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PUBLIC RECORD OFFICE

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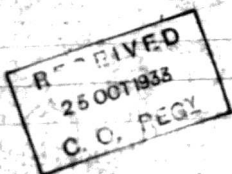
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PUBLIC RECORD OFFICE



Hayes Barton  
Shanklin 12

October 24th 1933



To the Under Secretary of State  
Colonial Office  
London S.W. 1

ACKD. BY P.C.

*bc*

Recd  
29/10/33  
10

I have the honour to acknowledge receipt of your letter No 3231/33 dated the 21st inst. No 15

I regret that it will be necessary to make some slight alterations in the arrangements provisionally accepted. On receipt of the enquiry from India as to whether I was prepared to undertake certain work there I cabled in reply stating that I had <sup>been</sup> asked to go to Kenya and enquiring whether the work in India would be completed in time for me to reach Kenya by the end of February. I have now received a cable from India stating that no assurance can be given that the work will be com-

pleted in time and that, consequently, an officer already in India ~~had~~<sup>has</sup> been selected in my place. In the circumstances, therefore, I shall proceed to Kenya direct from England in February.

I have the honour to be,

Sir,

Your most obedient servant  
D. G. Harris

74  
21 October 3

5281/33

Sir,

I am directed by Secretary Sir Philip Cunliffe-Lister to acknowledge the receipt of your letter No.S.34609/0271 of the 14th of October, conveying the sanction of the Lords Commissioners of His Majesty's Treasury of a free grant of £2,000 from the Colonial Development Fund to provide for preliminary enquiries into the possibility of developing the Tana River Valley.

I am to request you to inform Their Lordships that, after consultation with the Secretary of State for India, Sir Philip Cunliffe-Lister has invited Mr. D.G.Harris, C.S.I., C.I.E., late Consulting Engineer to the Government of India, to undertake the enquiry. Mr. Harris has accepted and it is also hoped that an agricultural officer of wide experience (whose selection has not yet been determined) may be secured to join him in the work.

I am, Sir,

Your most obedient servant,

J. E. W. FLOOD

THE SECRETARY,  
TREASURY.

C. G.

Mr. Davies 18/10/33.

Mr. Freeman 18/10/33

Mr.

Mr. Parkinson.

Mr. Tomlinson.

Sir C. Bottomley.

Sir J. Stothburgh.

Presid. U.S. of S.

Presid. U.S. of S.

Secretary of State.

21 October, 1933.



Sir,

**DRAFT.** 2 dfts.THE SECRETARY,  
TREASURY.

I am etc. to ask. the receipt of your letter (24) No. S.34609/0271 of the 14th of October, conveying the sanction of the Lords Commissioners of His Majesty's Treasury for a free grant of £2,000 from the Colonial Development Fund to provide for preliminary enquiries into the possibility of developing the Tana River Valley.

I am to request you to inform Their Lordships that, after consultation with the Secretary of State for India,

Sir

FURTHER ACTION.

Sir Philip Cunliffe-Lister has invited Mr.

D. G. Harris, C.S.I., C.I.E., <sup>late</sup> who has ~~been~~  
*Consulting Engineer to* considerable service with the Government of

(not out-  
No. 10)

India, to undertake the enquiry.

Mr. Harris has accepted, and it is also hoped

that ~~a suitable~~ <sup>an</sup> *affair of wide experience* Agricultural expert (whose selection

has not yet been determined) may be secured to

<sup>join</sup> <sup>to</sup> accompany him in his work.

I am, etc.,

(Signed) J. E. W. FLOOD

2576  
21 October

8

5281/53

Sir,

I am directed by Secretary Sir Philip Cunliffe-Lister to acknowledge the receipt of your letter of the 16th of October intimating your willingness, subject to one reservation, to undertake enquiries into the possibility of developing, by means of irrigation, the valley of the Tana River, and to inform you that in the circumstances he is prepared to agree to the calculation of your remuneration as from the day following that on which you sail from Bombay for East Africa, up to and including the day on which you land in the United Kingdom after the completion of your term of service.

2. Copies of the correspondence which has passed with you on the subject will be forwarded to the Acting Governor of Kenya, with whom you should in due course communicate direct regarding the provision of your passage and allowances from Bombay to Mombasa.

I am, Sir,  
Your obedient servant,

(Signed) J. E. W. FLOOD

D. G. HARRIS, Esq., C. S. I., C. I. S.

25

C. O.

Mr. Davies 18/10/33.

Mr. Freston 87

Mr.

Mr. Parkinson.

Mr. Tomlinson.

\* Sir C. Bottomley.

Sir J. Stubbburgh.

Permt. U.S. of S.

Party. U.S. of S. -

Secretary of State.

21 October, 1933.

Sir,

DRAFT. 3 dfts.

D. G. HARRIS, ESQ., C.S.I., C.I.E.

I am etc. to ack. the receipt of your letter of the (13) 15th of October intimating your subject *our remuneration*, willingness to undertake enquiries into the possibility of developing, by means of irrigation, the valley of the Tana River, and to inform you that in the circumstances he is prepared to agree to the calculation of your remuneration as from the day following that on which you sail from Bombay for East Africa, up to and including the day on which you land in the United Kingdom after the completion of your

Copy to Sir A. Smith (10.) (27)

**FURTHER ACTION.**

Copy of dft. and of 30 w/out encl., and of 23, to I.O., as indicated in Mr. Freston's minute of 18/10. J. V.

Rec'd to FAD after which has been taken



term of service.

<sup>which has passed</sup>  
1 Copies of the correspondence with

you on the subject will be forwarded to

the Acting Governor of Kenya, with whom

you should in due course communicate

direct regarding the provision of your passage and

allowances from Bombay to Mombasa.

I am, etc.,

(Signed) J. E. W. FLOOD



Any reply to this letter should be addressed to—  
THE SECRETARY,

TREASURY,  
WHITEHALL, LONDON, S.W.1.

and the following number quoted:

S. 34609/0271.

30  
24  
78  
TREASURY CHAMBERS.

RECEIVED  
16 OCT 1933  
C. O. REGY

14 October, 1933.

Sir,

I have laid before the Lords Commissioners of His Majesty's Treasury Mr. Flood's letter of the 7th October, 1933 (3231/33) signifying Sir Philip Cunliffe-Lister's concurrence in the recommendation of the Colonial Development Advisory Committee, conveyed in the Secretary's letter of the 3rd instant, that a free grant to the Government of Kenya of £2,000 to provide for preliminary enquiries into the possibility of developing the Tana River Valley should be made from the Colonial Development Fund.

I am now to request you to inform the Secretary of State that My Lords sanction a free grant of £2,000 from the Colonial Development Fund in accordance with the recommendation of the Committee. They note that in selecting the officers for the proposed enquiry due regard will be paid to the view of the Colonial Development Advisory Committee that one at least of the experts should be capable of advising on the general development of the region in question.

The Under Secretary of State,  
Colonial Office.

Key  
NO 14  
C.O. Regy (26)

C.O. Regy (42)

RECEIVED  
 16 OCT 1933  
 C. O. REGY

Hayes Barton 19  
 Shanklin  
 October 15th 1933

12  
 10

To the Under Secretary of State,  
 Colonial Office,  
 London S.W.1

ACKD. BY P.C.

Sir,

I have the honour to acknowledge with thanks the receipt of your letter No 3231/33 dated the 13th inst and, in reply, to state that I am willing to undertake the investigation referred to on the terms detailed, subject to modification in one respect.

As mentioned in your letter it is probable that I shall have to go out to India in the near future and that I shall proceed thence to Kenya. My remuneration from Indian funds commences on the date on which I leave London and, were I to return to England, would continue until I arrived in London again. I

am, however, of the opinion that the Government of India will raise difficulties in the matter of finding my remuneration during a journey performed to enable me to carry out an investigation in Kenya, regarding this as a liability of the Kenya Administration, as it would be were I proceeding direct from England to Kenya. In the circumstances I venture to suggest that I should be regarded as in the employ of the Government of Kenya with effect from the date of my departure from Bombay and that my remuneration during the voyage should be met from Kenya funds.

I have not yet received official orders as to my undertaking work in India. On receipt of such orders I will inform you of their purport and will also arrange, as requested, to keep you informed of my movements and of my address in India.

I would take this opportunity of acknowledging also the receipt of the documents, photographs and maps enclosed with your letter under reply.

I have the honour to be,

Sir,

Your most obedient servant,

D. G. Harris



87 22  
Hayes Barton 82  
Shanklin  
October 1<sup>st</sup> 1933

Dear Freeston,

No 21 Thank you for your letter of the 13th. I am replying to the official letter today, accepting the invitation but asking for a slight modification in one of the terms. It goes no further than what was intended in my letter of the 12th but possibly I did not make the point clear.

As regards travelling expenses, your assurance is quite satisfactory. I did not, of course, intend to suggest that I should receive anything towards the incidental expenses of travelling.

Yours sincerely,  
D. G. Harris

L. B. Freeston Esqre,  
Colonial Office.

Downing Street,

13 October, 1933.

Dear Harris,

We are sending you an official letter which will, I hope, meet the points raised in your letter to me of yesterday. We have not gone into detail about your travelling expenses in Kenya; but you may rest assured that Government will provide you with first class railway travelling, the necessary motor-car, and the launch up the Tana River. Other expenses incidental to travelling are supposed to be met out of the subsistence allowance of £1 per day.

Yours sincerely,

(Signed) L. B. FREESTON;

D.G.HARRIS, ESQ., C.S.I., C.I.E.

C. O.

3231/57 Kenya

2/11/57  
842

~~57-2~~

Mr.

Heath (13/10/57)

Mr.

Mr. Tomlinson.

Sir C. Bellamy.

Sir J. Shackburgh.

Sir G. Grindle.

Permt. U.S. of S.

Partly U.S. of S.

Secretary of State.

Amad. (72)

13 OCT 1957

Dear Harris

We are sending you

an official letter which  
with I hope, meet the  
points raised in your  
letter to me of yesterday.  
We have not gone into  
detail about your  
travelling expenses in  
Kenya; but you  
may rest assured

DRAFT.

D. G. Harris Esq. C.S.I. C.I.E.

2/11/57

that Government will provide  
you with first class railway  
travelling, and the necessary  
motor-cars, <sup>and the</sup> launch up  
the Tame River. <sup>Other</sup> Expenses  
incident to travelling are  
supposed to be met out  
of the subsistence allowance of  
£1 per day.

Yours sincerely

(Signed) L. B. FREESTON



4 October 3

3231/33.

8

Sir,

I am directed by Secretary Sir Philip Cunliffe-Lister to inform you that the Government of Kenya is about to institute an enquiry, with the assistance of a grant from the Colonial Development Fund, into the possibility of developing, by means of irrigation the valley of the Tana River.

2. The scheme is fully described in the enclosed documents, from which you will note that it involves a visit to the Tana River by an Irrigation Engineer and an agricultural officer with experience of similar undertakings in India or elsewhere. After consultation with the India Office Sir Philip Cunliffe-Lister has decided to invite you to undertake the enquiry in collaboration with an Agricultural Adviser, whose selection has not yet been determined.

D.G. HARRIS, Esq., C.S.I., C.I.B.

3. It is proposed that you should receive remuneration at the rate of £200 per month while engaged on the enquiry, together with a subsistence allowance of £1 per day on land and 5/- per day on board ship. As it is understood that you will be travelling to India on duty before proceeding to Kenya, it is suggested that your remuneration from Kenya funds should be calculated from the day of your arrival in Mombasa until the day on which you land in England (both days inclusive) and that the Government of Kenya should provide first class steamer accommodation and subsistence allowance for yourself from Bombay to Mombasa and from Mombasa to England; and second class accommodation from Bombay to Mombasa and return for an Indian servant. The cost of your travelling in Kenya will also be met from Colonial funds.

4. I am to request you to be good enough to state whether you are willing to undertake the

investigation

investigation on the terms outlined in the preceding paragraph. If so, it will be convenient if you can arrange to keep this Department notified of your movements and your address in India, in order that any further documentary material may be sent to you either from London or direct from the Colony.

I am,

Sir,

Your obedient servant,

(Signed) J. E. W. FLOOD

20 88

Mr. Freeston 12/10/33.

and resp. (circulate)

Mr. Bond 12.10 fr.

Mr.

Mr. Parkinson.

Mr. Tomlinson.

Sir C. Bottomley.

Sir J. Stuckburgh.

Permt. U.S. of S.

Parly. U.S. of S.

Secretary of State

Answered by No 23

October, 1933.

Sir,

DRAFT.

D. G. HARRIS, ESQ. C.S.J.,  
C.I.E.

I am etc. to inform you

that the Govt. of Kenya, with the assistance of a grant from the Colonial Development Fund, is about to institute an enquiry into

the possibility of developing by means of irrigation the valley of the Tana River.

2. The scheme is fully described in the enclosed documents, from which you will note that it involves a visit to the Tana River by an Irrigation Engineer and an agricultural expert with experience of similar undertakings in India or elsewhere.

After consultation with the India

Office

Pl. for E. note about the small. W.A.

2 off.

copy send. to F. H. Smith (10) (27)

FURTHER ACTION.

Copy with enclos. to India Office, L.S. under cover to Mr. J. W. H. Smith.

Office Sir Philip Cunliffe-Lister  
has decided to invite you to undertake the  
enquiry in collaboration with an Agricultural  
Adviser, whose selection has not yet been  
determined.

3. It is proposed that you should receive  
remuneration at the rate of £200 per month  
while engaged on the Enquiry, <sup>together with</sup> a subsistence  
allowance of £1 per day on land and 5/- per day  
on board ship. As it is understood that you will  
be travelling to India on duty before proceeding  
to Kenya, it is suggested that your remuneration  
from Kenya funds should be calculated from the  
day of your arrival in Mombasa until the day  
on which you land in England (both days inclusive)

and that the Govt. of Kenya should provide you with  
first class steamer accommodation <sup>and</sup> ~~and~~ <sup>from Bombay to Mombasa</sup>  
and from Mombasa to England; and second class accommodation  
from Bombay to Mombasa and return for an Indian servant. The cost of your  
handing in Kenya will  
be I am to request you to be good enough  
to state whether you accept the arrangement  
on the terms outlined in the preceding paragraph.

If

C. O.

Mr.  
Mr.  
Mr. Parkinson.  
Mr. Tomlinson.  
Sir C. Bottomley.  
Sir J. Stuckburgh.  
Permt. U.S. of S.  
Parly. U.S. of S.  
Secretary of State.

DRAFT.

89  
If so, it will be convenient if  
you can arrange to keep this  
Department notified of your  
movements and your address in  
India, in order that any further  
documentary material in connection  
with the Tana River Enquiry may be  
communicated to you either from  
London or direct from the Colony.

I am, etc.,

(Signed) J. E. W. FLOOD

FURTHER ACTION.

~~Entered~~

Hayes Barton  
Shanklin  
October 12<sup>th</sup> 1933

Dear Freeston,

After our interview on Monday I authorised the High Commissioner to cable to India to say that I was prepared to serve on the Sund Committee. The cable went on to state that I wanted to reach Kenya by the end of February and enquired whether the Committee's work would be finished by that time. I will let you know what reply I receive; personally I have little doubt that it will be possible to finish in time provided that a reasonably early start be made.

(17) Power

The Government of India's telegram speaks of convening the Committee "at the earliest possible date". It is not unlikely that my cable may make them expedite matters, and I should not be surprised to receive sudden orders to catch the next available boat.

In that event the High Commissioner would be asked simultaneously to book the passage.

It is on this question that I am writing to you, as the position requires clarifying. Ordinarily the High Commissioner would book me a return passage to Bombay. If I am going on to Kenya this will definitely be unsuitable; I do not want to be away longer than is necessary and it would be a pure waste of time for me to return from Kenya to Bombay when I could come straight home from Mombasa.

Some arrangement must be reached as to where my service for India will end and that for Kenya begin. I suggest that I should be regarded as serving the latter from the date on which I leave Bombay, being provided by your office with passages from Bombay to Mombasa and from Mombasa to London, also with passages for a servant from Bombay to Mombasa and return. While the Gov-

ernment of India must pay my passage to London if I return direct I am pretty certain that they will raise difficulties about paying a passage for me to Mombasa to enable me to take up work in Kenya -

As you will realize, it is very necessary for this question to be settled before my passage to India is booked.

There is one other item which requires elucidation. In the terms stated in the India Offer letter there is no reference to travelling expenses in Kenya, e.g. the journey from Mombasa to Nairobi and back. I take it that, as in India, there are prescribed travelling allowance rules and that I shall be entitled to such allowances for journeys on tour as would be admissible to an officer of the same status as myself on the Kenya establishment. For audit purposes it would be well to mention this.

Of course all these arrangements are contingent on my services being required first in India and then in Kenya. But



if we wait until official orders are issued and those orders necessitate my immediate departure it seems likely that there will be considerable difficulty especially as regards passage arrangements. It is for this reason that I am bringing them to your notice now.

Yours sincerely  
D. S. Harris

S. B. Freestone Esq.,  
Colonial Office,  
Whitehall, S.W. 1.

if we wait until official orders are issued and those orders necessitate my immediate departure it seems likely that there will be considerable difficulty especially as regards passage arrangements. It is for this reason that I am bringing them to your notice now.

Yours sincerely  
D. S. Harris

S. B. Freestone Esq.,  
Colonial Office,  
Whitehall, S.W. 1.

3231/33 Kenya.

Downing Street,

7 October, 1933.

Dear Sampson,

Before he left for Jamaica, Stockdale gave us some preliminary advice on a scheme for sending a couple of men to Kenya to investigate the possibility of developing the valley of the Tana River.

The scheme is set out at great length in the enclosed papers. Briefly the problem is twofold:-

- (a) Can the valley be irrigated?
- (b) If so, are the nature of the soil, the climatic conditions and the economic conditions generally such as to make irrigation worth while?

It is therefore proposed to send out an irrigation engineer to advise on (a), and an agriculturist (not a settlement officer) to provide an answer to (b).

Matters have now reached the stage where we

can

H. J. SAMPTON, Esq., C.I.E.

can rely on getting the £2,000 from the Colonial Development Fund, and we are anxious to select the two experts in time for them to reach Kenya by February next. As regards the Agriculturist, the following are Stockdale's comments on the papers.

"I am not particularly happy in regard to the information contained in the memorandum of the Agricultural Chemist. Many difficulties have been experienced in irrigation schemes in India on account of alkaline soils or by the accumulation of alkali salts.... It therefore appears to me that it is of far greater importance to have the area in the first instance properly surveyed and investigated by an experienced Agricultural Officer in association with the Irrigation Engineer.... It has to be decided whether the area is likely to be more suited for development by large scale capitalistic enterprise or by small peasant settlements, and it is very necessary that the agricultural possibilities should be examined in the fullest detail by an experienced agriculturist....

There

96

There have been so many disappointments over irrigation schemes in areas with soils inclined towards alkalinity that the utmost caution is necessary. The association of an agriculturist with Indian, Egyptian or Australian experience would be most desirable."

We have consulted the India Office informally and they have sent us the following list of possible names:-

Clarke C., C.I.E., F.I.C., F.C.S.

56. Director of Agriculture, c/o Barclays Bank,  
United Provinces. 54, Lombard Street, E.C.

Finlay, R.S., C.I.E., B.Sc., F.I.C.

56. Director of Agriculture, c/o Messrs. Grindlay  
Bengal. & Co.,  
54, Parliament Street,  
S.W.1.

Angold, H.D., C.I.E., M.A.

57. Director of Agriculture, 82, Brackendall Road,  
Madras. Bournemouth.

Farr, A.E., B.Sc., Ph.D.

49. Offg. Director of c/o Westminster Bank.  
Agriculture,  
United Provinces.

I shall be most grateful for your opinion on the respective merits of these or any other names that may occur to you. It should not be forgotten that

sound

sound health and the ability to 'rough it' are essential qualities.

Yours sincerely,

ESQ J. G. HIBBERT.

P.S. Will you kindly return the enclosure with your reply, as it is the only remaining spare copy we have.

C. O.

3231/33 Kenya.

PC  
18-7-33 98

Mr. Freeston. *4/10/33*  
Mr. ~~Hobbs~~ S.O. for Mr. Hibert's sig.  
Mr.

DOWNING STREET,

7<sup>th</sup> October, 1933.

Mr. Parkinson.  
Mr. Tomlinson.  
Sir C. Bottomley.  
Sir J. Shuckburgh.  
Permt. U.S. of S.  
Parly. U.S. of S.  
Secretary of State.

Dear Sampson,

Before he left for Jamaica, Stockdale gave us some preliminary advice on a scheme for sending a couple of men to Kenya to investigate the possibility of developing the valley of the Tana River.

The scheme is set out at great length in the enclosed papers. Briefly the problem is twofold:-

- (a) Can the valley be irrigated?
- (b) If so, are the nature of the soil, the climatic conditions and the economic conditions generally such as to make irrigation worth while?

Matters have now reached the stage where we can rely on getting <sup>the</sup> £2,000 from the Colonial Development Fund, and we are anxious to select the two experts in time for them to reach Kenya by

February

**DRAFT.**

H.C. CAMPSON, C.I.E.  
(Royal Botanic Gardens,  
Kew).

*CPAC 1330  
(copy below)*

*It is therefore proposed to send out an irrigation engineer to advise on (a), and an agriculturist (not a settlement officer) to provide an answer to (b).  
2 effs*

**FURTHER ACTION.**

Mr.

Mr.

Mr.

Mr. Parkinson.

Mr. Tomlinson.

Sir C. Bottemley.

Sir J. Shackburgh.

Permt. U.S. of S.

Party. U.S. of S.

Secretary of State.

DRAFT.

by an experienced agriculturist.....

There have been so many disappointments over irrigation schemes in areas with soils inclined towards alkalinity that the utmost caution is necessary.

The association of an agriculturist with Indian, Egyptian or Australian experience would be most desirable."

We have consulted the India Office informally and they have sent us the following list of possible names:

- |                                       |   |
|---------------------------------------|---|
| Clarke G.<br>C.I.B., F.R.S., F.R.S.E. | 55 Director of Agriculture, C/o Barclays Bank<br>United Provinces. 54, Lombard St., E.C.    |
| Finlay, R.S.<br>C.I.B., B.Sc., F.R.S. | 56 Director of Agriculture c/o Messrs. Grindlay & Co.,<br>Bengal. 54 Parliament St., S.W.1. |
| Ainstead, R.D.,<br>C.I.B., F.A.       | 57 Director of Agriculture<br>Madras 82 Brackendall Road,<br>Bournemouth.                   |
| Parr, A.S.<br>B.Sc., Ph.D.            | 49 Offg. Director of c/o Westminster<br>Agriculture, Bank.<br>United Provinces.             |

~~You may know of others and I shall~~

be most grateful for your opinion

on <sup>the</sup> ~~their~~ respective merits. ! It should

not be forgotten that sound health and the ability to 'rough it' are essential

qualities.

of these or any other names  
that may occur to you.



qualities.

Yours sincerely,

Saj J. G. HIBBERT.

P.S. Will you kindly return the  
enclosure with your reply, as  
it is the only remaining spare  
copy we have.

17 100  
7 October 3

3231/33

Sir,

I am directed by Secretary Sir Philip Cunliffe-Lister to refer to the letter from the Colonial Development Advisory Committee of the 3rd October (C.D.A.C. 1346) recommending the grant to the Government of Kenya of £2,000 to provide for preliminary enquiries into the possibility of developing the Tana River Valley.

I am to request that the Lords Commissioners of the Treasury may be moved to signify their approval of this grant. In selecting the officers for the proposed enquiry due regard will be paid to the view of the Colonial Development Advisory Committee that one at least of the experts should be capable of advising on the general development of the region in question.

I am, Sir,

Your most obedient servant,

THE SECRETARY,  
TREASURY.

Signed) J. E. FLOOD

C. O.

3231/33 Kenya

70  
101  
17  
R 4 OCT  
D 5

Mr. Freeston. *4/10/33*

Mr.

Mr.

Mr. Parkinson.

Mr. Tomlinson.

Sir C. Boltonley.

Sir J. Shackburgh.

Permt. U.S. of S.

Party. U.S. of S.

Secretary of State.

*Answered by No 24*

DOWNING STREET,

7<sup>th</sup> October, 1933.

Sir,

I am, etc., to refer to the letter from the C.D.A.C. of the 3rd October (C.D.A.C.1346) recommending the grant to the Government of Kenya of £2,000 to provide for preliminary enquiries into the possibility of developing the Tana-River Valley.

2. I am to request that the Lords Commissioners of the Treasury may be moved to signify their approval of this grant. In selecting the officers for the proposed enquiry due regard will be paid to the view of the C.D.A.C. that one at least of the experts should be capable of advising on the general development of the region in question.

I am, etc.,

*(Signed)* J. E. W. FLOO

**DRAFT.**

THE SECRETARY,

TREASURY.

*2/15*

FURTHER ACTION.

Mr. Freeston,

You spoke about this matter yesterday, but I cannot find anything further in Mr. Stockdale's papers which would assist the suggestion made in his minute of the 5th July. If it is proposed to consult Mr. Sampson, perhaps it might be a good idea to send him the names suggested by Mr. Smith, India Office, in No.10, in case he knows anything of them.

*L. Gibbons*

3.10.33.

16  
103  
Communications on this subject  
should be addressed to—

THE SECRETARY.

Telephone: ~~2525-2526~~  
Whi: 9191



COLONIAL DEVELOPMENT ADVISORY COMMITTEE,

COLONIAL OFFICE,

DOWNING STREET,

S.W.1.

3rd October, 1933

C.D.A.C.1346.

RECEIVED

- 4 OCT 1933

C. O. REGY

Sir,

I am directed by the Colonial Development Advisory Committee to request you to inform Secretary Sir Philip Cunliffe-Lister that at their last meeting on the 27th September, they had before them an application from the Government of Kenya for a free grant of £2,000 for an investigation into the possibility of developing the latent resources of the Tana River Basin. (C.D.A.C.1330).

*Now*

2. The Committee recognise that the proposed investigation may lead to valuable results in the development of this part of Kenya, and recommend the free grant applied for. They note that the Secretary of State is of opinion that the Government of Kenya's proposals should be modified to the extent that the investigation should be made in the first instance by an irrigation expert and an agricultural expert in place of an irrigation expert and an officer experienced in land settlement. The Committee agree to the modification proposed by the Secretary of State, but they consider that

The Under Secretary of State,

Colonial Office.

if possible one at least of the experts selected should be capable also of advising on the general possibilities of the region for development purposes.

3. A similar letter is being sent to the Treasury.

I am,

Sir,

Your obedient servant,

*B Williams*

Secretary to the Committee.

BY AIR MAIL.

25 104

Ad. S. 17/3

~~Blackett~~

GOVERNMENT HOUSE,  
KENYA,  
EAST AFRICA.

12th August, 1933.

Dear Freeston,

On our last safari through the Northern Frontier Province to Lamu and back to Nairobi via Garissa and Kitui we were met at Garissa on the Tana by Flight-Lieutenant Vines of the Shell Company, who kindly took me for an hour's flight down the Tana and also Glenday and Captain Ritchie. I enclose some photos of Ritchie's taken from the air which I think may interest you and possibly Sir Basil Blackett and the Colonial Development Fund Committee in connection with our recent application for the Tana development.

The two views showing roads, etc., are of the Garissa Boma with the A. D. C's and D. C's houses nearest the river, the Police Lines being in the second photograph further away. The other photographs are taken flying south to illustrate the tremendous windings.....

windings of the river. Actually I saw even bigger loops than those in the photographs. They also serve to show the vegetation on each side of the river and the arid country beyond. It certainly would seem that with skilled advice <sup>to cut</sup> of this river which is slowly beheading itself might be turned to more useful channels.

I also enclose a cutting from the "Kenya Daily Mail" for your own or Flood's scrap book which I think is a fair statement of the Indian view on the present situation.

Yours sincerely,

*M. Moore*

L. B. FRESTON, ESQ., O.B.E.,  
COLONIAL OFFICE,  
DOWNING STREET, S.W.1.



3. 11. 41

W 3231/33

Kya

On His Majesty's Service.

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*Incomplete*

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C.D.A.C. 1330.

COLONIAL DEVELOPMENT ADVISORY COMMITTEE.

I circulate, for the consideration of the Committee, a Colonial Office memorandum submitting an application on behalf of the Government of Kenya for a free grant of £2,000 for investigation into the possibility of developing the latent resources of the of the Tana River Basin.

Copies of the maps of the Tana River will be available at the meeting.

The usual Summary of Answers to Scheduled Questions is prefixed.

J. H. WILLIAMS.

Secretary to the Committee.

COLONIAL OFFICE,

8th September, 1933.

SUMMARY OF ANSWERS TO "SCHEDULED QUESTIONS".

- 1. Description. Investigation into the possibility of developing the latent resources of the Tana River Basin, Kenya.
- 2. Estimated total cost £2,000
- 3. Date of commencement February, 1934.
- 4. Date of completion June, 1934
- 5. Allocation of cost Local: £1,836  
U.K. £164
- 6. Reasons for not undertaking work before Lack of funds.
- 7. Method of financing Free grant
- 8. Advantages Development of the area, eventual general improvement of the people's condition and settlement of other natives.
- 9. Detailed Estimates Have been prepared.
- 10. Assistance desired under Act Free grant of £2,000
- 11. Security for advances to non-official concerns --
- 12. Amount required in financial year  
  - (a) 1933/34 £164
  - (b) 1934/35 £1,836

3c

114

Memorandum for the Colonial Development  
Advisory Committee.

---

In his despatch of the 1st of June, the Governor of Kenya applies for a free grant of £2,000 for an investigation into the possibility of developing the latent resources of the Tana River Basin.

The need for such an investigation has been felt for many years, and in the latter part of 1932 by direction of the Governor, a preliminary reconnaissance of the area was made by representatives of the Kenya Medical and Agricultural Departments.

The results of this reconnaissance revealed that there are hundreds of square miles of fertile land with apparently great agricultural potentialities along both banks of the river. It will be observed that the Governor states that of this great area, partly owing to the vagaries of the river which at times of flood often changes its course, partly to the paucity of the population, and partly to the general low level of civilization among them, the area at present under cultivation cannot be said to be more than 15 square miles.

The Tana River is some 600 miles long, but in its last 400 miles to the sea it falls only 300 feet, - less than 1 foot per mile. It is tidal for, roughly, 20 miles, and navigation is possible at full flood for about 500 miles, at half flood for about 200 miles, and at low level for about 50 miles. In the lower region of the Tana the level is higher than the surrounding country and the river banks are the highest places in the vicinity -

thus a considerable problem is presented with regard to irrigation.

It is considered, nevertheless, that the possible control and use of the Tana River would well repay investigation.

The population of the Tana River district is about 16,000 and higher up the river in the Garissa district, there is a riverine population of some 17,000. The people are very backward, partly owing to neglect and partly owing to their physical condition. Lord Moyne in his report said that there was urgent need in the Tana River area for the improvement of the health of the natives, and he further emphasises the Tana region as an example of the neglect of the backward areas in Kenya.

The scheme submitted by the Governor is designed with a view to effecting, eventually, a general improvement of the people's condition, the settlement of other natives, and the development of the area. The sum of £2,000 requested is to provide funds for the passages, salaries and allowances of an irrigation expert and an administrative officer with experience of administering settlement schemes. In view of the physical features of the area, it is considered by the Government of Kenya that officers with experience of similar schemes in India should be invited to make the investigation.

The Secretary of State strongly supports the Governor's request, but after consultation with his advisers is of the opinion that the scheme should be modified to the extent that the investigation should be made in the first instance by an irrigation expert

and an agricultural expert, as he considers that the question of the general fertility of the soil must be decided before settlement plans are made. This modification has been accepted both by Sir Joseph Byrnes (who is now on leave) and by the Acting Governor in Nairobi.

It has been ascertained that retired officers with suitable experience in India are likely to be available, and that the rates of remuneration proposed are suitable.

The Secretary of State recommends this application to the favourable consideration of the Committee.

COLONIAL OFFICE.

8th September, 1933.

13  
117

Memorandum for the Colonial Development  
Advisory Committee.

*Draft*  
*Gov. Council 3/18/33*  
*See 2/10/33*  
*(The Frontier 6/9)*  
*See 1/19/33*

*In his despatch of the 1<sup>st</sup> of June, the*

The Governor of Kenya applies for a free grant of 22,000 for an investigation into the possibility of developing the latent resources of the Tana river basin.

The need for such an investigation has been felt for many years, and in the latter part of 1932 *64* a preliminary reconnaissance of the area was made by representatives of the Kenya Medical and Agricultural Departments.

*decision*  
*The despatch of the Governor, a*

The results of this reconnaissance revealed that there are hundreds of square miles of ~~exceptionally~~ *apparently* fertile land with great agricultural potentialities along both banks of the river. It will be observed that the Governor states that of this great area, partly owing to the vagaries of the river which at times of flood often changes its course, partly to the paucity of the population, and partly to the general low level of civilisation among them, the area at present under cultivation cannot be said to be more than 15 square miles.

The Tana river is some 600 miles long, but in its last 400 miles to the sea it falls only 300 ft., — ~~what is~~ less than 1 ft. per mile. It is tidal for, roughly, 20 miles, and navigation is possible at full flood for about 500 miles, at half flood for about 200 miles, and at low level for about 50 miles. In the lower region of the Tana the level is higher than the surrounding country and the river banks are the highest places in the vicinity — thus a considerable problem is presented with regard to irrigation.



*possible*

It is considered, nevertheless, that the control and use of the Tana river would well repay ~~the cost of~~ investigation, by an irrigation expert.

The population of the Tana river district is about 16,000, and higher up the river in the Garissa district, there is a riverine population of some 17,000. The people are very backward, partly owing to neglect and partly owing to their physical condition. Lord Moyne in his report said that there was urgent need in the Tana river area for the improvement of the health of the natives, and he further emphasizes the Tana region as an example of the neglect of the backward areas in Kenya.

*eventually, a*

The scheme submitted by the Governor is designed with a view to effecting <sup>the</sup> general improvement of the people's condition, the settlement of other natives, and the development of the area. The sum of £2,000 requested is to provide funds for the passages, salaries and allowances of an irrigation expert and an administrative officer with experience of administering settlement schemes. In view of the physical features of the area, it is considered by the Government of Kenya that officers with experience of similar schemes in India should be invited to make the investigation.

The Secretary of State strongly supports the Governor's request, but after consultation with his advisers is of the opinion that the scheme should be modified to the extent that the investigation should be made in the first instance by an <sup>irrigation</sup> ~~immigration~~ expert

*irrigation*

expert and an agricultural expert, as he considers that the question of the general fertility of the soil must be decided before settlement plans are made. This modification has been accepted <sup>(revised)</sup> by Sir

Joseph Byrne (who is now on leave) and by the Acting Governor in Nanded.

It has been ascertained that <sup>suitable</sup> officers with <sup>likely to be</sup> experience ~~across similar schemes~~ in India are available, and that the rates of remuneration proposed are suitable.

The S. of S. recommends this application to the favourable consideration of the Committee.

C.O.

- Sept. 1935.

Downing Street,

3.31/33 Kenya

18 August, 1933.

Dear Moore,

With reference to the correspondence on the subject of the Tana River investigation, I enclose, for your information, a copy of a letter which I sent to Sir Joseph Byrne after the receipt of your telegram No.134, together with Byrne's reply, and a copy of correspondence with the India Office on the subject of finding suitable personnel for investigating the Tana River. I hope that we have not over-emphasized the rough nature of the job, but it would be rather a disaster if we took on a retired Indian and found him collapse on our hands. We do not yet know whether the Colonial Development Fund will be prepared to make any contribution or not.

Yours sincerely,

(Signed) G. W. FLOOD

H.M.M. MOORE, ESQ., C.F.C.

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11/16  
2

Mr. Flood 11-8 *je*

3231/33 Kenya.

Mr.

Mr.

Mr. Parkinson.

Mr. Tomlinson.

Sir C. Buttley.

Sir J. Shackburgh.

Permt. U.S. of S.

Parly. U.S. of S.

Secretary of State.

*For my sig*  
*J*

18 August, 1933.

Dear Moore,

**DRAFT.**

H. M. MOORE, ESQ., C.M.G.

With reference to the correspondence on the subject of the Tana River investigation, I enclose, for your information, a copy of a letter which I sent to Sir Joseph Byrne after the receipt of your telegram No. 134, together with Byrne's reply, and a copy of correspondence with the India Office on the subject of finding suitable personnel for investigating the Tana River. I hope that we have not over-emphasized the rough nature of the job, but it would be rather a disaster if we took on a retired Indian man and found him

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No. 5.
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- \_\_\_\_\_  
No. 8.
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No. 9.
- \_\_\_\_\_  
*No 10. (without end)*  
(comp. dft.)

*Return pp. to Mr. Freeston.*


2 dfts.

collapse

collapse on our hands. . . We do  
not yet know whether the Colonial  
Development Fund will be prepared  
to make any contribution or not.

Yours sincerely,

(Signed) J. E. W. FLOOD



2021/25

Colonial Office,

Downing Street, S.W.1.

18 August, 1955.

Dear Smith,

In the absence of Jeffries who is now on leave, I write to thank you for your letters of the 8th and 15th of August about the proposal to find an Irrigation Expert and an Agricultural Officer for a short mission to Kenya.

We see no reason to think that retired officers would not be quite suitable for the job that is required, provided that they are physically fit to stand up to the work in Tanganyika. The work will be of a pretty arduous nature and the country, we understand, is malarious so that any man who goes there to conduct a close investigation should be thoroughly fit if he is to stand up to it and do a good job in a short time. We should, of course, arrange for the medical examination of any officer who might be suggested before taking

Yours faithfully

V. H. SMITH, Esq., C. I. E.

definite steps to engage him.

The whole business is at present uncertain and we do not know whether the necessary funds will be forthcoming to enable the project to be undertaken. The matter has to come up before the Colonial Development Advisory Committee at a fairly early date, and then we shall be able to say what can be done.

YOURS SI GEMELY

WILLIAM B. LLOYD.

C. R. 16 AUG 1933

PC No. 11/124

Staff  
Mr. G. Smith 1933  
Mr. G. Smith 16/8

Downing Street,  
18 August, 1933.

3231/33 Kenya

For Mr. Wood's signature

Dear Smith,

In the absence of Jeffries who is now on leave, I write to thank you for your letter of the 8th of August about the proposal to find an Irrigation Expert and an Agricultural Officer for a short mission to Kenya.

Pro 3

We see no reason to think that retired officers would not be quite suitable for the job that is required, provided that they are physically fit to stand up to the work in Tanaland. The work will be of a pretty arduous nature and the country, we understand, is malarious so that any man who goes there to conduct a close investigation should be thoroughly fit if he is to stand up to it and do a good job in a short time. We should, of course, arrange for the medical examination of any officer who might be suggested before taking definite steps to engage him. ~~I shall be very glad indeed if you can let me have the names of some retired officers as you suggest.~~

Copy to Mr. G. Smith

The

F.W.H. SMITH, ESQ., C.I.E.

Extra copy required for Mr. G. Smith

Also copy of No 10 without envelope



The whole business is at present uncertain  
and we do not know whether the necessary funds will  
be forthcoming to enable the project to be undertaken.  
The matter has to come up before the Colonial  
Development Advisory Committee at a fairly early date,  
and then we shall be able to say what can be done.

YOURS SINCERELY

(Signed) T. K. LLOYD.

C. O.

175

Mr. Flood 11.8.

Mr. Jeffries

Mr.

Mr. Parkinson.

Mr. Tomlinson.

Sir C. Bottomley.

Sir J. Shuckburgh.

Perm. U.S. of S.

Parly. U.S. of S.

Secretary of State.

3231/33 Kenya.

C.D.  
R 12AUG  
D 11/1

Lloyd's

pto. for Mr. Jeffries' signature.

August, 1933.

**DRAFT.**

F. W. H. SMITH, Esq., C.I.E.

(India Office)

Dear Smith,

*In the absence of Jeffries who is now on leave, I write to many thanks for your letter*

of the 8th of August about the proposal to find an Irrigation Expert and an Agricultural Officer for a short mission to Kenya. We see no reason to think that retired officers would not be quite suitable for the job that is required, provided that they are physically fit to stand up to the work in Tanaland. The work will be of a pretty arduous nature and the country, we understand, is pretty malarious so that any man who goes there to conduct a close investigation should be thoroughly fit if he is to stand up to it and do a good job in

2 dfts.

a short time. We should, of course, arrange for the medical examination of any officer who might be suggested before taking definite steps to engage him.

I shall be very glad indeed if you can let me have the names of some retired officers as you suggest.

The whole business is at present uncertain and we do not know whether the necessary funds will be forthcoming to enable the project to be undertaken. The matter has to come up before the Colonial Development Advisory Committee at a fairly early date, and then we shall be able to say what can be done.

.....

INDIA OFFICE,  
WHITEHALL,

S. W. 1.

15<sup>a</sup> August 1933.

Dear Jeffries,

My letter of the 8th instant in regard to the proposed Kenya investigation. I am now able to send you a list of the names of certain Irrigation and Agricultural officers recently retired from the service of the Government of India, from which - if desired - a choice can be made for the work contemplated. I also enclose summaries of the history of services of each of the officers named and also a memorandum issued by the Government of India to Mr. D.G. Harris on his vacating the appointment of Consulting Engineer to the Government of India.

Except in the case of Mr. D.G. Harris, whom I felt it necessary to consult in regard to the Irrigation expert, I have not communicated with the officers named and am unable to say whether any particular officer is available or would be prepared to consider a proposal made to him of the nature indicated. Mr. Harris has,

C. J. Jeffries, Esq.,  
Colonial Office,  
S. W. 1.

Ans (11)

*Enclosed*

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*KE*

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copy (1/2 and) to Hamilton (12)

however, intimated his willingness to serve, if selected, and I think he would in every way be a suitable choice. The work, he states, would appear to be closely analogous to that which for seven years devolved on him as Consulting Engineer to the Government of India.

I hope the particulars furnished may be of help to you if the proposal is eventually sanctioned.

Let me know if we can be of any further assistance.

Yours sincerely,

*F. M. Smith*

Irrigation Officers.

<u>Name</u>	<u>Age</u>	<u>Last Appointment.</u>	<u>Address.</u>
Harris, D.G., C.S.I., C.I.E.	50	Consulting Engineer for Irrigation to the Government of India.	Hayes Barton, Shanklin, Isle of Wight.
Foy, E.R., C.I.E.	62	Chief Engineer for Irrigation, Punjab	c/o Lloyds Bank 21 Austin Friars E.C.

Agricultural Officers.

Clarke, G., C.I.E., F.I.C., F.C.S.	55	Director of Agriculture, United Provinces	c/o Barclays Bank 54, Lombard Street E.C.
Finlow, R.S., C.I.E., B.Sc., F.I.C.	56	Director of Agriculture, Bengal	c/o Messrs. Grindlay & Co., 54, Parliament St., S.W.1.
Anstead, R.D., C.I.E., M.A.	57	Director of Agriculture, Madras	22, Brackendall Road Bournemouth.
Parr, A.E., B.Sc., Ph.D.	49	Offg. Director of Agriculture, United Provinces	c/o Westminster Bank.

HARRIS, Douglas Gordon, C.S.I., C.I.E., M.I.E,  
 (Ind.) Dept of Industries and Labour, Govt. of  
 India (b. 19th Oct., 1883) - Joined the service,  
 1st Oct., 1907, as asst. engr., United Provs.;  
 exec. engr., Oct., 1915; under sec. to govt  
 of India, public works dept., Oct. 1915; asst.  
 inspr-gen. of irrign. in India, Oct., 1920;  
 sec., new capital construction cttee., Delhi  
 1st Oct., 1922; dep. sec., public wks. branch,  
 dept. of industries, etc., Nov. 1922; C.I.E.,  
 June 1925; offg. consulting engr. to govt. of  
 India, Aug., 1926; confd., Jan. 1927; C.S.I.,  
 June, 1932.

131  
CLARKE, George, C.I.E., F.I.C., F.C.S.,  
Indian Agric. Service (dir. of agric., United  
Provs.) (b. 23rd Oct., 1878). - Apptd. agri-  
cult. chemist to govt., United Provs., Feb., 1907;  
offg. dir. of agric., United Provs., Oct., 1923;  
confd., Oct. 1926; C.I.E., July, 1926.



FINLOW, Robert Steel C.I.E., B. Sc., F.I.C.,  
 late Indian Agricul. Service (b. 17th Aug. 1877).  
 - Joined the service, 1st April, 1905 (prevy.  
 nominally employed in service of Bihar Indigo  
 Planters' Assoc., but mainly in research work  
 for govt. of Bengal); Jute expert, April, 1905;  
 fibre expert, E. Bengal and Assam, July, 1906;  
 employed as 2nd dep. dir. of agric., July, 1910,  
 to July, 1911; fibre expert, Bengal April, 1912;  
 offg. dir. of agric., Bengal and dir. of fisheries,  
 Oct., 1922; dir. of agric., Bengal, Feb., 1925;  
 C.I.E., March, 1929; retd. Aug., 1932.

ANSTEAD, Rudolph David, C.I.E., M.A., late of  
 Dept. of Agric., Madras (b. 2nd June, 1876)  
 - Apptd. to dept., 16th April, 1909; dep. dir.  
 of agric., planting districts, Coimbatore, Oct.,  
 1914; offg. dir. of agric., Madras, Aug. 1922;  
 confd., Dec. 1923; C.I.E., Jan. 1927; ret'd.,  
 June 1931.

134

PARR, Alfred Ernest, B.Sc., Ph.D., late Indian  
Agricultural Service (United Provs.) (b. 12th  
Nov., 1884). - Joined the service, 23rd Oct.,  
1907, as dep. dir. of agriculture; on mil. service  
Sept. 1915, to Oct., 1919; offg. dir. of agric.,  
April, 1926; retd., Aug., 1931.

Copy of a memorandum dated 31st January 1933 from Mr. J.A. Shillidy, C.S.I., I.C.S., Secretary to the Government of India, Department of Industries and Labour.

Mr. D.G. Harris, C.S.I., C.I.E., was employed under the Government of India from 1st April 1916 to 31st December 1931 during which time he served in a number of posts; Under Secretary in the Public Works Department, Secretary to the Public Works Department, Reorganisation Committee, Assistant Inspector General of Irrigation in India, Secretary to the New Capital Construction Committee, Deputy Secretary to the Government of India, Department of Industries and Labour (Public Works Branch), Consulting Engineer to the Government of India and for a time officiating Joint Secretary in the Department of Industries and Labour.

2. In all these posts Mr. Harris served with great distinction, but his work as Consulting Engineer to Government deserves special mention. In this capacity he had to advise the Government of India in regard to the many large irrigation projects in course of construction and about to be constructed in India, and was recognized as one of the foremost irrigation experts in the country. His services were in constant request. He has great technical knowledge of irrigation problems and his advice has always been well balanced and sound. The value of his services has been

enhanced by the clarity of expression which was always a marked feature of Mr. Harris' reports. Mr. Harris has, in addition to his work as an engineer, had considerable experience of administrative problems as officiating Joint Secretary to the Government of India in this department and as a Member of the Sind Financial Enquiry and the Bombay Re-organisation Committees.

3. The Government of India have always recognised Mr. Harris' services as of outstanding merit, and he was awarded the C.I.E. on the 3rd June 1925 and the C.S.I. on the 3rd June 1932.

INDIA OFFICE,

WHITEHALL, S.W.1.

8<sup>th</sup> August, 1933.

30

Dear Jeffries,

Your letter of the 4th August. I think it probable that an Irrigation expert and an Agricultural Officer could be found on the terms stated but I am doubtful whether in these days of retrenchment and reduced personnel, the Government of India would be prepared to lend any of their serving officers for the duty. The more likely field and one which I think would be equally satisfactory would be among officers who have recently retired or are about to retire from the Indian service. If this would meet your views, I have no doubt I could get out from our lists the names of suitable officers who could be approached if desired. If, however, it is considered essential to have serving officers, the best course would be for us to consult the Government of India. Perhaps you will let me know what

you/

No 8

Ans (11)

Long & Hammers (12)

C.J. Jeffries, Esq., OBE  
Colonial Office.

you decide.

In the meantime I shall arrange to get out a list of officers recently retired or on leave preparatory to retirement (of an age between 55 and 60) who on their records may be regarded as suitable; but, of course, without making definite enquiries, it is impossible to say whether these or any of them would be available or would be prepared to take the duty.

Yours sincerely,

*F. M. Smith*

Downing Street.

139

4 August, 1933.

3851/33.

Dear Mr Smith,

3e

We have recently received from the Government of Kenya, for consideration by the Colonial Development Advisory Committee, a request for a grant of £2,000 for an investigation into the possibility of developing the latent resources of the Tana River Basin. It appears that the Tana River flows through potentially fertile soil, but that the people of Tanaland are very few in number and very backward, partly owing to neglect and partly owing to their physical condition. It is hoped that with the development of the area the people's condition will be improved both materially and morally, and that it may be possible to settle other natives in the region.

The grant is intended to cover the cost of the passages, salaries, and allowances, of an Irrigation Expert and an Agricultural Officer, and it has been suggested that these experts might be obtained from India to carry out the investigation.

F. V. H. SMITH, ESQ., C. I. E.,

We



We understand that the physical features of the Tana River area are more analogous to those of Sindh and Bombay than to anything in Northern India. If the grant is made, the Commission should arrive in Kenya about the end of February 1934.

The application will be considered by the Colonial Development Fund Committee in September, but our object in writing to you now is to ask whether you think it would be possible to obtain the desired experts at the rate of remuneration suggested, which, in the case of the Irrigation Officer is £200 a month for a period of four months plus subsistence allowance of £1 a day for 3 months spent in Kenya and first class return passage from India. For the Agricultural Officer, £150 a month for the 4 months is suggested, with subsistence allowance and passage as in the case of the Irrigation Officer. Second class return passages from India would be provided for two native servants.

I should be grateful for your views. You will, of course, understand that we shall not be in a position to make a definite offer until after September; but it would be helpful, in the meantime, if you could let me know

141  
know whether suitable men are likely to be forthcoming  
at the rates suggested.

YOURS SINCERELY

(Signed) G. J. JEFFRIES.



area the people's condition will be improved both materially and morally, and that it may be possible to settle other natives in the region.

The grant is intended to cover the cost of the passages, salaries, and allowances, of an

Irrigation Expert and an Agricultural Officer, ~~whom~~ *and it has been suggested that these experts might be obtained from India to carry out the investigation.* *We understand that the physical features of the Tana River area are more analogous to those of the Tana River, it is desirable that the experts of Sindh and Bombay than to anything in Northern India.* *to be selected should have had experience of the Sindh Irrigation Schemes.*

If the grant is made, the *Commission* investigation should commence in Kenya *about the end of* February 1934, ~~and take four~~ *months.*

The *application* ~~matter~~ will be considered by the Colonial Development Fund Committee in September, but our object in writing to you now is to *ask whether you think it would be possible to obtain* ~~enquire as to the possibility of obtaining~~ the desired experts at the rate of remuneration suggested, which, in the case of the Irrigation Officer is £200 a month *a period of* for the four months ~~period of investigation.~~

plus

C. O.

Mr.

Mr.

Mr.

Mr. Parkinson.

Mr. Tomlinson.

Sir C. Bottomley.

Sir J. Shuckburgh.

Permt. U.S. of S.

Parly. U.S. of S.

Secretary of State.

DRAFT.

*Admiral Keegan*  
plus subsistence allowance of £1 *per day for 3 months of leave* a day *and first class return*

passage from India. ~~In the case~~ *for* of the Agricultural Officer, £150

a month for the 4 months is suggested, with subsistence allowance and passage as in the case of the Irrigation Officer. Second Class return passages from India would be provided for two native servants.

~~I should be grateful if you would let us know the names of any suitable officers retired or leaving, who would be available.~~

I should be grateful for your views. You will, of course, understand that we are ~~not~~ *should not be in a position to make a definite offer until after September; but it would be helpful in the*

*substantially correct*  
*not to be taken*  
*as a final*

members, of  
know whether suitable men are  
likely to be forthcoming at the  
rates suggested.

YOURS SI JOERELY

(Signed) C. J. JEFFRIES.

25<sup>th</sup> July 1935

RECEIVED  
27 JUL 1935  
C. O. HEGY

Telephone 1st Division 2300

St. James Court  
Buckingham Gate  
S.W.

Dear Fred

I have just received your letter of the

20<sup>th</sup> July on my return to London.

The idea of a Settlement Office was  
put forward by Basil Blackett who  
we consulted him on this scheme in

March.

I must own that I am now in

entire agreement with Stockdale

Campbell for the reasons they give

in their minutes. Although our own

agreed office might be able to

advise on local conditions I should prefer  
the Sunday

Barry & Hammond (2)

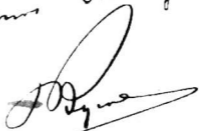
30

of a special office with the  
experience referred to in the SPS

telegram of the 8<sup>th</sup> July.

I shall be seeing you on Friday  
then we can, if necessary, discuss  
this important proposal

Yours sincerely



A handwritten signature in cursive script, appearing to read 'J. D. [unclear]', written over a long horizontal line.

6  
145



KENYA.

No. 402.

GOVERNMENT HOUSE,  
NAIROBI,  
KENYA.

4 JUL 1933

G. O. REG.

30th June, 1933.

Sir,

No 2  
SEPARATE COVER.

with reference to your telegram of the 26th June, 1933, I have the honour to enclose ten additional copies of Sir Joseph Byrne's despatch no. 337 of the 1st June, 1933, and essential enclosures:

Not

I have the honour to be,

Sir,

Your most obedient,

humble servant,

*Mr. M. M. M. M.*

ACTING GOVERNOR.

THE RIGHT HONOURABLE  
MAJOR SIR PHILIP CUNLIFFE-LISTER, F.C., S.B.E., K.C., &c.  
SECRETARY OF STATE FOR THE COLONIES,  
DOWNING STREET,  
LONDON, S.W.1.



146 5  
Colonial Office,

Downing Street, S.W.1.

20 July, 1933.

30

Dear Sir Joseph,

You will probably remember your despatch of the 1st of June forwarding an application for assistance from the Colonial Development Fund for an enquiry into the possibilities of the Tana River area. The assistance desired was a sum to cover the salaries and expenses of two experts: (a) an Irrigation Officer, (b) an officer with experience in administering Settlement schemes.

The proposals have been thoroughly examined by Sir John Campbell and Stockdale and the telegrams, of which I enclose copies, are the result.

You will also find enclosed extracts from the minutes by Stockdale and Campbell on which the Secretary of State's telegram of the 8th of July was based.

Will you let me know, after reading

these

**BRIGADIER GENERAL**

**SIR JOSEPH BYRNE, K.C.M.G., K.B.E., C.B.**

To Gen. tel.  
8 July.  
From O.A.G. tel.  
14 July.

these papers, whether you concur in the modification proposed? Sir Basil Blackett will, of course, have every opportunity of expressing his views when the application comes before the Colonial Development Advisory Committee.

As regards Moore's third paragraph, my own feeling is that it might prove to be a waste of money to send out the "settlement expert" with the other two.

Yours sincerely,

(Signed) J. E. W. FLOOD

C. O.

3231/52

148  
5

Mr. ~~W. Hunter~~ 7/1  
Mr. ~~Wood~~ 17/5  
Mr. ~~Parkinson~~  
Mr. ~~Tonkinson~~  
Sir C. ~~Bottomley~~  
Sir J. ~~Shuckburgh~~  
Permt. U.S. of S.  
Parly. U.S. of S.  
Secretary of State.

V. King

C.D.  
R 18 JUL  
D 20

Answered by NOY

20 JUL 1935

Dear Sir Joseph  
~~My dear Byrnes~~

You will probably

remember your despatch of the 15<sup>th</sup> of June forwarding an application for assistance from the Col. Development Fund for an enquiry into the possibilities of the Tana River area. The assistance desired (a sum to cover) was the salaries & expenses of two experts: (a) an irrigation officer, (b) an officer with experience in administering settlement schemes.

2/2

DRAFT.

Byrnes. S. Joseph Byrnes  
K.C.M.G. K.A.E. C.S.

(12)  
Byrnes & Hutchinson

Tal. E. for 8 July  
Tal. from 1935-14 July  
Exhibits marked A & B  
from minute under (2)

The proposed here

been thoroughly examined by <sup>and</sup> Stockdale  
Sir John Campbell, and the telegram,  
of which I enclose copies, are the  
result.

You will also find enclosed extracts  
from the minutes by Stockdale  
Campbell on which the S. of S.'s  
telegram of the 8<sup>th</sup> of July was based.

Will you let me know, after  
reading these papers, whether you concur  
in the modification proposed? Sir Basil  
Blackett will, of course, be consulted here  
every opportunity of expressing his views  
when the application comes before the  
C.D.A.C.

As regards Thom's third paragraph,  
my own feeling is that it might prove  
to be a waste of money to send out  
the "settlement expert" with the other two.

Yours sincerely

(Signed) J. E. W. FLOOD

RECEIVED

15 JUL 1933

C. O. REGY

FOR REGISTRATION

149

Telegram from the Acting Deputy Governor Kenya to the Secretary of State for the Colonies.

Dated 14th July. Received at 4-22pm 14th July 1933.

No 154.

<sup>No 3</sup> Your telegram No 146. The suggestion that an administrative settlement of experts should accompany irrigation experts was made by Sir Basil Blackett and was endorsed by Sir Joseph Byrne. I presume that they will both be consulted before any decision change is made. If they now advise the substitution of an Agricultural expert I agree.

(5) II I should be glad to know what additional knowledge of agricultural possibilities is required as it is probable that local staff can deal with this and with problems of alkalinity. Alkalinity tests will shortly be made of upper river soil and drainage will be examined.

III If considered opinion is that an agricultural expert with irrigation experience is necessary I suggest subject to what Sir Joseph Byrne and Sir Basil Blackett may have to say questionnaire should be amended by asking Colonial Development Advisory Committee to bear the expense of all these experts.

3<sup>150</sup>  
—

3231

TELEGRAM from the Secretary of State for the Colonies to  
the Officer Administering the Government of Kenya.

(Sent 11.55 a.m., 8th July, 1933.)

-----

No. 146.

Proposals in your despatch 1st June 337 have now been examined by my technical advisers. They recommend that for administrative settlement expert should be substituted agricultural officer with experience of large irrigated areas e.g. in India (SIND) or possibly Egypt or Australia. Much importance is attached to question of alkalinity of soil. Advice on settlement problems is considered premature pending fuller knowledge of agricultural possibilities. If you agree, I will arrange for application to be modified accordingly before submission to Colonial Development Advisory Committee.

C. O.

3231

151 3

Mr. Fulton P/7  
Mr. Flood 7.7

Kemp

Code 11.55  
8th July  
1971

Mr.

X Mr. P. Johnson

Mr. Tomlinson

Sir C. Bottomley

Mr. J. Shuckburgh

Perms. U.S. of S.

Partly. U.S. of S.

Secretary of State

GD  
P B 002  
D 11

Assessed by 154

DRAFT. Tel. (contn)

Gov. Nauru

No. 146. Proposals in

your despatch of June 337 have now been examined by my technical advisers. They recommend that for administrative settlement expert should be substituted agricultural officer with experience of large irrigated areas e.g. in India (SIND) or possibly Egypt Sudan or Australia. Much importance is attached to question of alkalinity of soil. Advice on settlement problems is considered premature pending fuller knowledge of agricultural possibilities. If you agree, I

Copy to Sir G. Brown

to be modified accordingly  
Submission to Col. Dev. Adv. C'ty.

SECRET



3231/33.

TELEGRAM from the Secretary of State for the Colonies to the Officer Administering the Government of Kenya.

(Sent 12.45 p.m., 26th June, 1933.)

No.140.

Please forward ten additional copies of your despatch 1st June 337 and essential enclosures. See my circular despatch 6th November 1929.

C. O.

3231 Kenya.

2 153

Mr. Dutton 21/10/33

Mr.  
M.

Mr. Tomlinson.

Sir C. Bottomley.

Sir J. Shuckburgh.

Sir G. Grindie.

Permt. U.S. of S.

Parly. U.S. of S.

Secretary of State.

Approved N06  
28  
27

sent 12.45 pm  
E.L.S.  
26/6/33

14.

N=140 Please forward ten additional

copies of your despatch of June 3/33

and essential enclosures See

my circular despatch 6<sup>th</sup> Nov 1929

SE CER.

DRAFT. Tel.

for Nairobi

Reine.

Copy to  
Secy of State  
Sent 27/6



154

KENYA.

No. 337

GOVERNMENT HOUSE,  
NAIROBI,  
KENYA.

1st. JUN, 1933.

RECEIVED  
23 JUN 1933  
C. C. REGY

Sir,

I have the honour to forward for favour of transmission to the Colonial Development Fund Committee, a request for the grant of the sum of £2,000 for an investigation into the possibility of developing the latent resources of the Tana River basin. Whether the money, if granted, will be required during the financial year ending 31st March 1934 or that ending 31st March 1935 will depend on the time of the arrival of the experts for whose services this application is made. Conditions on the river should be most suitable for the beginning of the investigation in either September or February. Anticipating that it will not be possible for the experts to arrive so early as next September I have in my replies to the formal questionnaire suggested February 1934 as the most convenient time, but I should welcome their arrival in September should that prove possible. I enclose the requisite replies to the formal questionnaire of the Committee, together with copies of a memorandum regarding the Tana River and the surrounding area. This request is the outcome of a discussion held during January of this year with Sir Basil Blackett who expressed the opinion that the Colonial Development Fund Committee ...

*Amad (2)  
" (3)*

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.

Committee might consider favourably an application for funds to cover the services of an Irrigation Engineer from India and of an Indian Civil Servant who had had practical experience of administering irrigation schemes.

2. The problem of developing the Tana River area is one that has occupied the attention of Government for many years. So long ago as 1909 Sir A.C.Hollis propounded the necessity for development of that area as a possible solution of the problem of Somali incursions upon the riverine Pokomo and other reports following upon investigations have been made in 1915, 1923 and 1925. The principal difficulties facing Government are those arising from (a) the poverty of the Pokomo and other tribes occupying areas along the banks of this river; (b) the scarcity of the population in which connection see my paragraph 4(b) below; (c) the unhealthiness of the area under existing conditions and (d) the difficulty of inaugurating irrigation schemes where the river falls only one foot in every mile for the last 400 miles of its course. There can be no doubt from the result of investigations made by Administrative, Medical and Agricultural Officers, that the area is eminently suitable for economic development on a large scale. Such development, is beyond the powers of this Government at present and what appears to be necessary in the first instance is a detailed survey, hydrographic and economic, by an Officer already fully experienced in the inception and development of irrigation schemes elsewhere. Such an Officer, in conjunction with one who has had experience in administering recently irrigated areas would be able to advise this Government not only ...

only as to the immediate necessities for control of the river on a large or small scale, but would also be able to formulate schemes for improvement of the conditions under which the existing population lives and possibly make recommendations as to the importation of further peoples to populate the area so that the greatest economic benefit can be derived therefrom.

3. In August 1932, during the course of a tour through the Coastal areas, I visited Golbanti where I held a conference regarding the possibility of developing the Tana River, at which I gave directions that representatives of the Medical and Agricultural Departments should visit the area with the District Commissioner, Kipini, as early as possible; as a result of these instructions I have received reports (copies of which are enclosed) of the greatest practical value which confirm my previous conviction that a scheme of development of the Tana River area should not be delayed.

4. The principal findings of those Officers' reports may be summarised as follows:-

(a) In the river delta and for a varying depth along both banks of the river there are hundreds of square miles of exceptionally fertile land with great agricultural potentialities, the soil being described as a 'rich alluvial silt which is as fertile as it is possible to imagine a soil could be'. In this connection I feel it desirable to refer to the correspondence ending with Lord

No 33.

15656/19

Passfield's despatch No. 919 of the 19th november, 1929, on the subject of an examination of the possibilities of development in the Tana Delta by the handelsvereniging, Amsterdam, who came to the decision that, in view of labour difficulties and the high percentage of chloride in the soil, they would not be justified in pursuing the matter further. The question of labour difficulties does not arise in connection with this application and with regard to the question of the high percentage of chloride in the soil I enclose a copy of a letter from my Senior Agricultural Chemist dealing with the analysis of soil samples from the Tana River Delta enclosed with Lord Passfield's despatch referred to above. From this it will be seen that the analysis of the handelsvereniging are of samples of soils within four to five miles of the coast, in which the salts are the residue of sea salts and not the accumulation of salts produced during the formation of the soil, and that under proper irrigation much of the deleterious soluble salt would be leached out of the soil. I am having samples of soil from further up the river examined. Of this great area, partly owing to the vagaries of the river which at times of flood often changes its course, partly to the paucity of the population and partly to the general low level of civilisation among them, the area at present under cultivation cannot be said to be more than 15 sq. miles.

(b) The population of the Tana River District proper is about 16,000 Pokomo and Galla, the Pokomo being ...

*Passfield*

being an agricultural people dwelling on the banks of the river where they have probably been driven in past ages by Galla and Somali incursions, and the Galla being a pastoral people inhabiting the dryer bush country away from the river. Higher up the river in the Garissa District there is a Somali or Galla riverine population of some 17,000. Time did not permit of a detailed medical survey of the population but the conclusions drawn were that although the men on the whole appeared to be of good physique and fairly well developed the majority could not be described as well nourished. The women and children appeared as a rule to be of poor physique and poorly nourished. Of the children examined, 50% showed marked enlargement of the spleen from malaria and malaria parasites were found in 38% of some 140 adults and children examined. The general impression gained was that the population was of fair intelligence, of great potentiality as regards physique, but undeveloped and lackadaisical at the present time as a result of poor nourishment, a high incidence of malaria and probably a high incidence of infection with intestinal worms, and, very particularly, lack of contact with the outside world. It was apparent that the chief needs of the population are an improved dietary and greater interest in life.

(c) It is clear therefore that the most important measure of development required at the moment is with regard to the food supply and there seems to be no doubt that the food supply cannot be improved without the inception of some method of

control of the river which, at some times floods the fields to the destruction of the crops and at others, during the dry season, is so low as to make the question of raising water from it for irrigation a problem of the greatest difficulty. At the same time, the possibility of improving the dietary of the people by instruction in animal and crop husbandry should water control be found impracticable, has not been lost sight of.

(d) Regular medical inspection and attention appear to be essential. I am informed that in no other rural area of the Colony would the medical treatment of the people be so easy as on the Tana river. The Tana is navigable by launch at certain seasons of the year for no less than 400 miles and all the agricultural natives live along its banks. It would not be impossible, therefore, for a Medical Officer travelling by launch to see every individual member of the population twice a year. It is important also to remember that apart from the physical results of such treatment as could be gained, there would certainly be a considerable and important psychological reaction and something would be accomplished towards breaking down the vicious circle of disease and lethargy which at present exists.

(e) The provision of educational facilities would have results in this area no less important than those elsewhere. At the present time, systematic education is in the hands of the Lutheran Neukirchen Mission at Ngao who, besides a central school ...

*a launch  
by coast  
Hauptmann*



school at that station have numerous outschools in villages on the river and who impress every visitor with their intelligence and energy. I am convinced that co-operation in educational activity with the existing missions would, in time, have far reaching results.

5. It is apparent that while much may be done to increase the economic prosperity of the existing population, that population is insufficient for the needs of the area as a whole. It would be impracticable to investigate the possibilities of a scheme of development on a large scale without, at the same time, obtaining advice regarding measures for increasing the riverine population by importing natives of other tribes to whose physique and customs the country would be suitable. with regard to the Garissa area, it is worthy of note that the Somalis are giving evident signs of their desire for permanent settlement and I consider that the encouragement and promotion of those aspirations by development of the Tana River is eminently desirable.

6. Some development of the area has been attempted in the past, including notably, the fostering of rice and cotton cultivation and there is no intention to await the inception of an all-embracing scheme before increasing such development services. It is hoped to appoint an Agricultural Officer together with native agricultural instructors to the Coast with the particular object in view of stimulating natives into learning better methods of cultivation and some simple system of irrigation. The possibilities of cotton will also be explored and I have every reason to believe that the results will be important. In this connection I invite

your attention to Appendix "A" to the memorandum enclosed for transmission to the Colonial Development Fund Committee.

7. It is important to emphasise that the present application merely covers the expense of a proposed investigation into the possibility of developing the Iana River area. The outcome of such investigation cannot be foreseen clearly at the present moment, but there can be no doubt of the immediate desirability of formulating a scheme for its development. In this connection I would remind you of the remarks of Lord Moyne in paragraphs 73 and 77 of his report on Certain Questions in Kenya of May 1932. It may well be that the fullest degree of development can not be obtained without the expenditure of a sum of money far beyond the present resources of this Colony, in which case the possibility of obtaining funds from other sources would naturally depend upon the nature of the scheme that it may be possible to formulate. On the other hand it may be found that a beginning at least can be made in a more modest way at a rate of expenditure within this Government's means. The immediate necessity is to define the problem; unless and until that is done, no definite policy can be drawn up for the development of an area, the potentialities of which have been generally, if loosely, acknowledged by all those who have had any personal knowledge of the district.

8. In the event of the application being approved such data as are available will be collected before the arrival of the experts in order that their visit may not

be unnecessarily prolonged.

9. I enclose two copies of two maps of the Tana River which may prove useful to the Committee in considering the application.

I have the honour to be,

Sir,

Your most obedient, humble servant,



BRIGADIER-GENERAL.  
GOVERNOR.

COLONIAL DEVELOPMENT FUND.

QUESTIONNAIRE.

(1) It is proposed to invite, from India, an Irrigation Expert and an Administrative Officer with experience in administering settlement schemes, to make a combined survey of the Tana River with a view to reporting on the practicability of works for the control of the Tana River and for the irrigation of the adjoining lands. These experts should while on duty in this country be accompanied by a senior administrative officer with experience of the tribes and peoples, both those resident and those who it is suggested might be settled there.

(2) £2,000.

(3) About middle February 1934.

The river should be low during January, February and March and probably to the middle of April. It is therefore desirable that the Commission should arrive in this country about the end of February 1934, in order that, after preliminary conversations, Kipini may be reached about the middle of March - that is to say when the river should be about at its lowest. The Commission should then proceed up stream and be at the highest point which it is proposed to visit by the middle of April, by which time the river should start to receive flood water from the long rains in Kenya. By the time the Commission has returned to Kipini, the river should be in full flood.

~~(4) About the middle of June 1934.~~

Allowing for loss of time in travelling and for further conversations at the end of the tour, the Commission should be able to leave the Colony by the end of May, having been in the Colony for three months, to which, for the purposes of estimating the cost of the

survey, must be added a month for the necessary travelling from and to India.

- (5). (a) £1,836; (b) £164 (Passages).
- (6). Lack of funds.
- (7). Direct grant.
- (8). See supporting memorandum. The possibilities are inestimable.

(9). Estimates:

Salaries: Irrigation Expert, 4. months @ £2,400.p.a.	...	£800.	
Administrative Officer, 4. months @ £2,100.p.a.	...	<u>£700.</u>	£1,500.

Subsistence Allowance while in Kenya.

90 days @ £1. per day each	...	£	180.
----------------------------	-----	---	------

Steamship fares:

Two 1st. Class returns	...	£102.	
Two 2nd. Class returns (Indian servants).	...	<u>£ 62.</u>	£ 164.
Contingencies	...	£	156.
Total ... ..			<u>£2,000.</u>

- (10). (i) (a) and (b) do not apply.  
(ii) (a) does not apply.  
(b) Yes.
- (11). Does not apply.
- (12). (a) £164 (cost of passages) during financial year ending 31st March 1934.  
(b) £1,836 during financial year ending 31st March 1935.

MEMORANDUM.

TANA RIVER AND ITS DEVELOPMENT.

The Tana or Red ("Tana" Galla = Red) River has its sources amongst the snows and glaciers of the Eastern face of Mount Kenya and the Eastern slopes of the Aberdares and flows within latitude 0° to 3° South and longitude 37° and 40°, at first in a North-north-easterly direction and thence to the South-east eventually, after a journey of some 600 miles, reaching the sea at Kipini some 35 miles South of Lamu. Its last tributary of any size is the Mackenzie or Kinna River which enters the Tana some 500 miles from the sea; thus the Tana River receives no tributary for the last 500 miles of its course through the arid alluvial plain of Tanaland. This means that for 500 miles the water content diminishes rather than increases during its flow to the sea. Again for the first part of the last 500 miles of its course the River is about 900 feet above sea level; after some 50 miles the river falls to 600 feet; again after another 50 miles to 300 feet, so for the final 400 miles to the sea the River has a fall of only 300 feet, that is less than a foot per mile.

II. GEOLOGICAL.

After rising amongst the nepheline-Syenite lavas of Mount Kenya the river then passes through Archean Gneisses and Schists and then for some 500 miles wanders through an alluvial plain.

The river water is never clear because it is always charged with particles of the rich red volcanic soil from the slopes of Kenya, as well as particles of mica derived from the highly micaceous Archean

rocks ...

*20. The water at  
the outlet for  
cultivation  
H*

rocks. Although a considerable amount of this matter in suspension is deposited along twists and turns of the River forming the typical "Massa", or spits, on which the Pokomo chiefly cultivate, a very large amount is carried some two or three miles out to sea, thereby wasting what is known to be very valuable soil.

III. PHYSICAL FEATURES.

The fall of the river for the last 400 miles to the sea is roughly only one foot per mile. The bottom is sandy and no stones or rocks are encountered between the sea and the rapids many miles up-river beyond Sankurá (Northern Frontier Province). A navigable channel of not less than 12 inches can be found at low level throughout its length, but this channel is constantly changing and trees and tree roots are washed into the river from its banks during the floods causing formidable obstructions.

The River is tidal for roughly 20 miles (as far as Anasa). Navigation is possible under the following conditions:-

- (a) In full-flood for about 500 miles - approximately as far as Sankuri.
- (b) In half-flood for about 300 miles - approximately as far as Masabubu.
- (c) At low-level for about 50 miles - approximately as far as Garsen.

The river generally floods twice per year and between the floods it is only navigable for 50 miles at low level and other distances proportionately as to the amount of water when flooding and receding.

The estimated day's speed of current at low water is 2 1/2 miles per hour and at flood 5 miles per hour.

11  
B

seems navigable  
B

hour.

The river winds to such an extent that the distance by land to Masabubu is estimated at 100 miles in contrast to the 200 miles estimated by river. During floods it breaks through in various places consequently changing its course.

The mouth of the Tana River proper may be said to be non-existent for it has been so silted up for many years that it is only navigable by canoes. The Ozi River, at the mouth of which Kipini is situated, is the navigable lower river and is the connection between the Tana River proper and the sea. The mouth of the Ozi River is 18 miles East-north-east of the mouth of the Tana River, and it joins the latter at about twelve miles along its (the Ozi's) own course from Kipini and the sea. The approaches to the Ozi River mouth from the sea are shallow and the passage is narrow. The bar at the mouth of the river is narrower than shown on charts and in all probability this bar changes annually. The entrance is dangerous during the South-west monsoon especially at Spring tides.

The lower reaches of the Ozi River for the first six miles or so, are from 400 to 500 feet wide, with thickly wooded banks. The width then soon decreases to about 200 feet. The Belazoni canal joining the Ozi and Tana Rivers is rather narrower. At Golbanti the river is 180 feet wide from bank to bank.

#### IV. POPULATION.

The population consists of 12,000 Wapokomo in the Tana River District and 4,000 Wapokomo in the Talamugga District. There are also a few Galla and others ...



others, some of whom keep cattle. The best land is downstream.

V. AGRICULTURE.

Of the rich lands through which the River flows the best known and most accessible are those towards the mouth of the River and may be roughly classified as follows:-

(a) The land lying between Ngao and the Coast.

Here the River Valley widens through a plain comprising of at least half a million acres suitable for big plantations, with a gentle slope away from the River. In this area there is practically no population:

(b) The land above Ngao. The alluvial plain

narrows down to about two miles on each side of the River. The population numbering about 10,000 live in widely scattered villages situated on the South bank between Ngao and Masabubu, and along this 200 miles of River there are at least half a million acres of magnificent alluvial soil. There would appear to be ample room in this area for settlement schemes for natives.

SOIL.

Mr. Oates, an Agricultural Officer who was sent to examine the Tana River area last September, has stated:-

"The soil is a rich alluvial silt, which is as fertile as it is possible to imagine a soil could be. Where the river banks are high, some distance up the river, and the soil not alluvial, it is very poor indeed. These places are however very rare".

CROPS.

Banana, Rice, Pajo, maize and Sim-Sim are at present

present cultivated on a small scale, and of these Rice, Maize and Pojo are the most important. It is considered that the delta would be an admirable place for the cultivation of plantation crops, such as sugar, rice and cotton. The land is such that with proper control of the river and drainage, mechanical implements could be used and a great deal of labour saved.

At Appendix "A" is a report from the Imperial Institute on some cotton grown at Dura as an experiment.

VI. THE PROBLEM OF IRRIGATION.

In paragraphs I, II and III of this memorandum some details have been given of the geographical, the geological and Physical features of the River in order to demonstrate the fact that the problem of the control and use of the river would well repay the cost of investigation by an irrigation expert from India. Since, also, the study of the administrative problem concerned with the introduction of fresh population to the present large and uninhabited areas is necessary it is suggested that an Indian Civil Servant with experience in the Administration of such schemes in India should either accompany the Engineer, or subsequently visit the area, if the preliminary engineering survey proves favourable. The cost is estimated at £3,000 if the Kenya Government supplies the funds and equipment for local travelling in the area.

APPENDIX "A".IMPERIAL INSTITUTE.Cotton.Result of Examination of  
Cotton from KENYA.

Imperial Institute No. C. 579.

Date 15th January, 1932.

Reference ... Letter No. Cott/15/96 of the 26th November 1931  
from the Director of Agriculture.

Number or mark, and  
weight of sample. Uana river cotton grown entirely without rain in  
moist sandy soil at Garissa in the tele mugger District.  
Weight 4 oz.

Variety of cotton. Not stated.

Description. Clean, soft, lustrous, pale cream-coloured cotton,  
slightly stained in places. A few seeds were present.

Strength. Good.

Length of fibres mostly from 1.3 to 1.7 inches, with an average  
of 1.45 inches.

Commercial valuation. The cotton was classed by brokers in Liverpool as  
of Good Middling to Strict Good middling grade and was  
valued at 6.50d. per lb., with "middling" American  
cotton at 5.00d.

Remarks. This cotton is of very satisfactory quality, the  
fibre being of excellent average length and of good  
strength.

NAIROBI.

NOTES

ON A

SAFARI TO THE TANA RIVER, LAMU, AND THE  
COASTAL DISTRICTS.

September 1932.

---

A.R. PATERSON.

DEPUTY DIRECTOR OF SANITARY SERVICE.

SAFARI TO THE TANA RIVER, LAMU, AND THE  
COASTAL DISTRICTS.

September, 1952.

1. Itinerary.
  2. Object of the safari.
  3. The Tana River District.
  4. The Inhabitants of the District.
  5. The Physical Condition of the People and the Incidence of Disease.
  6. The Production of a Healthy Population.
  7. Development Measures Required:-
    - (a) With regard to the food supply,
    - (b) With regard to the Medical Treatment of the people and the Prevention of Disease.
  8. Systematic Education.
  9. Health and Environment in relation to Major Schemes of Development.
  10. Suggestions as to Action which might be taken with regard to the early improvement of the Conditions of Life on the Tana River.
  11. Notes on Observations made in Lamu and in the Lamu, Kilifi, Malindi, and Digo Districts.
  12. The General Sanitary Problem on the Coast.
- APPENDIX A. Report on Blood Slides from the Wapokomo.
- " B. Report on Mosquitoes from the Tana River.
- " C. Transport.
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ON A

SAFARI TO THE TANA RIVER, LAMU, AND THE  
COASTAL DISTRICTS.

September 1932.

I. ITINERARY.

- Thursday, 8th. Sept. Left Nairobi 4 p.m.
- Friday, 9th. Sept. Arrived Mombasa 8 a.m. Left for Malindi 12 noon, visited new native Hospital at Kilifi en route and arrived Malindi 6 p.m.
- Saturday, 10th. Sept. Left Malindi 8 a.m., visited salt works at Fundisha en route and arrived Golbanti on the Tana River 2 p.m.
- Sunday, 11th. Sept. Left Golbanti by S.L. Tana 10 a.m., for up river, visited the Neukirchener Mission at Ngao and several villages. Camped at village on river.
- Monday, 12th. Sept. Proceeded up river visiting several villages en route.
- Tuesday, 13th. Sept. Proceeded up river, visiting several villages en route.
- Wednesday, 14th. Sept. Proceeded up river, visiting several villages en route.
- Thursday, 15th. Sept. Up river to Baumo, visiting several villages en route. Arrived Baumo late afternoon.
- Friday, 16th. Sept. Proceeded up river from Baumo for three hours and returned to Baumo.
- Saturday, 17th. Sept. Left Baumo for down river about 9 a.m. Camped at village on river.
- Sunday, 18th. Sept. Down river. Called in at Ngao. Arrived Golbanti 6 p.m.
- Monday, 19th. Sept. Left Golbanti by S.L. Tana for Kau. Visited Belezoni Estates and Anasa en route and arrived Kau late afternoon.
- Tuesday, 20th. Sept. Round rice shambas in morning. Left Kau 9 a.m. Arrived Kipini about 1 p.m.
- Wednesday, 21st. Sept. At Kipini, visited dispensary.
- Thursday, 22nd. Sept. Left Kipini by car 9 a.m. for Lamu. Visited Mrs. Sheen's shamba en route and arrived Lamu 6.30 p.m.

- Friday, 23rd. Sept. Called on District Commissioner, Lamu. Called on Mr. Whitton. Visited hospital.
- Saturday, 24th. Sept. Round town with Sub-Assistant Surgeon in morning. Discussion with Sharpe, District Commissioner, Garissa District in forenoon.
- Sunday, 25th. Sept. Left Lamu 7 a.m. by car via Witu to Kipini. Arrived Kipini 5 p.m.
- Monday, 26th. Sept. Left Kipini by S.L. Tana 11 a.m. for up river. Camped at village on river.
- Tuesday, 27th. Sept. Up river to Golbanti and arrived there 6 p.m.
- Wednesday, 28th. Sept. Left Golbanti 9 a.m. arrived Malindi 1.30 p.m. In afternoon by car to Kakoneni, visited trading centre and dispensary. Reached Malindi again 6.30 p.m.
- Thursday, 29th. Sept. Left Malindi 8 a.m. for Mombasa. Visited Agricultural Station and Hospital at Kilifi en route and arrived Mombasa 6 p.m.
- Friday, 30th. Sept. Left Mombasa 10 a.m. by car with Philip. Lunched Kwale with Foster, A.D.C., saw model butcher's shop, etc. Visited carpenter's shop, etc. Visited District Commissioner's lines, inspected anti-malaria drainage and visited area which District Commissioner proposes to clear as an anti-fly measure. Then to Msambweni inspecting rural anti-malaria and other operations en route. Arrived Msambweni 7 p.m.
- Saturday, 1st. Oct. At Msambweni. Visited Ramisi Sugar Factory, Plantation and Labour Lines in forenoon. Visited Hospital, Leper Camp, Butchery, etc., in afternoon.
- Sunday, 2nd. Oct. Left for Mombasa. Visited Provincial Commissioner. Left for Nairobi 4.30 p.m.
- Monday, 3rd. Oct. Arrived Nairobi 10.30 a.m.

## 2. OBJECT OF THE SAFARI.

The main object of the safari which was made in the company of an officer of the Agricultural Department throughout, and on the Tana River in the company also of the District Commissioner, was, it is understood, to make a preliminary reconnaissance with regard to agricultural development in the basin and delta of the Tana River, and to that end to determine, so far as might be possible in the time available, the probable potentialities of the area and its inhabitants, the present state of health of the people and their needs, and to make observations with regard to the general question of climate and environment in relation to future development. In the following notes these matters are considered from the medical point of view and some observations with regard to the coast in general are also submitted.

## 3. THE TANANIA RIVER DISTRICT.

The Tana River District as now constituted comprises the delta of the Tana River and that part of the basin of the lower Tana which lies between Kipini on the coast and Masabubu, a village some 240 miles up stream from Kipini.

The land of the delta and along the banks of the river would appear to be exceedingly fertile; further away from the river the country is dry and barren. In the delta and along the river banks the people depend for their crops partly on the rainfall and partly on the rise of the river which should take place twice yearly; not infrequently, however, the riverine people suffer from food shortage or even from famine, either as a result of failure of the river to rise, or as a result of the drowning of the crops  
by/



by floods. The climate at the time of our visit was warm but not unpleasantly warm during the day time, and the evenings and the nights were cool. Above Ngao mosquitoes were not unduly troublesome.

In this delta and for a varying depth along both banks of the river there must be many hundreds of square miles of land of exceptional fertility and with great agricultural potentialities, but of this great area, partly owing to the vagaries of the river, partly to the paucity of the population, and partly to certain other inhibiting factors which will be discussed later not more than 15 square miles in all are under cultivation at the present time.

#### 4. THE INHABITANTS OF THE DISTRICT.

The population of the Tana River District is about 16,000 souls of whom about 11,000 are Wapokomo and about 5,000 Wagalla, the Wapokomo being an agricultural people dwelling on the banks of the river and the Wagalla a pastoral people inhabiting the drier bush country away from the river. Of the Wagalla we saw but little and the following observations are confined to the Wapokomo.

The Wapokomo, in contradistinction to most other tribes in Kenya, live not in isolated huts but in small villages of from about a dozen to about fifty or sixty, or, in some cases, even more than a hundred huts. The villages are in all cases situated actually on the banks of the river and the cultivated land is, as a rule, in the immediate or very close neighbourhood of the villages. The villages when we saw them were fairly clean, possibly because the river serves for the disposal of much refuse. Without exception the huts are built of grass on a slight wicker framework and the majority are of a beehive shape/

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shape and without any openings for light or ventilation. In almost every village however, there are some huts which are oblong in shape and higher as to walls and roofs, and in some of these huts window openings have been provided. These latter huts have been built, I was informed, by Wapokomo who are adherents of the Ngao mission. In one or two villages there are buildings of burnt brick which are used as schools. Other than some poor hoes, some cotton cloth, and a very few hurricane lamps, articles of foreign manufacture were not in evidence.

The Wapokomo, as I saw them, seemed to be pleasant and tractable people.

5. THE PHYSICAL CONDITION OF THE PEOPLE AND THE INCIDENCE OF DISEASE.

We spent altogether twelve days on the river travelling by the S.L. "Tana" and stopped occasionally for an hour or so at villages on the way. On such occasions the District Officer asked the headman to bring all the people of the village, both sick and well, adults and children, together in order that I might examine them. So far as I could see no difficulty was experienced in getting the people together, and though it is highly probable that since this is the first occasion on which a medical officer has travelled on the river for many years all the sick were not brought forward, still there was no evidence of any marked shyness on the part of the people.

Owing to the shortness of the time at our disposal and for other reasons among which the most important was the fact that the examining officer had not recently been engaged in the practice of clinical medicine, it was not possible to carry out either very detailed or very accurate examinations of the people who presented themselves and in weighing the value of the clinical observations which,

which follow these points must be borne in mind.

During the course of the twelve days spent on the river we stopped at about fifteen villages in all and saw at close quarters perhaps seven or eight hundred people.

The men of the tribe are clothed as a rule either in shorts or a waist cloth, and a shirt or singlet. Some were cleanly clothed and for the most part the men were fairly clean as to their persons. The women are clothed in a single garment consisting of a long piece of black cotton cloth. The children almost without exception are naked. The men on the whole appeared to be of fairly good physique and fairly well developed. Some were excellently developed. It would be incorrect, however, to describe the majority as well nourished. The women, the girls and the children, appeared as a rule to be of poor physique and poorly nourished. Fine glistening skins were rare.

#### Malaria.

Of 66 infants and small children who were examined 36 or 50 per cent showed marked enlargement of the spleen and it is probable that a more skilled observer would have found a higher incidence of this condition.

Blood slides were taken from 140 adults and children and among these malaria parasites were found in 38 per cent. The inference is, as was to be expected, that malaria is a common and a serious disease among the Wapokomo, though it may be noted in passing that there is nothing in these figures to suggest that at the time of our visit the Wapokomo were more seriously affected by malaria than are, say, the Wadigo.

Haemoglobin estimations were not made, but from the examination of the conjunctivae and other mucous membranes/

membranes some degree of anaemia appeared to be almost universal while in very many cases it appeared to be marked.

Anopheline mosquitoes at the time of our visit were far from numerous, the great majority of the specimens collected being culicines.

#### Intestinal Worms.

No stool examinations were made but definite histories of Ascaris (roundworm) infection were frequently obtained with regard to children, while a very definite story with regard to infection with Bilharzia among the population in the neighbourhood of Ngao was obtained from the Rev. Mr. May. Whether hookworm occurs was not determined but all the conditions are favourable for the spread of the infection if it be present and it would be surprising if it were not found to be a serious factor in the life of the people.

#### Yaws.

Yaws, according to Dr. Gilks, was very common on the Tana River in 1912, and in 1926-27 Assistant Surgeon Nair who spent a hundred days on the river treated many cases. Since then several hundred injections have been given yearly either at Lamu or Kipini, or by an African dresser travelling with the District Officer on the river, though whether all of the persons who received these injections were actually suffering from yaws is perhaps doubtful. Today, among the population of the part of the river traversed on this safari, that is in the first 120 (?) miles from the mouth, yaws would not appear to be a very common disease as, though the people were clearly well acquainted with the disease and in many instances anxious to have injections, only three cases of secondary yaws were seen and no tertiary cases.

Leprosy.

No cases were seen.

Veneral Diseases.

No cases either of syphilis or of gonorrhoea were seen.

Skin Diseases.

Scabies is extremely common and more particularly among young children it would appear to be the cause of much ill health.

Ulcers.

Ulcers appear to be uncommon, not more than half a dozen being observed among the seven or eight hundred persons seen.

Other Diseases.

Bronchitis was commonly complained of, and I saw in all about a dozen patients who not improbably were suffering from tuberculosis of the lungs. No case of surgical tuberculosis was seen.

The General Picture.

The general impression which one obtained was that of a pleasant and tractable population of fair intelligence, of great potentiality as regards physique, but under developed and lackadaisical at the present time as a result of poor nourishment, a high incidence of malaria and probably a high incidence of infection with intestinal worms and, very particularly, lack of contact with the outside world.

Whether the population is increasing or decreasing at the present time it is impossible to say as there are no figures available on which it would be wise to base any definite conclusion. There would, however, appear to be no lack/

to be no lack of children for everywhere they were in evidence in numbers. Given therefore certain essential but not impossible or impracticable alterations in environment, there is no reason to suppose either that the Wapokomo might not in the future increase greatly in numbers, or that members of certain other tribes might not, if due care were taken, be successfully established on the banks of the river, or in its delta.

#### 6. THE PRODUCTION OF A HEALTHY POPULATION.

At the moment the chief needs of the Wapokomo would appear to be an improved dietary and a greater interest in life. At the same time they require treatment for their diseases, and, very especially, instruction with regard to their prevention. Action with regard to all these matters is required, and, if possible, action with regard to all at the same time, for better crops will not be produced unless a reason for producing them is supplied either by the medical officer who preaches a better dietary and the use of soap, or by the trader who will offer soap, clean clothing, salt, or mosquito netting, in return for the money which crops may bring, and unaided by the agricultural officer and the trader, the medical officer will preach soap and cleaner clothes in vain. If, however, the three can work together, then, building on the large foundations which have already been established by the missionary and the administrator, and more particularly if the work of the former can be elaborated along the lines now followed at the Jeanes school, and provided also that communications with the coast and with a market can be established and some instruction provided with regard to river control and the utilisation of the available water, much should be possible.

possible within the next few years, and this apart altogether from major development schemes. At the moment, however, an outstanding factor in the situation is the lack of inducement to produce even if the folk knew how. Throughout the hundred and twenty miles of river which we traversed there is not a single duka which displays its wares in an attractive manner, while for the moment the folk are still ignorant of any need, save, so far as they can, to avoid grave shortage in their staple food supplies.

7. DEVELOPMENT MEASURES REQUIRED.

(a) With regard to the Food Supply.

The chief articles of food of the Wapokomo at present would appear to be maize, rice, bananas, fish and some leguminous crops. The amount of cultivation per family compared with that say in the kikuyu districts appears to be exceedingly small, while even to a layman the cultivation appears poor. Cattle are kept in but few villages, and meat, milk and ghee are rare luxuries, and salt would appear to be but infrequently used. Fowls are to be found in most villages and occasionally moscovy ducks. The fowls, however, are most miserable birds. Cattle as I have said are rare, but the fact that cattle can be kept in some villages suggests that with an extension of agriculture and more clearing they could be kept in all, and with great advantage both to the crops and the children. Ghee and beef could be purchased from the pastoral peoples if money were available. Salt is a matter of money. Green vegetables could be grown in plenty and the supply of bananas could be greatly increased if instruction with regard to cultivation were available. Governing all these matters, however, to a greater or less degree are the question of the control of the river which on occasion floods



the question of how to raise water from the river in the dry season. How much could be done to solve these last problems by so small and so scattered a population as that which at present inhabits the river banks is a question for the engineer but that much could be done is not improbable. Nevertheless, even apart from water control, probably much could be done to improve the dietary of the people were instruction in animal and crop husbandry to be provided.

(b) With regard to the Medical Treatment of the People and the Prevention of Disease.

In no other rural area of the Colony would the medical treatment of the people be so easy as on the Tana River. In the typical native reserve of Kenya the folk are peppered about the countryside over a wide area, they are seldom collected into villages, and as a rule the huts and shambas are at some distance from the roads, no matter how numerous the latter may be. In Tanaland, however, there is only one road, namely the river, and along this road, conveniently collected into villages, live all the agricultural folk. A medical officer travelling up or down the river by launch could therefore in the course of a few months see every individual member of the population and he could do this twice a year. That much could be done by means of the treatment of disease I am very sure, for the people appear to be amenable, and some at least of their diseases would lend themselves to treatment by an itinerant officer. Apart altogether, however, from the physical results of such treatment as could be given there would almost certainly be a considerable and important psychological reaction so soon as it became evident to the people that all seriously sick folk need not die forthwith.

Even/

Even, therefore, if such a medical safari were <sup>be</sup> to/made not more than once or twice a year a larger modicum of medical relief could thereby be provided than in most other districts where a medical officer is permanently stationed.

More important, however, than the treatment which a medical officer could provide would be the educational work which he could do with regard to the improvement of dietaries and methods of living. And in almost every village there is a school teacher of sorts whose energies could be enlisted. It is a striking fact that in almost every village there is a Christian end and a Mohammedan or a pagan end, and that the huts in the Christian end are rectangular, more commodious and in some cases even provided with window openings. The means at the disposal of the mission have so far been meagre but very clearly with organised teaching with regard to all matters affecting village life much more could be done. That preventive measures such as mosquito nets, latrines and wells could not be introduced even now is by no means certain, and an ingenious and energetic medical officer who was well acquainted with all the conditions of the river might accomplish much in a short period. At the very least he could help to supply reasons for increasing production, and if on their present dietary the people have resisted disease at least in some measure and developed to the degree that they have, on a better dietary they would do more, and something would have been accomplished towards breaking the vicious circle of disease and lethargy which at present exists.

As regards hospitalization the outlook is not hopeless at least in respect of the population inhabiting the stretch of river which we traversed. At the present moment/

moment a small hospital is being erected at Ngao by the Neukirchener missionaries the funds and labour for which have been provided by the local natives. The mission proposes, I understand, to employ two nursing sisters in the near future, and, if possible, a doctor. Should this scheme be carried even so far as the employment of nursing sisters an important facility will be provided. That there is need for a hospital in this area is undoubted, that a hospital staffed with European nursing sisters could exercise a great educational influence is equally undoubted, and as the mission is very clearly not too well provided with funds it should be a matter for consideration so soon as the hospital is opened whether some financial assistance should not be provided by Government. From what I saw of the missionaries at Ngao very little would be made to go very far and most certainly there would be no waste.

8. SYSTEMATIC EDUCATION.

At the present time systematic education is in the hands of the missionaries at Ngao who besides a central school at that station have numerous out-schools in villages on the river. Some of these out-schools are permanent structures of burnt brick.

Unfortunately I was unable to see much of their work but I was very greatly impressed by the missionaries themselves who are young, intelligent, and energetic. At the moment their energies are directed perhaps for the most part to evangelisation and the instruction of the people in the three R's, but nevertheless they have clear ideas as to the importance of cleanliness and tidiness at least in their own household and they are interested in medical work and the education of the women. With but little difficulty I think/

think they might be induced to modify or elaborate their methods along the lines followed at the Jeanes School and to use the large organisation of village schools which is at their disposal to inculcate better methods of living and of husbandry throughout the villages in that part of the river with which they deal. It will be a matter of importance that any technical officers who may be posted to the river should make every endeavour to work in co-operation with the Ngao Mission.

9. HEALTH AND ENVIRONMENT IN RELATION TO MAJOR SCHEMES OF DEVELOPMENT.

One outstanding feature of the riverine lands and of the delta is the paucity of the population. Another is the potential richness more particularly of the delta lands, and a third is the probability that in the delta at least extensive development is unlikely to be possible without capital expenditure on engineering works.

If, therefore, the delta is to be developed in the near future it will be necessary to import a population and the question arises whether this could be done without undue loss from disease. To that question, judging from what I have seen of the Tana delta and of "jungle" development elsewhere there can, in my opinion, be only one answer, namely, that provided the plans be well prepared, and provided the entomologist and the health officer be taken into consultation by the engineer and the entrepreneur from the beginning and given ample opportunity for preliminary research, there would appear to be no reason why disease on the Tana River or in its delta should stand in the way of development either on plantation lines or by means of the settlement of an independent peasantry.

10. SUGGESTIONS/

10. SUGGESTIONS AS TO ACTION WHICH MIGHT BE TAKEN WITH REGARD TO THE EARLY IMPROVEMENT OF THE CONDITIONS OF LIFE ON THE TANA RIVER.

The following suggestions it may be noted deal only with the action which might be taken in order to improve the conditions of life of the present population of Wapokomo; it may also be noted, however, that action on the lines suggested would be an essential preliminary to any major development scheme.

- (1) That if possible a medical officer should be detailed to commence a three or four months' safari up the Tana River during the present year provided suitable arrangements can be made for his transport. It is of importance, however, that in the matter of transport the medical officer should be independent. If possible the safari should extend into the Garissa District up river.
- (2) That the medical officer should be required to report on the nature of the assistance which might be given to the Neukirchener Mission in respect of their medical activities, and that if it should appear that assistance can be given with advantage suitable provision should be made in the Colonial Estimates for 1935.
- (3) That arrangements should be made for the provision of agricultural instruction to the Wapokomo with a view to improving the food supplies of the people. This is a matter of equal importance with the provision of medical relief.
- (4) That steps should be taken to ensure the more effective protection of food crops from the depredations of game and vermin.
- (5) That/

- (5) That the Hon. Director of Education be invited to consider the possibility of directing the attention of the Missionaries at Ngao to the educational methods adopted at the Jeanes School.
- (6) That an officer from some Irrigation Department concerned with the control of rivers similar to the Tana should be obtained to make an extensive reconnaissance of the Tana and of its delta with a view to advising as to the minor and major measures which might be taken in order to control and utilise the waters of the stream.
- (7) That such steps as may be practicable should be taken forthwith to promote the production and marketing of cash crops and to stimulate trade.

With regard to suggestion No. (1) I would note that in my opinion it is desirable that a lengthy medical safari of this nature should be made now even if it cannot be repeated in the spring of 1933. If possible, however, such safaris should be made at least twice yearly. What permanent medical arrangements should be made I would hesitate at the moment to suggest as I am unacquainted with the needs or possibilities of the Garissa District, but it is not improbable that the best arrangement might be to post a medical officer to Lamu who would work on the river while it is navigable and in the Lamu District when it is not.

With regard to suggestion No. (6) I would note that primary causes of ill health at the present time in this district are the vagaries of the river, the isolation of the people and their ignorance with regard to the control and utilisation of the water. It is not improbable that by means of small and inexpensive works carried out either by individual or communal effort much could be done to improve matters, but there is no one on the river and, as far as I know,

know, no one in the Colony who has had any experience in such matters. On the other hand, in India, and more particularly in Madras, there are irrigation departments whose sole business is the control and development of riverine and deltaic lands. If any real sanitary progress is to be made on the Tana control of its waters is essential, but to what extent such control is possible we cannot know till the river has been examined and reported on by an engineer experienced in the management of rivers and riverine lands of this type.

11. NOTES ON OBSERVATIONS MADE IN LAMU AND IN THE LAMU, KILIFI, MALINDI AND DIGO DISTRICTS.

Lamu and the Lamu District.

I visited the hospital in Lamu and had some discussion both with the Ag. District Commissioner with regard to the district and with the Assistant Surgeon. I also visited the market and the shops in the town and called on Mr. Whitton.

The chief points which emerged from these visits and discussions were as follows :-

- (a) the large number of women and children attending at the hospital and the great need for additional and better hospital accommodation,
- (b) the high reported incidence of venereal disease in the town, and the reported instability of family life in the town,
- (c) the poor quality of the produce on sale in the market,
- (d) the depression in trade,
- (e) the absence of educational facilities or perhaps/

perhaps more correctly the fact that education by the Arabs at least is said not to be desired,

(f) the notable cleanliness of the town.

And as one travelled by car the sixty odd miles between Kipini and Lamu, the groves of mango trees that marked deserted villages and the great stretches potentially useful swampland lying idle.

Further up the coast are the Bajuni, cultivating still perhaps, as the agricultural member of the safari suggested, the progeny of seed originally introduced by Vasco da Gama. I did not see these people but from what I was told I would be much surprised if there were not much medical work waiting to be done among them. In Lamu certainly there is a wide field. But more is required in Lamu and in the Lamu district than medical relief for in both a rot has set in which is due to no small extent to isolation, and medical workers alone cannot put that right. Very clearly, therefore, the chief remedy will lie in agriculture and trade, the development of the islands of the coast line and its hinterland, and perhaps the development of the Tana River. At the same time medical relief and sanitary education appear to be required and very particularly an organised effort to educate and uplift the women folk.

In the interests of the public health of Lamu and the Lamu district the following measures would, therefore, appear to be essential :-

1. Agricultural instruction and development.
2. A school for women and girls in Lamu town under the direction of an enthusiastic English-woman.
3. A larger/



3. A larger hospital under the charge of a European medical officer who should have on his staff one European nursing sister, one European health visitor and as soon as possible none but female dressers.
4. Medical relief and sanitary instruction in the district.

Earlier in these notes I have suggested that a medical officer based in Lamu might undertake two safaris per annum on the Tana River and the question arises could this officer in addition give adequate attention to Lamu and the surrounding district? The answer to that question is, I think, in the negative and the more correct arrangement would be to post two European medical officers at Lamu with the Tana River as an essential part of their charge. If, however, only one officer can be afforded now, then for the time being at least the Tana safaris should take precedence over work in the Lamu district for in the Tana valley results could more quickly be obtained.

#### The Malindi and Kilifi Districts.

The features in these districts which struck one more than anything else as one drove along the coast road were the flourishing fields of cotton which one passed near Malindi and the great areas which might be growing cotton but were not, though back in the hill country there is a numerous population. Mr. Lillywhite, whom I met, commented on the improvement which, in his opinion, had in recent years taken place among the Wagiriana and most probably he is correct, but the folk are still poor, terribly poor compared with, say, the Akikuyu. And this while good land lies empty. The coast line of these two districts alone is over a hundred miles in length.

The Digo District.

It is, I think, unnecessary to comment in detail on the work which is being done by this Department in Digo as very full records are available in many reports. It is, however, necessary to comment on the fact that the medical officers here have gone almost as far as they can under existing circumstances, that until these circumstances are altered they can<sup>do</sup> but little more, and that it would not appear difficult to secure some measure of alteration.

The chief features of the situation appear to be as follows. In Digo as elsewhere the outstanding characteristic of the population is poverty, but whereas in Malindi, Kilifi, Tana and Lamu the folk for the moment have no special inducement to produce and in some cases even no market, in Digo on the other hand there has been for some years past, and very particularly at the present time, a great drive on the part both of the Medical Department and the Administration in the direction of improving general social conditions. On every hand in Digo one sees new houses going up, on every hand one sees houses half finished for lack of funds, and at Ramisi one finds that the labour force is rationed on upcountry grain. And at Mombasa also there is a market. In Digo, therefore, as elsewhere, the primary sanitary need of the folk is for agricultural instruction, the organisation of production and the organisation of marketing and if in Digo the folk captured only the estate market for maize there would be at least a few more thousand pounds available for housing, and the overheads of the estates might be reduced.

In Digo, as on the coast as a whole, the main impression which one gained was one of poverty, of a need for a greater interest in life, a better dietary and some measure/

measure of prosperity. In some places as on the Tana and perhaps in the Lamu district one of the primary needs is still medical relief and in all the areas there is need for much more medical relief than is at present available, but everywhere the essential need is for the relief of poverty and no one interested in the public health could travel these districts for a month without arriving at the conclusion that without intensive agricultural instruction in every area neither sickness nor poverty can be relieved. Very especially would it be impossible for anyone to avoid that conclusion if he had the opportunity as I had of travelling in the company of an agricultural officer.

#### 12. THE GENERAL SANITARY PROBLEM OF THE COAST.

In Digo, as I have noted, the estate market for grain which lies at the door of the people has not been captured. At Lamu the exports of rice for the year 1931 were valued at 28, while the imports of rice were valued at over £5,000. Both grain for Ramisi and rice for Lamu could be grown in the districts visited, but Ramisi requires a regular supply of grain and Lamu something better than the scores of poor varieties of rice which are at present grown on the Tana. In the Malindi district 500,000 lbs. of cotton were ginned in 1931, but there is no mention of cotton in the Kilifi District Report for that year, while none, or next to none, was grown on the Tana or in the Lamu District. In Digo grain for its plantations might be grown, on the Tana River rice for Lamu and all the Colony, and in some, if not all, of the coastal districts, cotton.

Since returning from this safari I have read all the Administrative Annual Reports for the Coastal Districts for 1931. An outstanding feature of each of these Reports/

was the negligible character of the exports while in one at least of the Reports, namely that for Kilifi, it was noted that the folk were anxious to work but could find none.

It will be gathered from these notes, I think, that in the course of a month's travelling up and down the coastal districts little evidence was obtained of any real social liveliness or activity save in the Digo District where on every hand new whitewashed houses broke the monotony of the prevailing squalor. Even there, however, the poverty is extreme. Of agricultural activity there was little evidence save in the neighbourhood of Malindi. It is true of course that we travelled only one road and saw, therefore, only a strip of the country, it is true also that there is an experimental farm near Kilifi, a new seed bulking plot at Kwale and that in the past year through the endeavours of the Administration 15,000 pit latrines have been dug in the Kilifi area. But these facts do not discount the general export and import returns which but confirm the general impression of poverty which one gained in the villages.

The question arises, therefore, what general action can be taken to improve social conditions and to promote the public health? I think Digo and Malindi provide the answer. In Digo, that is in one small corner of the coast, two medical officers and a European sanitary inspector have given individual attention to the people for some years past, they have got to know them, to some extent they have inspired them and they have helped the likely ones to mark out houses and to build, and each house so built has been an example and an incentive to others. They have shown the folk what they themselves can do. And in Malindi where there has been some distribution of seed, some cotton has been

has been grown. But the agricultural results in Malindi, though of first class and very certainly of primary importance, have been small compared with the results of the housing work in Digo. Why? In Digo, in one small corner of the coast, there were three officers of the Medical Department working and they were working in a comparatively restricted area. In Malindi there was only one agricultural officer working and his "district" is the coast. In Digo three officers might well mark out many houses and even see that some were ultimately built, but over a coast line of some three hundred miles one officer cannot mark out many fields; and because in Digo, though three officers were marking out houses, no one was marking out fields, many scores of houses remain unfinished and how many thousands not yet begun!

And in Kilifi following on a show which was held at Gotani about two years ago over 15,000 pit latrines have been dug by a backward peasantry, but up to the present there are still no ploughs; and up and down the northern coast where in the nineties the officers of the Old Company could get milk there are now no cattle.

Clearly, therefore, the people can do much where instruction is provided, but even from the public health point of view more is necessary than a pit latrine.

In a note with regard to the development of the Wapokomo which was kindly placed at my disposal by the District Commissioner, Kipini, there occurs the statement that "The most outstanding need of the District is that of facilities for Medical Treatment. The single dresser at Kipini is of little use, the supply of drugs, etc., is quite inadequate, and the hospital contains only one iron bedstead and six native, two blankets and one pillow, one bed-pan/

"bed-pan and no urinal! Until a better standard of health exists no great increase in the acreage of land under cultivation can be expected and many square miles of what is probably the most valuable land in the Colony will remain unused."

I agree that an outstanding and a very urgent need in the Tana River District is improved facilities for medical relief, but I do not agree that that is the most outstanding need either of the Tana River District or of the coast in general. The greatest needs of the population both in the Tana River District and in the coastal districts generally are for a better dietary, an interest in life, and some reasonable measure of prosperity. Perhaps on the Tana River medical relief is the essential preliminary, but the point is of academic interest only as it is very clear that such facilities should forthwith be provided. But whatever may be the relative importance of medical relief in relation to other measures it would be more than careless were the sanitarian to omit from any statement with regard to the possibilities of raising the standard of health either on the Tana River or the coast in general, an expression of opinion to the effect that without instruction in the production of food and cash crops, the introduction of new seed, a better breed of fowl, the provision of a milk supply and facilities for the purchase of the ordinary means of cleanliness and decent living, no notable rise in the standard of health will be procured.

To the Administrator the shortage of medical facilities in Tanaland very rightly is a cause of grave anxiety but the medical officer would be taking a narrow view if he were to suggest that by the provision of these facilities alone the medical issue would be met. In the coastal districts there are over a quarter of a million people and the sea board/

board of these districts is over three hundred miles in length. The folk are ignorant, poor and ill fed, and for these reasons many of them are sick. To relieve some of this sickness and to teach the elements of hygiene there are at present three medical officers, but these officers can deal with only one of the primary causes of coastal ill-health, namely ignorance, and with that cause they can deal only in a partial fashion, and the incidence of sickness will remain high and the standard of life low till the people as a whole are more prosperous and better fed.

But at the moment on these three hundred miles of coast and among a quarter of a million of population, though there are three medical officers and four hospitals, there is only one agricultural officer available, and on the Tana River a rice mill not too large to be contained in a single packing case. If the facilities for medical relief are, as the District Commissioner, Kipini, very rightly notes, exiguous, the facilities for the prevention of the two major causes of sickness, namely poverty and a poor dietary, are exiguous in the extreme. The population on the Tana River is undoubtedly sick and undoubtedly many of them require medical treatment and with medical treatment would be capable of greater physical effort, but very definitely it may be said that by the exhibition of drugs alone they will not get well for the dietary is inadequate and, to use an old phrase, the drains are in bad order.

The prescription for Tanaland as for the coast in general should be:-

- (a) better food,
- (b) an interest in life, and, where necessary,
- (c) some medicine.

The first two items are, however, by far the more important for on the whole and even in Tanaland only few of the

24.

of the folk are so sick that they could not even at present produce for themselves much more and much better food if they only knew how.

ACKNOWLEDGEMENT.

The journey to and from Golbanti on the Tana was carried out by car and lorry, most excellent arrangements having been made by the Transport Department in Mombasa.

On the Tana River and for the journey from Kipini to Lamu all arrangements were made by the District Commissioner, Tana River District, Mr. Murphy. I am more than grateful and I am sure I should be voicing the feelings of my colleague from the Agricultural Department if I say that we are more than grateful to Mr. Murphy for the great trouble which he took in making these arrangements, for much kind hospitality and for a wealth of useful information. I should like also to record the fact that on approaching every village the safari was met by a cheerful and willing crowd, which included men, women, and children.

(SD.) A.R. PATERSON.

DEPUTY DIRECTOR OF SANITARY SERVICE.

NAIROBI.

OCTOBER 1932.



Report on Slides from Wana River Area.Thin smears.

<u>No.</u>	<u>Date.</u>	<u>Location.</u>	<u>Age.</u>	<u>Nature of specimen.</u>	<u>Quantity.</u>	<u>Slide examined for</u>	<u>Result.</u>
1.	14.9.32	Wana	children	Blood slides	4	Malaria parasites	{ 3 pos. St. scanty 1 negative
2.	13.9.32	Daoma	adults	do	3	do	All negative.
3.	13.9.32	do	do	do	8	do	{ 7 negative 1 St. 1/100
4.	13.9.32	Amasa	?	do	5	do	{ 3 negative 1 St. slide 1 St. scanty
5.	16.9.32	Daoma	adults	do	1	do	negative.
6.	19.9.32	Sanikare	?	do	8	do	{ 5 St. scanty 1 negative.
7.	20.9.32	Kau	?	do	7	do	{ 3 negative 2 scanty St. (4) (5)
8.	12.9.32	Mibusu	Children	do	2	do	{ 1 D. P. St. scanty 1 St. (5) 2 Cres. 1/100
9.	12.9.32	do	Female adults	do	3	do	{ 5 negative 3 St. scanty
10.	12.9.32	do	Children	do	7	do	{ All positive St. Sp. & Ring.
11.	12.9.32	do	Adult males	do	3	do	{ 4 negative 2 positive 1 ring, Scanty 3/100.
12.	13.9.32	Chunoni	F. adults	do	3	do	{ 4 negative 1 positive St. 1/100
13.	13.9.32	do	Children	do	3	do	{ All positive St. Cres. (in 1 slide
14.	13.9.32	do	Adult M.	do	3	do	{ 3 negative 1 pos. St. (2/100
15.	13.9.32	do	do	do	8	do	{ 7 negative 1 positive St. scanty.
16.	13.9.32	do	Children	do	8	do	{ 5 positive St. scanty 3 negative.

2.

No.	Date.	Location.	Age.	Nature of Specimens.	Quantity.	To be examined for	Results.
17.	15.9.32	Kozl	?	Blood slides.	8	Malaria parasites.	(7 negative (1 bad slide.
18.	15.9.32	Baoma	children	do	4	do	(3 negative (1 positive (St.1/50
19.	15.9.32	do	adults	do	8	do	(7 negative (1 positive (St.1/80
20.	15.9.32	do	do	do	9	do.	(7 negative (2 St. scanty.
21.	15.9.32.	do	do	do	2	do	All negative.
22.	14.9.32	Mnazini	?	do	8	do	(6 negative (2 positive (St. scanty.
23.	14.9.32.	Bubesa or Bubesh	Child dren & adults.	do	5	do	(All positive (St. scanty & (1 slide St. (Q. Ring 2/50
24.	14.9.32.	Mnazini	?	do	6	do	(3 negative (3 positive (St. scanty (1 slide (Q.R. & St.

Summary.

Positive slides	54
Subtertian	47
Benign tertian	1
Quartan	5
Negative slides	84
Bad slides	2

APPENDIX B.

Report on Entomological Collection from  
Tana River.

	<u>Source.</u>	<u>Species.</u>	<u>Numbers.</u>
1. Mosquitoes	<u>Golbanti</u>	Taeniorhynchus africanus uniformis	numerous "
	"	A. costalis	10
	"	A. mauritanus	10
	<u>Baoma</u>	T. uniformis	numerous
	"	T. africanus	"
	"	A. mauritanus	larvae numerous
	"	A. pharoensis	"
	<u>Danda</u>	T. africanus	numerous
	<u>Godeni</u>	"	"
	<u>Benderoni</u>	"	"
	<u>Mirazini</u>	"	"
	<u>Kau</u>	"	"
	<u>Andori</u>	"	"
"	A. costalis	10	
<u>Mungapini</u>	"	(larvae, 2 breeding places)	
2. Tsetse.	<u>Mawbrui</u> (near)	G. pallidipes	4
3. Tabanids	<u>Motor boat</u>	Tabanus taeniola & var " & Africanus " unidentified	24 19 3
	<u>Baoma</u>	T. taeniola & var " africanus " fraterus	1 1 2
	<u>Garesen</u>	T. taeniola T. africanus T. taeniola	1 5 1

APPENDIX C.Transport.

I understand that the S.L. "Tana" might be made available for the use of a Medical Officer in November, the cost of running this launch is about Shs. 25/- per day. For medical purposes the launch would be very suitable but as the Medical Officer should be at liberty to stop at each village for whatever length of time might be necessary it would be of primary importance that the launch should be at his sole disposal.

I understand that the River from Kipini to Garsen is navigable throughout the year and that up to Masabubu the periods during which the river is navigable by the S.L. "Tana" are as follows:-

September	-
October	- in the first half of the month.
November	x
December	sometimes
January	sometimes
February	-
March	-
April	- in first half.
May	x
June	x
July	x
August	x in the first half.

x = navigable by launch, - = unnavigable by launch.

When the river is unnavigable by launch either canoes or porters can be used.

BY C.O. OATES, AGRICULTURAL OFFICER.

ITINERARY.

With Dr. A.R. Patterson, D.D. Sanitary Services, I left Nairobi on September 8th and arrived in Mombasa the following morning. We left for the Tana River almost immediately, spending the night of the 9th instant at Malindi. We reached Golbanti on September 10th and next day proceeded up the river. Nights were spent at the following places:-

September 11th	Handari
12th	Garden
13th	Bandarini
14th	Mnazini
15th	Baumo

On September 16th we went up the river as far as Mambosasa and then went back to Baumo. On September 17th we started back down the river, camping at the following places:-

September 17th	Pumwani
18th	Golbanti
19th	Kau
20th	Kipini.

Whilst proceeding up and down the river frequent halts were made at villages where shambas, crops etc., were inspected. Belazoni Estate was also visited and some hours spent in walking over it.

Two days were spent at Kipini and on September 22nd we proceeded to Lamu in the hope of getting a steamer to Mombasa. As, however, no steamer was forthcoming we returned to Kipini again on the 26th and proceeded up river to Golbanti which we left by motor car on the return journey to Mombasa on September 28th. We arrived back in Mombasa on September 30th.

2. DESCRIPTION OF THE RIVER.

I was able to see the river for about the last 120 miles of its course from Mambosasa to Kipini. Throughout practically the whole of this distance the river is higher than the surrounding country and the river banks are the highest places in the vicinity.

The Tana does not flow through a valley but through a flat plain which is many miles wide in places.

The river is subjected to two floods each year. The big floods beginning about the middle of April, lasting about two and a half months, and the small floods in December which last about six weeks.

The floods as a rule inundate the area up to about 5 miles on each side of the river, but in some places and some years may stretch as far as thirty miles.

The river is navigable up to about 400 miles from the mouth, for vessels not drawing more than three feet. Sea going Dhows go up as far as Anasa which is some 20 miles from the mouth.

The great drawback however is the bar at the mouth of the river at Kipini which has only half a fathom of water over it at low-tide and is very dangerous during the N.E. monsoon. It will thus be seen that although the Tana is a splendid means of transporting produce, it is very difficult to get it away by sea.

### 3. SOIL.

The soil is a rich alluvial silt, which is as fertile as it is possible to imagine a soil could be. Where the river banks are high, some distance up the river, and the soil not alluvial, it is very poor indeed. These places are however, very rare.

### 4. PEOPLE.

There are about 12,000 Wapokomo in the Tana River District and a further 4,000 in Tellemugger District. The people of this tribe live in villages along the banks of the river, the villages varying in size from half a dozen to one hundred huts.

The chief occupation of the tribe are fishing and Agriculture. The Pokomo are a finely built people but suffer greatly from Malaria and parasite worms. Because of this they are very lethargic and cultivate very small areas.

### 5. AGRICULTURE.

The chief crops at present grown on the river are Rice, Maize and Pojo.

The rice is cultivated near the river banks and is planted during the floods. There are many varieties of rice grown the best of which would appear to be:-

Kisuki  
Fino  
Fazan (called after Mr. S.H. Fazan)  
Sena

With the exception of the area around Kau the shambas are very small and badly irrigated.

Prices on the upper river are so very low that there is little encouragement for the Native to grow more than he needs for food for himself and family. For the improvement of rice growing, the Natives need to be taught better methods of cultivation and some simple system of irrigation. There is no need to introduce new varieties of seed as excellent seed could be selected from varieties already growing on the river.

MAIZE is the second most important crop and the one on which most work could be done. The present maize grown is very inferior and the seed must have been on the river a long time. The Pokomo methods of cultivating maize are very primitive. The bush is cleared but the shambas are not dug, a hole is made with a small jombi and seven to eleven maize seeds put in. The maize is sprouted before being planted, having been kept in water for some days beforehand. If the whole seven or eleven maize seeds germinate no effort is made, to thin out the resulting maize stalks, and when I suggested to the Wapokomo that one or two maize stalks would be better, they thought it a foolish suggestion. The chief need of the maize crop on the river is better seed with better methods of cultivation and bigger jembies.

POJO. This crop grows very well and yields heavily. There is little doubt that similar types of bean and pea varieties would do equally well.

SIMSIM. Used to be grown in large quantities on the river but low prices coupled with the fact that only the black variety was grown, which now fetches a considerably lower price than the white, have caused this almost to disappear.

LIVESTOCK. Very few of the Pokomo keep cattle whilst the Galla, of which there are about four thousand, keep large herds.

The Galla have heavy losses from fly and a great deal of work could be done to help them.

The Pokomo are meat eaters and occasionally buy cattle off the Galla, but only to kill and eat, not to keep.

There is no reason why such isolated villages as the Pokomo have should not be made clean areas, by bush clearing.

POULTRY. All the villages on the river have poultry in large numbers, and the effect of the Rhode Island birds issued some two years ago is very marked. The Pokomo are good poultry keepers and should be encouraged by the introduction of more Rhode Island Red cockerels.

6. SUGGESTED AGRICULTURAL SERVICES.

The ideal scheme for progress in Agriculture on the Tana River is to post a whole time Agricultural Officer there. This officer would find his time fully occupied and would be able to do a great deal in a short period to improve the conditions of life amongst the Wapokomo.

As, however, owing to financial and other reasons it may not be possible to post a whole time officer there I would suggest two alternative schemes:

1. That an Agricultural Officer be posted at Lamu to spend half his time in Tana River and half in Lamu districts. This officer to have two Indian Agricultural Assistants under him, one for each district, or
2. That an Indian Agricultural Assistant be posted to Tana River district and that an Agricultural Officer from down the Coast makes two safaris of inspection each year.

The Indian in this case could be supervised to a considerable extent by the District Commissioner. It would be necessary for him to spend most of his time on the river and a young and energetic man should be engaged with, if possible, no family.

7. WORK TO BE UNDERTAKEN ON TANA RIVER.

This chiefly concerns the Wapokomo.

1. The WaGalla keep big herds of cattle near the river and some profitable work might be done amongst this tribe in Ghee making and hide and skin preparation.
2. The Wapokomo being grouped together in villages should be very easy to approach.

The more immediate needs of this tribe agriculturally, are as follows:

- (1) The education of the tribe into better methods of planting, cultivation, etc.
  - (2) (a) Introduction of new seed of maize, beans, cotton and simsim.  
(b) Selection work on rice.
3. The introduction of new economic crops for trial on experimental shambas. Crops such as Jute might be experimented with.
  4. Introduction of new banana varieties. The present bananas are very small and badly cultivated.
  5. Education of the Pokomo into the growing of green vegetables, such as Tomatoes and onions. This is very important from a dietary point of view.
  6. Education of Wapokomo into acquiring livestock and using milk of same.
  7. Introduction of good strains of poultry.
  8. Improvement in marketing, both in method and in price obtainable.

AGRICULTURAL INSTRUCTORS.

I consider that an Agricultural Instructor should be posted to the Tana River at once. There is a Pokomo one, Anania, who was brought back from the Tana River by me in 1930, at Kilifi. He would be quite a lot of good if sent to the District Commissioner, particularly in helping with village shambas.

SEED SHAMBAS.

A seed farm could be started at Baum, where the District Commissioner is building a permanent camp. There rice varieties could be selected and maize bulked for issue, also new crops could be tried out.

8. RICE MACHINERY.

As all rice for export has to come down the river the best place to put a rice huller would be at Kau. If, and when, this huller is put up it should be a big one capable of the proper preparation of rice from Padi. The present huller on Belazoni Estate does not hull properly and breaks the seed. It is suggested that Government should provide the huller and lease it to an Indian firm.

9. MARKETING.

Lamu imports from ten to twelve thousand pounds worth of rice each year, so Tana River grown rice has not far to go for a market.

After being hulled the rice could be taken up Kau creek to Witu and from thence by road to Mukunumbi and from there by Dhow to Lamu. It would also be possible to export Padi to Lamu in the same way.



10. GAME.

The incidence of big game on the Tana River is a great drawback to Agricultural progress.

Elephant, Hippopotami, Baboons, etc., play havoc over the whole area, and the natives are naturally very discouraged when they see their whole year's food supply ruined in one night. Particularly when they are, by the game laws, prevented from protecting their shambas from the depredations of those animals.

I was shown several areas where rice cultivation had been abandoned because of the damage done, each year, by the elephant.

If cultivation is to be increased by the natives something will have to be done to control the game. There is only one way to ensure that damage will not occur and that is to either shoot the game out or drive them back into their own fastness in the area behind.

As long as the present policy of allowing the game to do as they like is allowed to continue it is useless to expect the native population to show any great enthusiasm for increased cultivation.

The writer feels that he cannot be too insistent on this point, in all the reports of administrative officers on the Tana for many years are complaints about the damage by game, however nothing seems to have been done and the crops of the native populace appear to have been sacrificed in order that elephants etc. may be kept for sporting visitors to this country.

At no village did we not get complaints about the damage inflicted and in many places we were able to see it with our own eyes.

11. FUTURE DEVELOPMENT OF THE TANA.

It is very apparent that there is insufficient population in the area to develop more than an infinitesimal part of the land available.

Future development of any importance will have to be done by labour imported from some outside source.

This labour can be divided into two classes:-

1. Labour of Peasant class done by cultivators of their own holdings.
2. Paid labour on plantations run with European Capital.

The Tana River district divides itself into two areas, each suitable for one of these types of cultivation.

1. Above Ngao the alluvial area around the river narrows down to about two miles on each side. The only people between Ngao and Masabubu are in widely scattered villages and number about 10,000 over more than two hundred miles of river and at least half a million acres of magnificent alluvial soil. There would appear to be ample room in this area for some re-settlement schemes for natives whose own areas have become congested in the highlands of Kenya.

2. Below Ngao the river valley or plain widens and between that point and Kipini there must be another area of at least half a million acres very suitable for big plantations. This area, has to all intents and purposes, no population. It is nearly flat with a gentle slope away from the river. There would be very little clearing and mechanical cultivation should be easy.

CONTROL OF THE RIVER.

The chief problem in development will be the control of the river.

The normal flood does not do much damage, but once in about every five years there is a devastating inundation which sweeps away the river banks and crops, doing great damage.

Before any scheme of real development could be undertaken it would be necessary for Government to obtain the services of an irrigation engineer from some country like India, where the training and taming of wandering rivers has been reduced to a fine art. No report has ever been made on the Tana River by a qualified irrigation engineer.

It would be useless for any big enterprise to start work without being able to control the river in some way or other. For controlling the lower end the building of a barrage somewhere in the region of Garsen suggests itself. From this barrage the water could be taken to all parts of the delta in canals, and let out into the sea at both the old and new mouths of the Tana.

NATIVE RE-SETTLEMENT SCHEMES.

There is no doubt that in the future Kenya is going to be faced with the problems of what to do with surplus natives from congested areas.

The writer suggests that the Tana River should be considered from the points of view of a proper re-settlement scheme. There are many areas above Ngao where settlement of a hundred or two hundred families could be made with ease. The soil is very fertile, a variety of crops can be grown, markets exist, and with a settlement of Kikuyu and Kavirondo there is no doubt that the wealth of the area and the individual would be greatly improved.

PLANTATIONS.

The delta would seem to be an admirable place for the cultivation of plantation crops such as sugar, rice and cotton.

The land is such that, with a proper control of the river and drainage, mechanical implements could be used and a great deal of labour saved.

It must be understood, however, that any company intending to operate on the Tana River must be possessed of very considerable capital, and that any one starting with a small amount is probably only inviting disaster.

12. TRANSPORT AND COMMUNICATIONS.

As mentioned earlier in this report, although the Tana River is an admirable means of transport the bar at the

-7-

mouth of the river at Kipini makes it difficult to get produce out of the river.

If the delta of the river was ever developed on the plantation system, the best means of exporting produce would be to build a canal to Manda bay. This canal could be used both for irrigation and for transport. The construction should not be expensive as there are no real obstacles in the route.

---

/HMD.

25th May, 1933.

Ref. No. 2/1293.

The Hon. Ag. Director of Agriculture,  
Nairobi.

TANA RIVER DELTA.

The analyses available indicate that the soils in the Delta are saline and probably alkaline although according to one set of figures they are slightly acid.

2. Considering the water extracts only for the three sets of soils:-

100 & 101. On belazoni estate near belazoni canal.  
102 & 103. On belazoni estate 3/4 m. from canal.  
104 & 105. 3/4 m. downstream from 100/101 Berlin sike.

## Java analysis 1:b.

Soil no.	100	101	102	103	104	105
Cl	0.123	0.218	0.296	0.127	0.169	0.303
SO <sub>4</sub>	0.151	0.955	0.333	1.152	0.093	0.273

## Berlin Analysis 1:10

CaO		0.170	0.820	0.040	0.055.
MgO		0.148	0.176	0.078	0.161.
K <sub>2</sub> O		0.007	0.016	0.017	0.043.
Na <sub>2</sub> O		0.502	0.615	0.245	0.236.
Cl		0.285	0.128	0.142	0.412.
SO <sub>4</sub>		0.355	1.250	0.088	0.256.
Total determined		1.467	3.005	0.606	1.163.

3. Both sets of figures show that there are considerable quantities of sulphates and of the more toxic chlorides in the soils of the Tana delta and that the subsoils contain more than the surface soils. The interesting point, however, lies in the quantities of soluble salts in the two sets of samples from near the canal and those in the soil away from the canal.

4. Generally in irrigation practice in saline soils it is found that the water table rises near the canals with a consequent marked increase in the soluble salts in the surface soil ..

soil. Under irrigation too, if there be any rise of water table or irrigation be slight, there is a rise of soluble salts to the surface. Here, on the contrary, the amount of soluble salts in the surface soil and subsoil near the canal is appreciably less than away from the canal. One is safe in concluding therefore that the drainage in the Tana delta is good and that under proper irrigation much of the deleterious soluble salt would be leached out of the soil.

5. It appears too that the chlorides are more strongly retained than are the sulphates. This is a disadvantage as far as sugar cane cultivation is concerned as chlorides have a depressant effect upon the sugar content of the cane.

6. It must be noted that all these samples were taken either on the Belazoni estate or near the Belazoni canal, that is within four or five miles from the sea coast. As it has been shown that this area has suffered a recent elevation, these salts are certainly the residue of sea salts and not the accumulation of salts produced during the formation of the soil. It is thus probable that the soils further removed from the sea, within the twelve mile radius north of Ngao, may well contain very little chloride. Unfortunately we have no analyses of Tana River Soils other than one from near the junction of the Thika and the Tana rivers which is valueless for this purpose. It would certainly be worth while examining samples of soil from the Tana Valley between the Belazoni canal and say 15 miles above Ngao to ascertain if the chlorides do persist. If not, the area should be fit for sugar cane.

SD: V.A. BECKLEY.

SENIOR AGRICULTURAL CHEMIST.



*The Hotel, Malindi.*

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*The Start from Malindi.*

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*The Ferry at Golbanti on the Tana River.*

---



*The S.L. Tana.*

---



*Aboard the Transport*

---



*Loading up en route Kipini from Lamu*

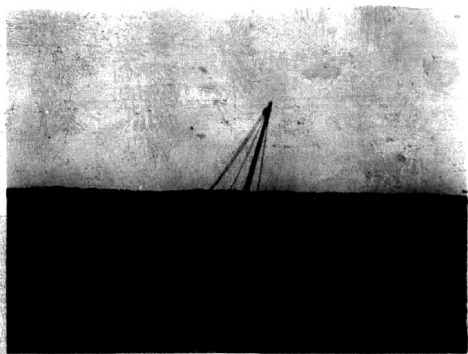
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*Lamu from the Roof of the District Commissioner's House*

---



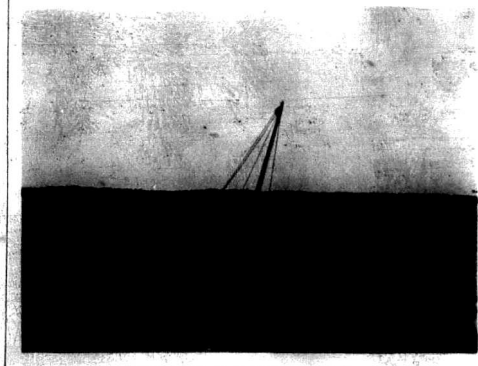
*Transport from Lamu to the Mainland*

---



*Lamu from the Roof of the District Commissioner's House*

---



*Transport from Lamu to the Mainland*

---



*Hide-drying Banda, Kwale.  
Erected by L.N.C.*

---



*District Commissioner's House  
at Kipini.*

---



*H. M. Prison, Kipini.*

---



*A Pokomo Village on the Tana.*

---



*A Rest Camp on the Tana.*

---



Another Pokomo Village showing one  
hut of the more modern type.

---



Baumö

---



*Kau, showing stockade erected in the river to protect the women from crocodiles while drawing water.*

---



*Native Rice Shamba at Kau.*

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*The Kipini Lamu Road.*

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*Lamu*

---





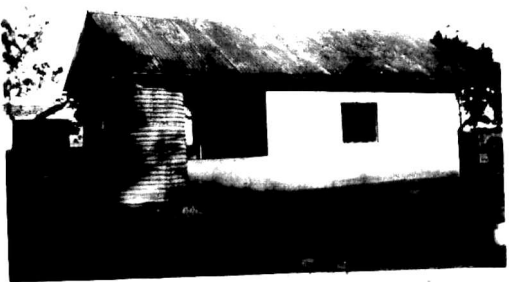
*Street in Lamu*

---



*The Entrance to the District Commissioner's  
House, Lamu.*

---



*The business building, nearly 1880  
from Alaska*



*The Dresser's house, Kakanoni*



*Wagon House, Santa Fe,  
New Mexico, N. C.*



*Slaughter House, Santa Fe,  
New Mexico, N. C.*



*Butcher's Shop, Kwale  
Erected by L. N. C.*

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*Slaughter House, Kwale.  
Erected by L. N. C.*

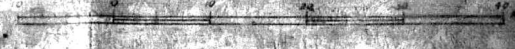




# THE TANA RIVER AND TELEMUGGER DISTRICT

- MOTOR ROAD
- STICK TRAIL
- 26 27 etc. BOUNDARY PILLARS
- PLACE NAME
- ▲ PLACE NAME
- WELL
- SMALL WATERING PLACE IN RIVER
- GOVERNMENT DAM
- NICHOLSON WEIR
- LAKE (FORMERLY DRAINING IN 1935 ONLY)
- WEIR (TRICK DAM)

SCALE  
1:10,000,000



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Miscellaneous (Topo) No 22







OLTRE IUBA

KAKASWALI

MUDU

TUGAUB

LUGUAN

SANDURIN

MAGALI

SANDURIN

MAGALI

SANDURIN

MAGALI

SANDURIN

MAGALI

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SANDURIN

MALHOTZ

RIVER





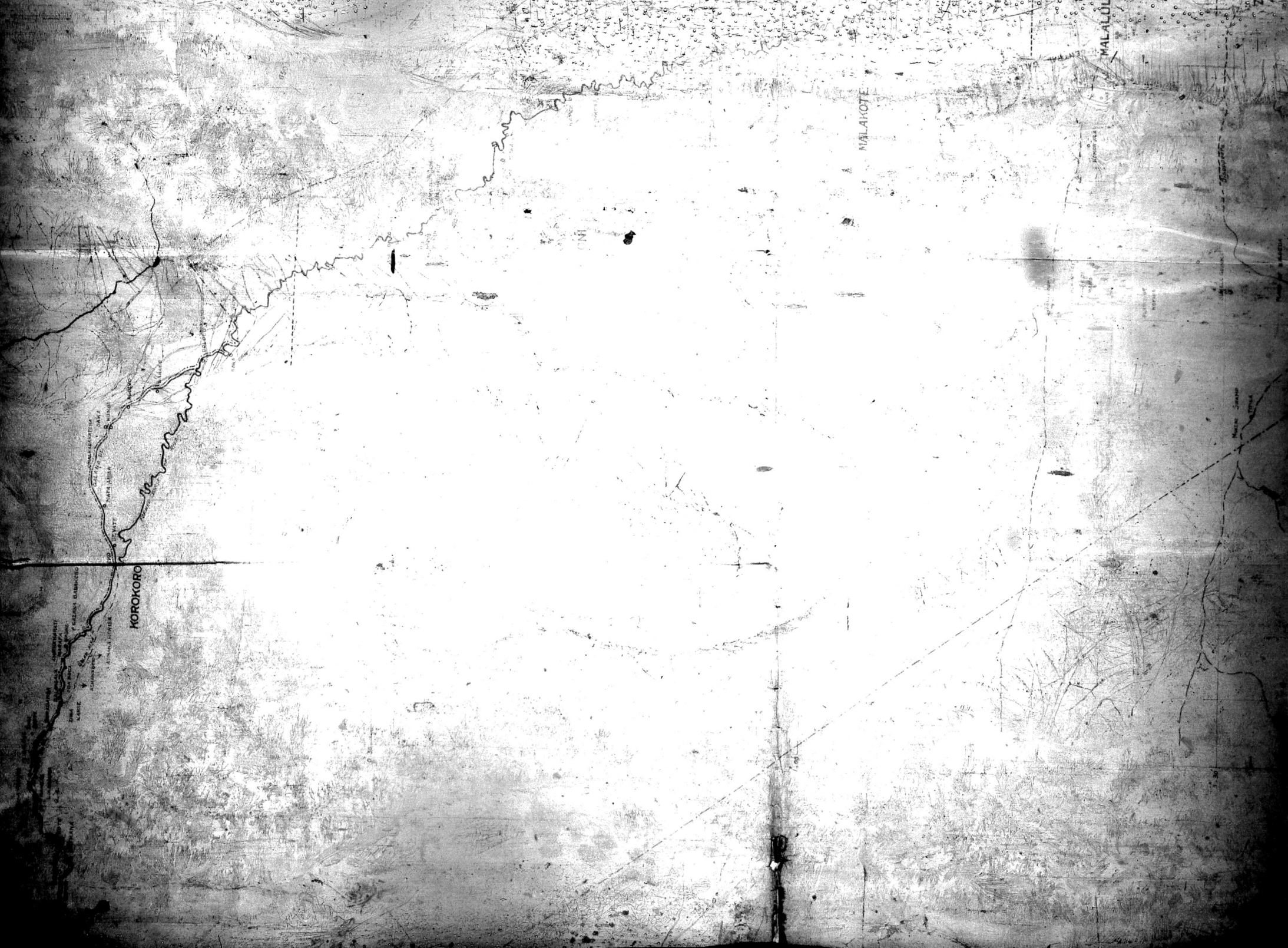
JN

OLTRE IUBA

MALHOTZ

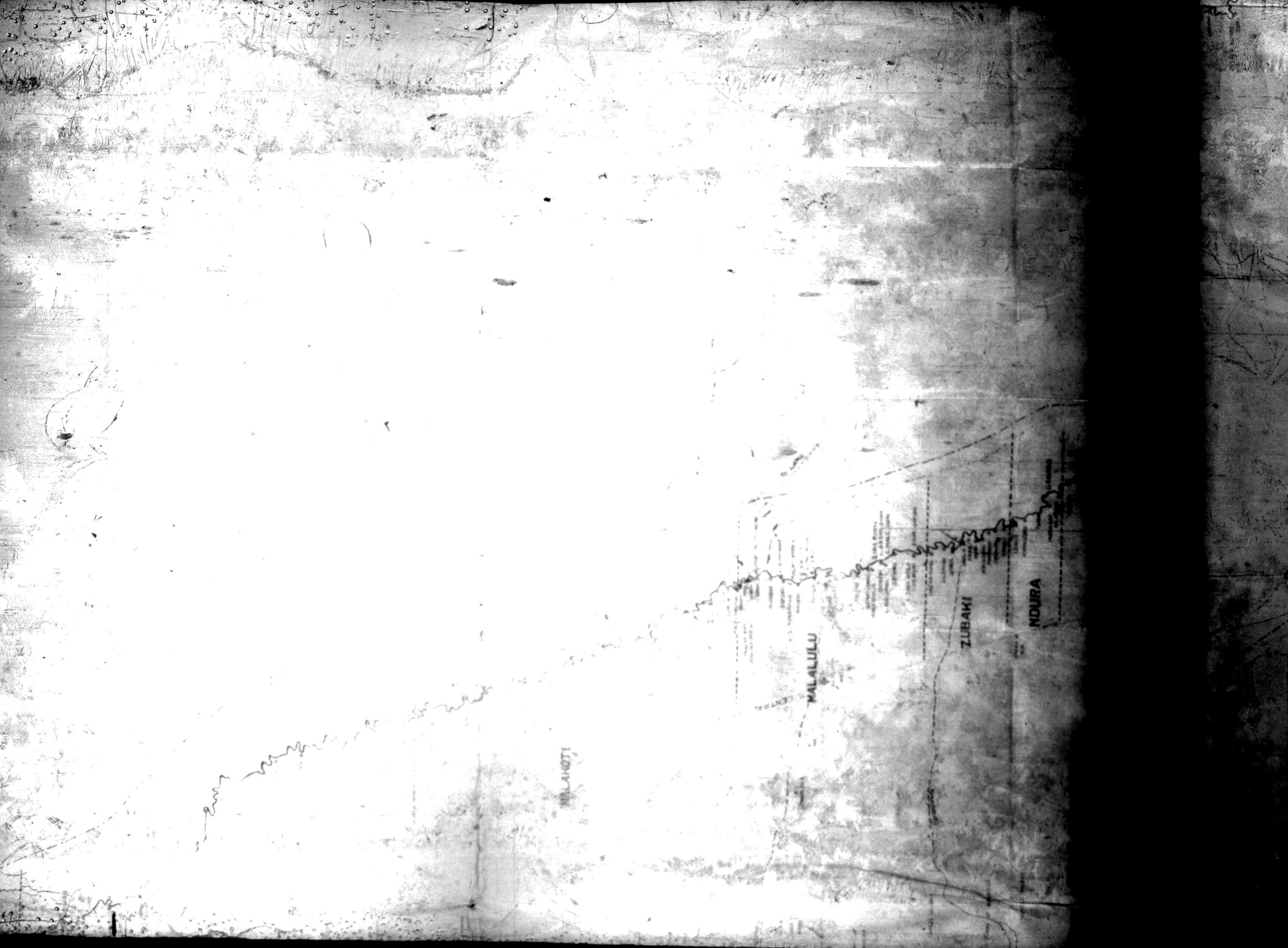
BISINETA

RESA WONGA









MALAKOTTI

MALALULU

ZUBAKI

NDURA



MALALULU

ZUBAKI

NDURA

TANGA

NDERA

SALAMA

NGAD

CHARRA

INDIAN OCEAN

Miscellaneous (Topo) Plan No 216.