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MAY 20 1920

A. G.
PING

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NAKURU - MUMIAS RAILWAY

1920

APRIL

Trans report of Committee on economic survey of .
Figures asked for re Thika Railway will be forwarded as
soon as possible

Mr. H. K. ...

CA 72004 is not ...

- (1) on 24 Oct asking for a economic report on the Nakuru - Mumias line to be sent as soon as possible
- (2) on 27 Jan asking for a telegraphic summary of the information for the Nakuru - Soy section.

No reference is made to our let. of 27 Jan: either in the telegraphic summary (13945) or this despatch or report, but it is evident that the telegram was received, both because a telegraphic summary was sent & because the report contains (cf. para. 12) reference

to Nakuru - Soy.
At the same time it seems as if the statistics

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OFFICE: LONDON

of ~~income~~ in 1945 are for the
 whole time — but, on the other hand, we
 are told in para. 39 that the
 50% Member contribution ^{was} ~~will be~~
 nothing but "State personal".

Therefore if we have to make any
 deduction from the figures in
 1945 it is only in respect of an
 (unknown) part of the "State
 personal" items, viz.

	State personal	Income tax
Apr 32 years	Rs 75,000	Rs 25,000
Apr 13 years	Rs 150,000	Rs 30,000

This will not affect the balance
 of the ~~State~~ ^{State} ~~personal~~ ^{personal} ~~items~~ ^{items} of the
 report & will be adjusted

at end.
 25 0 10
 25 0 10



April, 1920.

My Lord,

400/1394⁵
I have the honour to refer to my telegram No. 128 of 11th March last, which gave a précis of the report of the Departmental Committee appointed to make an economic survey of the Nakuru-Eldoret-Mundaa branch Railway under the instructions contained in Your Lordship's telegram of December 24th and to forward in duplicate the full Report of the Departmental Committee.

400/42444

400/1394⁵
2. The Departmental Committee is in process of preparing the figures asked for in Your Lordship's telegram of March 25th in respect to the extension of the Thika Railway; the information required will be forwarded to Your Lordship at the earliest possible date.

I have the honour to be,

Your Lordship's

Most obedient servant,

H. H. H. H.
ACTING GOVERNOR.

THE RIGHT HONOURABLE

VISCOUNT MILNER, P.C., G.C.B., G.C.M.G., &c. &c.,

SECRETARY OF STATE FOR THE COLONIES,

DOWNING STREET,

DEPARTMENT OF AGRICULTURE.

Nairobi,

British East Africa,

16th April 1920

To, His Excellency,
The Acting Governor,

East Africa Protectorate
Nairobi.

Your Excellency,

The Committee appointed by Your Excellency in terms of your Minute dated the 12th January 1920, have the honour to submit their report.

Preface.

Terms of Reference.

2. In pursuance of a request from the Secretary of State for the Colonies we were instructed to make an Economic Survey of the projected railway line taking the following route Nakuru - Elgeet- Mumias, and to submit "estimates of probable traffic during the first three years and permanently".

Summary of conclusions telegraphed.

3. A summary of our conclusions was prepared and submitted as requested in the form of a telegram which was despatched to the Secretary of State on the 11th March 1920 (Appendix No. 2).

Appendices.

4. It now remains for that summarized report to be amplified and, submitted with this report are the following appendices:-

1. Minute of appointment of Committee
2. Copy of summary of report transmitted by telegraph.
3. Schedules 1 to 5 giving details of areas, production and traffic.
4. Rainfall records.
5. Summary of evidence taken.

Schedules submitted.

5. The schedules, referred to above, indicate the manner in which the estimates of production, the tonnage of traffic and the earnings were arrived at.

Traffic on new and existing line.

6. Care was exercised to differentiate between the traffic on the new and on the existing railway and to calculate both.

How traffic estimated.

7. It was found impracticable to attempt to estimate the permanent traffic, and it was decided to submit figures indicating probable traffic and earnings in 3 and 10 year periods after completion of the new line.

Procedure.

Steps taken to secure information.

8. In order that an opinion might be formed as to their potentialities and productivity the areas which would be served by the proposed new line were personally inspected by members of the Committee. Evidence having a bearing upon local production and development was taken from Farmers' and other Associations, from representatives of Companies and from individuals at Nairobi, Nakuru, Ravine and Eldoret.

9. Information was sought from and furnished by those bodies under the following main heads.

Agricultural & General.

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1. Kinds of Soil and their fertility.
2. Proportion and area at present cultivated.
3. Proportion cultivable.
4. Proportion likely to be cultivated by present occupiers on advent of railway.
5. Probable rate of influx of new settlers on advent of railway.
6. Kinds of crops grown
7. Probable main crops
8. Yield of crops per acre.
9. Suitability for livestock
10. Traffic in stock for breeding and slaughter purposes, and in dairy produce.
11. Estimates of traffic in chief kinds of agricultural and dairy produce, livestock and general requirements of community native (personal); additional to that now proceeding via Nakuru- Londiani.
12. Factors affecting production, climate, soil fertility, capital labour, market prices &c.

Forestral.

13. The number of mills which it is proposed to erect in the forests within reach of the proposed line and their approximate positions.
14. The estimated annual output, in tons, of sawn and manufactured timber from each mill for the first three years after construction of the line and thereafter during the currency of the licence.
15. The estimated quantity, in tons, of round timber which will be railed from the forests annually for the first three years and thereafter.
16. The approximate position of logging camps from which round timber will be railed as distinct from saw mills.

Main Report.

Areas and their character.

10. The main areas covered by the enquiry comprised Nakuru, Njoro, Solai, Rongai and Lower Molo Valleys, Ravine, Uasin Gishu Plateau, Trans Nzoia and North Kavirondo.

Of these Ravine is mainly a forestal area and a Native Reserve, North Kavirondo is entirely populated by natives, while the other areas are settled by Europeans.

Nature of traffic.

11. The main traffic may be classified under the following heads: (1) Agricultural (2) Timber (3) Native (personal) (4) Inward to supply the needs of the community for maintenance and for development purposes.

Difficulty of estimating production.

12. In a country like this one where agricultural development has only reached the initial stages, whose progress is dependent upon many factors which are at present unknown and of which the effect cannot be foreseen, it is somewhat difficult to measure with some degree of accuracy the future production, the lines along which development will take place and the rapidity and extent of that development.

Greater accuracy of Forestal production.

13. In the case of forestal production in the areas covered, the factors affecting the output are not so variable and the timber supply can be fairly accurately determined.

Conservative character of estimates submitted.

14. The estimates submitted have been prepared on a conservative basis and on the information disclosed in the course of evidence and after personal investigation it is considered that unless the world's market prices render the agricultural industry generally unprofitable the results forecasted

Need of New Railway.

15. The proposed line will serve areas urgently in need of railway communication. At present agricultural development is seriously hampered particularly in the Basin Giam Plateau and the Trans Noia by the impediment of a distance of 40 to 120 miles from rail head.

CLIMATE, SOIL AND FERTILITY

16. The climatic and other cultural conditions are highly favorable for the production of a number of farm crops, some of them highly valuable. The paucity of geological information prevents a classification of the soils according to their origin being made. They consist chiefly of red loams in good physical condition for cultivation. Judged by their appearance, the character of the natural vegetation and the yield of crops grown upon them, the soils are undoubtedly for the most part highly fertile. The proportion of cultivable land is small, no poor land is seen among that included in the cultivable area and all that land possesses fertility much above the average.

It is regretted that analyses of samples of soil representative of the types found have not been completed in time for submission with this report.

Suitability for European occupation.

17. The climate is well suited to occupation by Europeans.

Results to be obtained

18. With railway communication more intensive development will take place, land at present unoccupied will become productive

Satisfactory
development.

22. Your Committee was impressed with the amount of development which had already taken place in the absence of railway communication. It is clear that land has been secured, developed, and held in anticipation of the provision of railway facilities.

Effect of
failure to
construct.

23. Apart from the disappointment which will be experienced if construction does not begin at no far distant date, development will be checked, land values will either remain stationary or decline, and the effect will be seen in a general arrestment of progress throughout the country.

Need of Trans
K2018 area.

24. Attention is drawn to the pressing need for bringing the Trans K2018 into closer railway communication. There, no less than 250 holdings have been allotted under the Ki Soldier Settlement Scheme, and success is only likely to be achieved provided reasonable railway facilities are afforded and it is difficult to see how failure can be prevented unless conditions for marketing the products of the holdings are improved.

Labour supply
and conditions.

25. Some apprehension regarding the sufficiency of the labour supply for the development contemplated exists, but it is hoped and expected that the difficulties in respect of labour supply will be overcome. Some economy in the available supply

productive, large holdings at present only partially in beneficial occupation will be subdivided. A larger and an increasing European population will be settled on the land, more capital will be introduced into the country, production will be substantially increased and a natural expansion of trade arising out of the increased needs of the community will be brought about.

Other benefits.

19. As the population increases so provision can be made for the amenities of life of a civilised community and state services which would not be permissible with a sparse population can be rendered.

Other development not estimated.

20. Apart from the increased traffic directly due to the construction of the new line under consideration there will be concomitant development with increased trade and expansion of trade generally will take place at the ports and at distributing centres. It was found to be impracticable to represent these factors by figures but they should be taken into consideration when the merits of the scheme are under review.

Unstable land values.

21. Land values in the main areas dealt with are at present unstable. The prices realised for farming propositions similar in character vary greatly and are dependent largely upon the conditions bringing about the sale and the views of the purchaser.

supply is also likely to be brought about through the saving which can be effected from an extended use of modern agricultural machinery, implements and appliances, and from a better knowledge of the management of the labour itself.

Labour for construction.

26. It is to be assumed that the labour supply needed on the farms will not be disorganised through the demand which will exist for labour for the railway construction, and that the requirements will be met by the importation of unskilled labour from neighbouring territories.

Fair supply of Labour.

27. Granted these premises it is considered that a fair supply of labour is likely to be forthcoming to meet the needs of development at a steady and continuous rate.

Kind of occupiers of land and provision of capital.

28. As far as circumstances allowed an opinion to be formed it would appear that the land now occupied in the areas under consideration is in the hands of progressive men who will take advantage of improved railway facilities and that either they possess sufficient capital for development or they can furnish security for raising it.

Crops grown.

29. The staple crops of the areas under review are at present maize, flax and coffee, each of which has passed the experimental stage and their successful growth

growth and suitability for the soil and climatic conditions have been proved. 371

With the advent of the railway a substantial export trade in the products of these crops is expected. In certain areas wheat is likely to be grown successfully and it may reasonably be expected that within a reasonable time sufficient wheat will be grown to serve local needs, provided always that the profits obtained from growing this crop are not appreciably less than that to be obtained from other crops. It is not expected that wheat can or will be grown for purposes of export in competition with other countries where conditions are more favourable.

Cotton is about to be grown in certain parts and it is not unlikely that it will be found suitable and that so long as comparatively high prices are obtained it will be found that though under pre-war conditions it was considered to be a crop suitable only for production by natives it will, under the changed conditions be found a profitable one by the European farmer.

Dairying
and Pigs.

30. In the ordinary course of development and sub-division of the land into smaller holdings farmed by persons with limited capital who require a quick and steady return, it is likely that

dairying

dairying and pig farming will become 372
important activities. The conditions are
favourable for the success of these pursuits
and with the establishment of Butter, Cheese
and Bacon Factories already contemplated it
is believed that in the course of a few
years a substantial export trade in these
products will be developed.

Beef produc-
tion.

31. It is doubtful whether cattle rearing
for beef production on a ranching scale is
likely to be pursued. While the grazing
conditions on some of the areas under
consideration are suitable, difficulty will
exist for some time to come in establishing
an export trade in beef, and some time must
elapse before the present menace of stock
disease is removed.

Sheep.

32. None of the land under consideration
is suitable for successful sheep farming,
at least with wool bearing sheep.

Export Trade.

33. It will be understood that the
development and prosperity of the agricul-
tural industry of this Protectorate will be
largely dependent upon the export trade and
the rate of progress made will be greatly
influenced by the market prices obtained
for export products.

Ability to
compete with
other countries.

34. The view is held that in respect of the
staple crops mentioned, also of dairying
products and bacon, this Protectorate
can successfully compete

Against

against other countries provided that in railway and shipping rates and in the economical handling of produce at the port it is not seriously handicapped.

Kind of timber.

35. The forests traversed by, or within reach of the proposed railway line are rich in soft woods e.g. Podo and Cedar, and hard woods, which are in large demand locally and for which there is every indication that a considerable export trade will be established in the near future.

Local timber requirements.

36. As the development of the country progresses and as more intensive cultivation is undertaken, which may be said to be synonymous with closer settlement so the demand for timber by the building and allied trades will increase; more saw mills will be established to meet the demand and more economical handling of timber will be practised, which will reduce waste and at the same time tend to conserve the supplies in the forests.

Output of timber.

37. The estimated output of timber as shown in the schedule submitted is based upon the evidence furnished and also on the result of other saw mills now working in similar forests; with the exception of the forest subject to a concession the estimated output of timber is based on the estimated yield of the forest having regard to conservative management. The estimated

estimated output from the mills in the concession forests is based on figures supplied by the Agents and have reference to the number of mills which it is proposed to establish.

Estimates of
production &c.

38. The figures which follow represent a summary of the production, railway traffic and earnings which your Committee estimates, after as careful calculations as can be made, on the information available and obtainable.

Production
Soy to Mumias
negative.

39. It should be noted that on the section between Soy and Mumias passing through the native reserve of North Kavirondo it is considered that the traffic will, for all practical purposes, be confined to Native "personal" and that there will be no appreciable production of crops to be carried by rail.

40. The estimated production per annum in the areas served less requirements for local consumption is:

(a) 3 years after completion of the railway

Maize	..	66,000	tons
Flax Fibre & Tow	..	6,700	tons
Coffee	..	1,100	tons
Sundry crops	..	1,900	tons
Timber	..	26,000	tons

(b) 10 years after completion of the railway

Maize	..	131,250	tons
Flax Fibre & Tow	..	12,900	tons
Coffee	..	2,400	tons
Sundry crops	..	3,900	tons
Timber	..	28,000	tons

Pigs number 18,500
converted into 1200 tons bacon and
bacon products.

Milk 1,000,000 gallons of which
350,000 gallons milk and 65,000

gallons

gallons cream also 160 tons cheese
and 112 tons Butter railed
Cattle 5,000 head railed.

- (c) Other traffic under (a) Inward 21,000
tons Native Personal 50,000 single
journeys, under (b) Inward 42,000 tons
"Native personal" 100,000 single
journeys.

41. The following are estimated earnings
on new and existing railway lines after
deductions have been made covering traffic
now loaded at Nakuru and Londiani, also
traffic which would result from develop-
ment and be carried if the new line was
not constructed. Calculations made
allow for a proportion of traffic
consumed or used in Protectorate and the
remainder carried to the Coast for export.

- (a). Three years after completion of
new line.

		<u>Rupees.</u>
Maize	..	120,000
Flax	..	40,000
Coffee	..	12,000
Sundry	..	8,000
Timber	..	108,000
Inward Traffic	..	80,000
Native Personal	.	75,000

Total Rs. 443,000

- (b) Earnings of increased traffic on
existing line.

		<u>Rupees.</u>
Maize	..	365,000
Flax	..	106,000
Coffee	..	25,000
Sundry	..	20,000
Timber	..	420,000
Inward Traffic	..	400,000
Native Personal	.	25,000

Total Rs. 1,362,000

(c)

(c) Ten years after completion of new line.

	<u>Rupees.</u>
Maize ..	238,000
Flax ..	80,000
Coffee ..	25,000
Sundry ..	17,000
Timber ..	117,000
Inward Traffic ..	162,000
Native Personal ..	150,000
Pigs ..	10,000
Bacon & Bacon Products ..	16,000
Milk cream butter and cheese ..	18,000
Cattle ..	20,000

Total Rs. 853,000

(d) Earnings of increased traffic on the existing line.

	<u>Rupees</u>
Maize ..	815,000
Flax ..	226,000
Coffee ..	53,000
Sundry crops ..	39,000
Timber ..	515,000
Inward traffic ..	810,000
Native Personal ..	50,000
Bacon & Bacon Products ..	48,000
Butter & Cheese ..	7,500
Cattle ..	20,000

Total Rs. 2,583,500

42. The following financial statement submitted by the General Manager, Uganda Railway, reflects the estimated result of working the railway (Nakuru - Soy only) in the 3rd year as estimated on pre-war freight rates and on working results for 1918-19 as follows:-

Earnings ..	Rs. 443,000
Working expenses ..	<u>286,000</u>
Profit ..	Rs. 157,000
	£ 15,700

Interest

Interest and sinking
fund on the Capital
cost say £1,850,000
@ 6%

£ 111,000

Net Loss £ 95,300

Deduct profit earned
on the Uganda Railway

£ 34,000

Total net Loss = £ 61,300

It is impossible to say what the working expenses may be 10 years after the Railway is completed, but taking the percentage of total expenditure to gross receipts at 75% the result would be :

Earnings (Net) ..	£ 86,000
Interest and Sinking Fund on Capital say	<u>111,000</u>

Total Net Loss £ 25,000

Scope for
further
development.

43. These estimates are based on a cultivated area of about 150,000 acres reached in 3 years and about 300,000 acres reached in 10 years after completion of the proposed new railway.

There remains a balance of about 800,000 acres of good cultivable land for future development chiefly in the Uasin Gishu Plateau and in the Trans Nzoia areas. The use which will be made of it and the extent of the development which may take place cannot at present be forecasted, but it will be evident that there exist potentialities for further expansion on an extensive scale.

44. Acting upon your instructions your Committee confined their attention to the route laid down, but before concluding this report it would appear advisable to state that in our opinion it is likely that an examination of the merits of alternate routes and of serving a certain area by the construction of a branch line would probably have resulted in recommendations being made which would be calculated to serve the needs with greater advantage and probably at less cost.

45. Our thanks are tendered to the representatives of the different associations and other parties concerned who rendered valuable assistance in supplying information required, also to officials and others for their help in making the necessary arrangements to facilitate the enquiry.

46. We desire to express our appreciation of the capable manner in which the Secretary has discharged the duties allotted to him particularly in the preparation and compilation of the schedules submitted with this report.

Signed:-

Date 16/4/ 1920.

A. H. John

Chairman
Director of Agriculture.

A. J. Jones

General Manager, Uganda Railway

H. J. Markin
Commissioner of Lands.

S. B. Bathinombe
Conservator of Forests.

Minute of Appointment

of Committee.

MINUTE I. OF APPOINTMENT OF COMMITTEE

Hon. Ag. Chief Secretary.

With reference to Secretary of State's telegrams of 22nd and 24th December. I have considered the whole question very carefully and have come to the conclusion that no useful purpose would be served by pressing the question of an alternative route to the Plateau. In fact to do so might very possibly only result in further delay. I feel we must strike while the iron is hot and get on as quickly as we can with the economic survey which the Colonial Office have called for.

2. I wish a Committee consisting of the following Officers to prepare the report required:-

Director of Agriculture, (Chairman)
General Manager, Uganda Railway.
Land Officer,
Conservator of Forests.

I should like Mr. Carpenter of the Agricultural Department to act as Secretary.

3. The method of collecting and collating the evidence can be left entirely to the Committee. It should not be necessary for the whole Committee to be present when evidence is taken. One member might suffice and evidence could be taken by deputy if the Chairman agrees.

4. The District Commissioners of the Districts traversed by or adjacent to the surveyed route of the projected Railway are to be informed of the appointment of the Committee and instructed to obtain the co-operation of the whole community in assisting the Committee in the discharge of their duties.

5. I wish the greatest publicity to be given to the fact that no question of any deviation whatever from the surveyed route will be considered by the Committee, and further that, in view of the instructions now received, I do not propose to press any question of an alternative Route.

Copy of Summary of Report

Transmitted by Telegraph.

Copy of summary of report transmitted by telegraph.

8th March 1920.

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With reference to your telegram of 24th December last Committee consisting of Director Agriculture (Chairman) General Manager Railway, Commissioner Lands, Conservator Forests with Carpenter Agricultural Department Secretary report that area served by projected Railway Nakuru Eldoret Mumias was personally inspected by them and evidence regarding agricultural development and production present and future was taken from representative bodies and individuals at Nakuru Ravine and Eldoret covering in particular following areas Nakuru and N'joro Solai Rongai and Lower Molo Valleys Ravine district Uasin Gishu Plateau and Trans Nzoia evidence also taken regarding forestal production x Committee of opinion proposed line will serve areas urgently in need of railway communication it will bring about more intensive development provide more holdings while European population, for which climate is suited, would be substantially increased x extent of highly fertile soils is great and proportion of cultivable land high x agricultural areas serve about 1½ million acres in extent of which over 1 million are cultivable x Climatic and other conditions favourable for production on extensive scale x maize flax and coffee staple crops already proved x wheat production sufficient for Protectorate needs may reasonably be expected x some areas promising for cotton x dairying and pig farming likely to follow later x some apprehension regarding sufficiency labour supply for contemplated development but with progress at steady and continuous rate coinciding with calculated increasing proportion natives seeking employment and working for longer periods difficulty may at least in part disappear x Committee carefully

investigated

investigated present production and rate of expansion if railway constructed x for most part land is in hands of progressive men with sufficient capital for development **383** x Considerable export trade maize flax fibre and coffee would be established shortly after completion railway also in dairy products bacon and bacon products later x should be understood that development greatly dependent upon satisfactory market prices for export products x considered that Protectorate can in respect of staple crops mentioned successfully compete against other countries under reasonable railway and shipping rates and economical handling of produce at port x rapidity of development largely dependent upon factors at present unknown but assuming fair profits and no unforeseen difficulties production indicated in figures submitted should be reached x land values at present unstable x much development in Uasin Gishu already carried out in anticipation new railway x if not constructed progress will be seriously checked and land instead of appreciating in value will either remain stationary or decline in price x Committee finds it impracticable furnish figures respecting traffic as requested but submits following figures calculated for periods of 3 years and 10 years after completion of railway.

1. Estimated production per annum in areas served less requirements for local consumption x
 - (a) 3 years after completion railway
 - Maize 66,000 tons Flax Fibre & Tow 6,700 tons
 - Coffee 1,100 tons Sundry crops 1,900 tons
 - Timber 26,000 tons
 - (b) Ten years after completion railway.
 - Maize 131,250 tons Flax Fibre & Tow 12,900 tons
 - Coffee 2,200 tons Sundry crops 3,900 tons
 - Timber 28,000 tons x Pigs number 18,500 converted into 1200 tons bacon and bacon products x Milk one million gallons of which 350,000 gallons milk and 55,000 gallons cream also 180 tons cheese and 112 tons Butter railed

Copy of summary of report transmitted by telegraph.

8th March 1920.

382

With reference to your telegram of 24th December last Committee consisting of Director Agriculture (Chairmen) General Manager Railway, Commissioner Lands, Conservator Forests with Carpenter Agricultural Department Secretary report that area served by projected Railway Nakuru Eldoret Mumias was personally inspected by them and evidence regarding agricultural development and production present and future was taken from representative bodies and individuals at Nakuru Ravine and Eldoret covering in particular following areas Nakuru and N'joro Solai Rongai and Lower Molo Valleys Ravine district Usin Gishu Plateau and Trans Nzoia evidence also taken regarding forestal production x Committee of opinion proposed line will serve areas urgently in need of railway communication it will bring about more intensive development provide more holdings while European population, for which climate is suited, would be substantially increased x extent of highly fertile soils is great and proportion of cultivable land high x agricultural areas serve about 1½ million acres in extent of which over 1 million are cultivable x Climatic and other conditions favourable for production on extensive scale x maize flax and coffee staple crops already proved x wheat production sufficient for Protectorate needs may reasonably be expected x some areas promising for cotton x dairying and pig farming likely to follow later x some apprehension regarding sufficiency labour supply for contemplated development but with progress at steady and continuous rate coinciding with calculated increasing proportion natives seeking employment and working for longer periods difficulty may at least in part disappear x Committee carefully investigated

investigated present production and rate of expansion if railway constructed x for most part land is in hands of progressive men with sufficient capital for development x Considerable export trade maize flax fibre and coffee would be established shortly after completion railway also in dairy products bacon and bacon products later x should be understood that development greatly dependent upon satisfactory market prices for export products x considered that Protectorate can in respect of staple crops mentioned successfully compete against other countries under reasonable railway and shipping rates and economical handling of produce at port x rapidity of development largely dependent upon factors at present unknown but assuming fair profits and no unforeseen difficulties production indicated in figures submitted should be reached x land values at present unstable x much development in Usin Gishu already carried out in anticipation new railway x if not constructed progress will be seriously checked and land instead of appreciating in value will either remain stationary or decline in price x Committee finds it impracticable furnish figures respecting traffic as requested but submits following figures calculated for periods of 3 years and 10 years after completion of railway.

F. Estimated production per annum in areas served less requirements for local consumption x

(a) 3 years after completion railway

Maize 66,000 tons Flax Fibre & Tow 6,700 tons

Coffee 1,100 tons Sundry crops 1,900 tons

Timber 26,000 tons

(b) Ten years after completion railway.

Maize 131,250 tons Flax Fibre & Tow 12,900 tons

Coffee 2,200 tons Sundry crops 3,900 tons

Timber 28,000 tons x Pigs number 18,500 converted into

1200 tons bacon and bacon products x Milk one million

gallons of which 350,000 gallons milk and 55,000

gallons cream also 180 tons cheese and 112 tons Butter

railed

railed x Cattle 5000 head railed

other traffic under (a) Inward 21,000 tons **384**

Native personal 50,000 single journeys under

(b) Inward 42,000 tons Native personal 100,000 single journeys.

Following are estimated earnings on new and existing railway lines after deductions made covering traffic now loaded at Nakuru and Londiani also traffic which would result from development and be carried if new line not constructed x calculations made allow for proportion traffic consumed or used in Protectorate remainder carried to coast for export x

1.

Three years after completion new line

(a) Earnings new line in Rupees

Maize 120,000 Flax 40,000 Coffee 12,000

Sundry 8000 Timber 108,000 Inward Traffic 80,000

Native Personal 75,000 Total 443,000

(b) Earnings of increased traffic on existing line in Rupees.

Maize 365,000 Flax 106,000 Coffee 26,000

Sundry 20,000 Timber 420,000 Inward Traffic 400000

Native Personal 25,000 Total 1,362,000.

2.

(a) Ten years after completion new line

Earnings new line in Rupees

Maize 238,000 Flax 80,000 Coffee 25,000 Sundry

17,000 Timber 117,000

Inward traffic 162,000 Native Personal 150,000

Pigs 10,000 Bacon & Bacon Products 16,000

Milk cream butter and cheese 18,000 Cattle 20,000

Total 853,000.

(b) Earnings of increased traffic on existing **385**
in Rupees.

Maize	815,000	Flax	226,000	Coffee	53,000
Sundry crops	39,000	Timber	515,000	Inward	
Traffic	810,000	Native Personal	50,000	Bacon	
and Bacon Products	48,000	Butter & Cheese			
7500 Cattle	20,000	Total	2,583,500		

These figures based on cultivation & of about 150,000 acres in 3 years and 300,000 acres in 10 years after completion railway leaving balance about 800,000 acres good cultivable land for future development chiefly in Uasin Gishu Plateau and Trans Nzoia x all figures furnished are on conservative basis and on existing railway rates.

Before proceeding to deal with Thika extension, Committee would be glad to know what area desired to be covered.

Schedules giving details of areas, produce and traffic.

Table

1. Estimates of areas, cultivation, produce and earnings 3 years and 10 years after completion of Railway.
2. Estimates of Dairy Produce, Live Stock and earnings 10 years after completion of Railway.
3. Estimated tonnage and earnings of Timber 3 years and 10 years after completion of Railway.
4. Summary of Produce, earnings and estimates of Goods and Native (personal) traffic 3 years after completion of Railway.
5. Summary of produce and earnings and estimates of Goods and Native (personal) traffic 10 years after completion of Railway.

Note.

Earnings on "New" and "Existing" Rail are based on present Railway Rates as quoted in the Uganda Railway Tariff Book and calculated on estimated proportional mileage.

ESTIMATE OF AREAS, CULTIVATION, PRODUCE and EARNINGS
FOR DISTRICTS SERVED BY THE PROPOSED MAKURU-ELDORET - NUALIAS LINE.

3 Years after completion of Railway.

District.	Total area cultivable.	Estimated cultivation.	Crops under cultivation (acres)				Estimated produce for rail (lbs)				Estimated earnings of New Line for	
			Maize	Flax	Coffee	Various sundry crops.	Maize	Flax Fibre & Tow.	Coffee	Various sundry crops.	Maize	Flax Fibre
			Acres	Acres	Acres	Acres	Lbs.	Lbs.	Lbs.	Lbs.	Rupees	Rupees
Makuru Area 1.	126,400	47,400	30,875	11,025	-	5,500	61,132,500	4,410,000	-	220,000	8,151	1,764
Ravine Area 2.	7,000	2,000	660	660	-	660	1,564,000	264,000	-	81,600	633	291
Uasin Gishu & Trans Nzoia Area 3	998,575	100,000	47,000	25,000	3,900	25,000	84,600,000	10,000,000	2,400,000	4,000,000	109,980	38,000
TOTAL	1,131,975	149,400	78,535	36,685	3,900	31,160	147,316,500	14,674,000	2,400,000	4,301,600	118,764	40,055

10 Years after completion of Railway.

Makuru Area 1	126,400	94,900	62,000	20,950	-	11,950	122,760,000	6,360,000	-	550,000	16,368	3,351
Ravine Area 2	7,000	4,000	1,320	1,320	-	1,360	3,168,000	528,000	-	163,200	1,287	581
Uasin Gishu & Trans Nzoia Area 3	998,575	200,000	94,000	50,000	6,000	50,000	169,200,000	20,000,000	4,800,000	8,000,000	219,960	76,000
TOTAL	1,131,975	298,900	157,320	72,270	6,000	63,310	295,128,000	26,908,000	4,800,000	8,713,200	237,595	79,932

and EARNINGS

- ELDOROT - INDIAS LINE.

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Estimated produce for mail (lbs)				Estimated earnings of New Line for				Earnings of increased traffic on Existing Line in				Total Earnings	Total increased earnings	Total Earnings.
Maize	Flax Fibre & Tow	Coffee	Various sundry crops.	Maize	Flax Fibre & Tow	Coffee	Various sundry crops.	Maize	Flax Fibre & Tow	Coffee	Various sundry crops.	NEW LINE.	EXISTING LINE.	
Lbs.	Lbs.	Lbs.	Lbs.	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees
132,600	4,410,000	-	220,000	8,151	1,764	-	44	122,265	24,917	-	704	9,989	147,886	157,845
584,000	264,000	-	81,600	633	291	-	49	2,612	1,320	-	233	973	4,365	5,338
500,000	10,000,000	2,400,000	4,000,000	1,09,980	38,000	12,480	8,400	240,264	80,000	26,496	18,240	168,660	365,000	533,860
16,600	14,674,000	2,400,000	4,301,800	118,764	40,000	12,480	8,493	365,341	106,237	26,496	19,177	179,792	517,251	697,043
60,000	8,380,000	-	550,000	16,368	3,352	-	110	327,360	63,129	-	2,347	19,630	392,836	412,666
68,000	528,000	-	163,200	1,267	581	-	98	7,498	3,520	-	520	1,946	11,638	13,584
100,000	20,000,000	4,800,000	8,000,000	219,960	76,000	24,960	16,800	480,528	160,000	52,992	36,480	337,720	730,000	1,067,720
28,000	28,908,000	4,800,000	8,713,200	237,595	79,933	24,960	17,006	615,366	226,649	52,992	39,447	359,496	1,134,474	1,493,970

APPENDIX 3
TABLE No. 1

ESTIMATE OF AREAS, CULTIVATION, PRODUCE and EARNINGS
FOR DISTRICTS SERVED BY THE PROPOSED MAKURU-ELDORET - MURILAB LINE.
3 Years after completion of Railway.

District.	Total area cultivable.	Estimated cultivation.	Crops under cultivation (acres)				Estimated produce for Rail (lbs)				Estimated earn of New Line for	
			Maize	Flax	Coffee	Various sundry crops.	Maize	Flax Fibre & Tow.	Coffee	Various sundry crops.	Maize	Flax Fibre
	Acres	Acres	Acres	Acres	Acres	Acres	LBS.	LBS.	LBS.	LBS.	Rupees	Rupees
Makuru Area 1.	126,400	47,400	30,875	11,025	-	5,500	61,132,600	4,410,000	-	220,000	8,151	1,764
Ravine Area 2.	7,000	2,000	660	660	-	660	1,584,000	264,000	-	81,600	633	291
Basin Gishu & Trans Nzoiia Area 3	998,575	100,000	47,000	25,000	3,000	25,000	84,600,000	10,000,000	2,400,000	4,000,000	1 09,980	38,000
TOTAL	1,131,975	149,400	78,535	36,685	3,000	31,180	147,316,600	14,674,000	2,400,000	4,301,600	118,764	40,051

10 Years after completion of Railway.

Makuru Area 1	126,400	94,900	62,000	20,950	-	11,950	122,760,000	8,380,000	-	550,000	16,368	3,351
Ravine Area 2	7,000	4,000	1,320	1,320	-	1,360	3,168,000	528,000	-	163,200	1,267	581
Basin Gishu & Trans Nzoiia Area 3	998,575	200,000	94,000	50,000	6,000	50,000	189,200,000	20,000,000	4,800,000	8,000,000	219,980	76,000
TOTAL	1,131,975	298,900	157,320	72,270	6,000	63,310	295,128,000	28,908,000	4,800,000	8,713,200	237,595	79,931

d EARNINGS
- ELDBERT - INDIA LINE.

Estimated produce for Hail (lbs)				Estimated earnings of New Line for				Earnings of increased traffic on Existing line in				Total Earnings	Total increased earnings	Total Earnings
Maize	Flax Fibre & Tow	Coffee	Various sundry crops.	Maize	Flax Fibre & Tow	Coffee	Various Sundry crops.	Maize	Flax Fibre & Tow	Coffee	Various sundry crops.	NEW LINE.	EXISTING LINE.	
LBS.	LBS.	LBS.	LBS.	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees
32,600	4,410,000	-	220,000	8,151	1,764	-	44	122,265	24,917	-	704	9,989	147,886	157,845
584,000	264,000	-	81,600	633	291	-	49	2,812	1,320	-	233	973	4,365	5,338
300,000	10,000,000	2,400,000	4,000,000	109,980	38,000	12,480	8,400	240,264	80,000	26,496	18,240	168,860	365,000	533,860
16,600	14,674,000	2,400,000	4,301,800	118,764	40,050	12,480	8,493	365,341	106,237	26,496	19,177	179,792	517,251	697,043
60,000	8,380,000	-	550,000	15,368	3,352	-	110	327,360	63,129	-	2,347	19,830	392,836	412,666
68,000	528,000	-	163,200	1,267	561	-	98	7,498	3,520	-	620	1,946	11,638	13,584
300,000	20,000,000	4,800,000	8,000,000	219,960	76,000	24,960	16,800	480,828	160,000	82,992	36,480	337,720	730,000	1,067,720
28,000	28,908,000	4,800,000	8,713,200	237,595	79,933	24,960	17,068	618,366	225,649	82,992	39,447	359,496	1,134,474	1,493,970

ESTIMATE OF AREAS, CULTIVATION, PRODUCE and EARNINGS
FOR DISTRICTS SERVED BY THE PROPOSED NAKURU-ELDORET - NIBIAS LINE.
3 Years after completion of Railway.

District.	Total area cultivable.	Estimated cultivation.	Crops under cultivation (acres)				Estimated produce for Rail (lbs)				Estimated earnings of New Line for	
			Maize	Flax	Coffee	Various sundry crops.	Maize	Flax Fibre & Tow.	Coffee	Various sundry crops.	Maize	Flax Fibre
	Acres	Acres	Acres	Acres	Acres	Acres	LBS.	LBS.	LBS.	LBS.	Rupees	Rupees
Nakuru Area 1.	126,400	47,400	30,875	11,025	-	5,500	61,132,600	4,410,000	-	220,000	8,151	1,764
Ravine Area 2.	7,000	2,000	660	660	-	660	1,584,000	264,000	-	81,600	633	291
Basin Gishu & Trans Nzoia Area 3	998,575	100,000	47,000	25,000	3,000	25,000	84,600,000	10,000,000	2,400,000	4,000,000	109,980	38,000
TOTAL	1,131,975	149,400	78,535	36,685	3,000	31,180	147,316,600	14,674,000	2,400,000	4,301,600	118,764	40,054

10 Years after completion of Railway.

Nakuru Area 1	126,400	94,900	62,000	20,950	-	11,950	122,760,000	8,380,000	-	550,000	16,368	3,354
Ravine Area 2	7,000	4,000	1,320	1,320	-	1,360	3,168,000	528,000	-	163,200	1,257	582
Basin Gishu & Trans Nzoia Area 3	998,575	200,000	94,000	50,000	6,000	50,000	169,200,000	20,000,000	4,800,000	8,000,000	219,960	76,000
TOTAL	1,131,975	298,900	157,320	72,270	6,000	63,310	295,128,000	28,908,000	4,800,000	8,713,200	237,595	79,936

**ESTIMATES OF DAIRY PRODUCE, LIVE STOCK AND EARNINGS
ON THE PROPOSED NARAINI BUDGET MEMIAS LINE
10 YEARS AFTER COMPLETION OF RAILWAY.**

District.	Estimated number of Figs.	Estimated earnings on New Line. (Rupees)	Bacon and Bacon Products.					Milk			Cream	
			Total produce in tons.	Estimated earnings		Total earnings.	Estimated total production.	Estimated freight and earnings on New Line.		Estimated Total Production.	Estimated Earnings on New Line.	
				on New Line.	for increased Traffic existing Line.			Gallons	Rupees			Gallons
	No.	Rupees	Tons	Rupees	Rupees	Rupees	Gallons	Gallons	Rupees	Gallons	Rupees	
Meerut Area 1.	8,000	744	500									
Rawls Area 2	500	139	32	16,000	48,536	64,536	500,000	250,000	10,000	25,000	1,000	
Masina Gishu & from Memias Area 3	10,000	9,300	600				10,000	-	-	1,000	80	
							500,000	100,000	4,000	30,000	1,200	
TOTAL.	18,500	10,183	1,132	16,000	48,536	64,536	1,010,000	350,000	14,000	56,000	2,280	

Total earnings.	MILK			CREAM		Estimated Total Production.	BUTTER.		Total Earnings.	CHEESE.			Total Earnings.	
	Estimated total production.	Estimated freight and earnings on New Line.		Estimated total Production.	Estimated Earnings on New Line.		Estimated earnings			Estimated Total Production.	Estimated earnings			Total Earnings.
		Gallons	Gallons				Rupees	on New Line			for increased traffic existing Line.	on New Line		
Rupees	Gallons	Gallons	Rupees	Gallons	Rupees	Tons	Rupees	Rupees	Rupees	Tons	Rupees	Rupees	Rupees	
64,536	500,000	250,000	10,000	25,000	1,000	50	-	1,173	1,173	100	-	2,346	2,346	
	10,000	-	-	1,000	80	2	-	58	58	-	-	-	-	
	500,000	100,000	4,000	30,000	1,200	60	578	1,720	2,298	80	770	2,294	3,064	
64,536	1,010,000	350,000	14,000	56,000	2,280	112	578	2,961	3,529	180	770	4,640	5,410	

FOR PERIODS OF 3 YEARS AND 10 YEARS AFTER COMPLETION OF RAILWAY.

		OVER NEW LINE						INCREASED TRAFFIC OVER EXISTING LINE.							
3 YEARS	Estimated Tonnage over a distance of MILES	Earnings of timber carried over a distance of MILES			Total Freight & Earnings		Estimated tonnage over a distance of MILES		Earnings of Timber carried over a distance of MILES		Total freight & Earnings.		Total Earnings.		
		Tons	Rupees	MILES	Tons.	Rupees	Tons	Rupees	Tons	Rupees	Tons	Rupees			
	30	70	30	50	70		122	330	122	330					
	2000	600	25,300	3,760	1,884	102,287	25,900	107,931	20,000	13,000	153,200	269,360	33,000	4,22,560	530,491
	2000	600	25,500	3,760	1,884	111,945	28,100	117,569	24,000	16,000	183,840	331,520	40,000	5,15,560	632,949

SUMMARY OF PRODUCE AND EARNINGS ON PROPOSED MAKURU & BLAGAET - MADIAS LINE
AND ESTIMATES OF GOODS AND NATIVE (PERSONAL) TRAFFIC
3 YEARS AFTER COMPLETION OF RAILWAY.

Product.	Total Produce for Rail.	Estimated Earnings on New Line.		Estimated Earnings of Increased Traffic on Existing Line.		Total Earnings.
		Rupees	Rupees	Rupees	Rupees	
Maize lbs.	147,316,600	118,764		365,341		484,105
Flax Fibre & Tow } Lbs.	14,674,000	40,055		106,237		146,292
Coffee lbs.	2,400,000	12,480		26,496		38,976
Various - Sundry Crops } Lbs.	4,301,600	8,493		19,177		27,670
Timber (Tons)	25,900	107,931		422,560		530,491
<i>INCREASED TRAFFIC</i> Estimated (Tons)	21,169	81,116		405,584		486,700
<i>NATIVE TRAFFIC</i> Estimated (No)	50,000	75,000		25,000		100,000
Total Values		443,839		1,370,395		1,814,234

10 YEARS AFTER COMPLETION OF RAILWAY.

PRODUCT.	Total Produce for rail.	Estimated Earnings on New Line.	Estimated Earnings of increased Traffic on Existing Line.	Total Earnings
		Rupees	Rupees	
Maize Lbs.	295,128,000	237,595	815,386	1,052,981
Flax Fibre & Tow Lbs.	28,908,000	79,933	226,649	306,582
Coffee Lbs.	4,800,000	24,960	52,992	77,952
Various sundry crops lbs	8,713,200	17,008	39,447	56,455
Timber (Tons)	28,100	117,589	515,360	632,949
Pigs (No.)	18,500	10,183	-	10,183
Converted into Bacon and Bacon Products (Tons)	1,132	16,000	48,536	64,536
Milk (Gallons)	1,010,000			
Cream (Gallons)	56,000	17,628	7,591	25,219
Butter (Tons)	112			
Cheese (Tons)	180			
Cattle (No.)	5,000	19,406	19,406	38,812
Inward Traffic Estimated (Tons)	42,338	162,233	811,167	973,400
Native Traffic Estimated (No)	100,000	150,000	50,000	200,000
TOTAL VALUE RUPEES		852,535	2,586,534	3,439,069

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• For conversion into Butter and Cheese.

RAINFALL TABLES.

Table 1. Annual Rainfall over a period of years at various Stations served by Proposed Nakuru Eldoret Mumias Railway.

Table 2. ^x Average monthly rainfall over a period of years at various stations served by Proposed Nakuru Eldoret Mumias Railway.

RAINFALL OVER A PERIOD OF YEARS AT VARIOUS STATIONS SERVED

BY PROPOSED NAKURU - ELDORET - MUMIAS RAILWAY.

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1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	AVERAGE	NO. OF YEARS.	
	26.30	36.58	30.82	39.61	38.32	33.83	27.21	28.64	40.93	35.03	36.16	55.61	44.58	68.21	34.49	40.92	36.83	16	
						35.79	28.51	31.77	43.02	36.86	40.27	33.53	44.16	59.64	22.29	42.53	36.02	11	
													36.86	60.65	32.21	44.52	48.57	4	
			44.40	39.49	38.67	28.52	34.14	30.71	45.93	30.46	34.27	40.28	32.53	47.39	53.22	19.35	36.55	36.22	6
45.00	30.61	31.83	53.60	55.37	43.68	46.68	37.80	37.39	47.89	40.12	51.78	43.49	55.55	72.35	24.27	42.08	44.68	14	
							51.21	22.65	42.35	46.10	40.78	36.35	58.02	71.87	21.62	41.78	43.47	17	
										46.68	53.72	41.39	62.07	67.18	31.03	54.42	50.96	10	
											51.19	39.66	60.24	75.21	-	38.87	53.67	7	
															42.47			5	
91.29	68.77	74.56	69.61	60.66	74.49	71.22	62.51	56.21	73.49	61.53	79.69	76.26	79.76	87.00	50.90	67.47	70.86	17	

ANNUAL RAINFALL OVER A PERIOD OF YEARS AT VARIOUS STATIONS SERVED
BY PROPOSED NAKURU - ELDORET - MUMIAS RAILWAY.

STATION	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Nakuru Station, Uganda Railway.		25.30	36.56	30.82	39.61	38.32	33.83	27.21	28.64	40.9
Nakuru, District Office.							35.79	28.51	31.77	43.0
Nakuru, Ol Bonata, Solai.										
Nakuru, Bengai River.										
Njoro, Fawous.				44.40	39.49	38.67	28.52	34.14	30.71	45.9
Eldama Ravine, District Office.	45.00	30.61	31.83	53.60	55.37	43.66	46.88	37.80	37.39	47.
Eldoret, District Office.								51.21	22.65	42.3
Soy, Farm 225.										
Soy, Farm 128.										
Trans Nzoia, Gloucester Yale Estate }										
Mumias, District Office.	91.29	68.77	74.56	69.61	60.66	74.49	71.22	62.51	56.21	73.49

APPENDIX 4

Table No. 2

AVERAGE MONTHLY RAINFALL OVER A PERIOD OF YEARS AT VARIOUS STATIONS SERVED BY

PROPOSED MAKURU ELDORET NUMIAS RAILWAY

STATION.	JAN.	FEB.	MAR.	APR.	MAY	JUN	JULY.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	FOR YEARS-
Makuru Station Uganda Railway.	0.53	1.38	2.84	6.01	5.13	3.64	3.91	4.19	2.66	2.76	2.40	1.36	36.83	16.
Makuru District Office.	0.51	1.68	2.10	6.34	5.25	4.24	4.56	4.26	2.97	2.42	2.40	1.30	36.02	11.
Makuru "Ol Ekenala" Solai	1.06	1.90	2.36	9.57	6.49	4.11	4.69	5.37	3.93	4.97	2.96	0.97	46.57	4.
Makuru Forest.	0.69	1.39	3.16	5.90	4.22	4.59	3.73	4.45	3.64	3.46	1.91	0.86	36.22	6.
N'joro. Fawcus.	0.78	1.75	2.60	6.11	5.04	4.14	3.65	4.71	3.27	2.77	2.68	1.15	36.55	14.
Eldama Ravine District Office.	1.14	2.19	3.66	6.65	6.00	4.97	4.54	5.58	2.96	2.20	3.05	1.73	34.68	17.
Eldoret District Office	0.69	2.12	2.90	4.76	4.62	5.54	6.62	6.96	3.85	1.83	2.30	0.46	43.47	10.
Soy Farm. 225	1.25	2.57	3.24	5.32	5.58	7.10	5.90	9.43	5.48	2.60	2.01	0.48	50.95	7.
Soy Farm 123	1.32	2.00	2.69	6.90	5.61	7.44	7.19	6.66	6.81	2.36	1.15	0.72	53.07	5.
Trans Ezoia	Records 1 year only													
Gloucester Vale Estate	2.33	3.99	4.96	10.35	9.26	7.02	5.83	6.30	6.03	6.21	5.50	3.59	70.96	17.
Numias District Office														

Summary of Evidence taken

Nakuru District.

Summary of Evidence

Nakuru District (Area 1).

Witnesses, Mr. W. J. Dawson, Mr. W. Evans
and Mr. S. McCall.

1. Soil, type and fertility.

The area under review consists of a variety of soils, ranging from a rich red loam to shallow grey soil-

The Eastern portion is chiefly pumice country, with light black loam (similar to that on which the N'joro Wheat and Flax is cultivated) approximately 16,000 acres in extent.

The central area extending west to the Molo River consists of a rich loam, varying from a sandy loam on the East and North to a heavier red loam in the South.

The northern district is of a similar nature to the central but of a rougher type with about 40% cultivable land chiefly light red loam.

The western area is almost all flat country with about 40% light red loam, the remainder being shallow grey soil forming excellent grazing but of doubtful quality for cultivation.

The soil of the cultivable part of this area of approximately 179,000 acres is all that a farmer could desire as regards fertility and the physical properties of the soil are such as to form almost the ideal for the Agriculturist.

2. Proportion and area at present cultivated.

Of a total area of 182,500 acres 20,000 acres are at present under cultivation representing 46 Farms.

3. Proportion cultivable 70%. i. e. 126,400 acres.

4. Proportion likely to be cultivated by the by the present occupiers on advent of railway.

The following estimates, are quoted:-

Acreage at present under cultivation.	Estimated additional acreage to be cultivated if rail goes through.	Estimated acreage of new Settlers in very near future.	Total
20,115	15,590	18,300	54,005

Cultivation by mechanical means is now receiving the attention of the Farmer - There are some thirty tractors in the district.

The New Railway would bring about a substantial increase in the area of land under cultivation; more extensive methods would result from a sub-division of existing large holdings.

5. Probable rate of influx of New Settlers on advent of Railway.

The whole of the Nakuru area is eminently suitable for closer settlement and rapid development would result - New Settlers occupying or about to occupy farms number 27.

If, in addition, as has been repeatedly urged the Uasin Gishu Masai Reserve is thrown open for settlement, the district will undoubtedly be one of the most closely settled and most productive in the Protectorate.

Sub-division of land has already taken place representing some 20 prospective settlements, and a further number of 32 Farmers contemplate settlement on the N'joro Plains subject to water being located.

The opinion is expressed that 300 to 500 acres are sufficient for the farmer to earn a good livelihood.

6 & 7. Varieties of crops grown and probable

Main Crops.

Flax
Maize
Wheat
Barley
Beans
Wattle

Coffee and Sisal, are the principal crops cultivated.

Maize must be considered the initial crop in development of the farm and Maize and Flax as the main crops.

Wheat and Barley are secondary, or "possible" main crops while the cultivation of Beans is practically confined to that of a catch crop in view of difficulties of harvesting.

Cotton, in which some 400 acres are being planted this season is in the experimental stage. A considerable acreage under Wattle has been put down in past years but this industry is not likely to be pursued.

It is improbable that the area of coffee will exceed 2,000 acres - The success of Citrus culture is not assured.

8. Yield of crops per acre.

Maize	..	11 bags
Flax	..	300 lbs Fibre, 100 lbs Tow
Wheat	..	720 lbs
Barley	..	900 lbs
Beans	..	500 lbs.

The estimate of Maize yield is a conservative one; crop failure is only experienced once in ten years. This cereal, cropped for six years in succession on the same land returned equal if not better crops in the latter seasons than in the earlier years.

The proportion of the Maize crop required for farm use is estimated at 10% - 15%.

The opinion is expressed that the problem of the maintenance of fertility presents no difficulty.

9. Suitability for Livestock.

The area under discussion with the exception of the Eastern portion can be regarded generally as one of the best stock districts in the Protectorate -

An immediate rapid advancement however, in the Live Stock industry is doubtful from the fact that a major portion of land is primarily agricultural, offering greater inducements to the Agriculturist than the Pastoralist.

With sub-division of farms and transport facilities the raising of dairy stock and pigs would receive the most attention and the

opinion is definitely expressed that Stock disease menace would not deter the stock owner in advancing this branch of Agriculture.

10. Traffic in stock for breeding and slaughter purposes and in Dairy Produce.

Under this heading the greatest traffic will probably be in Pigs.

Distance from existing railway facilities has, at present an adverse affect on - Pig raising which otherwise offers good prospects of becoming an important Industry in a large grain producing area.

The main factor in the advancement of the Dairy Industry is that of reliable and rapid transport-

Pigs thrive exceedingly well and a large proportion of feeding could be met by the cultivation of catch crops. Some 27,000 acres apart from that land cultivable is eminently suited for dairying purposes and will come into use on advent of the Railway.

With rail transport the prospects of establishment of an Export trade in dairy produce are bright - The opinion is expressed that with the advantages of good and cheap land and labour, favourable climatic conditions and with the production of food stuffs - at cheap rates, East Africa is placed in a favourable position to compete with other countries in respect of export trade -

For purposes of arriving at the traffic the area

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area of the different kinds of crops is given as follows:-

Maize ..	65%
Flax ..	23%
Various ..	12%

12. Factors affecting production - Climate
Soil Fertility. Capital. Labour. Market
prices etc.

Climate. The average rainfall over the whole area is 37 inches per annum and the district dry season which this district enjoys as a certainty - every year for a period of two months, from the middle of December to the middle of February as a result of a steady wind from the dry desert lands of the north makes it one of the most desirable districts for extensive farming.

Soil and Fertility, have already been alluded to. Most of the established Farmers have ample capital for working and extending their estates - further the newcomer to the District is of the right type and possessed of ample capital.

A large amount of capital at present - invested in transport stock and gear will be made available and utilized in further development in other directions on advent of the Railway.

The Nakuru area bears a good name among the workers of all tribes - and with a Government sympathetic - to the aspirations of the European producers in East Africa and at last cognisant of the fact that it is a wrong policy to hide from the aboriginal the fact that there is a certain amount of

dignity and mental and physical benefit to be gained from labour, it is anticipated that the labour requirements for the full development of the area under review will present no difficulties.

The machinery age of East Africa is in its infancy and as time goes on much less labour per acre of development will be required and the land in this area is in every detail eminently suited to the use of Farm machinery.

It is considered that all the Wheat from the Plateau will probably be milled at Njoro necessitating its rail transport down the proposed new Railway and up the Uganda Railway to the New Unga Ltd. Mill.

The pig traffic would for the most part proceed to a Bacon Factory at N'joro where erection at no far distant date is contemplated.

Summary of Evidence taken

Eldama Ravine District.

Summary of Evidence by areas

Eldama Ravine District (area 2)

Witnesses - Major A. E. Smith and Mr. M. C. Blunt
on behalf of the Ravine Association.

1. Soil Type and Fertility.

The Ravine district is represented by three types of soil, namely (a) Deep Red Loam (b) Black Forest Soil (c) Black Cotton Soil - a deep Red Loam forms the Major portion of this area and is eminently suitable for Coffee, Flax and general agricultural crops.

2. Proportion and area at present cultivated.

7 % i.e. 1400 acres

- 3. Proportion cultivable.

33 % i. e. 7,000 acres

4. Proportion likely to be cultivated by present Occupiers on advent of Railway.

20 % 4,000 acres.

5. Probable rate of influx of new settlers on advent of Railway.

In replying to this question it is pointed out that no Government land in the District is available - and that new settlement is therefore dependent on the opening up of the Masai and adjoining Reserves and also the rendering available of the large Forests concessions adjoining the Ravine.

The Usin Gismu Masai Reserve is estimated
at

at some 32,000 acres in extent and stated to be well watered.

6. 7. Kinds of crops grown and Probable Main Crops.

The following crops are at present under cultivation:-

Maize,
Flax
Wheat
Coffee
Citrus
Onions
Beans
Oats
Barley and
Lucerne

The main crops in order of priority are Maize, Flax Wheat Coffee and with the exception of Lucerne all can be regarded as proved crops. The increased production of maize is gauged by the probable ruling market price and the opinion expressed that Rs. 2/- per load F.O. R. Ravine is the minimum price acceptable.

8. Yields of crops per acre.

Comparatively high yields for the main principal crops are quoted:

Maize ..	15 bags	
Flax, Fibre	300 lbs.	Tow 100 lbs
Wheat ..	900 lbs.	

9. Suitability for Live Stock.

The suitability of this District for Live-stock is not doubted and prevalence of stock disease not regarded as a serious handicap to the Industry.

10. Traffic in Stock for breeding and slaughter purposes and in Dairy Produce.

Owing to present lack of communication to
the

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the market centres of the Protectorate - the Live stock industry is hopelessly handicapped save for a certain trade in Native cattle for draught purposes.

On the completion of the Railway the principal traffic in stock would be "Outward Traffic".

The annual carrying capacity of the Ravine District is assumed at one beast to three acres - with a sum total of 5,000 head.

There is no likelihood of Stock Breeding being undertaken under existing conditions - and future prospects are greatest in dairying.

Five out of eight owners or occupiers would probably take up the latter Industry on advent of the Railway to the full carrying capacity of their holdings.

11. Estimates of Traffic etc.

For purposes of arriving at this Traffic the area of the different kinds of crops ^{given} ~~exam~~ is/as follows:-

Maize .. 33 %

Flax .. 33 %

Various
Wheat and
other crops.. 34 %

12. Factors affecting production, climate, soil, fertility capital, labour market prices etc.

The average rainfall of the district is 45 inches.

The climate is favourably affected by the warm airs of the Rift Valley.

The

The Red soil, of which the major portion of this area consists, is fertile and manurial dressings not at present deemed necessary to successful culture.

The financial position of the various owners of Estates is considered such as to insure the full anticipated development.

The Labour supply is adversely affected by distance from the existing Railway.

No considerable native production could be relied on but, that a considerable increase of traffic in hides, skins, sheep and goats could be anticipated from the Suk country - on completion of the road in course of construction.

Summary of Evidence taken

Uasin Gishu and
Trans Nzoia Districts.

Summary of Evidence

Usin Gishu and Trans Nzoia Districts.

Witnesses - The following members of a Committee elected at a Public Meeting convened by the "Usin Gishu Railway Committee and held at Eldoret submitted evidence.

Messrs. L. A. Johnston

Mr. G. B. Mousley

Mr. E. Pardoe

Major G.M. Style

Mr. H. Taylor

Major C.P. Toulson

Mr. E.L.H. Tutt

Mr. A. C. Hoey

Mr. J. C. Shaw, Hon. Secretary.

1. Kinds of Soil and their fertility.

The principal soils of the district are red chocolate, chocolate, red, red loam, heavy red loam, chocolate brown and black - The districts generally may be quoted as "very fertile" the present settled area in the Trans Nzoia being exceptionally rich.

2. Proportion and area at present cultivated.

From a total area of 1,863,683 acres (Plateau 692,783 acres and Trans Nzoia 670,900 acres) it is estimated that about 20,000 acres of land are at present under cultivation on 156 farms.

3. Proportion cultivable.

Plateau	66%
Trans Nzoia	80%

4. Proportion likely to be cultivated by present occupiers on advent of railway.

The cultivated area will increase five fold.

5. Probable rate of influx of new settlers on advent of railway.

With the anticipated sub-division of land now held and the occupation of new holdings it is calculated that the number will increase at least three fold.

It is agreed that a reasonable estimate of the area of land under cultivation would be 100,000 acres within 3 years after completion of railway, and 200,000 acres within 10 years after completion of railway.

With holdings of an average size of about 1,500 acres it is seen that provision exists for 800 farms when a stage approaching complete development is reached, and even if only 500 acres of each holding were cultivated an area of 400,000 acres would be brought under cultivation.

The present rate of exchange adversely affects the prospects of settlement on a large scale, and the opinion is expressed that unless the matter is settled satisfactorily the farming community would be seriously handicapped in carrying out the development contemplated.

6. Kinds of crops grown.

- Flax Sisal and other Fibres
- Coffee
- Maize, Wheat, Barley, Oats & Rye.
- Potatoes, Beans and Peas
- Sugar Cane, Lucerne
- Deciduous and other fruits.

7. Probable Main Crops.

Flax
Coffee
Maize
Wheat
Beans and Peas

Maize is at present the chief crop. It will always be grown generally throughout these Districts.

The cost of production of maize including transport and delivery within a ten mile radius is estimated at Rs. 2/50 per bag of 200 lbs - exclusive of cost of bag. Wheat is not likely to be produced profitably for export purposes in competition with other countries.

8. Yield of crops per acre.

(Calculated as an average over a period of 5 years).

Flax 2 cwts Fibre, 2 cwts Tow, 300 lbs Seed.

(Note. With improved field methods and handling these figures would appreciably increase)

<u>Coffee</u>	..	900 lbs
<u>Maize</u>	..	10 bags
<u>Wheat</u>	..	6 bags
<u>Barley & Oats</u>		12 to 15 bags
<u>Peas</u>	..	8 bags
<u>Sisal</u>	..	1 Ton Fibre

9. Suitability for Live Stock.

Cattle and pigs do well throughout the Districts - but sheep do not thrive so well.

10. Traffic in Stock for Breeding and Slaughter purposes and in Dairy Produce.

At the present time the district is understocked with breeding and slaughter cattle -
but

but given demand and proper communications a large trade could be built up. 412

The Eldoret Dairy is producing 2,000 lbs of cheese per month at present, and drawing its milk supply from within a radius of a few miles.

A few farmers in the Southern Area are supplying Butter and eggs to the Nairobi Market - and it is of opinion that the advent of the Railway would result in the establishment of an important trade.

The carrying capacity of the Plateau generally can be taken at 2 to 3 acres per beast and while the Trans Nzoia is considered rather in the light of an agricultural than pastoral area, the hilly portions would be equally valuable to the Stock and Dairy Farmer.

On completion of the Railway - there is little doubt but that breeding for dairy and beef purposes will be undertaken -

An average farm of 1,500 acres of which 500 acres are under cultivation and 1,000 acres are available for grazing would carry 300 head of stock i.e. 150 head breeding stock and 150 head for transport purposes.

80% of Farms would carry breeding stock - provided railway facilities existed - and that methods of combating stock diseases such as "dipping" were adopted -

The erection of creameries in the Plateau district, on completion of the Railway is probable.

Stock traffic on the railway would be inappreciable for some years to come.

Of an estimated total of 10,000 Pigs - available half that number would represent the product of the Plateau and half that of the Trans Nzoia. Probably 2 Bacon Factories would be erected in course of time.

11. Estimates of Traffic etc.

For purposes of arriving at the traffic the area of the different kinds of crops is given as follows:-

Maize	-	47 per cent
Coffee	-	3 per cent
Flax	-	25 per cent
Wheat and other crops	-	25 per cent

The requirements of the District in respect of inward traffic is problematical - but would be very considerable - with development and settlement on an extensive scale.

12. Factors affecting production etc.

The climate of the Plateau may be accepted as good with an average annual rainfall of 45 inches on the Plateau, and 55 inches in the Trans Nzoia.

The soil is excellent and as fertile as any in the East Africa Protectorate with large areas available for cultivation.

No fear is expressed that estimated production will be affected by want of capital.

It is considered that a large amount of capital will flow into these Districts on construction of the Railway and on a solution of the problem of exchange-

Indication of a large influx of capital was observed prior to the war and no doubt is felt that those who then were impressed with

the promise of the Plateau will again turn their attention to this area on completion of the Railway - With increased production labour will be one of the greatest problems to be solved-

The demand for labour is daily increasing and the absence of any real definite policy controlling labour makes the position more than difficult -

It is believed that an ample labour supply is available - if measures can be introduced to compel such labour to leave the Reserves and contribute its share towards the development of the country, this end can only be arrived at by some form of compulsion.

Another serious factor to be considered in connection with increased production, and the likely construction of the Nakuru, Mumias line, is, the relationship of Uganda and British East Africa as recruiting fields for labour.

Until recently the Uasin Gishu Plateau recruited at least 60% of its labour from Bagishu which is in Uganda. Labour was readily forthcoming from this area.

Recently the Uganda Government has taken steps to prohibit such labour seeking employment in British East Africa and today actually have a Police Patrol on the border to prevent labour leaving Bagishu.

The action of the Uganda Government has caused a serious shortage of labour locally. If steps can be taken to remove such restrictions on the movement of labour from Uganda the whole labour question affecting the Uasin Gishu will be considerably eased.

Special stress is laid on this point in the event of the construction of the new line. Should construction take place shortly - it will seriously prejudice local interests if the recruitment of natives is confined to British East Africa only.

With the extension of the Flax Industry - greater demands are bound to be made on labour, and it will be absolutely necessary to augment the present supply of Kavirondo and Kitosh labour by Nandi Elgoyo and Marakwet who up to the present have hardly contributed towards the labour supply of the country.

Native labour is estimated on the basis of 1,500 acre farms, 800 in number each requiring 150 boys - and that 60 % would travel, 4 journeys per annum - equivalent to 72,000 passengers and 288,000 journeys -

The construction of Railroad to Mumias should ensure labour in plenty - for Mumias - forms the centre for labour which would come by rail to Soy.

That if the Government carries out to the full extent the policy indicated in recent instructions, labour in plenty would be forthcoming, as the supply is sufficient provided the natives come out to work in fair proportion. It is not considered that a general advance in wages would alone increase the supply of labour.

These areas can compete successfully in the world's markets as conditions for crop production are favourable and cost of production comparatively low.

APPENDIX B (D)

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Evidence upon the Flax Growing
Industry

by

Mr. Wigglesworth.

Evidence upon the Flax Growing Industry was given by Mr. Wigglesworth as follows:

An experience of four years in Flax Growing showed excellent results and that labour was easily trained and amenable to the handling of the crop. Climate and soil were suitable to its successful cultivation and that rotation should be practised after a short period of cropping to flax.

Flax first grown in East Africa was valued at from £40 - £50 per ton.

Assuming a minimum post war value of £100 a ton (at which price it is doubtful if Ireland could produce at a profit) East African Flax of average quality would be valued at from £20 - £30 below £ 100 i.e. £120 - £130 per ton.

Under present conditions, experienced farmers who had mastered the difficulties of Flax Growing could produce Flax and deliver on the European markets below the quoted figure of £120 per ton.

With cheap land and labour available and with extended periods of sowing East Africa can readily compete in foreign markets and subject to normal conditions obtaining a bright future is anticipated for East African Flax.

APPENDIX C (E)

Information furnished by

District Commissioner,

Nyasaland.

Estimates of Traffic in Native (Personal
and Goods, Kapsabet District.

This District is situated about equidistant from the Uganda Railway and the proposed new Railway. Ordinarily all native traffic and goods from the Southern half would go via the Uganda Railway and from the Northern half by the new Railway but this is modified by the existence of an escarpment some 2000 ft. in height between the Southern half of the District and the Uganda Railway. This would not greatly affect native passengers traffic but would divert all goods from the Uganda Railway to the new Railway. If passenger fares are the same on both Railways the native traffic will be about equally divided between the two but if fares on the new Railway are higher all passengers will go via the Uganda Railway.

The following is an estimate of native passenger traffic based on the assumption that passenger fares are equal on both Railways

1st year	50 persons per month
2nd "	100 " " "
3rd "	150 " " "
probable maximum 400 persons per month	

Goods Traffic.

Goods Traffic.

Inward

Native imports consist only of such articles as are on sale at Indian shops viz. Hoes, cloth, blankets, salt, ghee, kerosine oil etc., and would approximate as follows:

- 1 st year 4 tons per month
- 2 nd " 6 " " "
- 3 rd " 8 " " "

probable maximum 12 tons per month

Outward

The District is not yet self supporting in grain and for climatic reasons it is doubtful if it will be for many years. No traffic in grain should therefore be anticipated. Slaughter cattle will probably find local markets at Kisumu and Eldoret so that the only native export would be hides. This would remain stationary at about 2 tons per month.

Wild rubber if collected (at present closed down) would amount to 30 tons per year.

Information furnished from

Lands Department.

Acreage and Settlement in the areas served by the Proposed Nakuru Eldoret Mumias Railway.

Area of land alienated to Europeans

- (a) Within 20 miles of Route
1,379,501 acres.
- (b) Within 20- 40 miles of Route
464,097 acres

Area in Native Reserves 773,200 acres

Number of European Farmers or Settlers
(including Ex Soldiers)

Within 20 miles of Railway	525
Within 40 miles of Railway	<u>266</u>
Total	791

Information furnished from

Uganda Railway.

Estimates of Traffic passing to and from
between Londiani Station and the Plateau

Traffic received at Londiani.

80% goes to Eldoret, 40 % consists of machinery
and 40 % General Merchandise.

Balance of 20 % is for Londiani.

The tonnage for received traffic for 1919
was 2,729 tons, of which approximately 2,180
went to Eldoret.

Traffic forwarded from Londiani.

30 % received from Eldoret, the main
commodities consisting of Flax, Flax Tow and
Coffee.

70 % from Londiani and Ravine including Timber
and a few consignments of hides from Ravine.

The tonnage forwarded during 1919 was 6,495 tons
out of which approximately 1949 tons came from
Eldoret.