1932. Kenya. Tanganyika.

No. 18085.

SUBJECT CO533/423

Rinderpest and Bovine Pleuro-Pneumonia.

Eradication Measures.

Previous	Subsequent
See 17405/31. 30095/31 T.T. Kenya.	38261/36.

FILE C.

1 Gov. Kenya 64

Submits [illegible] 9th February, 1932
of Rinderpest and Bo[vine] [de]tailed scheme for the eradication
Native Reserves bet[ween] [vine] Pleuro-pneumonia from the
K.U.Rly Line. [betw]een Kenya-T.T. boundary and the
(Animal Health) & C. [E]ncloses report by the Dep. Director
a scheme completed [illegible] V.O., dealing with the results of
Trusts th[at] the Kajiado district.
a grant would now r[eceive] at an application to the C.D.F. fo[r]
[re]ceive support. 2

C

See No 5 of 30095/31 T.T.

* who should be warned take an opportunity of seeing the proposals [illegible] minute of 30 Sept 31 on 30095/31 C.F. [illegible]

Mr. Allen

The first step is for S. of S. to be satisfied that the proposals are technically sound. Advice on this can best be tendered by Mr. Montgomery*, who is, however, not expected back in the Office before the first week in May.

Mr. H[illegible] has told me that in Mr. Montgomery's absence, advice on questions of Animal Husbandry can be sought from Dr. W. Horner-Andrews [illegible]. But, in view of the history of this particular matter, and Mr. Montgomery's knowledge of East Africa, it would, I think, be preferable – and justifiable – to await his return.

(As regards the C.D.A.C. aspect, I may perhaps remind that in April 1930 they recommended a grant of £20000 to Gold Coast for a Rinderpest eradication scheme of which the total cost was estimated at £26,000. But this precedent attitude must, of course, be modified by the Rly C'tee's report – in great urgency [illegible]

(to the U.K. —)

2 B.U. at end of April

S. Freedom
8/3.

The Col. Off. have taken eight months (no doubt for good reason) to put this forward & as Mr. Montgomery's advice in support of E.A. Govts. of the scheme would much enhance the prospect of a successful applicn. I think the best course is to treat as proposed but ? I might write S/S to Mr. Moore explaining that this will be some delay but that we will expedite the matter as much as possible when Mr. Montgomery returns

J.W. Allen
8/3/32

? Yes please

W.C.B.
8/3/32

Mr. Allen

2 To Moore — 1 encl. — S/S 14 MAR 1932

3

This is a concrete proposal arising out of an interterritorial conference of veterinarians from Tanganyika, Kenya and Uganda. Rinderpest cannot be eradicated unless there is complete co-operation between adjacent authorities, and at that gathering tentative experimental proposals were discussed and agreed to by the three parties. The experimental work was to fall upon Kenya, within whose territory it would be extended, if satisfactory, as an applied measure, for the protection of Tanganyika. A similar application or extension to the Kenya-Uganda border is contemplated.

There can be no question as to the marked advantages already accruing to Rinderpest control by the application of the system outlined by Mr. Hammond and supported by the Chief Veterinary Officer, nor as to the eventual complete eradication if it be possible to persist in this policy. I consider that with experience and practice modifications will be possible that will either increase efficiency or reduce expense, but I whole-heartedly support this application even without this enhanced prospect.

This is an occasion on which one country has been selected to demonstrate what is truly an interterritorial problem and in which the request is made for extraneous monies wherewith to expand the initial exploration. All East African States will benefit - the southern ones through increased security against what has for sixteen years been an acute menace, and those now under consideration by the direct benefit from control and eradication of the most formidable of the exotic diseases of cattle.

to and the U.K. ... of ... ...

The immediate benefits to Britain from this grant are ~~adequately~~ admittedly small - i.e. motor lorries, some tentage, microscopes, instruments and drugs purchased here. At least 650,000 of Masai owned cattle and 400,000 from South Kavirondo will be the early beneficiaries: behind them are the 12,000,000 cattle in the rest of Eastern Africa, to which this experiment is designed to be applied later. These animals constitute a local wealth and create a spending power: the establishment of creameries and meat works (probably simple at the inception) will be required concurrently with the eradication of disease and the consequent availability of a natural surplus. The development of an improved hide trade in Eastern Africa has already benefited the British tanning industry.

This application does not seem fully to present the case, of which I have learnt from correspondence, and since my return from West Africa, from conversations with Mr. Brassey Edwards, the C.V.O. of Kenya. In addition to the staff now outlined in this application there are already engaged in this attack 3 Veterinary Officers, 3 Stock Inspectors and 30 native Stockmen, at an annual cost to Kenya of about £3,500. It is proposed that this personnel continue to be engaged in the interterritorial campaign for at least the two years of the projected programme. In addition a Laboratory Assistant has been detailed for duty at Kajiado in connection with Pleuro-pneumonia, which it is hoped to tackle simultaneously with Rinderpest.

Further, it is not emphasised in the application that the serum required for use in association with vaccine will be locally prepared by the staff and will not need to be purchased.

[illegible signature]

18.5.32.

? now inform the Govt. ([illegible]) that the S of S is prepared to support an applicn. to the C.D.F. for financial assistance in order to apply the major scheme: [illegible] on the basis of the last two paragraphs of [illegible]'s minute.

[illegible signature]

18/5/32

I had an interesting general talk with Mr Brassey Edwards yesterday — he is extremely optimistic about the future of [illegible] animal husbandry ("a second New Zealand") and regards [illegible] contact as the basis. Sir J. Campbell agrees. [illegible] [illegible] 18/5/32 [illegible]

5

I concur in the draft.

As regards the C.D.A.C aspect, there are obvious difficulties:--little direct benefit to the U.K., small proportion of expenditure there, objection to bearing recurring administrative charges, possible tendency to regard the scheme as an essential administrative measure and therefore outside the ambit of the C D A C, etc. But the Comm:, as time goes on, is perhaps inclined to pay less attention to the "May" criterion. Rejection would seem most probable; but I hope that the scheme will be accepted and financed by the Comm:.

The 23/5/32.

[signature] 23/5/32

By Air Mail of 25/5/32 3 To Gov Kenya 386 Cons 24 MAY 1932 (Planned)

[signature] 26/5/32

4. Papers circulated to the Governors Conference April 1932

5. Recommendation of the Governors Conference

Mr Montgomery

You may care to see, but I doubt whether any action is called for

[signature] 1/6/32

I showed this today to Mr Montgomery who is in hospital. He agrees that no action appears to be necessary, but would like to see the papers again on his return to duty.

Perhaps they could be recirculated to him in a month's time.

notes 2/7

[signature] 2/6/32

[signature] ? action

The Governors concerned do not propose to comment on Nos. 4 and 5. (see 27047/32 E.A.)

4 and 5 ? Pub:

as regards 5 it is certain that this scheme will not be received in time for the next CDAC meeting (20 July) as the Secretary requires papers by the 8th and as the scheme will have to be submitted to the Kenya Leg Co first vide para 3 of

? Pub:

[signature] 7/7/32

[signature] ? action

Mr [?] Mr Hughes

By ... circulated ... minute of 2/6/32 ...

Mr Drumlon

I do not think that anything further

can be done until we receive the Govt's reply to No. 3 ?

[illegible] 8/7/32

Put by

[illegible] 8/7 Aw

6 Gov. Kenya — 458 — 16/9/32

In reply to No. 3, reviews the past history of the campaign against rinderpest & bovine pleuro-pneumonia, & for reasons stated submits a fresh application for consideration by the C.D.A.C.

It seems desirable in the first instance to obtain expert advice & Dr. W. Hornby Andrews should be asked for his views – see the Director's minute of 8/3

[illegible] 5/10/32

Mr. Hibbert

For your drafting, pl.

[illegible] 5/10

I have searched Mr. Montgomery's papers to see if there are any references or notes in regard to this revised scheme, but I can find nothing.

The position appears to be that the earlier scheme submitted with No.1, whereunder eradication of the two diseases in question in the Masai area was to be effected by means of vaccination only, has been condemned as impracticable and unsound by the Director of Agriculture. The new scheme is definitely more of an experimental nature. With regard to rinderpest it aims, not at total eradication (which is evidently held to be impracticable at the moment), but at the reduction of the disease. In the native areas, this is to be done by means of vaccination supplemented by a subsequent inoculation with virus, and the treatment is apparently to be applied only in areas actually affected by outbreaks. In the settled areas, it is considered that vaccination with inactivated vaccine alone is suitable so long as revaccination takes place yearly, or, if a more permanent immunity is desired, gradually to substitute the vaccine-virus method mentioned above for the old method of double inoculation.(a) It is further hoped to prosecute research which will eventually place the territories in a position to consider an eradication programme. With regard to pleuro-pneumonia, research only is apparently envisaged. The cost of the new scheme is put at £41,500, to be spread over a 5-year period, of which the Kenya Government will pay £15,000, leaving £26,500, for which a block grant is sought from the Colonial Development Fund. Of this, £3,500 is for capital expenditure and £23,000 for recurrent expenditure.

[(a) Double inoculation comprises a dose of fully active virus, but a dose of protective serum injected simultaneously]

The memoranda etc. accompanying the despatch are highly technical, and the Colonial Development Advisory Committee will naturally desire to

to know whether, in the opinion of the Secretary of State's advisers, the scheme is to be regarded as a sound one. I quite agree with Mr. Priestman that Dr. Horner Andrews is the most suitable individual authority to approach for advice in the matter, but the Secretary of State has ruled that, for the present, veterinary questions on which expert advice is required, are to be referred to the Animal Health Committee of the Colonial Advisory Council, of which Committee Dr. Andrews is a member. I would accordingly suggest that the relevant papers, i.e. No.6 with enclosures and No.1 with enclosures, should be circulated to the Committee for consideration, with a short explanatory note. I might mention that Professor Buxton, who is President of the Royal College of Veterinary Surgeons and Director of the Institute of Animal Pathology at Cambridge University, and Mr. Stockdale are members of the Committee.

With regard to the financial side of the scheme, the particulars given in paragraphs 2, 10 and 12 of the memorandum replying to the usual questionnaire (first enclosure) are explained to a certain extent in paragraph 10 of the Director of Agriculture's letter of the 16th August (third enclosure), but I do not quite understand why the amount asked for on account of the recurrent expenditure should be based on a two-years' provision for salaries etc., when the scheme is apparently intended to extend over five years. Before the papers are circulated to the Animal Health Committee as suggested above, the Department may wish to consider whether this, or any other matters affecting the financial side of the scheme should be taken up with the Governor. I pass this paper through Mr. Poynton in case he may wish to offer any further observations.

J. G. Hibbert
6. 10. 32.

I have discussed further with Mr. Hibbert. Clearly the C.D.A.C. will wish for expert opinion on the Kenya proposals and the first step must be to remit them to the Animal Health Committee. Mr. Hibbert tells me that no meeting of this Committee is at present fixed but he will try to arrange one at as early a date as possible. He has also kindly undertaken to arrange for the necessary copying of No.6 with its voluminous enclosures. copies can be made at the same time for submission to the C.D.A.C. in due course. (The Kenya Govt. have failed the provide the requisite number).

? To Mr. Hibbert to proceed as he suggests.

Mr Freeston

Nos. 6 & 1 and enclosures have now been copied and I submit dft of suggested covering memorandum.

J.G. Hibbert
25/10/32

The ~~Deputy~~ Secretary

Seen, thank you. I hope that enough copies of 1 & 6 may be made available for ultimate circulation to C.D.A.C.

[signature] Freeston
26.

15

7 Extract from the Draft Minutes of the Fifth Meeting of the Animal Health Committee of the Colonial Advisory Council of Agriculture and Animal Health — 7th November 1932

Mr Freeston.

You will see from these minutes that the Committee of Animal Health were unable to support the application made by the Govr of Kenya in its present form. The Committee was largely influenced by the statements made on pages 3 & 4 of the last enclosure to the Governor's despatch (No. 6).

J.G. Hibbert
8/11/32

Please dft conson to Gov. embodying A.H. Ctte's criticisms.

[signature] Freeston
8/11

wtw

As the A.H. Ctee envisage the possibility of something being done about rinderpest, I take it that we are not acting improperly ~~before~~ in sending the despatch before laying the matter before the C.D.A.C., and therefore I have passed the dft, but Mr Poynton should see before issuing, as he may not agree.

[signature] 11/11/32

I agree to the action proposed.

[signature] Poynton
12/xi.

8 To Gov. Kenya 845 — Conf. 16 NOV 1932
(6 annexed)

18/4/33

Mr Priestman

No reply to No 8 has yet been received.

[initials] 11.5.33
Reg 247

1. Inquire when the further particulars invited in para 4 of 8 may be expected.

H.E. Priestman 6/5/33

Noted

Not yet - B.U. in 3 months

[signature] Freeston 5/5 [illegible]

Mr Freeston

I have placed within a letter addressed to me by Mr Dunbury which indicates why no reply has as yet been received to No 8. I suggest that I should merely ack as in dft. ltr. I have not received any enquiries from members of the Col. Adv. Council.

1/8/33

See

DESTROYED UNDER STATUTE

The "other development scheme" which is receiving priority is no doubt the Tana River application.

MR. FREESTON.

The following is an extract from the Report of the Conference on Co-ordination of Veterinary Research which was held at Kabete last January, and which was recently received from the Secretary to the East African Governors' Conference:-

> "The CONFERENCE, after further discussion, agreed that in view of the programme of work already in hand at Kabete, pleuro-pneumonia research should be concentrated in that institute. It desired to support the application made to the Colonial Development Fund by the Kenya Government for assistance in these investigations, and to draw the attention of the Governors' Conference to the great economic importance of this disease in a stock-raising country, and to the need for further research into its etiology and control."

In

In his covering letter, which you have already seen, Colonel Walker asked that the observations of the Secretary of State's Advisers might be obtained and forwarded to him in due course in order that the Governors' Conference might have the benefit of them when considering the report.

The Report will be laid before the Colonial Advisory Council at their next meeting, but I do not anticipate that the Council will have any special observations to make on the finding quoted above, since their Animal Health Committee has already agreed in principle with the researches in progress at Kabete on this particular disease and consider them suitable for support from the Colonial Development Fund. We cannot however proceed further in the matter until a proper application is submitted, and I see no reason why a reminder should not be addressed to the Governor at once. I submit draft.

29th May, 1934.

I have held this up until the Governors' Conference (May 1934) Proceedings were available. It now appears (Item XX (d)) that they had nothing in particular to say. I have passed the dft.

12/6

10 To Kenya 461 (& annex) 13 JUN 1934

C. O.

Mr. Hibbert 23/5
Mr. Preston 13/6
Mr.
Mr. Parkinson
Mr. Tomlinson
Sir C. Bullowley
Sir J. Shuckburgh
Parmt. U.S. of S.
Parly. U.S. of S.
Secretary of State

18085/32 Kenya.

C. O.
A 12 JUN
D 13

13 JUN 1934

DRAFT.

KENYA.
No. 461
Gov.

Sir,

I have etc. to refer to

(8) the fourth paragraph of my despatch No.845 of the 16th November, 1932, in connection with the proposals submitted

(6) with your despatch No.453 of the 16th September, 1932, for a programme of intensive research on the etiology and transmission of contagious bovine pleuro-pneumonia and on diagnostic tests that might prove useful in the eradication of this disease.

2. In my despatch I indicated that whilst I was advised that this research

FURTHER ACTION.

research ought to be pursued, I was not in a position to support an application for a grant from the Colonial Development Fund because the information at present furnished did not show the estimated cost of the scheme.

3. In the event of your still desiring to obtain assistance from the Fund for this scheme, I should be glad if you would arrange for a fresh application to be submitted on the lines indicated in my Circular despatch of the 13th March. (copy herein)

I have, etc.

(Sgd.) P. CUNLIFFE-LISTER.

C. O.

Mr. Priestman 10/11
Mr. [illegible] 10
Mr. [illegible] 11/11
[illegible] 11/11
Mr. Parkinson.
Mr. Tomlinson.
Sir C. Bottomley. 8.11.
Sir J. Shuckburgh.
Permt. U.S. of S.
Parly. U.S. of S.
Secretary of State.

18085/32

O.D.
R 4 NOV
D 15

DRAFT. Conam

KENYA.

NO. 825

GOV.

(No.6)

16 November, 1932.

Sir, ~~S~~ S

I have etc. to acknowledge the receipt of your despatch No.453 of the 16th September submitting a revised application for assistance from the Colonial Development Fund in respect of schemes for the eradication of rinderpest in the Masai reserve, and for research in regard to bovine pleuro-pneumonia.

2. Your proposals have been referred to ~~I have consulted~~ the Animal Health Committee of the Colonial Advisory Council of Agriculture and Animal Health. ~~The Committe~~ ~~on your proposals and I approve[?]~~ With regard to ~~... that, no organic~~ rinderpest, the Committee advise that the treatment of this disease

Copy to C.D.A.C. (Colonial?) Copy [illegible]

by

by means of vaccine ~~plasma~~ plus virus ~~could only~~ can be looked upon at the present time as only as experimental, and ~~no~~ on the evidence available, that it could hardly be ~~used as~~ made the basis for an extensive policy aiming at rinderpest control. While the method proposed is probably the most suitable, it has not been tried on a sufficiently large scale to justify a recommendation that public funds should be employed to finance the scheme to the extent indicated. Only a few hundred cattle have apparently so far been treated by the method advocated, and there is not sufficient evidence ~~that there is any guarantee~~ to warrant the guarantee that it would afford immunity of sufficient permanency. There is also the

possibility

possibility of unforeseen setbacks arising owing to variations occurring in the vaccine, as these are frequently experienced when vaccine is manufactured on a large scale. Difficulty in the handling of virus on a large scale might also be encountered. (3) I am of opinion, therefore, that, before any scheme involving extensive operations in the field is embarked upon, further evidence of the success of the method advocated should be obtained by means of extended experimental tests. I understand that proposals for such tests would have the unanimous support of the Animal Health Committee.

4. As regards the scheme of research suggested in connection with

with bovine pleuro-pneumonia.

I am afraid that this ought to be pursued. The information at present furnished does not, however, show the estimated cost of this part of the scheme, and I shall be glad, therefore, if further particulars ~~required to-day~~ may be submitted to me in due course.

I have, etc.

(Sgd.) P. CUNLIFFE-LISTER

7 13

EXTRACT FROM THE DRAFT MINUTES OF THE FIFTH MEETING OF THE ANIMAL HEALTH COMMITTEE OF THE COLONIAL ADVISORY COUNCIL OF AGRICULTURE AND ANIMAL HEALTH :-

7th November, 1932.

4. Control of Rinderpest and Contagious Bovine Pleuro-Pneumonia in the Masai Reserve, Kenya. (C.A.C./V.23).

The Committee had before them a copy of a despatch, dated the 16th September, 1932, from the Governor of Kenya submitting an application for a grant from the Colonial Development Fund to assist (i) a scheme for the suppression of Rinderpest in the Masai Reserve by means of the vaccine plus virus method, and (ii) a programme of intensive research on the etiology and transmission of Pleuro-pneumonia and on tests which might prove useful in the eradication of this disease. For the purpose of comparison, the Committee also had before them a copy of a despatch from the Governor of Kenya, dated the 9th February, 1932, submitting an earlier scheme which had been subsequently discarded.

With regard to the question of Rinderpest, the Committee felt that the treatment of this disease by means of vaccine plus virus could only be looked upon at the present time as experimental and, on the evidence available, could hardly be used as the basis for an extensive policy aiming at rinderpest control. While they considered that the method proposed was probably the most suitable, they were unanimously of the opinion that it had not been tried on a sufficiently large scale to justify their recommending that public funds should be employed to finance the scheme to the extent indicated. Only a few hundred cattle had apparently so far been treated by the method advocated, and the Committee could not feel satisfied that there was any guarantee that it would afford immunity of sufficient permanency. There

There was also the possibility of unforeseen setbacks arising owing to variations occurring in the vaccine, as these are frequently experienced when vaccine is manufactured on a large scale. Difficulty in the handling of virus on a large scale might also be encountered. The Committee accordingly recommended that, before a scheme involving extensive operations in the field was embarked upon, further evidence of the success of the method advocated should be obtained by means of extended experimental tests. Proposals for such tests would have their unanimous support.

With regard to the research suggested in connection with Bovine Pleuro-pneumonia, the Committee agreed that this ought to be pursued. The information in the papers before them did not, however, show the estimated cost of this part of the scheme, and they suggested that further particulars in regard to this should be secured.

COLONIAL ADVISORY COUNCIL OF

AGRICULTURE AND ANIMAL HEALTH

COMMITTEE OF ANIMAL HEALTH.

Control of Rinderpest and Contagious Bovine Pleuro-Pneumonia in the Masai Reserve, Kenya.

C.A.C/V.23

Draft
Mr Hibbert 25/10
Mr Fraser 25

I circulate a copy of a despatch dated the 16th September, 1932, addressed to the S. of S. by the Governor of Kenya, transmitting an application for assistance from the Colonial Development Fund towards a scheme for the eradication of Rinderpest and Contagious Bovine Pleuro-Pneumonia from the Masai Native Reserve in Kenya.

In the second paragraph of the despatch, reference is made to an earlier scheme which was submitted last January. As with the scheme for the despatch, the earlier scheme was subsequently discarded, but, for the purpose of comparison, the copy of the despatch transmitting it is also attached.

Before the present application is laid before the Colonial Development Advisory Committee, the S. of S. would be glad to receive the observations of the Committee of Animal Health upon the measures of control which it is proposed to adopt.

(Sd) J. G. HIBBERT
Secretary

Colonial Office
27th Oct 1932

Roughnote

Finance

Total cost of scheme £41500.

Made up of capital £3500
Recurrent £38000.

~~[illegible]~~
[illegible] £15000 recurrent made up of [illegible] [illegible] [illegible] £4500 + [illegible] £4500.
a [illegible] - [illegible] [illegible] for [illegible]
£3000 × 5 [illegible] = £15000.

[illegible] capital £3000
[illegible] 23000
26500

The figures stated in [illegible] of the [illegible] memo of 16 August [illegible] [illegible] all the cost to [illegible] has been [illegible] - as suggested [illegible], by adding to [illegible] in original [illegible] [illegible] to [illegible] the [illegible] present annual expenditure on animal health [illegible] in the [illegible] [illegible], which is £4500 a year. [illegible] the [illegible] £9000 [illegible] added to £17000 in the original [illegible] [illegible] £26000 not £26500.
It is also stated that an addition of £1000 has been made to the capital expenditure originally [illegible]

× [illegible] 3 [illegible]
3 [illegible]
[illegible]
[illegible]
[illegible].

to Govt of 3175 as compared with
the actual figure of £3500!
It also states that the recurrent
expenditure is to be spread over
5 years & a portion should be
applied to relieving the local Govt of
up to the extent of its present
total annual expenditure on these
services in the Masai Reserve - the
remainder being utilised in supplementary
recurrent expenditure.

In para 13 it is not for the
Col. Dept reference is made to
an application for a grant of
£21,507.

N.B.
Para 12 of Explanation
speaks of £1200 as
1/20th of recurrent
expenditure for 5 years
which therefore
= £24000: whereas
they now apply for
£23000 for
recurrent of
which they need
for £1150!

Original appln £17000. Capital 2175
Recur 14870
(2 years).

Annual 7401.
Deduct 4500
Remaining 2901 . 14505 for 5 years.

What about last draft. Port purpose ... 1500 . 7500
22005 for 5 years.

Kenya £3000 for 5 yrs 15000
Capital = 2175 + £1000 3175
40180
cash £325 325
£ 40505

So balance made up last third recent of services.

Estimated £40505.

617

KENYA.

No. 453

GOVERNMENT HOUSE.
NAIROBI.
KENYA.

RECEIVED
3 OCT 1932
COL. OFFICE

16th SEPTEMBER, 1932.

Sir,

I have the honour to refer to your despatch No. 386 of 24th May, 1932, on the subject of the major scheme for the eradication of rinderpest and bovine pleuro-pneumonia from the native reserves between the Kenya-Tanganyika boundary and the Kenya-Uganda Railway Line, and to enclose a revised application for assistance from the Colonial Development Fund.

2. You will note that it differs considerably from that detailed in my despatch No. 64. of the 9th February, 1932, and, in order to explain this modification of policy, I propose to review briefly the past history of the campaign against these diseases, especially rinderpest.

3. In September 1920 Representatives of the Veterinary Departments of the Uganda Protectorate, Tanganyika Territory and Kenya Colony met at Nairobi and as a result of their deliberations submitted recommendations for the control and eradication of rinderpest and bovine pleuro-pneumonia. Their recommendations were briefly:-

(a) eradication .....

THE RIGHT HONOURABLE
MAJOR SIR PHILIP GUNLIFFE-LISTER, P.C., G.B.E., M.C., M.P.,
SECRETARY OF STATE FOR THE COLONIES,
DOWNING STREET,
LONDON, S. W. 1.

(a) eradication of rinderpest by quarantine and double inoculation,

(b) eradication of pleuro-pneumonia by segregation of all affected herds and slaughter of all visibly infected beasts.

These results were to be achieved by the formation of Veterinary Units involving Kenya itself in an expenditure of £716,360 over a period of three years and after that a very considerable expenditure would continue to be incurred both on protective measures and on the eradication of sporadic outbreaks.

4. These recommendations were not accepted by Government because of the unsound economic position of the cattle industry in the absence of a market for surplus meat. It was considered that until there was some prospect of the creation of a new trade the heavy expenditure proposed, both capital and recurrent, could not be justified.

5. The policy decided upon was that, so far as funds permitted, Veterinary Services in Native Areas should be engaged on the checking of the further spread and outbreaks of disease, on supervising quarantine stations for the movement of stock from the Native Areas to Settled Areas, when there existed a demand for them, and on controlling the movement of stock from different Native Areas.

6. In 1922 the late Mr.H.E.Montgomery, Veterinary Adviser, submitted a comprehensive Memorandum for the eradication of rinderpest and pleuro-pneumonia involving expenditure of £1,000,000, approximately,

spread ...

spread over a period of 5 years, the share of the Kenya Government being estimated at £630,800 plus a subsequent annual recurrent expenditure of £50,000. Under the scheme the system of the establishment of Veterinary Units was to be introduced in order to control rinderpest by rigid quarantine and immunisation was to be resorted to locally; in so far as pleuro-pneumonia was concerned isolation of the sick and quarantine of those potentially infected, together with the immunisation of all likely to be exposed to infection were to be the main lines of control. This scheme had the support of the Chief Veterinary Adviser, the Chief Veterinary Officer, Kenya, and the Chief Veterinary Officer, Uganda, but the Chief Veterinary Officer, Tanganyika, declined to be associated with it.

6. By 1925 it was generally accepted that active immunisation by simultaneous injection of virulent rinderpest blood, and a protective dose of anti-rinderpest serum (double inoculation), conferring an immunity generally regarded as life-long, was the method best suited to Kenya conditions.

7. In 1926, however, the desirability of carrying out research work with a view to the introduction of a vaccine for the immunisation of cattle against rinderpest was considered and experiments along this line of investigation were undertaken in 1927.

The results of these experiments showed that a temporary immunity could be conferred without reactions by a completely non-infective vaccine.

Experiments were continued in 1928 and by 1929 it was accepted in Kenya that vaccination with non-infective vaccine was a safer method than double inoculation for eradicating rinderpest and had the additional advantage of being cheaper.

8. The authorities in Tanganyika continued their active campaign of suppression of rinderpest by rigid Quarantine and the use of serum as opposed to the policy of active immunisation followed by Kenya and Uganda, with the result that a somewhat difficult situation arose on the Kenya Masai-Tanganyika Border. As a result of their representations Lord Passfield in his telegram No. 331. of 16th December, 1930, requested that the Veterinary Authorities of Tanganyika, Uganda and Kenya should confer on the question. A conference was first held at Mpapwa in January 1931 when the Chief Veterinary Officer, Uganda, was absent and later in April of the same year representatives of all three Governments met and discussed the question of the eradication of rinderpest and bovine pleuro-pneumonia in Nairobi. It was agreed, in view of the results which had already attended the anti-rinderpest campaign in Tanganyika that operations in Kenya should, in the first instance, be directed from Tanganyika Northwards to the Kenya-Uganda Railway Line. The method to be employed was a campaign of vaccination accompanied by a strict quarantine and intensive patrolling. In order to ensure, as far as possible, that this method was suitable to the particular conditions it was decided

to ...

to make an initial experiment on these lines in the Kajiado District. You were informed of this decision in my telegram No. 148 of 2nd May, 1931, and details of the initial scheme were sent to you under cover of my despatch No. 465 of 13th August, 1931.

9. In my despatch No. 64 of 9th February, 1932, I was able to inform you of the success of the initial experiments and in consequence submitted an application to the Colonial Development Fund Committee for financial assistance to a major scheme which aimed at the eradication of rinderpest and contagious bovine pleuro-pneumonia from the native reserves between the Kenya-Tanganyika Boundary and the Kenya-Uganda Railway Line. The total cost of this scheme was to be £17,000 spread over a period of two years. In your despatch No. 386 of 24th May, 1931, you stated that you were prepared to support the application to the Colonial Development Fund Committee but requested further information with regard to certain details of the scheme.

10. Ever since the eradication of rinderpest by the vaccination method was accepted by the Veterinary Authorities of the three Territories as suitable to Kenya conditions doubts have been expressed as to whether this is a practicable method to adopt with nomadic stockowners. Recently the whole question has been reviewed by the Animal Industry Standing Committee of the Board of Agriculture, and they came to the following conclusions .....

NATIVE RESERVES.

(a) That owing to the danger of creating large herds of cattle susceptible to Rinderpest, the vaccine alone method of dealing with outbreaks in Native Reserves should not be regarded as an effective or safe measure for eradicating the disease, and should be discontinued.

(b) That a policy of systematic vaccination of the whole cattle population, either with or without virus, is not to be recommended in view of the heavy expenditure entailed over an indefinite period on revaccination, on control of movement, and other protective measures, and of the inadequate return to be expected.

(c) That at this stage of the knowledge possessed the best method of dealing with outbreaks in certain reserves appears to be the vaccine plus virus on account of the long immunity conferred by this method.

SETTLED AREAS.

(a) It is considered that the present method of vaccination with inactivated vaccine is suitable; provided it is made clear that in order to maintain immunity cattle should be revaccinated yearly.

(b) That on those farms where it is considered advisable to confer a more permanent immunity the vaccine-virus method should be gradually substituted for double inoculation. It is to the perfecting to this method rather than to elaboration of the expensive double inoculation that we must look for the ultimate eradication of rinderpest.

11. Happily Dr. Falcone, Chief Veterinary Officer to the Italian Government in Somaliland was in Nairobi at the same time in order to discuss at our invitation co-operative measures with a view to the eradication or control of rinderpest on the Kenya-Italian Border, and it appeared that quite independently he had come to the same conclusion as the Animal Industry Standing Committee - a copy of his memorandum is attached.

12. I, therefore, had the whole position reviewed by the Director of Agriculture and his Advisers and I transmit copies of their memoranda.

13. Although ...

13. Although valuable information has been obtained from the initial application of the pure vaccination method I feel that I have no alternative but to accept the expert advice now tendered to me that this method is unsatisfactory, and that it is exposing the cattle population to unjustifiable risks. I am therefore transmitting a fresh application to the Colonial Development Fund Committee for a grant to continue -

(a) work in the Masai Reserve for the suppression of outbreaks of rinderpest with vaccine plus virus, and

(b) to undertake a programme of intensive research on the etiology and transmission of pleuro-pneumonia and on diagnostic tests that may prove useful in the eradication of this disease.

My reason for doing so is that the necessity for reducing and eradicating, if possible, these two diseases from native stock of this and the adjoining Territories is as urgent and necessary as ever, I hope, therefore, that you will support this application in a similar manner to that which you have done previously.

Copies of this despatch have been sent to the Governors of Uganda and Tanganyika.

I have the honour to be,

Sir,

Your most obedient, humble servant,

BRIGADIER-GENERAL.
GOVERNOR.

COLONIAL DEVELOPMENT FUND : CONTROL OF RINDERPEST AND PLEURO PNEUMONIA IN THE MASAI RESERVE.

1. The objects of the scheme are two-fold, viz. to reduce the incidence of rinderpest in the Masai Reserve by the suppression of outbreaks with vaccine plus virus, and to prosecute researches which will eventually place the territories in a position to consider an eradication programme: this is coupled with a programme of intensive research on the etiology and transmission of pleuro-pneumonia and on diagnostic tests that may prove useful in the eradication of this disease. A survey of the incidence of pleuro-pneumonia among the Masai herds will be made as soon as a satisfactory test is available for the purpose.

2. The estimated total cost of applying the scheme over a five year period is approximately £41,500 of which the share borne by the Kenya Government would on the assisted basis amount to about £15,000. The recurrent expenditure debited to the fund would be approximately £25,000 and the capital expenditure £5,500. Of the capital expenditure all, except a sum of £250 set aside for the local purchase of transport animals, would be expended in England on motor trucks, scientific equipment, tentage, etc. There will be a need for more elaborate equipment to be used in manufacturing the field vaccine, since vaccine that is to be followed by a virus inoculation is required to be of a higher potency than that made under the present conditions. It will also be necessary to provide equipment for the field manufacture of serum on a small scale.

3. The work is now in progress on a limited scale.

4. The scheme covers 5 years, and considerable progress should be made during that period both in the field work which would have an immediate economic value, and in the research work which may be expected to produce

results that will justify a further review of the position of the territories with regard to the prospects of eradicating rinderpest and contagious pleuro-pneumonia.

5. Expenditure in Great Britain will be confined to capital expenditure on scientific equipment and vehicles, approximately £5,500.

6. The work is already in hand, but it is desired to extend the programme and particularly to add to our knowledge of the methods of control of these two diseases.

7. A direct grant of capital and recurrent expenditure is asked for.

8. An immediate advantage derived from the scheme will be a reduction in the incidence of rinderpest in the Masai Reserve. Outbreaks will be suppressed without any sacrifice of permanent immunity. The experience already gained proves that after suppression of the outbreaks in an area the district will remain free from rinderpest for some time and the opportunity can be taken to effect export sales. Data collected in the field coupled with the results of research at the laboratory should prove of the greatest value to the East African Territories, in their efforts to control these two diseases and may place them in a position to adopt some sound and relatively inexpensive plan of eradication.

9. The estimates are based on technical advice.

10. A direct block grant is proposed, to be expended during a period of five years. It is estimated that the Colony is spending at present approximately £4,500 per annum on animal health services in the Masai Reserve. It is proposed to relieve Government of up to one third of this annual expenditure and to expend the remaining portion of the grant on additional research and field services.

11. Not applicable.

12. The amount required during the current financial year, i.e. to the 31st March, 1955, is approximately £3,700, of which £2,500 represents the total capital expenditure, and the remaining £1,200 one twentieth of the recurrent expenditure for five years.

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COPY

CONSOLATO DI SUA MAESTA
IL RE D'ITALIA
NAIROBI.

Nairobi. 29th July, 1932
(Africa Orientale Britannica)

Sir,

As per our conversation of the other day, I beg to send you enclosed herewith Dr.A.Falcone's MEMORANDUM for His Excellency the Governor together with its translation.

I have the honour to be,
Sir,
Your obedient servant,

(SD) G. TELESFORO TORRITTI
Consul for Italy.

The Hon. the Director of Agriculture,
NAIROBI.

COPY TRANSLATION. Nairobi, 28th July, 1938.X

To

HIS EXCELLENCY THE GOVERNOR OF KENYA,

NAIROBI.

I have the honour to submit to Your Excellency my modest point of view on the following points regarding the method for an anti-rinderpest campaign considered during the last few days in meetings I had with the Director of Agriculture and the Acting Chief Veterinary of the Kenya Colony.

VACCINATION AND SERO-VACCINATION. The method of pure vaccination with inactivated virus may be used in Africa, in my opinion, only in regions which have a developped social organisation and perfectly delimited and controlled borders. In Italian Somaliland, where the rinderpest is not only enzootic but the possibility of the introduction of the virus of the rinderpest through the very long Abyssinian frontier is permanent and always present, without taking into consideration the receptivity to rinderpest of game, such method cannot be adopted. In fact, if this method were adopted, it would be necessary, every year, to revaccinate all the cattle vaccinated during the previous year and also to vaccinate the calves born in that year. The cattle to be vaccinated would rise after a few years to an enormous figure. And, if after some years the vaccination were suspended with the illusion of having, by such method, eradicated the disease, a very dangerous situation would be created; all the cattle in the Colony would have to be considered as a heap of gun-powder ready to take fire and explode at the first spark of rinderpest. Besides that, it must be taken into consideration that the Somali shepherds and cattle owners prefer a durable and permanent immunisation to any other method, so much so that their own empirical method of vaccination, the "scife", namely of ophtisation, although strictly prohibited by the veteri-

nary regulations of the Colony, is often used by them especially when technical difficulties or difficulties of locality make it impossible a timely prophylactic intervention of our Veterinary Services.

The danger of the transmission of protozoaric diseases, and especially of the "piroplasmosi", proper of the method of sero-vaccination, has not yet caused any pre-occupation in Italian Somaliland. According to the knowledge acquired until now, the "piroplasmosi" cannot be considered as a serious pathological entity in respect of the anti-rinderpest sero-vaccination, so much so that in 10 years of professional experience in that Colony I never had to verify but the smallest part of the damages which this disease has unfortunately caused in other Colonies following the anti-rinderpest prophylaxis executed with the present method of sero-vaccination.

VACCINATION FOLLOWED BY THE INOCULATION OF VIRUS. (BAUBNEY'S METHOD). The Chief of the Veterinary Research Laboratory at Kabete has kindly allowed me to take vision and get information of this method, which he experimented recently. I think that if with this method we could succeed to obtain a lasting immunisation of the animal or at least one of long durability without provoking open forms of postous reaction, we would have made a great progress in the struggle against the rinderpest. I have therefore made up my mind to experiment, as soon as I am back to my laboratory at Merca, such method on the Somali cattle and, if, as I really trust, it will give me good results, I shall without delay start to use it and treat in a first time all the cattle of a first gathering in an "Immune Zone", which I propose to have it created at the coast between Merca and Mogadiscio by my Government, in order to enable Italian Somaliland to export - in accordance with the sanitary regulations of the Mother Country - refrigerated (cooled down to zero

centigrades - freezing point) most to Italy.

THE CATTLE OF KENYA AND THE METHODS OF INOCULATION. I do not know the Colony well enough, nor its epizootic statistics; but I think that the regions of Tanaland, Machakos, Masai, etc. which form the biggest part of the native cattle breeding regions are identical or almost identical for social organisation, climatic conditions, pastureges, water, etc. to those of Italian Somaliland. I believe that, for the information I have gathered, I have a fair idea about the cattle on European farms, of its climatic, water and pastureges conditions of the way it is bred and economically exploited. On the basis of such knowledge my answer to the Hon. the Director of Agriculture, who during yesterday's discussions has clearly asked me on the subject, is as follows:-

1) for the cattle bred on European farms, I would adopt the pure vaccination (inactivated vaccine).

2) for native cattle the method of sero-vaccination or, better even, if the future will confirm the results of researches now being made by Mr. Daubney, as I have already expressed myself above, the method of vaccination followed by virus inoculation.

EXPERIMENTAL ZONE ON THE KENYA-ITALIAN SOMALILAND BORDER. The Director of Agriculture questioned me on the possibility of fixing a zone out on the border of the two Colonies where it would be possible to experiment the method of pure vaccination. That would clearly require the isolation of the zone selected and the absolute prohibition, for many years at least, of any running or movement of cattle. My answer is: I know the region and I think that such arrangement would be materially impossible. The cattle which lives in the regions eg Kolbio, Uame Ido, Gambelicula is compelled, every year in the months of the "gilal", from January to the middle of April, to retreat to the Juba River, about 150 miles distant, for water. The same is to be said of the cattle, not numerous, grazing along the rest of the border, which in the dry season has to displace itself

to the Dosock-Uamo River, which is very near to the Jube. It is clear that in such disastrous conditions an experiment of the kind would be impossible.

RELATIONS AND TECHNICAL CONTACTS BETWEEN THE VETERINARY LABORATORIES OF KENYA AND ITALIAN SOMALILAND. I think myself lucky to be able to keep, by means of correspondence, scientific contacts and exchanges of practical ideas with the Veterinary Services of this Colony, exchanges which by the opportunity afforded me by my visit I personally initiated with the worthy experts of the Government of Your Excellency.

I have the honour to express to Your Excellency the sentiments of my gratitude for the kind attention used to me by my veterinary colleagues of Kenya.

In spite of the brevity of my stay here, I have had the opportunity to admire the organisation of the Veterinary Services of Kenya: the Laboratory at Kabete and the activity displayed there by the experts in charge, and "in primis" by the Director Mr.Daubney, leave with me the best impression of this fine Colony.

I have the honour to be,

Sir,

Your obedient servant,

Sg.d. Dott. ANTONIO FALCONE

Chief of the Veterinary Services of Italian Somaliland and Director of Serovaccinogenous Institute at Mereca.

32

DEPARTMENT OF AGRICULTURE,

P.O. BOX NO. 338,

NAIROBI. 16th August, 1932

NO. RIND/6/3/II/279

The Hon. Colonial Secretary,
through
The Hon. Chief Native Commissioner,
NAIROBI.

COLONIAL DEVELOPMENT FUND.

Eradication of Rinderpest.

Ref. Your No. NVET.3/3/1/77.II of 6/6/32 and correspondence following thereon.

It has been found necessary to examine previous proposals and as a result, for reasons which I will explain, the application which I now recommend will take rather a different form.

2. A perusal of the records on the subject during the past year or more leads me to conclude that there has been some confusion of thought, and promise of results which cannot in the circumstances be fulfilled. The scheme has been variously indicated and referred to as one whose object or aim was eventual eradication, also as an "Experimental Rinderpest Eradication Scheme", but I regret to say that it has come to be regarded as one which would definitely succeed in eradicating rinderpest and that a promise of that kind was definitely made in the "questionnaire" submitted with the Chief Veterinary Officer's minute of 7th August, 1931. In fact the questionnaire contains a statement that such eradication should be completed in the Masai Reserve "two years from the date of commencement". It is to be noted, however, that the record of proceedings of the meeting with His Excellency the Governor on the 15th April, 1931, refers throughout to the proposal as an experiment.

See [illegible] 6 N (4)

3. Apart from the immediate need to comply with the Secretary of State's request, representations have been made to His Excellency the Governor by one of the largest stockowners in the Colony as to the policy which should be

vide Despatch No. 386 of 24/5/32. (3)

adopted in regard to rinderpest control and eradication arising out of the use of the vaccination method, which has been introduced comparatively recently in settled areas as well as in the Masai Reserve. In certain respects a position is created which is similar in both Native Reserves and settled areas.

4. The whole question, partly as a result of these representations, and partly because the matter was a very involved one and affected the interests of both native and non-native stockowners, was brought under review by the Animal Industry Committee of the Board of Agriculture at a recent meeting. The record of proceedings of that meeting in so far as it applies to Rinderpest and Pleuro-pneumonia is enclosed.

5. Substantial progress has been made in the use of the vaccination method. Valuable results have been obtained. In particular the co-operation of the Masai tribe has been secured and proof has been forthcoming that a satisfactory vaccine can be prepared in the field at comparatively little expense. At the same time the limitations which should be placed upon the use of an inactivated vaccine alone have come to be more fully realised.

6. I enclose a joint memorandum by the Ag.Deputy Director (Animal Industry) and Ag.Chief Veterinary Research Officer (Mr.R.Daubney), and the Assistant Chief Veterinary Officer (Captain O.Dixon), which reviews the position in a comprehensive and able manner. This memorandum also deals with the present position in regard to the scheme for the eradication of pleuro-pneumonia from the Masai Reserve. Both diseases are closely concerned and associated in the economics of the cattle industry of the Masai.

7. It will be observed that in their attitude towards the present "eradication" scheme the responsible veterinary officers named above confirm many of the objections raised by the Provincial Commissioner, Masai, (Mr.Butler) in his

memorandum (Ref.512/VET/23/1/2/4 of 14th March, 1951), in particular with reference to the responsibility of protecting cattle rendered susceptible by vaccination and to the permanent nature of this charge upon Government. When the subject was under discussion at the meeting of the Animal Industry Committee referred to the present Provincial Commissioner, Masai, (Mr. Beck), expressed similar views.

I might add that in minuting to the Chief Veterinary Officer the Secretary of State's telegram, I directed that in any scheme submitted "consideration should be given to the recurrent annual expenditure involved in maintaining the position originally set up". vide Tel. 551 of 16/12/50.

8. I have no doubt whatsoever but that to rely upon the use of inactivated vaccine alone in native reserves would expose the native stockowners to grave risks. This method at its best could only promise success and protection, provided the vaccination were carried out annually, which is quite impracticable. In actual fact tests made at the laboratory indicate that the immunity obtained from the field-manufactured vaccine is of shorter duration than one year. The result of a continuance of the present practice would be that a mass of highly susceptible cattle would be exposed to infection and the losses would certainly be great. The danger of "back fire" through irregular trespass of stock and the ever-present movement of game is very considerable. Suggestions have been made that the boundaries of vaccinated areas, as they move forward, should be patrolled, or alternately that wholesale vaccination of stock should be carried out within such patrolled boundaries. In my opinion, and in that of responsible officers of this Department, no such control is practicable. It is to be regretted that in previous communications no reference has been made to the high cost of such a service. It would be difficult to frame an estimate of it, but certain it is that

even were such a policy considered worthy of adoption its cost would be much beyond the Colony's resources and could not be justified on any economic grounds. In this connection it may be mentioned that the scheme for the eradication of rinderpest in East Africa, submitted by the late Veterinary Adviser, involved an expenditure of £1,000,000 spread over five years, of which Kenya's share was estimated at £650,800. It also involved a recurrent annual expenditure thereafter of about £50,000 by Kenya to maintain the position. I dealt with that scheme in my minute No.I.55/26 of 8th June, 1928, and in the light of events it is fortunate for Kenya that my advice was taken and that the scheme was not proceeded with.

9. The recommendations of the Animal Industry Committee of the Board of Agriculture, which are in agreement with the views of this Department, are supported by the views of Dr.Falcone, Chief Veterinary Officer to the Italian Government in Somaliland, whose memorandum was submitted to His Excellency the Governor with my covering minute No.Rind/6/5/97 of 5th August, 1932. His visit fortunately synchronised with the meeting of the Board of Agriculture, but his conclusions were reached quite independently.

10. In compliance with the Secretary of State's request a questionnaire has been completed for a grant of £28,500. This figure has been reached by the method suggested in his despatch No.386 of the 24th May, 1932, i.e. by adding to the figure given in the original questionnaire a sum equal to twice the Colony's present annual expenditure on animal health services in the Masai Reserve. An addition of £1,000 has been made to the proposed capital expenditure at the expense of the recurrent account, since more elaborate equipment will be needed for the preparation of a vaccine that is to be followed by virus. It is suggested that the recurrent

(3)

expenditure be spread over five years and that a portion might be applied to relieving this Government of up to one third of its present estimated annual expenditure on these services in the Masai Reserve. The remainder of the grant will be utilised in the provision of supplementary research and field services with a direct bearing on the problems at issue.

11. In substituting this scheme for the one originally put forward, I desire to say that with all diffidence and respect I do not feel justified in recommending the expenditure of public funds on a programme, such as that outlined in the previous questionnaire, which in my opinion is inherently unsound and which appears to be based upon a promise of achievement which cannot be fulfilled.

12. Recognising, however, the importance and value of pursuing still further methods calculated effectively to reduce the incidence of rinderpest, and of prosecuting researches which may lead eventually to the adoption of a satisfactory and practicable means of eradication of both diseases, I strongly recommend that an application be made for a grant in the terms indicated in paragraph 10 and in the attached questionnaire. Much knowledge and experience has yet to be gained and I am advised that the most promising method is the use of inactivated vaccine, coupled with an injection of virus, which, it is believed, would confer a long immunity. It may be observed here that Dr. Falcone supports this method and has promised to put it into effect experimentally upon his return to Somaliland.

13. I would emphasise the importance of proceeding in this work step by step in accordance with the results of research work and experience gained in the field and, apart from the value of the proposed assistance to Kenya, the work has a direct application to other territories in East Africa. I might add that during the past ten years this Department has pioneered much of the research work

on rinderpest and pleuro-pneumonia with direct benefit to the other East African Territories. One need only mention in this connection the valuable researches on rinderpest vaccination, on serum-simultaneous inoculation against rinderpest, and on the diagnosis and control by vaccination of pleuro-pneumonia.

DIRECTOR OF AGRICULTURE.

AH/RD/AO'M.

DEPARTMENT OF AGRICULTURE,
DIVISION OF ANIMAL INDUSTRY,
P.O. BOX NO. 338,
NAIROBI. 15th August, 1932.

NO. RIND/6/4/84

The Hon. Director of Agriculture,
NAIROBI.

ERADICATION OF RINDERPEST AND PLEURO PNEUMONIA.

With reference to the Colonial Secretary's N.VET.3/3/1/77/II of 6th June, 1932 and the Chief Veterinary Officer's Rind/6/2/416 of 7th August, 1931, we feel that it is desirable, in the light of the experience recently gained in this territory and in Tanganyika, to bring the whole question of rinderpest control again under revision.

In the first place it would be well to survey briefly the methods of control at our disposal, and then to apply our experience to the task of selecting the most useful method for any given set of conditions. The available methods of immunization are:-

(1) ACTIVE IMMUNIZATION CONFERRING IMMUNITY THAT FOR ALL PRACTICAL PURPOSES MAY BE CONSIDERED AS PERMANENT.

(A) Serum-Simultaneous method, or so-called double-inoculation.

In this method animals are given a dose of protective serum simultaneously with a dose of fully active virus. As a result animals contract a mild attack of the disease followed by recovery and immunity. The disadvantages of this method are:-

(a) The creation of foci of infection during the process of immunization, with consequent danger of spreading the disease.

(b) Mortality and/or loss of condition from severe reactions, or from other diseases such as piroplasmosis, trypanosomiasis, heartwater, which may be transmitted

with the virulent blood.

(c) The expensiveness of the method.

In the practical application of this method of immunization its disadvantages are felt most seriously in areas where the cattle population is high-grade, and where periodic dipping has rendered cattle susceptible to such diseases as redwater and anaplasmosis; in other words, in those parts of the settled areas that are devoted to stock raising. In an attempt to eliminate some of these drawbacks an elaborate and expensive system of testing the blood of virus-makers had to be instituted at Kabete to ensure that protozoan diseases were not transmitted with virus to susceptible cattle. The necessity for skilled balancing of the dose of serum against virus, the fact that inoculations can be carried out only when the animals are in good condition, and the loss of growth in young animals subsequent to inoculation are further factors prejudicial to the employment of this method in the settled areas. The precautions necessary to guard against these risks are responsible for the increased cost of double-inoculation to Government in the settled areas. It will be noted that none of the disabilities of the method, with the exception of its expensiveness and the necessity for choosing a season when animals are in good condition, need to be taken as applying at all seriously to operations in native reserves where rinderpest is enzootic.

(B) Inactivated vaccine plus virus method.

This method is a direct development from the attenuated vaccine method tested at Kabete during the original experiments with vaccines (Daubney, 1928-29). A single dose of inactivated vaccine will protect something over 97% of animals against a dose of virus given from 7 - 12 days later, whether the dose of virus is given in the form of a second dose of attenuated vaccine or whether in the form of fully active virus, e.g., virulent

blood or suspension of spleen pulp. The remaining two to three per cent. of animals exhibit a short febrile reaction only, which is unaccompanied by any clinical symptoms of rinderpest. In a percentage of these reacting animals the blood, if inoculated, can be shown to be mildly infective during the reaction, but animals placed in contact with such reactors fail to contract the disease. Our experience of this method is limited to inoculation of a few hundred animals spread over a period of 4½ years. The following conclusions may, however, be drawn:-

After a single dose of inactivated vaccine an inoculation of what may be considered an intracellular virus in the form of virulent blood, will produce temperature reactions in from 2 to 3% of the vaccinated animals, and will transform the temporary immunity conferred by vaccination into a permanent immunity comparable to that provoked by natural infection with the disease.

Of the remaining 97% of animals, although none will show any sign of reaction, it is quite certain that a number will pass through a completely inapparent reaction which is only detectable by the inoculation of blood into susceptible animals. The immunity of these inapparent reactors will also be transformed into a permanent one.

In the remainder of the animals there will be no reaction whatever as the result of inoculation of virulent blood, and daily inoculation of the animals' blood during the period when a reaction might be expected to occur, will not produce reactions in susceptible cattle. The immunity of these animals will not be transformed into a permanent one, and they will again become susceptible to a natural attack of rinderpest after a period, the extent of which will vary with the efficacy of the inactivated vaccine employed.

When the virus inoculated is in the form of a

dose of attenuated vaccine equal in size to the dose of inactivated vaccine already given, the same percentage of reactions will be in evidence. Owing to the process of extraction, the virus in this attenuated vaccine is not intracellular, but is free and is present in greater concentration than in virulent blood. There are very carefully controlled experiments which show that after 2 years and 9 months animals treated by this method retain a complete immunity against experimental inoculation and natural infection, and one may therefore consider the immunity conferred by this method as permanent. It is evident that this free virus can succeed in establishing itself in temporarily immune animals in every instance, whereas the intracellular virus in virulent blood fails in a considerable number of cases.

Fully-active free virus extracted from the spleen of an infected animal by the same method will produce an equal percentage of febrile reactions in cattle that have received one dose of inactivated vaccine; and there is experimental evidence to show that quite small doses of such virus will transform a temporary immunity into a permanent one without apparent reactions. Two field experiments with this type of vaccine and virus inoculation have been carried out on Mr. Gilbert Colvile's cattle at Larisk, and as a result he is most strongly in favour of further investigation of this method, which appears to have been somewhat in disfavour with the authorities in the past.

The advantages of this method are its low cost, the fact that foci of infection are not created, and that the immunity may be regarded as a permanent one. The only disadvantage is that our experience is so far somewhat limited; in all some 500 animals have been inoculated by this method.

(2) TEMPORARY ACTIVE IMMUNIZATION.

In this method completely-inactivated vaccine is used for the production of immunity, and under the system worked out at the laboratory 3 doses of vaccine each of 10 cc. are given at weekly intervals. The immunity conferred lasts for a period somewhat in excess of one year, vide attached publication.

The advantages of this method are that the material used for immunization is not infective and that foci of infection are therefore not created by the process, that there are no reactions as a result of the inoculations and therefore no mortality or loss of condition, and that the actual vaccination can be carried out by the farmer himself. The disadvantages attaching to the method are the shortness of the period for which immunity is conferred, and the relatively high cost of the vaccine.

It will be evident that this method of immunization is especially suitable for the treatment of high-grade cattle, particularly dairy cattle in the settled areas. It is not a suitable method to employ in an area where the disease is enzootic and its spread uncontrolled, because of the temporary nature of the protection. Vaccination of young stock exposed to infection prevents them from contracting a natural infection during the first 18 months of life, and unless further protective measures are applied the vaccinated animals are likely to contract rinderpest when they are fully-grown. An attack of rinderpest contracted at or shortly after weaning is, in the case of the progeny of an immune mother, likely to be much less serious than one contracted at 3½ to 5½ years.

(3) TEMPORARY PASSIVE IMMUNIZATION.

Here animals exposed to infection are given a large dose of hyper-immune serum which is supposed to protect them against natural infection for a period of

ten days. Serum to be effective should be of high-titre, and considerable difficulty is experienced in maintaining the titre of serum at the necessary level: in fact with the average hyper-immune serum that is manufactured in laboratories there can be no guarantee that sufficient protection is maintained even for this short period. The method then is both unreliable and expensive, and as will be shown later an attempt to utilise this method in conjunction with quarantine measures in Tanganyika Territory has not met with any reasonable measure of success.

PRACTICAL EXPERIENCE.

From our early experience of vaccination in the settled areas it was evident that outbreaks could be suppressed by vaccination, probably more quickly and more efficiently than by any other method. The valuable work in the Masai Reserve has confirmed this finding, and it has further proved that a weak vaccine manufactured in the field from cattle of fairly low average susceptibility will serve quite well for this purpose. It follows from the very efficacy of this method of suppression that a large percentage of the young cattle that would normally be attacked in an outbreak of rinderpest do not contract the disease and therefore again become susceptible when the immunity provoked by the vaccine has disappeared: and from tests carried out at the laboratory one can conclude that the period for which immunity is conferred by this field-manufactured vaccine is relatively short, say from 5 - 6 months.

It is possible on the basis of general epidemiological experience to forecast the probable course of events when suppression of outbreaks by vaccination is applied over a period of years in such an area as the Masai Reserve.

One starts with a cattle population in which all the older animals are immune. The young stock obtain

during nursing a certain degree of passive immunity from the dam, which an annual outbreak of rinderpest would in the normal course transform, in many cases before protection has been completely lost, into a permanent active immunity. The total loss during this process would be something less than 2% of the animals attacked. The rapid suppression of outbreaks by some easily applicable method of temporary immunization assisted by quarantine measures will deprive the young stock of their normal opportunity to acquire permanent active immunity. The more rapid the suppression of outbreaks the greater is the proportion of the young susceptibles left behind. In two or three years it follows that a proportion of adult stock and even of the breeding females will be entirely susceptible to rinderpest. It is axiomatic in experimental epidemiology that one of the surest methods of raising the virulence of an organism is by the introduction into an enzootic focus of large numbers of susceptible animals. We might expect then that rinderpest in Masailand, after some years of successful suppressive measures resulting in a proportion of say 20% to 30% of entirely susceptible adult cattle, would assume characters of higher virulence, i.e., it would spread with greater rapidity and cause a much higher mortality rate in animals attacked. The changed conditions would enable the disease to spread so rapidly that prompt suppression by the available staff would be impossible, and the mortality rate would reach an alarming figure.

At the moment then in the Kenya portion of Masailand, we are enjoying the initial success that was to be expected in suppressing a relatively avirulent disease among a cattle population bred from and mainly consisting of permanent immunes. The situation with regard to Tanganyika, who for so long has complained of

the constant danger of infection from Kenya, is reversed and Tanganyika is now a source of danger to the Kenya Masai.

It is profitable at this stage to examine the history of rinderpest control in Tanganyika Territory with the object of ascertaining to what extent events there are in agreement with the forecast just given.

An attempt to eradicate rinderpest by the suppression of outbreaks has been in progress in Tanganyika for several years. Temporary passive protection is given to animals in contact with the disease by the inoculation of serum and rigid quarantine measures are enforced in the zone surrounding an outbreak. The method employed then is comparable to that which is now being tried in the Masai Reserve in Kenya, with this exception that temporary immunization by means of serum is less efficient than vaccination and the rate of increase in susceptible stock is therefore likely to be less rapid in Tanganyika.

According to his annual report the year 1930 was regarded by the Director of Veterinary Services, Tanganyika, as one in which substantial progress had been made in the control of rinderpest. A reduction was effected in the number of cattle in quarantine for this disease from 240,000 at the beginning of the year to 52,000 in December, 1930. The number of outbreaks remaining was reduced to "eleven sharply circumscribed, and with one exception, (North Mara), closely controlled outbreaks". The mortality recorded during the year 1930 was 8,502, 2.7% of the total number of cattle involved in outbreaks. In April 1932 one finds that the total number of outbreaks remaining in the Territory has increased to 41 and the mortality recorded during March and April 1932 is 10,071, which is considerably in excess of the figure for the whole year 1930. This reported figure does not include the

mortality from all the outbreaks during those two months, but only from those for which statistics are available. It might be remarked also that in certain cases the mortality rate is said to have been as high as from 60 to 80% of the animals attacked.

Although the information available with regard to the position in Tanganyika is as yet scanty and incomplete, there is a disquieting agreement between the march of events as recorded and the course predicted for the Kenya campaign.

It is our considered opinion that in suppressing all outbreaks that are reported in the Masai Reserve, and in so increasing the proportion of susceptible stock, without affording them any real security against further incursions of the disease, we in Kenya are placing the Reserve in an extremely perilous position.

Attention is drawn to the efforts that are being made to introduce into the Northern Frontier Province a system of suppression of outbreaks similar to that in operation in the Masai. Here the prospects of ultimate success are even more remote owing to the lower density of the nomadic cattle population, the extreme difficulty of enforcing control of movement and the length of unpatrolled frontier. The co-operation of the Italian authorities in Somaliland has been invited and Dr. Falcone, the Chief of the Sero-therapeutic Institute at Merca is at present in Nairobi to discuss this question.

After careful consideration of our proposals Dr. Falcone has decided that in view of the nomadic habits of the tribes, of the vital need in an arid country for free movement to permit access to water and fresh grazing areas, and of the smallness of veterinary staff available for the carrying out of inoculations, he cannot advise his Government to adopt any method of temporary immuniza-

tion in the border zone. He further points out that while the suppression of outbreaks in the Northern Frontier Province will lead to a rapid increase in the numbers of susceptible cattle in the area, it is impossible to patrol the frontier sufficiently to ensure that infected cattle do not cross from Italian territory into the vaccinated British territory.

If it is decided that it would be unwise to continue the present policy, there are alternative methods that may be utilized for the reduction of rinderpest in these reserves.

When the proposal to eradicate rinderpest from the Masai Reserve was discussed on the invitation of the Chief Veterinary Officer at a meeting of the Kenya Veterinary Medical Association in December, 1930, the following resolution was passed:

"That this meeting is of the opinion that the eradication of rinderpest from this country as a whole by quarantine measures, aided by serum, is impracticable. The adoption without safeguards of any method which places an East African territory in the position of being the most northerly territory maintaining an entirely susceptible cattle population might prove disastrous, owing to the danger of frequent incursions of rinderpest from the non-co-operating territories. It is considered that systematic treatment of all cattle in those areas in Kenya Colony bordering on Tanganyika Territory with inactivated vaccine would enable rinderpest to be eradicated in those areas more certainly and much more economically than by quarantine measures and serum.

Subsequently these animals must, as they become susceptible, be protected by a buffer zone of immune animals, immunised also by inactivated vaccine. This immune belt would gradually be moved northwards and

would eventually rest on the frontier, where it would be permanently maintained."

While admitting that the immunization of all animals with a vaccine that gives, say one year's immunity, working systematically in a drive from border to border, offers a greater chance of successful eradication than the mere suppression of outbreaks. We consider that in framing the plan insufficient attention has been accorded to the more or less permanent obligation to protect the hundreds of thousands of susceptibles which would rapidly be accumulated in the area. The first intention as we understood it was to employ this "drive" or block inoculation method; but at some stage of the negotiation with Government it was changed to an intensive campaign of suppression of outbreaks. It has been stated in the course of the negotiations for a loan from the Colonial Development Fund that eradication by the "suppression" method should be complete in the Masai Reserve in two years. We can find no evidence to justify such an assumption; nor indeed any data at all upon which one can base an even approximate estimate.

In the drive and barrier method of eradication it would be possible to work to a programme, since the rate of progress depends upon the numbers of animals that can be inoculated monthly and not upon the incidence of outbreaks of rinderpest. A programme could be arranged by the drive method aiming at completion within two years or some shorter period, but there would remain the further taks of patrolling and maintaining the barrier zone.

In the original calculations it was assumed that there would be no necessity to patrol the Tanganyika Border or to maintain a buffer zone of immunized animals on the frontier. In the light of more recent developments, however, it is quite evident that the susceptible cattle in the Kenya Masai Reserve would require adequate

protection against invasion from the Tanganyika side, for some years at any rate. With regard to the northern patrolled boundary and buffer zone, once eradication from the Masai Reserve was accomplished we should be faced with the alternatives of maintaining this zone permanently or of extending the rinderpest-free area to other native reserves and the settled areas. The eventual frontier to be defended would be a lengthy one, and the annual cost of patrolling and buffering the boundary zones cannot easily be estimated, but in our opinion it is unlikely to be less than the recurrent costs included in the original estimate for the eradication of rinderpest from the Masai Reserve.

Our conclusion is that any proposal to eradicate rinderpest from the Masai or other native reserves in the immediate future is premature, and if based on temporary immunization is likely to end in disaster.

At the present time the incidence of rinderpest does not appear to be a source of great hardship to the Masai. Should any objection be raised to movement from the reserve of Masai cattle on account of the risk of their being infected it would be a simple matter to erect vaccinating bomas at the ports of exit and to vaccinate all cattle before they were exported. This would involve detention for a period of say 21 days.

If it is considered desirable to make some effort to assist the Masai in dealing with rinderpest, looking eventually to the eradication of the disease, the only safe practice is to apply permanent immunization in some form or other to herds that are infected or exposed to infection during an outbreak. There is a choice of two methods:- (a) double inoculation (b) vaccine plus virus. The former is expensive, (unless serum can be made in the field), it creates foci of infection, is never free from the risk of accidents and in its application to

the control of outbreaks there is a time lag that considerably reduces its value. The vaccine and virus method is just as efficient as the present method of vaccination in the suppression of outbreaks, and it will leave behind cattle immune for 5 years and probably for life, which may be branded. It is a disadvantage that it calls for two separate inoculations; and one must not lose sight of the fact that here we have experience of inoculation of a few hundred cattle only, whereas with inactivated vaccine some 30,000 inoculations had already been performed in the settled areas before vaccination was tried in the Masai Reserve. It is proposed to immunize by this method large numbers of cattle in the settled areas, and to apply immunity tests to groups of these animals at set intervals. These observations will control the situation in the Masai, and should there be any evidence that the immunity of these control cattle is waning after 4 or 5 years, the Department would then be able to re-immunize animals in the Masai Reserve before any serious danger had arisen.

We append a schedule of expenditure that it is desired to meet from the Colonial Development Fund. The application for a grant of £36,507 is based upon the plans originally developed in connection with the programme of suppression by vaccination, vide Despatch No. 386 of 24/5/32, from the Secretary of State, but the text of the questionnaire has been amended to make it accord with the known facts and to explain the procedure of the vaccine plus virus method of suppression, which it is now proposed to put into operation.

If it is decided to subsidize the vaccine plus virus method, work will proceed on lines similar to those originally suggested, but in its application the scheme will evolve more slowly and will be spread over a longer period.

Undoubtedly a vigorous application of this method will considerably reduce the incidence of rinderpest in the whole reserve; and from time to time certain portions of the reserve will be free of rinderpest and open for trade in stock as they are under the present system of suppression. The proposed method may therefore be considered to offer all the immediate advantages of inactivated vaccine method, without the attendant dangers. The method of permanent immunization, combined with improvements in the control of livestock, will lead eventually to a state of affairs which will justify fresh contemplation of the possibility of eradicating the disease completely. We have therefore suggested that an application might be made to the Colonial Development Fund for a block grant equivalent to that called for under the original suppression scheme, but to be utilized over a period of five years, in assisting the Colony to apply suppression vaccine plus virus measures in the Masai Reserve, and in subsidizing special research work on rinderpest and pleuro-pneumonia, specifically directed to the problems arising in such areas. Towards the end of this period the position would again come under review, with particular reference to future measures and to the prospects of eradication of the disease. It is estimated that with a staff of three Veterinary Officers, three Stock Inspectors and their complement of scouts, porters and travelling equipment, the Colony is already spending approximately £4,588 per annum on Veterinary services in the Masai Reserve. The sum granted would be used partly to defray a portion of these charges and partly to provide additional services.

CONTAGIOUS PLEURO-PNEUMONIA.

So far as Pleuro-pneumonia is concerned the plan is to eradicate this disease by the use of a diagnostic test and enforced quarantine of reacting animals.

The test which it is proposed to use is the so-called "Agglutinin - Precipitin" reaction of Dahmen. In recording his findings Dahmen states that of about 45,000 animals that were tested in Germany, he was able by the use of this test, in conjunction with complement fixation test, to diagnose in many instances 100% of the affected animals. The lowest percentage was 97 - 98%. It is not clear from the context whether these percentages were obtained by slaughter of all tested animals or whether they are to be regarded as the percentage of clinically-infected animals that gave positive reactions.

Prior to his departure on leave, Mr. Walker tested at Kabete 91 sera from suspected clinical cases. Of these 10 gave negative, 5 doubtful and 76 various shades of positive reactions. Five animals came to post-mortem examination at the laboratory, and of these 3 with positive reactions to the test were positive cases post-mortem. The two remaining animals were negative post-mortem, but had given one a weakly positive and the other a doubtful reaction. Of five other animals said by the Veterinary Officer, Kajiado, to have died of Pleuro-pneumonia, all gave positive reactions although two were weakly positive only.

The value of the test must rest upon its ability to detect infected animals that show no clinical symptoms, and of this we have as yet no direct evidence in Kenya. Should the test fail in say 2, or 3 of these non-clinical cases, then its usefulness in an eradication scheme would be almost entirely destroyed. There is a further possibility that the very delicacy of the test may limit its usefulness in such an area as the Masai Reserve. An indication of this delicacy has been given by results that have been obtained from certain tests carried out on vaccinated animals. Very strongly positive reactions have been obtained 2 years after

vaccination. Should the greater proportion of Masai cattle prove to have been infected at some time during their lives, and should completely recovered animals give positive reactions to the test, its usefulness in the Masai eradication scheme would be entirely destroyed. It is proposed to obtain the necessary information as to the reliability of the test in two ways:-

1. A number of actively-infected animals has been introduced into a small clean herd at Kabete. It is proposed to follow the normal spread of the disease, if any, in this herd and to ascertain how soon positive reactions may be expected after infection has occurred.

2. At the suggestion of the Assistant Chief Veterinary Officer an effort will be made to obtain samples of blood for test from all Masai cattle that come to Nairobi slaughterhouse. This trade is said to amount roughly to some 12,000 animals per year, so that allowing for errors and the necessary adjustments in the technique of the test, it should be possible in the course of 12 months to test say 6,000 cattle, all of which will be submitted to a careful post-mortem examination. From the data so collected we should be able to form a fairly accurate opinion as to the usefulness of the test for our purpose.

In addition an ambitious programme of research on the etiology and transmission has been drawn up, and it is hoped that with assistance from this block grant, valuable advances may be made.

AG. DEPUTY DIRECTOR (ANIMAL INDUSTRY)
AND CHIEF VETERINARY OFFICER
&
AG. CHIEF VETERINARY RESEARCH OFFICER.

ASST. CHIEF VETERINARY RESEARCH OFFICER.

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RECOMMENDATIONS OF E.A. GOVERNORS' CONFERENCE, 1932.

XIX. VETERINARY.

Co-operation in regard to eradication of Rinderpest by vaccination method.

The Conference had under consideration memoranda by the Governments of Kenya and Tanganyika (Papers CC(32)27 and CC(32)64).

This question had already been discussed under Item VIII (1), but

THE CONFERENCE

NOTED with satisfaction the close co-operation and inter-communication which existed between the Veterinary Officers of Kenya, Tanganyika and Uganda and the good results which had been achieved by this co-operation.

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GC(32)27.

CONFERENCE OF GOVERNORS OF BRITISH EAST AFRICAN TERRITORIES.

April, 1932.

CO-OPERATION IN REGARD TO THE ERADICATION OF RINDERPEST BY THE VACCINATION METHOD.

Memorandum by the Director of Agriculture, Kenya, circulated by the Government of Kenya.

As the result of research work at the Veterinary Research Laboratory, Kabete, and the successful application of the field use of anti-rinderpest vaccine on approximately 45,000 head of European-owned cattle in the Colony, a rinderpest eradication scheme was undertaken with satisfactory results in the Kajiado District of the Masai Province.

2. This experimental scheme was carried out as a result of the recommendations made at a meeting held in Nairobi in April, 1931, at which were present :-

The Governor of Kenya,
Mr H.M.M.Moore, Colonial Secretary
Lt.Col. J.McCall, Director of Veterinary Services, Tanganyika.
Mr Poulton, Director of Veterinary Services, Uganda.
Captain Lowe, Senior Veterinary Officer, Tanganyika.
Mr A. de V.Wade, Acting Chief Native Commissioner.
Lt.Col. O.F.Watkins, Provincial Commissioner, Nzoia Province,
Mr Butler, Acting Provincial Commissioner, Masai Province.
Major Brassey-Edwards, Chief Veterinary Officer, Kenya Colony.
Mr J.Walker, Chief Veterinary Research Officer, Kenya Colony.

and in accordance with the request of the representatives of Tanganyika and Uganda no virulent material was used in the process of immunisation and the suppression of the centres of infection was effected by the use of rinderpest vaccine and serum made under field conditions.

3. This feature involved a departure from the policy of immunisation hitherto practised in Kenya in the use of virulent material during the process of conferring a permanent immunity by the double-inoculation method of virulent blood and anti-rinderpest serum.

4. It was agreed at the meeting of the East African Veterinary representatives in Nairobi that the responsibility in regard to the special therapeutic measures to be adopted in any instance should rest with the Government concerned, also that in the first instance any operation from the Tanganyika-Kenya border northwards to the Kenya-Uganda railway line should be directed in accordance with the Secretary of State's telegram No.331 of the 16th December, 1930, in which he stated "as now advised I am definitely of the opinion that a campaign for the eradication of rinderpest up.....

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up to the Kenya and Uganda Railway as proposed by the Tanganyika Government should be attempted, if the necessary financial provision can be arranged..... If a detailed scheme can thus be worked out, I shall be prepared to support an application to the Colonial Development Committee for financial assistance for Kenya and Tanganyika jointly."

It was further agreed that in the meantime the operations on the Kenya-Uganda border were less urgent.

Proposals in this connection have, however, been submitted and are under consideration. Representations have also been made to the Italian Authorities for a common policy to be adopted on the Kenya-Italian Somaliland Boundary.

5. The Deputy Director of Animal Industry in Kenya reports that present experience shows the measures suggested and adopted by the Kenya Veterinary services have been successful and that rinderpest can be eradicated by the use of a vaccine prepared under field conditions and a progress report has been forwarded to the Secretary of State and the Heads of the Veterinary Services in Tanganyika and Uganda for their information.

6. It is reported that the scheme has gained the confidence of the native and that the cost is negligible as compared with the scheduled charge of Shs.2/50 per head by the double-inoculation method.

The native stock-owner under the present circumstances voluntarily supplies the young bullocks for the manufacture of vaccine at a rate of 2 per cent of the total number to be dealt with. The hide and carcase are returned to the owner.

7. It is claimed that the advantages are not only those accruing to local stock-owners. The broader inter-territorial aspect cannot be ignored and in carrying out this method of eradication the territories in East Africa are safe-guarding the interests of African countries to the South.

8. The main principle underlying the proposed scheme of rinderpest eradication by the use of an inactivated vaccine is the reduction of the incidence of the disease. The importance of game as vectors of rinderpest infection is fully realised, but it is known that grave as such a menace is yet it constitutes no insurmountable obstacle to rinderpest eradication because the evidence tends to show that outbreaks of rinderpest in the game areas have almost invariably originated in cattle.

9. In the opinion of the Deputy Director of Animal Industry a comparison of the advantages and disadvantages of the two methods results undoubtedly in favour of the vaccination method and the present experience is that vaccination offers the best prospect of eradicating rinderpest whereas the double- inoculation method tends to perpetuate the disease.

Nairobi,
1.3.32.

GC(-)64.

CONFERENCE OF GOVERNORS OF BRITISH EAST AFRICAN TERRITORIES.

April,1932.

CO-OPERATION IN REGARD TO ERADICATION OF RINDERPEST.

Memoranda by the Director of Veterinary Services, Tanganyika Territory, circulated by the Government of Tanganyika Territory.

A.

At the end of 1930 the incidence of Rinderpest in Tanganyika Territory reached a minimum. A policy of attempted eradication, by means of quarantine and serum-alone inoculations, had been successful, and with the close of the year the disease was confined to eleven sharply circumscribed outbreaks, all within the Northern and Mwanza provinces. No wonder hope then prevailed that continuance of these tried measures would soon lead to the freeing of the whole Territory; a hope which engendered a corresponding fear that the freedom so hardly gained could not be maintained if Rinderpest were not adequately controlled across the border. In the past on more than one occasion, the Northern Province of Tanganyika had been freed and undoubtedly reinfected owing to the illicit movement of infected cattle from Kenya Masailand.

2. As the result of representations by the Government of Tanganyika, a Conference of the Chief Veterinary Officers of Kenya, Uganda and Tanganyika was held at Nairobi in April, 1931. There it was agreed that (a) if Tanganyika really expected to eradicate Rinderpest within its own borders, then it was the duty of Kenya to assist by controlling the disease on its own side of the inter-territorial boundary; (b) this control could probably be best effected by wholesale vaccination with dead vaccine, and (c) this method of control should be tried at once in the Kajiado District of the Kenya Masai Reserve.

3. Since the Conference there have been two notable developments in connexion with the Rinderpest situations. One is the satisfactory completion of the Kajiado experiment, indicating that control of Rinderpest by vaccination and serum inoculation is feasible in Kenya Masai-land. Actually, while it was being tried in Kajiado, this method of control was also being practised successfully to deal with some recent outbreaks in the Northern Province of Tanganyika. So far, so good; the position today (7/3/32) with regard to Rinderpest in Masailand is that the only known focus of the disease in the Northern Province of Tanganyika is a small one near Loliondo, on the Kenya border, and the hope exists in Kenya that extension of the measures which have been successful at Kajiado may succeed in eradicating the disease from the whole of the Masai Reserve within the next year or two.

The other development is as unfavourable as the one is favourable, and concerns the part of Tanganyika which lies west of Masailand. Arising at first from illicit movement of infected cattle, and then from legitimate movement of cattle from.....

from the recently infected but still unsuspected areas, Rinderpest broke back like a wave through nearly the whole of Tabora Province and overflowed into a small portion of the Central Province. This was in May and June, 1931, and at the same time the disease entered Bukoba Province from Uganda. The Veterinary staff of Tanganyika was then substantially less than in the previous year, but it should be clearly understood that this had little or nothing to do with the break-back itself, which would have occurred in any case; nor is Kenya in any way implicated. Where the reduction of staff has been felt is in stemming the break back and once more mopping up the disease. And so, to-day, (March, 1932) Tanganyika must be reckoned as a country with Rinderpest widespread throughout its north-west quarter and with no hope of being free from the disease for some years.

4. Since long ago it has been recognised in Tanganyika and it is now probably recognised in Kenya, that Rinderpest is more easily dealt with in Masailand than in more densely populated areas. Hence it would appear to be possible to consolidate the present favourable position with regard to the disease in Masailand and the country east thereof, and endeavour to eradicate Rinderpest from the whole of the portions of the two Territories which lie south of the Uganda Railway and East of the thirty-fifth degree of longitude. Actually, as stated above, within this area only one small outbreak is in Tanganyika. In this great step towards the goal of complete eradication of Rinderpest from East Africa, the two countries would work together:

Kenya's part of this task is essentially an extension of the Kajiado campaign to embrace the whole of her Masai Reserve; and as to the cost of this, Kenya alone is in a position to speak. Tanganyika's part is what she is engaged on at present, namely, clearing up the Loliondo focus and doing her utmost to insure that any area north of her border rendered clear from Rinderpest by Kenya's efforts will never again be endangered from the south. For this no special funds are required.

5. Such a step is really as far as co-operation need go at the present time. It would be absurd for Tanganyika to complain of uncontrolled Rinderpest in South Kavirondo when the disease is admittedly uncontrolled in Ruanda. The work of the Veterinary Department of Tanganyika is necessarily limited by size of staff and availability of funds. As these are at present they should suffice to bring about a slow return of the Rinderpest situation to the state of affairs which existed at the end of 1930. It is difficult to see how a mere temporary increase of expenditure - as from a Colonial Development Fund - could materially hasten the process of recession; because the only way in which this can be accomplished is by increasing the number of veterinarians and stock inspectors trained in Rinderpest work, and this is not a temporary procedure.

Summarising: Rinderpest is widespread throughout the Mwanza and Tabora Provinces of Tanganyika. In other provinces of the Territory it exists only as small, well-controlled foci which should be extinguished in the near future. An enormous impetus towards the ultimate extinction of the disease in the two badly infected provinces would be given if Tanganyika could feel that her cleared Northern Province was not in continual danger of reinfection from Kenya Masailand.

Therefore, if Kenya could be assisted to extend control measures of vaccination and serum-inoculation to the whole of her Masai Reserve, a great step towards the complete eradication..

eradication of Rinderpest from East Africa might be achieved; directly, by completing the freedom from Rinderpest of the whole of Africa lying south of the Uganda Railway and East of the thirty-fifth degree of longitude, and indirectly, by releasing some of the Veterinary Staff of Tanganyika from patrol work in Masailand for active suppression of disease in the badly infected western zone.

B.

The memorandum by the Kenya Director of Agriculture (GC(32)27) supports what I have already written above.

2. I do not think the main question for discussion is the method of treatment. It is agreed that in Masailand, at any rate, the best procedure is vaccination of in-contact herds and vaccination plus serum inoculation of infected herds. Some measure of quarantine, also, is necessary. Details of application differ in the two countries; for example, Kenya prefers to make the vaccine in the field, whereas at present we make ours at a laboratory, but these are non-contentious points.

3. I think the main question for discussion is whether the African countries to the south should not help to pay for measures which safeguard their interests.

4. If I were asked for my comments on this I should reply that East Africa is much indebted to South Africa for the valuable and expensive research which is being continuously carried out there - for South Africa - but we benefit. In exchange, it is not unreasonable that we should pay for Rinderpest eradication - for our benefit - though South African interests are incidentally safeguarded.

5. Actually, I put this view into practice in that I keep in close touch with and make the utmost use of South African research, and confine the research work of my Department to local problems (though, I hope, even this may have applications outside the Territory).

6. Another question for discussion might be whether the campaign to eradicate Rinderpest from East Africa should have as its first main objective the freeing of that part of Africa which lies south of the Uganda Railway and east of the Rift Valley, or whether it should be more general. So far as Tanganyika is concerned, we can achieve our part of this first objective by existing measures; for a more general campaign a considerable increase in staff would be necessary.

7. Last year's disappointing experience has made me doubtful of the success of any "big-push", and I think that the best way to eradicate Rinderpest is the continuous application by a strong field staff of a continually improving policy of suppression worked out by a strong research staff. Again, so far as this Territory is concerned, I ask only that its Veterinary Department be not reduced below its present strength; that for every man who goes another, and if possible, better man be taken on in his place.

(Sd.) H.H.HORNBY,
Ag.Director of Veterinary Services.

Dar-es-Salaam,
6.4.32.

C. O.

3 Enc 60

Mr. Priestman 19/5
Mr. [illegible] 19
Mr. [illegible]
Sir L. Campbell
Mr. Tomlinson.
Sir C. Bottomley.
Sir J. Shuckburgh.
Parlt. U.S. of S.
Parly. U.S. of S.
Secretary of State.

18085/32 Kenya.

To go by air mail of Tuesday, the 24th May.

C.O. R 23 MAY D 23

Downing Street,

24 May.1932.

Sir,

I have the honour to acknowledge the receipt of your despatch No.64 of the 9th February on the subject of the major scheme for the eradication of rinderpest and bovine pleuro-pneumonia from the native reserves between the Kenya-Tanganyika boundary and the Kenya-Uganda railway line.

2. I am prepared to support an application to the Colonial Development Fund for financial assistance in order to apply the major scheme. I am advised, however, that the application enclosed with your despatch under reply does not fully present the case. In addition to the staff now mentioned in the application, there are already engaged in this campaign 3 Veterinary Officers, 3 Stock Inspectors and

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NO. 386

and 30 Native Stockmen at an annual cost to Kenya of about £3,500, and I understand that it is proposed that this personnel should continue to be engaged in the inter-territorial campaign for at least the two years contemplated in the projected campaign. In addition to these officers, a Laboratory Assistant has been detailed for duty at Kajiado in connection with pleuro-pneumonia which it is proposed to combat simultaneously with rinderpest. Furthermore, it is not emphasised in the application that the serum required for use in association with vaccine will be prepared locally by the staff, and will not therefore need to be purchased.

3. I shall be glad if you will consider the question of the increase of the grant in the application to the Colonial Development Advisory Committee.

I have, etc.

(Sgd.) P. CUNLIFFE-LISTER.

C. O.

Mr. J.H. Allen 9/3

Mr.

Mr. Tomlinson

Sir C. Bottomley

Sir J. Shuckburgh.

Sir G. Grindle.

Permt. U.S. of S.

Parly. U.S. of S.

Secretary of State.

DRAFT.

H. M. H. Moore Esq
C.M.G.

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Kenya

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14 MAR 1932

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Dear Moore

We have read the Governor's dsp. No 61 of the 9th Feb regarding an application for the establishment of a market in the Masai area.

Unfortunately Montgomery is at present in W Africa & is not expected back this until the first week in May. It seems very

necessary to have his advice &
help in support of the claims from
this would be most helpful.
It is therefore thought that it
will be best to await his
return in spite of the few
weeks delay but we shall
expedite the matter as much
as possible when he
does return.

I am sending you this
letter to let you know the
position & I hope this
delay will not cause any
inconvenience

Yours sincerely

(Signed) H. T. ALLEN

KENYA.

No. 64

GOVERNMENT HOUSE,
NAIROBI,
KENYA.

REC
7 MAR 1932
COL OFFICE

9th February, 1932.

No 7 on 30095/31 FT/Kenya

No 2 on 29878/30 FT/Kenya

Sir,

I have the honour to refer to paragraph 2 of my despatch No. 465 of 13th August 1931, on the subject of the major scheme for the eradication of Rinderpest and Bovine Pleuro-pneumonia from the Native Reserves between the Kenya-Tanganyika boundary and the Kenya-Uganda Railway Line and to submit the detailed scheme as requested in your telegram No. 331 of 16th December 1930.

No 5 on 30095/31

2. In your telegram No. 160 of 15th May 1931, you remarked that your undertaking to support an application to the Colonial Development Fund was subject to your being satisfied as to the soundness of the proposals. In order to reassure you of this, I have the honour to submit the copy of a report by the Deputy Director (Animal Industry) and Chief Veterinary Officer, dealing with the results of the scheme for the eradication of Rinderpest as completed in the Kajiado District of the Masai Reserve.

Answd 5/6 14 ... 1932

For Answer 38624 ... 1932

3. In view of the success obtained I trust that you will now be able to support an application to the Colonial Development Fund for financial assistance in order to apply the major scheme. Upon receipt of an expression of your approval of the scheme, I propose again to refer it to Elected members of Legislative

Council ...

THE RIGHT HONOURABLE
MAJOR SIR PHILIP CUNLIFFE-LISTER, P.C., G.B.E., M.C., M.P.,
SECRETARY OF STATE FOR THE COLONIES,
DOWNING STREET,
LONDON, S. W. 1.

Council in accordance with the practice described in paragraph 4 of my despatch No. 677 of 26th November 1931.

17405/31 Kenya

I have the honour to be,

Sir,

Your most obedient, humble servant,

BRIGADIER-GENERAL.

GOVERNOR.

COLONIAL DEVELOPMENT FUND.

Eradication of Rinderpest in the Masai Area.

1. The object of the scheme is the eradication of Rinderpest and Contagious Bovine Pleuro Pneumonia from the Native Reserves between the Kenya-Tanganyika boundary and the Kenya and Uganda Railway line, in accordance with the Secretary of State's telegram No.331 of the 16th December, 1930, and forms the first portion of a comprehensive scheme which aims at dealing with the whole Colony over a period.

The method to be employed is a campaign of vaccination accompanied by strict quarantine and intensive patrolling for a period of two years.

Agreement has been reached between the Veterinary Departments of the three Governments concerned, and, in accordance with the agreement, an experimental campaign has been begun in the Kajiado district. It has met with success.

2. The estimated cost of the scheme is:-

A. Capital.

	£
3 Lorries	1,000
Instruments	200
Equipment, tentage, etc.	625
Mules, Donkeys, etc.	450
	£2,175
	2,175

B. Recurrent.

1 Veterinary Officer	600
1 Senior Stock Inspector	500
6 Junior Stock Inspectors	1,080
Local Transport & Travelling	758
100 labourers, 160 scouts, Allowances and Equipment	4,264
Carriage of goods, etc.	175
Laboratory Products	850
(for one year)	£ 7,401
i.e. for 2 years, say	£14,825
Total cost of Scheme	£ 17,0

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5. It is proposed that the scheme should begin immediately and be in active operation by the 1st January, 1952. (The experimental scheme in the Kajiado district should be completed by the end of this year).

4. The programme for which assistance is now asked, that is to say, eradication throughout the Masai Reserve, should be completed two years from the date of commencement.

5. Expenditure in the United Kingdom will be about £1,500,, representing the cost of lorries, instruments and equipment.

6. The circumstances which prevented the work being put in hand before were:-

(a) The absence of an agreed policy between the three Governments concerned of eradication of rinderpest by a particular method, and

(b) Lack of funds to carry out the scheme on any adequate scales.

7. A direct grant of the Capital and Recurrent Expenditure, viz., £17,000.

8. The advantages are not only those accruing to local native stockowners. The broader inter-territorial aspect of Rinderpest cannot be ignored, and, in carrying out the scheme proposed, the Colony would be safeguarding the interests of the African territories to the southward. As the incidence of Rinderpest decreases, greater freedom of movement will result by the removal of quarantine restrictions which at present hamper trade and make it impossible for the natives in this area to realize their assets in livestock.

9. The estimates have been based on technical advice.

10. Direct Grant.

11. Not applicable.

12. The amount of money required during the current financial year, i.e. to the 31st March, 1952,

is approximately £4,025, being the entire Capital Expenditure and Recurrent Expenditure for one quarter.

DEPARTMENT OF AGRICULTURE,
DIVISION OF ANIMAL INDUSTRY,
P.O. BOX NO. 525,
NAIROBI. 11th January, 1932.
NO. RIND/6/5/198

The Hon. Director of Agriculture.

RINDERPEST ERADICATION : MASAI RESERVE.

As the result of the recommendations following the meeting of the representatives of Veterinary Departments of Kenya, Uganda and Tanganyika at Government House in April, 1931, an experimental Rinderpest Eradication Scheme was carried out in the Kajiado District of the Masai Reserve and I have great pleasure in reporting on the success of the operation.

2. In accordance with the request of the representatives from Uganda and Tanganyika, no virulent material was used in the process of immunisation and the suppression of the centres of infection was effected by the use of Rinderpest Vaccine and Serum made under field conditions.

3. At a baraza recently held at Kajiado in December last, at which the native stockowner was fully represented, it was declared by them that Rinderpest had been eradicated from the district and satisfaction was expressed with the methods adopted.

4. Although the disease has been eradicated fxm this district, it will be necessary to keep a vigilant watch to prevent "backfires" of infection from contiguous native reserves, until such time as the process of eradication of Rinderpest can be extended to them and thereby afford the necessary protection to this "clean" district.

5. Difficulties have been encountered in the c carrying out of the Scheme, both from the native objection to any system of control and the hardship of making Rinderpest Vaccine under field conditions.

6. The success of the experimental eradication scheme is chiefly due to the help and support that has been freely given to the efforts of this Department by the District Administrative Officer (Mr. Storrs Fox) and I wish to take this early opportunity of gratefully thanking him for his strong co-operation and in addition to the skill and patience of the Veterinary personnel under the District Veterinary Officer (Mr.R.A.Hammond) whose work in this respect is highly commendable.

7. I would be glad if this information with regard to the success of the experimental scheme could be forwarded to His Excellency, the Governor, the Secretary of State for the Colonies and the Veterinary authorities of the neighbouring territories, in view of their interest in this matter.

8. A copy of the Report on Rinderpest Eradication in the Kajiado District, by Mr.Hammond, is forwarded for your information.

H. BRASSEY EDWARDS

4.4.42.

DEPUTY DIRECTOR (ANIMAL INDUSTRY)
AND CHIEF VETERINARY OFFICER.

HHBE/AO'M.

VETERINARY DEPARTMENT, KAJIADO.

January 6th, 1952.

The Hon. the Deputy Director of
Animal Industry,
NAIROBI.

REPORT ON RINDERPEST ERADICATION
IN MASAI RESERVE, MAY TO DECEMBER, 1951.

Sir,

I have the honour to submit my report on the campaign for the Eradication of Rinderpest in the Masai Reserve, covering the period May to December, 1951.

Following on a meeting attended by the Heads of the Veterinary Departments of Kenya, Tanganyika Territory and Uganda, a scheme for the control and eradication of Rinderpest along the Kenya-Tanganyika border was agreed upon and it was decided that an initial experiment should be undertaken in the Kajiado District of the Masai Reserve.

The main feature of the programme outlined was that no virulent material should be used in the process of immunisation. This involved a departure from the policy of Active Immunisation hitherto followed in Kenya. The principle to be followed was to be the rapid suppression of all centres of infection, employing Vaccine and Serum on infected herds and Vaccine alone on in-contact herds, thereby enclosing the focus of infection within a ring of temporarily immune (vaccinated) cattle. A further safeguard was to be afforded by Quarantine and Control of Movement.

Commencing at Loitokitok in May, 1951, the scope of operations has been gradually extended in a Northerly and Westerly direction and at the present time the whole of the Kajiado District south of the Magadi Railway is included in the area under control. The remaining small portions of the Kajiado District will be brought under control at an early date.

A steady and general decline in the incidence of

Rinderpest has illustrated the efficacy of the methods adopted. During July and August infection was widespread among the Mattabattu and Purko sections of the Masai, but as a result of active measures being undertaken there are now only two known centres of infection in the area under supervision. In the Loitokitok area the rapid suppression of an outbreak of Rinderpest in June 1931 prevented any extension of infection in that area, and the entire district has since been free from disease. As a result of this a total of 998 head of cattle have been sold to an hitherto unavailable market in Tanganyika.

In establishing this control of Rinderpest in the Kajiado District it was necessary to resort to inoculation and quarantine in twenty three Bomas. Owing to the annual occurrence of Rinderpest in previous years, nearly seventy per cent. of the 41,000 cattle in these Bomas were immune to the disease. All susceptible cattle were inoculated, and of the 6,782 head which received vaccine, 1,818 head, being exposed to immediate infection by contact, received in addition a single protective dose of Anti-Rinderpest Serum averaging 25 ccs. In some cases it was found that Rinderpest had almost run its course in certain Bomas, and in these it was not considered advisable to inoculate. Quarantine restrictions were enforced, however, and a further 18 Bomas with a cattle population of nearly 19,000 head were dealt with in this manner.

An organisation has been built up to allow of regular weekly inspections of all cattle, and approximately 280,000 head are now under supervision by a staff of 28 Native Scouts. With this reliable system of intelligence in operation it is confidently anticipated that it will be possible to undertake active measures within ten days of the appearance of Rinderpest in any herd. It is therefore considered unlikely that any serious "back-fire" will occur, while it should be possible to avoid any extension of infection from the present centres.

All the Vaccine used has been prepared under Field Conditions at the scene of the outbreak, the owners submitting two per cent. of their susceptible cattle for this purpose, the carcase and hide being returned to the original owner after removal of the spleen, precautions against the spread of infection being taken. The method of preparation of the Inactivated Rinderpest Spleen Vaccine has been as follows:

After infection of the selected Vaccine Makers with citrated virulent blood obtained from sick animals at the scene of the outbreak, temperatures are taken daily and the animals killed when reacting strongly to Rinderpest. The spleens are removed in a sterile manner, minced, and weighed after mincing. To each part by weight of spleen pulp is then added four-tenths of a part of nine per cent. Saline, with the object of rupturing the spleen cells and liberating the Virus. After 24 hours the concentration of Saline is reduced to normal by the addition of 5.6 parts of boiled water, which gives a final dilution of one part of spleen pulp to four parts of Normal Saline. This constitutes the Vaccine, which is then strained through muslin before being inactivated by the addition of three parts per thousand of Commercial Formalin (40% formaldehyde). After 48 hours exposure to the action of the formalin the Vaccine is r[illegible] for use in doses of from 25 ccs. to 40 ccs. accordin[illegible] size of the animal.

In the absence of storage facilities, no vaccine which has been kept for more than five days after preparation is used.

Anti-Rinderpest Serum has also been prepared in the field by bleeding recently recovered animals supplied by the Masai, enough blood being withdrawn to replace the amount of Serum used.

While considerable opposition from the Masai was encountered in the early stages of the campaign their present attitude is encouraging, and it is now usual for requests for

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END

vaccinatio-n to be made by the Masai themselves. The help afforded by the District Commissioner, Kajiado, has been largely responsible for this change of outlook, and I should like to express my appreciation of his valuable assistance.

In view of the encouraging results which have followed a seven months' trial of the methods outlined, I am of the opinion that Rinderpest can be successfully controlled and eventually eradicated from the whole of the Masai Reserve by the more general adoption of these methods.

The position with regard to Pleuro-Pneumonia is one which has received attention, and it is hoped that similar success will follow the efforts to be made to control this disease.

In addition to the regular patrolling of native villages and the reporting of disease therefrom, the Veterinary Scouts have taken a detailed census of cattle in their areas, and figures showing the numbers of susceptible and immune stock, together with the numbers of cows, bulls and oxen are now available for most areas. As the incidence of disease decreases the activities of the Guards will be extended to cover the work of Ghee making and the Shade drying of hides, which should bring about a marked improvement in the quality of both products.

I have the honour to be,

Sir,

Your obedient servant,

(SD) R.A.HAMMOND.
VETERINARY OFFICER.

Copies to:-

The Provincial Commissioner, Ngong,

and

The District Commissioner, Kajiado.