi Native Purchase Area, the Northern Section of the Gonakudzingwa N.P.A. and a proposed Sabi West (Chitsa's) Special Native Area. The third of these has recently been suggested as one which, if settled, would be a very valuable adjunct to the defence of the Sabi-Lundi basin against reinvasion from Portuguese East Africa. This is true, but the area is Crown Land intended for European occupation. Issues other than tsetse are involved which it is not proposed to argue here. We are concerned with the construction of a defence line as near as possible to, but not necessarily along the international frontier.

The first need is for land use surveys throughout the Sabi N.P.A. (9) and, South of the Lundi river, the strip of land below the Clarendon Cliffs (11). If area (10) is admitted, this also should be included. If it is found that the introduction of a population at a density compatible with sound land use, either over the whole or only in parts of these areas, would materially assist the establishment of a defence

closely integrated with anti-tsetse operations. It is particularly desirable that urgent consideration should be given to the border strip between Beacons 102 and 106, to a depth of 7 miles West of the boundary.

(12) No proposals are yet made for the bulk of the Gonakudzingwa N.P.A. Our action here will depend upon the effectiveness of Portuguese measures. It is suggested that they should be requested to follow the Southern Rhodesian example and fence the border where they are conducting shooting operations. The Portuguese have expressed their intention of setting up a deflying chamber on the Border road. The carriage of tsetse down the road is dangerous. A meeting between the Portuguese, the South Africans and ourselves is proposed for April next.

vi. The total area covered by these proposals is about 2.1 million acres and comprises several land categories (see Map 4). In view of the difficulty of obtaining labour and the general remoteness and undeveloped nature of much of the country, financial requirements are not likely to be much below 5/- per acre. This means that about £500,000 will be needed for the Sabi area, over and above permanent staff costs (say £16,000 p.a.) Approximately £60,000 (excluding staff wages) is available for the Sabi area in the 1959/60 estimates.

vii. The suggestion is again made that co-ordination of the Sabi programme should be the responsibility of a small Working Committee to include the Director of Veterinary Services, the Under-Secretary, Native Lands and Townships and the Director of Tsetse and Trypanosomiasis Control and Reclamation. The Department of Conservation and Extension is already involved in the Sabi operations and the Director of that Department would be a valuable asset on such a Committee.