

Article 115

THE LAND SETTLEMENT PROBLEM

IN RHODESIA

T. LEES MAY,
M.R.C.V.S., D.A.P. & E.
DIRECTOR OF VETERINARY SERVICES.

The African Continent, in the known historic records, has contributed comparatively little to the sciences and arts of civilisation and remained for centuries as an unpenetrated land mass.

The causes for this isolation and uneven lack of development were numerous but undoubtedly the disease risk to man and animals was a paramount factor and amongst these diseases Trypanosomiasis took major place.

Before curative drugs were found this disease was a gross depopulation factor. The introduction of Gambian Sleeping Sickness to Uganda, reputedly by Stanley's African porters in 1887, led to a computed 200,000 deaths in a population of about 300,000, in a period of five years in the huge Lake Victoria outbreak of 1902.

The rain forest and riverine Tsetse Flies, as vectors of Trypanosomiasis, barred the entry of Europeans and his transport animals and reputable scientists have maintained that its presence has saved the central watersheds of Africa from human decimation of the rain forests with conversion to desert conditions.

Part of the explorations of North Nigeria and the adjoining French Territories was by caravans across the Sahara from the Mediterranean because of the impossibility of the short direct approach from the West. Similarly Rhodesia was initially served by rail via Mafeking and Bechuanaland because of the complete and impenetrable barrier of Tsetse fly that existed in the Northern Transvaal, the which only finally disappeared after the great decimation of game by Rinderpest in 1896/97.

In former times the fly belt existed further North and South than at present. Nowadays the fly infests an area reaching from latitude 14°N. down to a line drawn from Benguelo to Durban, the which is indented by the Bihe Plateau in Angola and by the high veld in Southern Rhodesia and Transvaal.

Between these limits about four million square miles are infested by the 33 species, sub-species and races of Tsetse Fly.

In Rhodesia we are now under grave threat by the advance of the morsitans group of Tsetse, *Glossina morsitans* and *pallidipes* mainly, which are associated with Msasa and Mafuti woodlands and the more arid mopane savannah especially along river courses.

The last major advance was in 1920 - 1930 when the effectiveness of clearing a corridor between domestic stock and free living wild life was very fully demonstrated. The shooting out of all game in such corridors halted an advance which threatened to overwhelm some 51,000 square miles of country and regained 10,000 square miles from a solid block of fly-infested bush in the period between 1932 and 1955, an achievement unequalled in the records of tsetse control anywhere.

One thousand square miles is a large area for a reclamation operation and very few schemes elsewhere in Africa have achieved it.

However, public repugnance to the policy of game slaughter lead to the Thomas Commission of Enquiry of 1955.

Its main finding was that "the only methods we recommend for serious consideration and investigation as to application to the territory's problems are discriminative clearing, combined with close settlement, and in special circumstances, the use of modern insecticides; but it must be clearly stated that until the proper methods of application of these new measures have been worked out, it will be necessary to continue modified game destruction under more strict control".

In deference to this recommendation, to the wishes of Government and to public sentiment, a determined effort has been made since 1956 to use and exploit all other available means of control.

With the advent of curative and preventative drugs in the late 1950's, domestic stock could be kept in good health contiguous to tsetse fly belts under a system of regular routine injections and immediate advantage was taken of this drug cover to implement the Thomas recommendations of the employment of selective clearing, settlement, use of modern insecticide spraying by air and by land, with the gradual elimination of game destruction and its final abandonment in 1960.

Despite the marked success of drug cover, e.g. in one small fly infested area alone on the Eastern Border cattle increased from 12,000 to 28,000 in eight to nine years, the other modern methods entirely failed to stem the fly advance although the gross spendings on these methods were slightly over a quarter million pounds per annum in the years 1956 to 1963. A grave complication also arose in Tribal Trust Land, when the inhabitants started to refuse to produce animals for regular drug cover under ill-advised political instigations.

If the drug level in the blood stream is allowed to fall gradually below an effective strength, then the strain of Trypanosomes become completely resistant to such drugs and new and costlier drugs must be found to replace them. An end point of resistance to all known trypanocidal drugs is not an impossibility.

Continued experimentation with selective clearing of riverine vegetation in winter and knapsack spraying of all resting sites of the fly, such as had been highly successful elsewhere in Africa, failed to give anything beyond a mere temporary drop in fly populations with a rapid recovery in a few months.

Other experimental work had high-lighted three major facts -

- (a) that in Southern Rhodesia we did not have the retreat of the bulk of the fly population to riverine vegetation in winter as elsewhere in more tropical Africa where mid-winter temperatures in mopane savannah soared much higher;
- (b) that the majority of females still continued to breed on a widespread front in mid-winter in mopane savannah; and
- (c) that analysis of blood from engorged tsetse flies showed that 60% of the meals were derived from wart hog and bush pig, the remainder from kudu and bush buck.

At this juncture, we were faced with a major crisis in the Shangani - Gwaai area. Fly and disease had spread South West from the Sebungwe area despite major costly clearances and spraying on the rivers of the area and sustained drug cover. Cases were found on a Gwaai Valley ranch across the Falls main road in the vicinity of the Wankie National Park. The advance of fly into the Park, which would soon produce a decimating outflow into the heavily cattle stocked areas adjacent to it in the South had to be stemmed at all costs.

We had been facing a similar situation in the South East corner of the country where fly was steadily advancing to the Limpopo River with threats of advancement into the Kruger Park and down the river into intensely developed irrigation projects in Mocambique, a deep source of worry to our neighbours.

A combined International scheme of costly clearing and spraying in this area had been in vogue for two years without achieving its object of stopping the advance.

It was known that the focal point of advance in both these districts came from an area containing a highly concentrated game and fly complex.

In consultation with the Department of Wild Life Conservation, it was decided in 1962 to make an experimental attack on this complex in the Nagapande area to alleviate the Gwaai spread.

In an area of approximately 200 square miles elephant and buffalo were initially driven from the area by shooting, the area was then completely enclosed with a seven foot game fence and the elimination of wild pig, kudu and bush buck rapidly effected.

The collapse of the fly population was dramatic and within six months a major diminution of Nagana cases at all dips in the Shangani-Gwaai area occurred and has since been sustained.

Practically no cases occurred since October 1963 and by March 1964 the cases in this area were the smallest on record for years. Meanwhile in all the other areas where we have persisted with clearances, spraying etc. the position has rapidly deteriorated and we have had major advances of fly into areas which had been reclaimed in 1930 - 50 period at a high cost in animal life and money and in the face of great public opposition.

Urungwe, Karoi, Doma, Sipolilo and Darwin Districts are now recording Trypanosomiasis in areas that had been free of disease in most instances, since 1930. Probably about 3 to 5 thousand cattle will die in the Inyanga area where resistance to drug treatment is a marked feature.

Advances in the South East present a grave threat to the highly important cattle ranching areas in the Nuanetsi District.

To restore control throughout the country we are convinced that the only reasonable hope of success lies in the adoption of selective game elimination as one of a combination of methods. Game must again be subjected to shooting and cleared from areas where their presence is a menace to agriculture. The majority of the shooting will be effected in Tribal Trust Land where successful settlement will undoubtedly lead to the eventual elimination of game by inhumane methods of hunting by dogs, snaring etc. We must have new land for our explosive increase of indigenous population and until such time as settlement has created

the necessary clearance of bush etc. to destroy fly habitat then the main sources of food for fly in the shape of certain species of game must be excluded and denied re-access by patrolled and maintained game fences.

This shooting will be closely supervised and controlled by the Wild Life Department, all meat etc. will be profitably used to feed labourers employed in fence building, vegetation clearance, insecticide spraying etc.

Extensive collections of biological material will be made from the destroyed game for research purposes and the worrying lack of full knowledge of the actual disease position in free-living wild life will be removed. Such findings will be of major importance for the development of markets and the form of market products from any future game cropping industry.

The true and precise knowledge of the behaviour of the Tsetse Fly within Rhodesia itself will be intensely studied during these operations and many of the mistakes of the past, which have been precipitated by accepting generalisations as to fly behaviour based on rather scanty observations in parts of Africa with different climatic conditions, will be gainfully avoided.

One factor of the deepest importance in this problem that is often overlooked, and which lies at the very roots of our troubles, is that generally speaking in Africa (excluding the Congo rain forests) the presence of tsetse infestation indicates low potential of land productivity either from poor soil or lack of water.

As authoritatively stated by Ford, "Tsetse fly does not keep agricultural man out of fertile areas - man keeps out the Tsetse fly". Therefore it is all the more essential that the new settlers in the areas adjoining the tsetse fly belts must be given the greatest of help in excluding certain game and the accompanying tsetse fly until such time as they have developed the land into a fertile area by modern agricultural usage and practice and raised themselves from a mere subsistence level to that of flourishing agriculturists on a sound cash economy. Every area so gainfully occupied is a major permanent defeat of the tsetse fly itself.

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