

13th May 1926.

13 1926

REGULATION -

Allen Y
Bottanley 19
Graham
U.S. of S.

RESEARCH WORK IN CONNECTION WITH PASTURE GRASSES.

Hopes to send out Mr J.B.Orr, Agricultural Research Officer, to South Africa, and suggests he should visit Kenya also. £300 should cover cost.

U.S. of S.

U.S. of S.

U.S. of State

Previous Paper

1926-1927
90
7.5

MINUTES

This offer is especially worth taking advantage of now as it will help D: Montgomery's & D: Hill's efforts in the same line.

I am not sure about the cost. Does the £150 - £300 include a scientific secretary? It seems rather a high figure for the additional travelling expenses incurred D: Orr by visiting Kenya alone.

D: Montgomery will see D: Orr in E. Africa and D: Hill might like to see him before he leaves.

? Ask & say the S. of S. is glad to avail himself of this opportunity of having D: Orr's services & that if possible D: Hill will go with him.

to D: Hill - 27 MAY 1926 - 1/2
You tell me of the 5/4
1926-1927

Subsequent Paper

1927

for travelling facilities in the colony.
 Say that owing to the financial position
 of the colony expenses must be kept low
 & that therefore the S. I. S. could not
 agree to ~~an~~ cost of a Scientific
 Secretary being met from Colonial funds.
 Add that our Chief Vet. Advisor has
 already brought this matter up & the
 Director of Health has kindly consented to
 prepare a handbook for the use of V. O.
 & that Dr. Orr might like therefore to
 see Dr. Hill before he sails. Say that
 the S. I. S. will be glad to have further information.
 Send copy of course to D. A. G. Keay ^{refers 3005/15}
 saying that in view of the small cost involved
 the S. I. S. thought it best to take
 immediate advantage of this offer &
 provide further details later.
 We might be able to save some of
 Dr. Orr's expenses by asking the C. A. to
 take his passage.

Swan 16.6.25

In the case of the Falkland Islands, the
 Rowett Institute undertook the analysis of grasses,
 pathological examination of bones and certain
 feeding experiments, for which they received two
 grants of £250 each, but they did not send anyone
 to the Colony. Perhaps in the first instance
 Dr. Hill should be consulted in order to see how
 this proposal, if carried out, will fit in with his
 arrangements.

arrangements. If Dr. Orr does not visit
 seems a matter for consideration whether it might
 not be desirable for him to visit, if possible,
 Uganda and Tanganyika also.

We had better send an interim reply to
 Captain Elliot saying that Mr. Ormsby Gore is
 having the matter looked into and will reply later;
 consult Dr. Hill and then, if the proposals have
 been proceeded with, ask Captain Elliot for the
 actual figures, with and without the Scientific
 Secretary which he says he can furnish; and if it
 is thought that Dr. Orr ^{should} visit Tanganyika and
 Uganda also, Captain Elliot might be asked whether
 arrangements could be made, and what was the
 estimate of the additional cost. When the
 necessary information has been obtained, the
 Governor would, I suppose, have to be consulted
 before anything definite was settled.

DMH 23/6/25

Mr. Green

Letter - if you can see Mr. A
 W. C. 17.5.25

Mr. Green (the reply from Dr. Hill)
 Mr. Atkinson, (the letter from Dr. Hill)
 It does not appear from Dr. Hill's
 letter that the proposed visit
 would be present - be of much

22072

May 16th 1954

13 JAN

My dear Ormsby-Core,

I hope to send out to Africa this autumn one of our Agricultural Research men. His name is J. S. Orr, B.Sc., D.Sc. etc. He is personally head of the Rowett Research Institute at Aberdeen, and has been chosen President of the Agricultural Section of the British Association for its meeting this year.

The work of the Institute is Research in Animal Nutrition, and you know, of course, what great advances are being made at present in the study of nutrition and the great practical importance which it undoubtedly has. The work done has awakened great interest locally, and practical men have given evidence of this by considerable donations, of which the most recent is £20,000 towards an experimental farm from a local breeder. As a testimony from Aberdeen, nothing more need be said.

Our work, particularly our recent work in connection with pasture grasses and stock losses arising out of deficiency therein, links up closely with the recent work of Arnold Theiler and his people in the South African station, where, by discovering that certain diseases originated in a great deficiency of phosphorus in the veldt grass and by supplying this directly to the stock in the form of ground bone, he was able to open up great tracts of country and actually cause a definite rise in land prices in that area.

I was discussing this general line with some of the Kenya ranchers home on holiday in this country. They had themselves been greatly interested in Theiler's work and thought that it seemed to afford a key to many of their problems. They were very anxious to get into touch directly with this work, and on hearing that Orr was going to South Africa, asked if anything could be done to get him to come to Kenya also.

We have, before this, done some work in association with the Colonial Office, in the case of the Falkland Islands, where the Colony forwarded us some samples and paid for the expenses connected with their analysis etc. If it were possible for the Colony or the Department to pay a proportion of the expenses of the journey from South Africa, round by Kenya, I should be very glad to arrange to extend Orr's time of absence for this extra journey. I should like to send a scientific secretary with him as well, but if the money will not run to, that of course it won't. I should think some sum between £150 and £300 would cover everything, but if you think that the idea is a good one I shall work it out close and give you actual figures.

Yours ever,

Walter R. S. Lee

26 May 25

our Billy

Many thanks for your
for our's visit to Kenya.
not to make it clear, though,
his work would have
absolutely nothing to do with
his work - or rather that
would not possibly overlap
in any way. What we are
looking for is the mineral etc

content of grasses & pasture
plants which often varies
enormously - by 50% or
between plants of the same species
and botanically indistinguishable
only grown on different soils

I think, per Arnold T.
that we are the only people
the world who are really
studying this; yet we think
the key to many things. But
of course it's our baby. Yours

Royal Botanic Gardens,

Kew, Surrey.

Dear Bottomley,

I was very interested to learn from your letter of the 27th instant of Dr J. Orr's proposed visit to South Africa and I note that you ask for my observations on the suggestion that he should extend his visit to include the three East African Colonies and Protectorate.

[I understand from your letter that Dr Orr's visit to South Africa is in connection with investigations that have been made on pastures and the problems involved are mainly of a physiological and ecological nature. The value of such a visit depends in great measure on the extent of the preparatory work that may have been carried out by local investigators. In the course of a short visit Dr Orr himself would not have sufficient time to conduct the necessary preliminary experiments which require observations extending over a long period.

As the such preparatory work on the pastures of East Africa has already been carried out, only the local Veterinary and agricultural officials would be in a position to say, but I think they have not yet had time to carry out the work that is needed. It would appear therefore, that the same value would hardly attach to a visit to East Africa at the present day, as it would to South Africa.

The work I have suggested for East Africa is on quite different lines from that on which Dr Orr will be engaged in South Africa. His work concerns the efficiency and improvement of pastures. My suggestions involve the floristic examination of these pastures and the determination of their respective constituent herbs. In this connection the local people are in a better position to assist in identifying and collecting their chief grasses and fodder plants. Dr Orr would hardly have the opportunity or time to make such extensive collections as will be required nor do I think this side of the work is one which he would wish to carry out in connection with his special line of enquiry.

Yours sincerely,

Arthur Hill

Bottomley Esq., U.M.W. Office, 11, Downing Street, S.W.1.

S.P.A.C. 906

Colonial Development Advisory Committee,
Colonial Office,

Downing Street, S.W. 1.

C.D.A.C./F/349

4th December 1931

Sir,

I am directed by the Colonial Development Advisory Committee to request you to inform

Secretary Sir Philip Cunliffe-Lister that, at their the Lords Commissioners of the Treasury 44th Meeting on 2nd December, they had before them a Colonial Office memorandum applying for three annual grants of £1,500 to enable the Government of Kenya to pay the salaries and expenses of two scientific workers at the Naivasha Agricultural Research Station (C.D.A.C. 906).

2. The documentary information before the Committee was supplemented by personal testimony from Dr J.B. Orr, Director of the Rowett Research Institute, who was good enough to attend the meeting at the Committee's request. Dr Orr explained that scientific work on the animal industries of the Colonial Empire had hitherto been directed almost entirely to the eradication of disease, and little attention had been paid to the constructive possibilities of animal husbandry. The three-year programme for work at Naivasha which had been drawn up in collaboration with the Director of Agriculture, Kenya, provided for practical enquiries, based on the researches already carried out, into

problems

SECRETARY OF STATE,
COLONIAL OFFICE,
TREASURY,
TREASURY.

- 2 -

problems such as the securing of forage crops during periods of drought, and the increase in milk supply of native stock, which could not fail to be of great importance to the future of animal industries throughout the Tropics.

3. The Governor of Kenya has stated that in view of the small margin of working profit hitherto realised and of the necessity for conserving the remaining cash reserves of the station against periods of drought or locust invasion, he considers it impracticable to continue operations on the basis of a smaller grant than the £1,500 per annum suggested in the Economic Advisory Council's memorandum. The Committee are satisfied that it would not be justifiable to press the Kenya Government to contribute, for the three year period in question, to the maintenance of the farm, regard being had not only to the present economic difficulties of the Colony but also to the generous capital grants made by the Colonial Government in 1929, which rendered possible the establishment of the station at Naivasha.

4. The Committee regard the proposals before them as experimental work, localised for convenience in Kenya, of primary importance to the Colonial Empire. They have no doubt that suitable arrangements will be made for the results of these experiments to be promptly and widely disseminated through the appropriate channels, and on this understanding they recommend that annual free grants of £1,500 be made from the Fund in 1932/33 and the two succeeding years, to be applied by the Government of Kenya to the purposes described in the application before them.

5. A similar letter is being sent to the

Treasury.
Colonial Office.

I am,

Sir,

your obedient servant,

L.B. FREESTON.

Secretary to the Committee.

R

COLONIAL DEVELOPMENT ADVISORY COMMITTEE

I circulate for consideration a Colonial Office memorandum applying on behalf of the Government of Kenya for assistance from the Fund towards the cost of carrying out at Naivasha, Kenya, practical tests of the results of investigations into the mineral deficiencies in natural pastures.

The usual summary is prefixed.

L. B. FREESTON,

Secretary to the Committee.

L. OFFICE,

21st November 1931.

- 1 -

SUMMARY OF ANSWERS TO "SCHEDULED QUESTIONS"

- | | |
|---|---|
| 1. <u>Description</u> | Practical tests at Naivasha, Kenya, of results of investigations carried out into mineral deficiencies in natural pastures. |
| 2. <u>Estimated total cost</u> | £6,300 approximately (maintenance for 3 years). |
| 3. <u>Date of commencement</u> | April 1932. |
| 4. <u>Date of completion</u> | March 1935. |
| 5. <u>Allocation of cost</u> | Practically all local. |
| 6. <u>Reasons for not undertaking work before</u> | Occasion has not arisen. |
| 7. <u>Method of financing</u> | Expenditure will be met mainly from receipts; £1,500 per annum is desired from Fund to pay for scientific workers. |
| 8. <u>Advantages</u> | General betterment of pastoral industries in Tropical Africa. |
| 9. <u>Detailed estimates</u> | Have been prepared. |
| 10. <u>Assistance desired under Act</u> | Free grants of £1,500 per annum for three years. |
| 11. <u>Security for advances to non-official concerns</u> | - |
| 12. <u>Amount required in financial year</u> | |
| (a) 1931/32 | (a) Nil. |
| (b) 1932/33 | (b) £1,500. |

MEMORANDUM FOR COLONIAL DEVELOPMENT ADVISORY COMMITTEE

1. The Secretary of State applies, on behalf of the Government of Kenya, for a grant of £1,500 a year for three years to enable the results of scientific investigations into the mineral content of natural pastures to be tested on a practical scale at Naivasha.

2. The history of these investigations is given in paragraphs 3 - 11 of the attached Report of the Economic Advisory Council's Committee on the Mineral Content of Natural Pastures. (It will be noted that this document is at present confidential).

3. In 1926 the Empire Marketing Board gave a grant of £10,000 to enable work to be carried out in Kenya and in Scotland involving research into the nature and extent of mineral deficiencies in natural pastures, and into the causes and cures of the diseases resultant therefrom. This work was part of a comprehensive scheme of pasture research, other parts of which were carried out in Southern Rhodesia, Australia and New Zealand, also with assistance from the Empire Marketing Board.

4. The following is extracted from a recent letter from Dr. J.B. Orr, the Director of the Rowett Research Institute at Aberdeen:-

"The scheme has now developed into something totally different from what was begun by the E.M.B.

The original grant was for the purpose of ascertaining (1) the composition of pasture and its relation to diseases in grazing stock, and (2) the composition of the diet of natives and its relation to disease among natives. This work has been completed and the results published by H.M. Stationery Office as a report to the Economic Advisory Council.

The work on pastures and cattle threw up a number of problems of immediate economic importance connected with the rearing and feeding of cattle under tropical conditions, as for example, (1) the effect of feeding concentrates or other supplements to cattle and sheep grazing on natural pastures. This has been found to increase production in certain areas; (2) the possibility of reducing disease by feeding certain supplements in certain areas. The notable example of this is in the case of Nakuruttia; (3) methods of securing forage crops to carry animals over drought periods; (4) the demonstration that imported improved breeds if fed a complete

ration

ration in the tropics will not deteriorate in succeeding generations, and (5) demonstration of the extent to which rate of growth and production can be increased in native animals if they are properly fed and handled.

This work has obviously a direct bearing upon animal husbandry in the tropics and a special bearing upon the improvement of the native races insofar as it has been shown by the genetic investigation that the increased consumption of milk by the native races would lead to a very great improvement in physique and reduction in disease."

5. The matter is of first rate importance, both from the point of view of European farming in the Highlands of Tropical Africa, and in the interests of native development. In Kenya alone there are estimated to be some 12,000,000 head of native cattle, and in the absence of a means of disposing of the inferior stock progress can be made only by improving the quality of the pasture. The experiments now proposed should provide invaluable material for the application of more scientific methods of feeding.

6. The value of these experiments will be of widespread application throughout the Tropics. As regards native stock, comparable problems are found in Kenya, Uganda, Tanganyika and Nyasaland; in Northern Rhodesia, moreover, there is the special problem of providing food supplies for the mining areas.

7. In normal times the Kenya Government would no doubt have been prepared to carry out the work without assistance. The interest which that Government has already shown is evidenced by their provision of the farm at Naivasha (valued at £25,000) and an initial capital grant of £5,000.

The present financial situation of Kenya is, however, so serious that the Secretary of State cannot contemplate inviting the local Government to make itself financially responsible for the programme. The Kenya Government, like others in East Africa, has been driven to undertake drastic retrenchment and economy; existing contributions to scientific institutions such as the Human Trypanosomiasis Research Institute at Entebbe are being reduced or discontinued altogether, and there is no possibility of adding to the Colonial Government's commitments in this direction.

A note on the financial position of Kenya was circulated with O.D.A.C. 523. Since then the position has steadily deteriorated, and it is now feared that despite further economy and retrenchment the deficit on the current year's working will be not less than £200,000. As a result, the cash resources

resources of the Colony are severely strained. It is therefore essential not only that the Budget for 1932 should be balanced, but that it should show a surplus, and with this end in view additional measures including further increases of taxation and a special levy on salaries are now under consideration.

There is, moreover, always the possibility of unforeseen expenditure in 1932, for which at present no margin exists. Such a contingency is by no means remote. It seems highly probable that the locust invasion which has so seriously affected the Colony during the current season will be repeated next year. It is, of course, impossible to predict whether in that case the results will be equally severe, but the risk of the estimates of both revenue and expenditure being very adversely affected from this cause cannot be ignored. The Secretary of State trusts, therefore, that the Committee will agree that in the circumstances it would be unreasonable to expect the Kenya Government to make any contribution towards the present proposals.

8. A statement is attached showing the capital expenditure, maintenance costs and revenue on the farm at Naivasha since it was started in September 1929. An approximate estimate is also appended of the revenue and expenditure during the next three years. These figures (prepared by the Rowett Research Institute) appear to indicate that the farm could be continued on the basis of a subsidy of £1,200 a year. The Governor of Kenya has been asked by telegram whether he agrees that the annual grant of £1,500 suggested in the Report of the Pastures Committee could be reduced, and his reply will no doubt be received before the meeting of the Colonial Development Advisory Committee.

The proposals have been examined by the Secretary of State's technical advisers, and he is satisfied that their adoption is of primary importance in the interests of the animal industries of the Tropical African territories. The recommendations summarised in paragraphs 43 II and 43 IV of the Pasture Committee's Report have been commended by the Prime Minister to the Secretary of State's favourable consideration.

It may be pointed out in conclusion that no question arises of postponing the work until more favourable times. If the existing organisation is broken up and the lands at Naivasha are abandoned, not only would the necessary continuity lapse, but on resumption much time and money would be wasted in repeating the preparatory work which has been accomplished during the past few years.

Office,

14th November 1931.

NAIVASHA STOCK FARM, KENYA

Statement of Expenditure and Revenue from September 1929 to
the end of August 1931

Capital Expenditure

Buildings: repairs, renewals and additions	576
Livestock	2,850
Implements and equipment	475
	<hr/>
	£4,000
	<hr/>

Maintenance Expenditure

Salaries and Insurance of Research Workers	12,494
Travelling expenses of Research Workers between Kenya and Scotland	196
Livestock	80
Feedstuffs	435
Native Labour	278
Freights and travelling expenses in Kenya	226
Sundries	171
	<hr/>
	£3,880
	<hr/>

REVENUE

Credits from sales of cream, pigs, wool,
slaughter bullocks, etc.

£1,415

Estimate of Expenditure in each of the next
three succeeding years

1. Salaries for research workers	£1,200
2. Insurance of Research Workers and travel- ling between Kenya and this country	100
3. Purchase of stock	100
4. Renewal of implements	50
5. Freight charges and travelling expenses in Kenya	100
6. Feedstuffs	300
7. Native labour	150
8. Sundries	100
	<hr/>
	£2,100

Estimate of Revenue in each of the next
three succeeding years

At £75 per month

£900

Downing Street,

26th May, 1925.

Sent

Dear *Wally* Elliott

RAFT.

Mc.
E. ELLIOTT, M.P.

I have already acknowledged your letter of the 17th of May regarding the suggestion ^{that Dr. Orr} ~~of Doctor Orr~~ to visit Kenya.

MINUTE.

ALLEN. *26/5*
Bottomley 26
Sent
J. Shuckburgh.
Davis.
D. Grindle.
Hand
I. Macdonald Smith.

I am having the matter looked into, but I am afraid it will be some little time before I can send you anything definite in the way of a reply. The fact is that a scheme for systematic selection of the grasses and pasture plants ^{in East Africa} is already under the consideration of the Director of Kew Gardens, whom we are consulting in order to find out how far the suggestion of ~~Dr. Orr~~ could be fitted with this scheme.

rap

W. S. S. S.
W. S. S. S.

45 for the Botanical
Institute

27 May, 1925

Dear Hill,

Captain Elliot, ^{the Under} ~~of the~~

Secretary for Scotland

Scottish Office has written to Mr.

Ormsby-Gore saying that he hopes to send

out to South Africa this autumn ~~Doctor~~

J.B. Orr, the head of the Rowett

Research Institute at Aberdeen, the work

of which as you doubtless know is

research in Animal Nutrition.

The work of the Institute

and particularly its recent work in

connection with pasture grasses and

stock losses arising out of deficiency

therein, is stated to be linked up close

ly with the recent work of Theiler and

his people in the South African station,

where, by discovering that certain

diseases originated in a great

DRAFT.

M.L. ESQ. D.S.C.

MINUTE.

Mr. H.W. 8675

Mr. Ormsby-Gore

Mr. J. Shuckburgh

Mr. C. Davis

Mr. G. Orinole

Mr. Ormsby-Gore

Mr. Arnold

Mr. Thomas

at end
July 26 1925

24/5

deficiency of phosphorus in the veldt
grass, and by supplying this directly
to the stock in the form of ground
bone, he was able to open great tracts
of country and actually cause a definite
rise in land prices in that area.

Captain Elliot has discussed
this general ^{line} with some of the Kenya
^{settlers} ~~now~~ ^{now} ~~at home~~ ^{at home} who
~~has already~~ ^{has already} been greatly interested in
Dr. Orr's work, and thought it seemed
to afford a key to many of their
problems; they were very anxious to
get into touch with this work, and
on hearing that ~~Dr.~~ ^{Dr.} Orr was going
to South Africa, asked if anything
could be done to get him to go to
Kenya also.

Captain Elliot says that
he will be very glad to arrange to
extend ~~Dr.~~ ^{Dr.} Orr's time of absence
for this extra journey if the Colony
could pay a proportion of the

additional expenses.

In considering

Elliott's proposals we have ^{of} course,

not overlooked ^{ing} your official letter of

M.S/3005/25 Ea.

the 19th of January, 1925 regarding the

proposals for the examination and

collection of the grasses and pasture

plants in East Africa, and if ~~Doctor~~

Orr is to go to Kenya it will be

desirable to consider whether it would

not be well to arrange for him to visit

Uganda and Tanganyika also. But before

going further into the matter we should

be glad to have your observations as

to ^{his} ~~not~~ the suggested visit of ~~Doctor~~

Orr might be fitted into the scheme

which you have already in view.

Yours sincerely

(Signed) W. C. BOTTOMLEY

- Mr Allen 2/6/25
- Mr Green 3/6
- Mr Strachey
- J. Shackburgh.
- C. Davis.
- Grindle.
- Mr. Ormsby-Gore
- Mr. Ormsby-Gore
- Mr. Anery.

Handwritten: Fred Anery
No. 28572

Qto for Mr. Ormsby-Gore's sig.

Handwritten: SPEA
W. Allen

Handwritten: sent 6/16/25

6th June, 1925.

DRAFT.

Dear Walter,

W.E. Elliot, M.C.,
M.P.

We have now had a reply from the

Director, of Kew Gardens, and his view coincides with that expressed in your further letter to me of the 26th May, that the working ^{has} he suggested for East Africa is on quite different lines from that on which Dr. Orr will be engaged in South Africa. Dr. Hill also writes as follows:-

Handwritten: v. further
to no 22072/25

"I understand from your letter that Dr. Orr's visit to South Africa is in connection with investigations that have been made on pastures and the problems involved are mainly of a physiological and ecological nature. The value of such a visit depends in great measure on the extent of the preparatory

preparatory

preparatory work that may have been carried out by local investigators. In the course of a short visit Dr. Orr himself would not have sufficient time to conduct the necessary preliminary experiments which require observations extending over a long period.

Whether such preparatory work on the reserves of East Africa has already been carried out, only the local Veterinary and Agricultural officers would be in a position to say, but I think they have not yet had time to carry out the work that is needed. It would appear, therefore, that the same value would hardly attach to a visit to East Africa at the present day, as it would to South Africa."

It is now proposed to consult the Officer Administering the Government of Kenya, but before doing so, perhaps you would kindly let me have your observations on Dr. Hill's remarks, and also the further figures for expenses (a) inclusive and (b) exclusive of Scientific Secretary which you promised to give in your letter of the 15th of May.

If Dr. Orr should go to Kenya, it might

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be well to consider whether it
desirable to arrange for him, if possible
to visit Uganda and Tanganyika also.

Perhaps you would let me have your views
on this point, and, if you think it both
desirable and possible, an estimate of
the extra expenditure involved. In the
case of Tanganyika, however, it may be
necessary to get Treasury approval before
any such arrangement could be made.

*If there are any
pamphlets or memoranda
explaining the branch of the
work of the Rowell Institute
it might be useful to send
copies to the local Governments
when considering them.*

*Yours sincerely
(sgd) W. O. G.*