73

DESPATCH.

EAST AFR. PROT.

N°. 36070

C.O.
36070
Rec
3 OCT 08

[Gov]ernor.	No.
[Sad]ler	462

1908

[1]9 Sept.

[Last] previous Paper.

[3]4326

(Subject.)

Salary of Mr. Stordy.

Chief Veterinary Officer.
Recommends that he may draw £650 in 1909.10 & that salary of the post be placed on incremental scale £600-25-700.

(Minutes.)

Mr Read

Mr Stordy is an officer of ten years service, and was given an increase of £50 in 1907. He has done very good work & I think a further increase can hardly now be refused. He might however get £25 only instead of £50 increase in 909-10, and be placed on the scale £600-25-700 at £625 from 1 Ap. 1909.

Approve, of provision being made in Ests accordingly.

[illegible] 8 Oct

Send copy to the Treasy & ask them to approve of provision being made as proposed.

at once.

H. J. R.

9/10

To Treas 16 Nov [and] 580 41142/08

[Next] subsequent Paper.

41142

Governor's Office,
Nairobi,
September 9th 1908.

EAST AFRICA PROTECTORATE.
No.452.
(Incl.1.)

My Lord,

With reference to correspondence ending with Your Lordship's despatch No.198 of April 23rd, I have the honour to submit for Your Lordship's favourable consideration an extract from a letter from the Director of Agriculture recommending that Mr.Stordy, who is at present drawing £600 per annum, should be allowed to draw £700 during 1909-10, and that the salary of the post should be placed on an incremental scale, viz: £650 by £50 to £700.

2. While I am not prepared to recommend his proposals in their entirety, I am asking that, as Mr.Stordy was given no increase during the current year he may draw £650 in 1909-10 and that the salary of the post should be placed on an incremental scale viz: ~~£600~~ £650 by £25 to £700.

3. In view of the importance of the Veterinary Department and the excellent work done by Mr.Stordy in its organization and in the development of our knowledge of the stock diseases of the Protectorate

The Right Hon.
His Majesty's Principal Secretary of State
for the Colonies,
Downing Street,
LONDON,S.W.

INCLOSURE 79
In Despatch No. 452 of Sept 9, 1908.

C.O.
36070
Rec'd
3 OCT 08

EXTRACT.

In my report on the reorganization of the Agricultural Department dated 14th December 1906, I recommended that the Chief Veterinary Officer should be given an increase of £50 a year rising from £600 to £700. It was felt at the time, that the professional head of this Department was very much underpaid as compared with Veterinary Officers holding similar appointments in other Colonies. Since then Mr.Stordy has taken the opportunity while on leave last year, of not only taking a Post Graduate Course at the London Veterinary College under Sir John Macfadzean, but of getting a practical insight in so far as time and circumstances admitted into Veterinary Bacteriology at the Bacteriological Laboratory of the Board of Agriculture, and I consider he is genuinely deserving of the increase asked for.

Sd.A.C.Macdonald,
Director of Agriculture.

Nairobi,
August 25th 1908.

...Daraley ... Marsh?
...
15/10

80

Governor's Office
Nairobi
Sept 16 08

...ear Marsh

I hope you
...ll excuse my writing
...rivately to you about
...Somali error in our
...own despatches which
...t by last mail; but I
...now no one else, & I
...d not want to write
...ficially. The despatch
...refer to is our No 452

2

of Sept 9th asking for an
increase of Storey's pay
The incremental scale
of pay which His Excellen
wished to recommend wa
£550 by £25 to £700 last
£600 by £25 to £700.
The despatch was written
a great hurry, just before
the mail left, hence all
mistake -
I should be very much
obliged if you would ca
the alteration to be made

Yours sincerely
Henry R Bale

In 36070 EAP. 81

C.O.
16
R. ___
D. 19.

Draft

20 Oct 08

DRAFT

The Secretary to the Treasury

Quote 41142

MINUTE.

Mr. Darnley 15 Oct
Mr. Read MR 16/10/08
Mr. Just.
Mr. Antrobus.
Mr. Cox.
Sir C. Lucas.
Sir F. Hopwood.
Col. Seely.
The Earl of Crewe.

~~Gov. No. 452 of 21st~~
36070

Sir,

I am etc to transmit to you, to be laid before the L.C. of the Treasury, a copy of a desp from the Governor of the EAP, in which he recommends that the post of Chief Veterinary Officer should be placed on a scale of salary of ~~£600~~ 550 a year rising by annual increments of £25 to £700 a year, and that the holder Mr R. J. Stordy should be allowed to draw £650 a year from the 1st of April 1909.

Mr R Stordy is an ~~capable~~ officer who was appointed to his present post in 1901 ~~engaged in 1898~~ at a salary of £550 a year,

and was given an
increase of £600 a
year (1907). He has done
excellent work, and
has taken pains to
keep his professional
knowledge up to
date. Lord Crewe
is of opinion that
it would be in the
interests of the Bot.
D to place him on the
new scale of salary
recommended, but
he considers that
it will be sufficient
to grant Mr. Storey
salary at the rate
of £625 a year
from the 1st of
April next, instead
of £650 a year
as proposed.

Let

(Signed) R. I. ANTROBUS

utilisation of timber for towns & furniture p. 29.

We cannot, I think, adopt the suggestion p. 21 that the C.A. should be instructed, in inviting tenders for lead pencils to specify East African Cedar. It savours of Colonial Preference.

Ack receipt & say it has been perused with interest & ask for copies when printed.

W.L. 6/10

~~[illegible]~~

So proceed? We [illegible] has been defeat, but we may go further & fare worse.

H.J.R.
13/10

[illegible] Nov 14 [illegible]

S.R. 4 Afr

No.
H.J.R.
[illegible]

Governor's Office,

Nairobi,

September 9th 1908.

EAST AFRICA PROTECTORATE.

No.455

(Incl.1)

My Lord,

I have the honour to submit the report of the Forest Department for the year ending the 31st March last.

Forestry Report 1907-08.

2. In this report Mr.Hutchins has detailed the measures taken for a scientific system for the conservation and reproduction of the valuable timbers in our forests, the first serious attempt to deal with which dates from August last year when Mr.Hutchins was appointed Chief Conservator of Forests.

3. The report contains valuable information, and shows considerable progress made both in the organization of a Department which will have an important bearing on the economic development of the Protectorate and in the results obtained in the short time the Department, as reconstructed, has been at work.

4. The report will be printed and circulated, and, as was done in the case of the reports of the Agricultural and Veterinary Departments, an advance

copy

H.M.PRINCIPAL SECRETARY OF STATE

FOR THE COLONIES,

DOWNING STREET,

R. LONDON, S.W.

copy is being sent to the Governor of Uganda.

I have the honour to be,

With the highest respect,

My Lord,

Your Lordship's most obedient,

humble servant,

Introductory Summary.

During the year ended March 31st. 1908 the expenditure of the Forest Department amounted to £9,454. 11. 7 out of an appropriation of £10,000. The Revenue amounted to £12,924. 3. 6, of which £2,802. 10. 8 was cash and £10,122. 12. 10 value of wood supplied free to Government Departments and Settlers. One thousand and twenty six acres of forest valued at £10,260 have been alienated. The total loss to the State in forest and forest Revenue thus amounts to £20,382. 12. 10.

It will be noted that this Report relates to the Official year, which year ends on March 31st. This is an unfortunate period for forest work, since it falls in the midst of the planting season of the big rains. I have endeavoured, in this Report, to meet this difficulty, by completing the description of the planting operations up to the end of May, that is to say, two months after the close of the official year. In doing this, however, I have confined myself solely to describing the completion of the plantations up to the end of May. All figures and all other data in this Report are brought to a termination with the close of the financial year on March 31st. A disadvantage regarding the seasonal year not coinciding with the official year, a disadvantage which I have not been able to obviate, is, that the rains towards the end of March are uncertain, so that there may be an unexpectedly large or unexpectedly small expenditure at the close of the financial year, depending on the incidence of the rains.

Following the visit of Mr. Winston Churchill, the London "Times" of Feb. 28th. had an article on British East Africa in which, interalia, it was stated "Whether the export of timber "can ever become a staple industry of the region is a doubtful "question. There are large forests of excellent timber on the "Mau and Kikuyu escarpments and on the slopes of Mount Kenia. "But the railway freight to the coast must operate as a considerable

"considerable handicap. Moreover, there is always a danger "that anything like a denudation of the forest region would al- "ter the climate of the country and affect its fertility. In "this connection it seems a great pity that the Uganda Railway "should consider it advisable to go on using wood fuel, with all "its attendant disadvantages. Natal coal could probably be "used just as cheaply, and Natal would be benefitted, while East "Africa would not suffer the loss of valuable forests."

The view here enunciated has found expression in other quarters. I think it advisable therefore, to place on record, that the assumption that using the forest will destroy it is absolutely erroneous. The modern science of Forestry has for its object to improve, not to destroy, the forest; and in most cases there is no difficulty in effecting this object. The cultivated forest may be as superior to the wild forest as are cultivated fruits to wild fruits. I have before me a return showing the increase in yield of the forests of various German States since the year 1877. From this it appears that the average yearly profit from the forests of the various German States rose in 20 years from 6.6 shillings per acre to 11.1 shillings per acre. According to Dr. Schlich, the eminent Forest Statistician, and the head of the Oxford Forest School, the total yield of the German forests has trebled in value since 1830. On the highlands of British East Africa so rich is the soil, so fertile the climate, that the yield of the cultivated forest could, with certainty, be trebled within quite a measurable distance of time. It would be a misfortune to the country if imported coal were used, instead of, as now, the wood which is not suitable for timber. Taking the best hardwood at half the hauling power of coal, the Railway now gets its wood fuel for 1/3 the cost of coal at Mombasa, 1/5 the cost of coal at Nairobi; and about 1/7 at the Lake.

Two important economic savings have been effected during the year under report, Sandal (mu Hugu) and Pencil Cedar (Juniper are now no longer burned as they were for fuel. Wooden fuel has supplied the motor power of the Uganda Railway since 1902, and up to date the forests adjoining the Uganda Railway have supplied a total of 15,657,586 c.ft. The Uganda Railway derives its supply of fuel from the timber forests of the Highlands and the Thorn wood of the Plains. The Thorn wood areas on the plain are worked roughly with a rotation of areas, trees below a certain thickness not being allowed to be felled. But the growth of the Thorn wood on the dry plains is slow and the railway derives and must continue to derive, the greater portion of its fuel and all its construction timber, from the high-timber forests of the Uplands. The Uganda Railway requires, at present, between three and four million c.ft. yearly for fuel. Up to a few months ago all woods were used for fuel indiscriminately, even the valuable Pencil Cedar (Juniperus procera). This timber is an inferior fuel and its use as fuel represents a most serious economic loss. Under new arrangements which have come into force during the year (detailed in this Report) the railway now uses only good hardwood for fuel with a saving (according to my calculations) of 5% in the total cost of fuel, while the beautiful and valuable Pencil Cedar has ceased to go into the fire-boxes of the locomotives.

A similar important economic gain has been effected in the arrest of the burning of mu Hugu for firewood. This, with Cedar and Camphor, are intrinsically the most valuable timbers of the Protectorate. On account of its burning easily when green, mu Hugu, up till recently, was a favourite firewood. mu Hugu is now no longer allowed to be cut for firewood, and under the authority of Government Notice dated 26th. Sept. 1907, the burning of mu Hugu coming from Government forests is being arrested.

The four chief timbers of British East Africa are Yellowwood, Cedar, Sandal (mu Hugu) and Camphor.

The first two are the most valuable on account of their general utility and abundance. The second two are intrinsically the most valuable timbers, but their distribution is restricted. Yellowwood is found widespread throughout the higher, wetter, Upland forests; Cedar throughout the same forests but usually on the drier slopes; while mu Hugu is restricted to the lowest of the Highland forests and the coast forest strip. Ibean Camphor (not the same tree as the Japanese and Chinese Camphor of commerce) is confined to the great South-east Bay of Kenia and the central portion of the Aberdare forests. Measures have been taken to arrest the destruction and ensure the reproduction of each one of these four valuable timbers.

1. Yellowwood is so widely distributed that its conservation and multiplication are one with the general conservation and extension of the Highland forests.

2. Cedar reproduces itself freely, but the forests have been enormously reduced in area by fires. The worst of these fires are on the Northern and Western side of Kenia and on the Northern Aberdare. A Forest Station in charge of a European Forester has been established especially to check these fires, and in all the railway fellings where Cedar occurs, before the old trees are felled, reproduction is ensured by thinning and clearing round the old "mother" trees so as to encourage self-sown seedlings, and if these fail, plants are put in from the forest nurseries.

3. Sandal (mu Hugu) is being conserved and reproduced in the same manner as Cedar. It is pleasing to note that for the first time this year Sandalwood seed has been secured. Native report said it did not produce seed. The seed was found to be as light as thistledown, and hence had escaped observation.

4. Camphor. For the conservation and reproduction of this valuable tree a station in charge of a European Forester has

has been established in the South Kenia forest. It is interesting to note that the flower and seed of this tree have now been secured and are being forwarded to Kew for identification. Other valuable timbers such as Black Ironwood, Red Stinkwood, m'Ona, Greenheart etc. are being protected by similar measures. In the coast forests such valuable timbers as Gum Copal, Bamba Kofi and Ebony will be protected both in the demarcated forests and in the open and scrubby forests which will have to be classed as undemarcated forests.

The unforeseen reduction of the Forest Vote by £2,000 this financial year, and £4,000 in the ensuing financial year has to some extent disorganized, and to a considerable extent reduced the working power and efficiency of the Department, since this reduction had to fall on 'Labour' and the junior ranks of the Department, the controlling staff being already engaged on three years agreements. It has been thought that the work of the Forest Department could be increased or diminished without serious loss. But this is not so. It is true that the improvement of the forest can be curtailed by reducing the amount spent on planting, though this, it is easy to show, is poor economy, with the cheap and abundant supplies of native labour offering in the forest districts where planting is most required. But the policing of the forest, forest fires, and the provision of timber for the Nairobi Saw Mills and the Uganda Railway are necessary works which have to be met irrespective of the amounts of the forest votes. In a few years, when the forest demarcations are completed, a reduction in the expenditure of the Forest Department may be possible. But this is not so now. Now is indeed the parting of the ways for Forestry in British East Africa. The systematic conservation of the forests cannot further be postponed without losing the greater portion of the forests. We have here a country of unsurpassed fertility, a White man's country on the Equator, like the same country on the Andean plateaux, which has been inhabited by a vigorous race of Whites for the last 350 years. The beauty and fertility of the East African Highlands hinge alike on its forests.

There are many matters which should have found a place in my first Yearly Report, but which are omitted here as they are fully discussed in my revised Report on the Forests of the Protectorate. The publication of this Report has been delayed in order to allow of a revision of the extent and value of the Kenia forest, for which only estimates were available when I visited British East Africa a year and a half ago.

DETAILS and STATISTICS.

Forest Demarcation.

The branch of the Department charged with Forest Demarcations is in charge of Mr. Arthur Baker, an experienced Cape Surveyor. He is assisted by Messrs Jackson and Hutchins. Their work consists in surveying by triangulation and filling in the details of forest boundaries, of topography and of timber stock by plane-tabling. Existing surveys are co-ordinated and utilized wherever possible. Mr. Baker reported his arrival on the 23rd. September 1907, and after doing a month's work in the forests near Nairobi, proceeded to the demarcation of the Aberdare forests, beginning work at Lari. From Lari his work extended North-west to Kijabi, embracing the forests near the Uganda Railway. From here he proceeded North and had reached the Chania River when recalled in January to take part in the settlement of boundaries effected between the Provincial Commissioner and myself with regard to the forests lying immediately North and South of the Uganda Railway. He was engaged on this area at the close of the year now under report.

Sale of Plants and Seeds to the Public.

Continuing the practice that has been followed successfully for many years in South Africa, young trees are now issued at cost price from the various forest nurseries, while seed of various useful trees is sold from the Forest Office at Nairobi. It should be noted that these trees and seeds are issued at cost price to encourage tree-planting, and these prices are so low that tree-planting has become easy for every one. The usual charge It is Rs.3 per 100 for young trees securely rooted in pots or pans Surplus seedlings from the nurseries are sold at Rs 1 per 1000. and of a size ready for planting out. In some countries it has been the practice to issue plants and seeds free. This, however,

however, is liable to lead to waste and the plan that has been found most satisfactory, is to sell at cost price. During the year under report the system has been begun with the sale of 735 trees and 227 lbs. 9 oz. of seed. By the close of the planting season a considerable quantity of young trees and tree-seeds had been issued and advice given regarding the trees suited to the various districts of the Protectorate.

Since the close of the year under report a Forest Arboretum has been formed near new Government House, Nairobi. This will be of utility to intending tree-planters, showing them the different species brought together and growing in one spot, and to the Forest Department in demonstrating exactly what growth can be achieved under the conditions prevailing at Nairobi.

Forest Reproduction.

The reproduction of the forest is ensured in two ways:-

1. By assisting natural reproduction.

2. By the planting of trees from nurseries.

(1) Natural reproduction is assisted by judicious thinnings and cleaning the ground underneath old trees. Using a long-handle hoe this is but light labour, and in a country where light labour is so cheap, there is a large field for work of this sort. A month of this work in British East Africa costs no more than two days of this work in South Africa or Europe. It has been found that in the neighbourhood of old seed-bearing trees of most species, if the ground be kept clean, and a sufficiency of light be admitted, there will be a natural re-growth of forest seedlings. Usually this re-growth is not strong nor well-marked, but in certain cases, though the opportunities of observing it have been as yet restricted, there has been an abundant re-growth of self-sown seedlings. Thus at Lari near some old trees of Red Stinkwood, (Pygeum africanum) the ground had been kept clean for a temporary nursery. The temporary nursery failed because there was no water supply, but on the seed beds there was produced a good crop of young Stinkwoods. Again at Escarpment, near some old trees of Cedar (Juniperus procera) a Black Wattle plantation and nursery had been formed. Here amongst the Black Wattle there sprang up numerous seedlings of Juniper. At each of the forest stations arrangements are now in force for assisting natural reproduction of the valuable species as far as circumstances will allow. If, after thinning and cleaning under and around the valuable species, reproduction should not take place, after one or two seed years, young plants will be inserted from the neighbouring nurseries.

(2) Plantations. The amount of planting done has been small, partly owing to the weakness of the nurseries and partly to the partial failure of the rains. The October rains were scarcely heavy enough to do any planting. The following are details of the work done up to the close of the planting season in May:-

Plantations on the Highlands.

At Ngongo operations were confined to completing the plantations of the previous year, when a large area had been sown with Black Wattle, Croton, White-Ironwood, Cape Chestnut and other trees. It was endeavoured to stock the area with sowings, and the result, as is too often the case, proved to be a failure. A portion of the area then sown has been now cleared and sown with Black Wattle; approximately 10 acres have been sown and give every promise of success. Blanks in the Cedar (Juniper and Mlanji) have been filled with Olive and Juniper. The blanks in a small mixed Eucalyptus plantation, about 3 acres in extent, adjacent to the Ngongo Road, have been filled with Eucamaculata.

In the 'New' Forest, 4 miles from Nairobi, 15 acres have been sown with Black Wattle and Croton. This work lies on the banks of the Ruaraka River; in this plantation the Croton and Wattle were planted 5' x 5' alternately; both species look well now, but being of unequal growth, the Black Wattle may suppress and eventually kill the Croton. Mixed plantations always involve some risk unless the sylvicultural requirements of each species are well understood. A small area of pure Croton looks well, but the economic value of this tree is so low as to doubtfully reimburse the cost of planting. An area of about 33 acres has been cleared and partially planted; 15,000 Jacaranda planted pure 4' x 4' have given good results and promise to be the best plantation made in these forests. A few acres of Casuarina cunninghamiana planted pure also look well but have suffered somewhat from buck. Vacancies were filled up in an old Wattle plantation, but the seed, owing to the uncertain rainfall did not germinate well. On the Karura River near the Forest Station a small area of Black Wattle failed owing to the failure of the rains. A large Black Wattle plantation made here last year having completely failed, a portion of the area has been recleaned and planted with mu Hugu (Brachylaena) Moe (Markhamia hildebrandtii), Casuarina cunninghamiana and Eucalyptus crebra

in

in pure plantations; about 4 acres has been re-sown with Black Wattle. The blanks in a small area of Mlanji Cedar in the same locality have been filled with Juniperus procera. The Mlanji Cedar has succeeded fairly well and looks healthy, but is slow-growing unless an abundant supply of moisture is available. 95
The planting of this fine timber from Nyassaland is an interesting experiment, but special caution is necessary when the planting involves an extension of the tree's natural climatic habitat.

At Lari Forest Station two fuel strips have been planted with Black Wattle at mile 354 on the Uganda Rly. There is here 11 acres of good Wattle plantation. At mile 355, four acres in the "Natural Beauty Zone" have been planted with Yellowwood, Olive, Safraan, Cape Chestnut and Juniper all native trees. The Chestnut and Yellowwood have both suffered (perhaps from drought) and show poor results. The other three kinds though small, are now growing well. A few acres of Black Wattle have been sown at mile 355 outside the "Beauty Zone". Some blanks remain for filling during the small rains.

At Londiani a Wattle plantation of about 6 acres has been made at mile 492; this has done well. At mile 510 several acres of Wattle have been sown outside the "Natural Beauty" Zone; this is just germinating and it is too early to offer an opinion upon its success.

A Wattle plantation of 250 acres has been made at Nakuru alongside the Railway; this will require fencing, and some blanks filling up, when it is hoped a good plantation will be obtained.

Muhoroni Teak Plantation.

This plantation consists of a few acres of Teak, Eucalypts and Black Wattle. The question I naturally asked myself when I first heard of it was "Which of these will fail first." It is doubtfully situated for Teak and it is too warm an area for the climatic requirements of Black Wattle and most of the Eucalypts. I found, on inspecting it, that the Black Wattle was failing; the growth of the Eucalypts undecided, while the Teak, though doubtfully remunerative at this elevation, may be worth planting for poles and young timber for sleepers on the best alluvial

ground

ground. The elevation (4,000 ft.) is too high for the remunerative production of large teak timber. A working plan is accordingly being prepared for this plantation in which the chief features will be semi-tropical, and very quick-growing Eucalypts such as these which have shown such a marvellous growth at Zaneen in the Transvaal will be planted on the alluvial ground near the river, together with mu Ove and a few of the best of the Uganda timbers. Jacaranda and some of the finest Brazilian timbers will also find a place here.

On the Shimba Hills 45 acres have been planted with Teak, Bamba Kofi, and other indigenous trees. The appearance of the Teak here is fair, it will probably improve as the trees grow up and shelter one another from the wind. The young trees of the valuable Bamba Kofi look well but have made but little growth. A small plantation of the new Rubber (Mascarinhasia elastica) both looks well and shows a fairly rapid growth. The Shimba Hills are at an elevation of 1,200 ft. and it was thought that some of the semi-tropical Eucalypts might succeed here. Eucalyptus citriodora, Eucalyptus maculata, Eucalyptus microcorys and other Eucalypts have been planted, but they show little growth and are succumbing to White ants. It is somewhat curious that these trees are able to resist the White ants in their own country (White ants of a bad description) while they succumb to the moderately voracious termites of the Shimba Hills.

At Maseras there is an interesting small plantation of Teak. Two acres 4 years old now average 25 ft. high. Younger trees, 18 months old, now average 2 ft. high. The growth of the older trees thus averages 7 ft. per year, their appearance is quite healthy with the exception of a few which have been caught by the wind and lost their tops. They are in the form of long, thin poles which can no doubt be thinned remuneratively in a few years. A few of these poles have been blown over but when cut back the stools re-shoot vigorously. It is proposed to extend the Teak plantation at Maseras, and an area near the present plantation, but on the opposite side of the railway line (the

South

South side) has been set aside for this purpose. This area slopes down to the sea which runs up in the form of a creek above Kilindini.

97

Plantations in general.

These points demand particular attention in the formation of plantations in British East Africa:-

1. Adapt the species to the climate. There are here all climates varying from the tropics at Mombasa and the Lake to the cold Pine areas near the Kenia snows, at elevations above 10,000 ft.

2. The nurseries must be furnished with an abundant and economical supply of water. Especially is this necessary under an Equatorial sun. Unless young trees in a nursery are kept well watered they form a tap root instead of fibrous roots at the surface. Such transplants fail when put out.

3. All young trees must be securely rooted in pots or pans. In these latitudes the risk of planting from open root plants is too great for planting out in the forest where the trees have to be left to themselves afterwards. In South Africa it has been found that to ensure success all evergreens must be rooted in pots or pans. Leaf-shedders may be in beds (as in Europe). Here there are so few leaf-shedding trees that almost all nursery work has to be done with young trees rooted in pots or pans. In South Africa the parafine tin, cut lengthways, forms an economical, light and useful planting pan. Half a parafine tin costs about 1d. and accommodates 25 young trees. In Australia sections of the Bamboo-like reed (Arundo donax) are used, but the Australian forest planting is small compared to that in South Africa. Careful and repeated trial has shown that the Australian Bamboo pot is markedly inferior to the South African planting tray. In British East Africa parafine tins are too expensive to use for planting trays. I have therefore substituted trays made of Cedar wood and pots made of Banana leaves. Both are giving excellent results. The Banana leaves

are

are somewhat more expensive than the planting trays, but they furnish strong plants which can scarcely fail when planted out. The Cedar trays are supplied at the mills at an average cost of 16 cents, small refuse Cedar being worked in for this purpose; and they cost 2 cents to nail together, thus making their total cost 18 cents or 3 pence.

Forest Nurseries.

Nurseries provided with an adequate supply of water are being formed at the following localities:-

(1). Nairobi, four miles on the Fort Hall Road. A nursery supplied by a furrow from the Ruaraka River has been laid out on the alluvial ground bordering the Ruaraka River. This is favourably situated for the supply of young trees to the public and for the planting of the adjoining areas on the Ruaraka and Karura Rivers. The construction of the furrow has been unfortunately interrupted owing to the recent reduction of forest funds.

(2). Nairobi Arboretum. It is intended to have a small nursery here for show purposes in connection with the Arboretum and sales of young trees and seeds to the public.

(3). Dagoretti Nursery. This nursery is favourably situated on the river skirting the old Dagoretti station. It replaces a similar nursery at Ngongo where there was an inadequate supply of water.

(4). Lari Nursery. A nursery has been in existence here for some years, but it was formed on the site of an old fuel cutting camp with no provision for water except what could be carried on man's heads up a steep hill. Near here was a smaller nursery entirely unprovided with water. Water was available on three sides near, and eventually, after careful inspection and taking levels, I chose the one which adjoins the Uganda Railway and the projected Lari siding. This nursery is thus favourably situated for distributing trees along the Uganda Railway, particularly trees for the colder parts of the Highlands. It is situated at an altitude of nearly 8,000 ft. It is supplied with water by an irrigation ditch which extends into the lower portion of the Lari vley, and passes under the railway by a culvert. It is intended to water this nursery by means of a Nouria or Persian wheel as the lift is small, the supply of water ample, and it is necessary to obtain a good flow when irrigating.

(5)

(5). Londiani Nursery. Here also a nursery has been established for some years, but there was no water on the spot. Water has now been brought by a furrow to the old nursery and a new nursery has been laid out on a particularly favourable spot adjoining the Uganda Railway. This nursery lies immediately below the railway on the approach to Londiani and the head of water will be sufficient to provide for watering with a hose, thus saving the cost of hand watering. There is no labour on the spot and the imported labour is somewhat expensive.

(6). Muhoroni Nursery. This nursery is in the semi-tropical area (4,000 ft.) above the Lake and below the Nandi Hills. Its site adjoins the Uganda Railway and it is intended to supply trees to Port Florence and this portion of the Protectorate as well as a large plantation that it is intended to form here (when funds permit) for the supply of timber and fuel to the railway. This nursery site also adjoins the railway and is on the banks of a good stream of water from which an irrigation furrow can be taken.

(7). Ghania Nursery of the usual type for the restoration of the neighbouring forest. There is a good supply of water here and a heavy demand for young plants in order to restore the forest, the Wakikuyu Kumri cultivation having devastated a large area.

(8). Thuma (Chief Karuri). It is not proposed to make a large nursery here at present, until circumstances allow more active prosecution of the restoration of the neighbouring forest. The leading feature of the nursery will, I hope, be Camphor. Camphor grows naturally in the neighbourhood. Two sites have been selected for the nursery, in neither of which is the water supply as good as could be wished, though there is enough for present requirements.

(9). Southern Kenia - Gaaile Forest Station. Here there is an admirable site for a nursery close to the Forest Station, and with a strong stream of water at hand. The main feature of this nursery will be Camphor; it is near the centre of the best

best Camphor forest.

(10). West Kenia - 'Rocking Stone Pass' Station. Here there is an admirable nursery site with an ample supply of water. This nursery will be chiefly required for supplies of Cedar and quick-growing trees to act as living fire-breaks in the protection of the neighbouring Cedar forest.

(11). Coast Nursery - Shimba Hills. This is the one tropical nursery of the Department, elevation 1,200 ft. only. Here it is intended to propagate such of the indigenous timber trees as experience shows can be remuneretively propagated artificially, particularly the new nOea Rubber (Mascarinhasia elastica). With these are now grown Teak and a few other of the valuable timber trees of the tropics required for planting in the adjoining demarcated forest. The supply of water to the nursery can be depended upon and is just sufficient for a nursery of fair size. It is hoped that by somewhat altering the site of the nursery the water can be got directly on to it.

Name of Station	acres planted	No. of plants	Name of species	Seedlings pricked out in nursery.	
Lari			Makes laurina	20	
			Cypress Pine	500	
			Pepper tree	800	
			Beefwood	1,000	
Dagoretti		1,500	Eucalypts various	12,000	filling in blanks
			Beefwood	3,500	
			mu Hugu	500	
			Olive	700	
			Jacaranda	600	
			Silky Oak	150	
			Canary Pine	300	
			Longifolia Pine	500	
		11,160	Black Wattle		filling in blanks
		500	Juniper		-do-
		400	Mlanji Cedar		-do-
"New" Forest			Mee		
Karura		400	Juniper	6,000	
		400	Mlanji Cedar		
		400	mu Hugu		filling in blanks
"		400	Beefwood		

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Name of Station	acres planted	No. of plants	Name of species	Seedlings pricked out in nursery.	filling in blanks
"New" Forest		400	Crebra Ironbark		
Karura	6	18,000	Jacaranda	3,000	
	2	4,540	Beefwood	5,000	
			~~Nepal~~ Toona Cypress	400	
Coast	30	36,300	Teak	10,000	
			Landolphia Rubber	5,000	
			~~Australian Cedar~~ Toona	1,000	
			Various Eucalypts	50,000	
Londiani	1	1,740	Crebra Ironbark	450	
			Tallowwood	2,000	
			Siderophloia Ironbark	2,500	
			Paniculata Ironbark	2,050	
			Citriodora scented ~~Gum~~ Gum	50	
			Pilularis Eucalypt	1,000	
			Sieberi Eucalypt Gum	4,000	
	2	3,480	Saligna Eucalypt Gum	2,500	
	1	1,740	Maidens Eucalypt Gum	3,000	
			Bloodwood Eucalypt	2,000	
			Silky Oak	1,000	
			Catalpa	30	

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Name of Station	acres planted	No. of plants	Name of species	Seedlings pricked out in nursery.
Londiani	1	2,270	Mlanji Cedar	3,000
	1	2,270	Red Stinkwood	4,000
			Yellowwood	500
			Bailey's Acacia	1,000
			Hakea laurina	60
			Black Wattle	
	2½		Various Eucalypts	
Lari	½			
	½	1,500	Yellowwood	
	1½	3,300	Mlanji Cedar	1,000
	2½	4,544	Juniper	
	12½	28,400	Black Wattle	
	½	1,200	Cape Chestnut	100
	½	500	Olive	500
			Red Stinkwood	5,000
			Canary Pine	2,500
			Maiden's Gum	200
			Siderophloia, Ironbark	3,000
			Spotted Gum	1,000
			Saligna Eucalypt	2,000
			Tallowwood	2,000
			Cape Pine Podocarpus	1,500

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Utilization of Colonial Timbers and Forest Produce.

Sandal.

Samples of Sandalwood (mu Mugu) have been sent to the Government Agent in Bombay to be valued on the Sandal markets of Bombay. Bombay is the centre of the Sandalwood trade. I may here reproduce a copy of my letter on the subject.

"The wood of Sandal obtained from Mysore, Coorg and parts "of the Madras Presidency fetches a high price on the Bombay "market. I served ten years as a Forest Officer in Mysore and "am conversant with the conditions of the Sandalwood trade."

"In British East Africa there is a timber which grows to a "considerably larger tree than the Indian Sandal, and which is "known locally as mu Mug . ndal and other names. It has a "structure and scent similar to Sandal. Its scent is inferior "to the Mysore Sandal, but superior to the scent of the wood "which at one time was sent in large quantities from West Austra- "lia. I am sending herewith by parcel post, a sample of Bri- "tish East African Sandal, consisting of one square piece and "two small planks, and should be glad if you will have this valu- "ed on the Bombay market."

"The wood may lose much of its scent in transit through the "Tropics. It would be well, therefore, to have it re-planed "before submission to the Bombay merchants."

Pencil Cedar. Cedar for pencils has been sent home from time to time to the English Pencil Manufacturers, but without meeting with their entire approval. The American wood is softer, and as long as supplies of this are forthcoming at low prices, it will be preferred to the East African Pencil Cedar. These low prices, however, are coming to an end, and more serious attention is now being given to East African Cedar. I attach to this Report, for ready reference, a sample of an ordinary office lead pencil made of East African Cedar. I have asked that the Crown Agents be instructed in calling for future tenders for lead pencils that they be specified to be made from East African Cedar. It may be possible that this may mean some small loss

to

to begin with. It is often only by such small losses that a new product can be forced on to the market. There is the well-known case of the Beet root Sugar Bounties which have ended by nearly ousting cane sugar from the best markets. Messrs Faber, the great German Pencil Manufacturers, have asked for (ten tons) ~~20,000 lbs.~~ of East African Pencil Cedar to be supplied to them as a first instalment. For this they are paying at the rate of £6 10/- per ton, equal to about 3/- per c.ft. A consignment of Pencil Cedar sent during this year, in log, at the request of the Crown Agents has been unfortunate. It should be noted that Pencil Cedar, on account of its being so frequently unsound, should not be shipped in the log, but cut into boards or pencil "slats" before shipment. In this way only can unsound wood be eliminated.

Rubber.

Vine Rubber ~~is common~~ occurs throughout the forests of British East Africa, from the coast up to elevations of 6,000 or even 7,000 ft. in the wetter highland forests. At the coast, *Landolphia kirkii* is abundant, and *Landolphia florida* often seen. The latter up to the present has not yielded marketable Rubber. In the Highland forests only *Landolphia kirkii* occurs and that not in the abundance that is seen at the coast. There are scrub areas on the coast where Rubber exists up to an occasional average of 400 vines per acre (over 1" diameter); and 100 vines per acre is the usual average in the Kirwitu rubber area North of Mombasa. Mr. Powell came to the conclusion, after consultation with the Lodwall of Takaungu and others (Report Jan. 1907) that the yield from workable vines would average per vine as follows:-

New vines 1/5 lb.

Tapped vines 1/10 lb.

Root of vines 2 lbs.

Mr. Battiscombe estimated that if the vines were worked systematically it would be possible to obtain a sustained yield at the rate of 100 lbs. of Rubber per acre per year in ~~this area~~ the
Diesfeckee area South of Mombasa.

The

The rubber-yielding capabilities of the newly discovered nGoa Rubber tree (Mascarenhasia elastica) are not yet fully known. It has been but little tapped for Rubber. When it comes to be better known to the Rubber gatherers we shall learn more facts both regarding its abundance in the forest and its Rubber-yielding capabilities. For planting purposes it may be the most suitable rubber tree for the Mombasa coast districts. There is no doubt that it is the most suitable indigenous rubber tree for planting purposes. It bears seed abundantly and is easily propagated. There are some healthy young trees in the Shimba Hills forest plantations. As a young planted tree it is quick-growing. The wild tree, I noted as a small or medium-sized tree, not as large as the Funtumia elastica of Uganda which it otherwise somewhat resembles. It is frequently seen on the Shimba Hills but is not at all as abundant as the Rubber vine Landolphia kirkii. The nGoa Rubber is rarely seen outside the strips of forest lining the valleys and bordering the streams. It is tapped by making cuts with a knife across the trunk; the latex flows freely and coagulates easily. A not very clean sample of its Rubber was valued in London at 3/6 against 5/2 for Para. (Kew Bull. 1907-275).

General

Two important questions on which largely depend the utilization of the rich forest resources of the country are:-

1. The entry of British East Africa into the South African Customs Convention.

2. Communication with the Kenia and Northern Aberdare Forests by means of a light, low-speed railway, branching from Gilgil.

This railway would be about 85 miles in length, but it would throughout its entire course be through easy country. The first 40 miles across the Laikipia Plains, then about 16 miles round the Northern end of the Aberdare (Settima) Range, and then 28 miles across the rolling plateau sloping down to the Uganda Railway at Gilgil. There is one moderate escarpment on this route, near the Railway at Gilgil.

There

There are no rivers to cross and the streams so rarely contain much water that they could be left unbridged, (as is the case with some light branch lines in Australia) or bridged with local Cedar timber. Timber for every railway requirement, sleepers, fuel, culverts, bridges, and buildings would be obtainable of the best quality on the spot. Nothing would have to be imported beyond the actual rails and other Ironwork. In the favourable Kenia climate, White labour, helped with cheap Indian and Native labour, could probably build rolling stock more economically than in Nairobi or in Europe. This railway could thus be made in an extremely economical, but quite useful form. I have in separate communications called attention to the advantages of this route for a railway to tap the Kenia forest, and have asked that Captain Stevenson be allowed to survey this route on his return, which is expected shortly, to British East Africa from Uganda.

Briquette Fuel for the Railway.

I may here call attention to the opening that still awaits private enterprise in the making of fuel briquettes for the Uganda Railway. The subject is discussed in my Report on the Forests of the Protectorate. It will be sufficient here to mention that these fuel briquettes would have a somewhat greater hauling power than coal and thus save the loss involved in the haulage of wood fuel. The best wood fuel is not equivalent to more than half its weight of coal, so that the Uganda Railway would, by using fuel briquettes, save half its present fuel trains and half the weight of fuel on running trains. This briquette fuel would be made by carbonising and compressing the present wood fuel.

Supply of Timber to the Uganda Railway.

The Uganda Railway and its requirements in timber should render Forestry easily self-supporting in British East Africa. This is not the place to criticise the policy by which the original work on the Uganda Railway was, at great cost, made entirely of imported material in place of the more economical and suitable material on the spot. At present we have the fact that the Uganda Railway requires between three and four million c.ft. of timber and wood fuel, and that it traverses forest well fitted to supply this timber through many miles of its course. The Uganda Railway now takes yearly about 1,000 logs and between three and four million c.ft. of firewood. At present firewood is the important item. Hitherto all woods have been used for firewood, even the unique Cedar timber (Juniperus procera). The Manager of the Uganda Railway is keenly alive, both to the necessity of preserving forest on general grounds in this climate, and to the necessity of preserving for the use of the Railway the forests which it now traverses. Had it been otherwise, the arrangements which have now been arrived at between Mr. Purvis and myself might have been postponed for several years until irremediable mischief had been done to the forests. With the reduced funds at my disposal, and the absence of much dense forest near the railway, the arrival at an understanding which would ensure the best supply of fuel to the railway, and at the same time conserve all the most valuable forest, was no easy matter. Olive (Olea chrysophylla) is a firewood of unsurpassed excellence, but like all the species of Olea it grows so slowly that its cultivation as a fuel producer, could scarcely be defended on economical grounds. The same rich soil and fertile climate which would produce 10 tons (dry weight) of fuel per acre per year with Eucalypts would, with Olive, scarcely produce more than a quarter of a ton. On the other hand Cedar (Juniperus procera) is of the highest value as a timber, but a poor fuel.

Railway Fuel from a forest point of view.

After inspecting the forest where the Railway contractors are working, and the forests where they wish to work; after discussing the matter at length with the Manager of the Uganda Railway and with fuel contractors, it has been arranged to let the Olive go and generally to divide the forest into two classes of forest, viz: (1) Forest worked destructively: to be clean felled and replanted, (2) Forest worked conservatively: to be thinned so as to favour natural reproduction.

(1) Forest worked destructively.

This is composed of two classes, (a) bad forest (mostly the result of past errors) which can be regenerated as economically by planting as by thinning (b) Olive forest: to be destroyed with the single exception of any little Cedar it may contain. It is probable that the whole of this forest can be regenerated as economically by re-planting as by natural processes. Olive, though furnishing a first rate firewood, is never an economical producer of firewood on account of its excessively slow growth. It can be re-placed by trees that will produce the same quantity of firewood per acre in 1/10th. or even 1/15th. the time. The Olive and bad forest will, therefore, be clean felled, burnt over, and re-planted with species that will yield the same amount of timber in a fraction the time. There is enough of this forest to supply the railway for two years or more. The present contracts are for two years.

(2) Forest to be worked conservatively.

This forest will be regenerated mainly by natural means, viz: skilful thinning on the Continental system. The reproduction of the most valuable species will be favoured by cleaning under and around seed-bearing standards of Cedar, Yellowwood, Ironwood, Greenheart, Red Stinkwood etc. This work was put in hand two months ago. At the end of two years much of this forest will be ready for working. If the contractors do not wish to take it in

hand

hand, it will be worked departmentally. This I have means of doing at a somewhat lower rate than a fuel contractor. The effect of these arrangements will be to save the Pencil Cedar which has been burnt out at the rate of something like £20,000 worth yearly (assuming its value in the forest at 3d. per c.ft.) and to give the railway a fuel supply cheaper than the present fuel supply by (on a weight basis) 7.5 per cent.

Railway Fuel from a Railway point of view.

Cost of the old fuel supply.

Assuming that the present fuel supply has been about half softwood and half Olive or other hardwood, the cost to the Railway, per ton has been as follows:-

100 c.ft. stacked or cord measurement = about 70 c.ft. solid. This cost Rs.4.85 and weighed on an average per c.ft. $\frac{35+70}{2}$ = 52.5 lbs. Thus one cord of 100 c.ft. stacked weighed 52.5 x 70 = 3675 lbs, and it cost $\frac{\text{lbs } 3675}{\text{Rs. } 4.85}$ = 565 per rupee = Rs.3.31 per ton of 2,000 lbs.

Cost of the new fuel supply.

100 c.ft. stacked or cord measurement = about 70 c.ft. solid.

100 c.ft. costs Rs.5.25. and weighs $\frac{\text{c.ft. solid}}{70} \times \frac{\text{lbs.}}{70} = 4,900$ = 2.45 tons of 2,000 lbs.

The cost of cutting is, therefore, $\frac{4900}{5.25}$ or 933 lbs. per rupee or a gain of 68 lbs. per rupee. A gain of 68 lbs. on 565 lbs. = 7.5 per cent.

In steaming power the effective gain would be somewhat greater since the firewood, as used at present, is only partially seasoned, and a cubic foot of partially seasoned softwood holds more water than a cubic foot of partially seasoned hardwood. A little water in a wood fuel lowers its calorific power largely -

see my Report on the Forests of British East Africa, page 25. There is also a chemical gain owing to there being more carbon in lignine than cellulose, and more of the former in Olive heartwood than in Cedar and soft woods. Altogether I estimate the Railway gain at from 8% to 10% under the new arrangements. To resume; the nett effect of these arrangements is that the forest worth saving is worked conservatively; the low grade forest is replaced by more valuable forest; and the Railway gets its fuel supply 8% or 10% more economically.

Cost of Fuel to the Railway.

The Railway fuel has been taken at Rs.2 per ton (2,000 lbs) of Olivewood weighing 70 lbs. per c.ft. There are thus 28.57 c.ft. solid in a ton of railway fuel and about 40.81 c.ft. stacked. So that Rs.2 per ton equals .07 cents = 1.17d. per c.ft. solid or .049 cents per c.ft. stacked. The cost of cutting and supplying to the Railway being at present prices Rs.5.25 per 70 c.ft. solid or .075 cents per one c.ft. solid. Thus the total cost of fuel to the Railway amounts to .145 cents per c.ft. solid and .101 cents per c.ft. stacked and Rs.4.14 per ton, or put in the form of a table:-

Statement of Cost of Railway Fuel.

	Cost per 100 c.ft. stacked or 70 c. ft.solid	Cost per 1 c.ft. solid	Cost per 1 c.ft. stacked	Cost per ton	Remarks
	Rs.	Rs.	Rs.	Rs.	
Cost of fuel	4.90	00.07	00.049	2.00	70 lbs.= 1 c.ft. Olive.
Cost of cutting	5.25	00.075	00.052	2.14	1 ton= 28.57 c.ft. solid
Total cost	10.15	00.145	00.101	4.14	1 ton = 40.81 c.ft. stacked

Seasoning of Native Timbers.

In the utilisation of the forests of the Protectorate the first point to secure is that all future Government buildings be erected with native timbers - Yellowwood for floors; Cedar (heart only) for floor joists and all parts exposed to White Ants, Cedar (sapwood and heartwood) for furniture, door-panelling and all ornamental work; Yellowwood, Cedar, Ironwood and hardwoods for beams, purlins and general constructional work. The current rates for these timbers in Nairobi are below the cheapest and most perishable of the imported Pine timber and deal. They are less than half the cost of the uncertain Pitch pine; they are a mere fraction of the cost of Teak; while judiciously used, they may be better than Teak. Thus the ballroom of new Government House is floored with Teak while for indoors and for dancing purposes Yellowwood is preferable. Inside the present house one sees plain or ugly furniture of imported wood while one of the most beautiful woods in the world, East African Cedar, is only beginning to be employed. The precious Greenheart wood is unknown in Nairobi. Camphor we know to be a very valuable timber, but so far, it has only been used by the natives.

There should be little paint and no varnish in the houses of the future. The native woods with their varied colouring lend themselves readily to artistic treatment.

Two reasons have hitherto prevented the use of Colonial timbers (1) Ignorance of their good - and bad, qualities, for of course they must be used judiciously (2) Difficulty in obtaining supplies of well-seasoned timber. The saw mills in the forest have had little or no encouragement, their profits have hitherto been small and they have not the capital to lay out in a stock of seasoning timber. Timber must be well seasoned for use in the dry climate of Nairobi. It has not been obtainable. Here is a serious practical difficulty, but happily one that

can

can be easily overcome. I have approached the Public Works Department with the suggestion that provision be made on their estimates for the purchase and laying in a considerable stock of native timbers suited to their requirements, and I am inserting on the forest estimates an item to provide for the purchase of a small stock of various timbers. This timber would be stored in Nairobi and sold, seasoned, to anybody who might require it.

Buildings.

Three Foresters' cottages at £350 each were begun during the year under report. Unfortunately the authority for these cottages reached me too late in the financial year to allow of much progress being made with two of them. The cottages being built are situated (1) at Lari, (2) at South Kenia (Chief Ngaimwe) and (3) at the Central Aberdare (Chief Karuri). They are built entirely of local material, the lower story of stone or brick, the upper story of wood from the adjoining forest. A house for the Chief Conservator of Forests is being built at Nairobi. This is also entirely of local material, the lower story of stone, the upper story of native timbers. All these buildings are being roofed with Cedar shingles, which (and even in Nairobi no more than one of the lowest grade of all roofing materials

Roads.

No forest roads of importance have been made by the Department during the year. In the future this will be necessary. The quick grass Cynodon incompletus furnishes an excellent binding material for roads where metalling with stone cannot be considered on account of the expense. Such roads have been formed in the Arboretum at Nairobi. This quick grass grows naturally throughout the length and breadth of the Highlands from elevations of 5,000 ft. to 11,000 ft. in the Alpine region of Kenia. It grows strongest and at its best in the Kikuyu country and there, very curiously, it is commonly dug out, instead of being planted, in the paths and roads made by the natives under orders from the Chiefs. It forms a close, short turf and is a splendid binding material. It is also a good pasture grass. None other is used for making lawns in Nairobi.

Forest Inspection.

I have inspected the forest bordering the line of railway different times as occasion required. In October I was re-lled from Muhoroni to be present at Fort Hall for the proposed spection of the Kenia forest by Mr. Winston Churchill. Un-rtunately there was not sufficient time for Mr. Winston Church-l to visit the forests, but I had the advantage of going out th him and discussing forest matters. On his departure from rt Hall I proceeded to the Kenia Forest, and in consultation th the Provincial Commissioner, selected the site of the Castle' Forest Station. This occupies the extreme Southern oint of the Kenia forest. From here I proceeded to the Aber-are forest and selected the site of the 'Priory' Forest Station t Central Aberdare, Tusu (Chief Karuri). I then proceeded long the Aberdare forest, noting the increased forest destruc-ion that had occurred during the year since I had last seen it. hief Karanja, however, had made successful attempts to stay ome of the destruction. From Chief Karanja I crossed the Aber-are Mountains and inspected the Cedar forest lying along the lanks of the Western Aberdare as far as the Naivasha and Nyeri ass, and thence by the Naivasha road to Nairobi. In pursuance f instructions cabled from the Colonial Office I proceeded in ebruary, at the request of the Uganda Government, to inspect the forests lying on both sides of the Nile Valley below Jinja, and. on concluding my report on this inspection, left on a special mission to explore the Kenia forests. I was occupied with this duty at the close of the year under report.

Mr. Battiscombe, the Deputy Conservator, performed inspec-tions of the coast forests and of the forest at Mau proposed to be ceded to Mr. Powys Cobb. He proceeded on leave on the 25th. August 1907 and returned from leave at the close of the finan-cial year. Mr. Guy Baker, Verderer, has inspected the forest stations under his charge and made a special inspection and re-port of the land ceded to Mr. Powys Cobb. The Demarcation Party

Messrs

Messrs Baker, Jackson and Hutchins, were in the forest from shortly after their arrival until the close of the year.

The Foresters and Forest Guards live in the forest at their various forest stations. Of the Foresters, Forester Webber had special journeys to perform in connection with the erection of the new Foresters' cottages, and Forester Minshall in connection with the various applications for Rubber, Fibre and Cotton lands on the coast.

Travelling Expenses form a serious item in the present cost of the Forest Department. Out of the present year's vote of £12,000, local travelling absorbs £1,750. As a yearly recurring charge this represents a most serious capital expenditure, particularly so, in the case of a Department where there is no immediate return for expenditure, and the cost of each item is liable to be increased by many years interest before the forest crop can be reaped. Happily we are now within measurable distance of greatly reducing the cost of travelling. At the Foresters' cottages now being built, room is provided for the inspecting forest Officers' accommodation, thus getting rid of the heavy charge for the porterage of tents and camp equipment.

Protection of Forests.

The protection of the forests has been carried out as far as circumstances would allow. As yet the Foresters and Forest Guards do not possess those powers of arrest. This will be remedied under the proposed Forest Ordinance which I have in preparation. As was the case with the Kaffirs, Fingoes, and Zulus in the South, the only effective method of preserving the forest against the Kumri cultivation of the Wakikuyu, is to demarcate it; and, as soon as the forest has received a permanent boundary, protect this with a chain of Foresters and Forest Guards. The number of forest stations that have been formed, or will shortly be formed, will be found at page 39 of "Organization and

and Staff of the Forest Department." Fifty persons have been prosecuted in the law courts for various forest offences, and 671 cases have been compounded. A total sum of Rs.2,186.44 has been paid in Court fines and damages, on account of forest offences.

Forest Fires.

While the Kumri cultivation of the Wakikuyu has done inestimable mischief to portions of the wetter forest, fire has done as much or more mischief in the drier forest. The magnificent forest girdle that surrounds snowy Kenia is attacked on its wetter side by Kumri cultivation, on its drier by the grazing fires of the Masai. Special measures have now been taken against forest fires on the Western side of Kenia. There will be a forest station (or sub-station) on Nyeri Hill, from whence a unique view is obtained over the North-eastern Aberdare and Southern Kenia forests, so that any fires occurring in these forests will be reported at once to the forest Head-quarters at Nyeri. Nyeri Hill is within easy signalling distance, either by day or night, of the Central Aberdare station at Karuris and the Western Kenia station near the Naki River. Either of these stations will immediately signal an out-break of fire to Nyeri, and if the fire is not controllable by the local Forester, assistance will be sent out from Head-quarters at Nyeri, and the co-operation invoked of the Administrative officers. For this, and other reasons, I trust that it will be possible to finally settle on Nyeri as the Administrative centre of the Kenia Province.

The local measures taken for the protection of the inflammable forests against fire consist in the making of fire-paths, and the burning off of dangerous grass before it has become too dry to manage and at a time of day when the wind is favourable. These measures have been followed successfully in the South for many years. A more complete but expensive system of fire protection exists in the forests of Maures et Esterelles in Southern France

France. These are valuable forests of Cork Oak, Jerusalem and Cluster Pines. The system of fire protection there followed, though too expensive for a new country, is admirable in its completeness and well worth study on that account. The different forest stations are here in telephonic communication.

No serious fires have been recorded during the year under report, perhaps on account of the light rains not having induced so heavy a growth of grass as in some years. Mr. Rose and I remarked, however, that even in this year of comparatively light fires, it was evident that much recent mischief had been done by fire, both in Western and Northern Kenia and on the Northern Settima forest of the Aberdare Range. The fine agricultural area of Western Kenia is now, I understand, to be surveyed out into farms for white Settlers. This, in restricting the grazing fires of the Masai, will be of benefit to the forest. Care, however, should be taken that the farms are not so large as to be left unstocked for an unreasonable number of years, and that these farms are kept grazed down as far as may be from the commencement. In this connection the recent decision to accept stock as one of the improvements required for continued occupation, is admirable.

Forest alienated, British East Africa.

The following return has been compiled from the files of the Forest Department and from plans furnished by the Land Office. It does not claim to be more than an approximation, but it is as correct as the data now available will allow.

FOREST ALIENATED.

Situation	Grantee	Area	Value estimated on South African data	Why alienated	Remarks
Ravine	Lingham & Gregan	94,944	Forest at £6 per acre= £569,664	Granted for the timber	The area of grass and forest has been arrived at as follows:- Blocks A.B.C.D. 89,978; " E 14,170; " on Uasin Guiana plateau 44,796; Total 148,944; Less grass land estimated 54,000; Total forest 94,944
Sekoki	B.E.A. Trading & Development Syndicate	64,000	at £4 per acre= £256,000	A coast Concession	Survey area of grant
Njoro	Lord Delamere	56,000	at £7 per acre= £392,000	Granted by Foreign Office	Estimated, no survey
Molo	Dr. Atkinson	10,000	at £7= £70,000	Granted by Land Office under a misapprehension as grazing ground	Surveyed area
	Total	224,944	£1,287,664		

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Situation	Grantee	Area	Value estimated on South African data	Why alienated	Remarks
	Kenya forests	~~275,944~~ 224	£1,287,664		
Nairobi	Dr. Atkinson now Handcock & Thomson	1,000	at £12 per acre = £12,000	Granted before formation of Forest Dept.	Estimated, no survey
Lari	Uplands of E.A. Syndicate	1,026	at £10 per acre = £10,260	Granted by Colonial Office	The recent grant at Lari.
Limoru	Caine Bros.	1,000	at £10 per acre = £10,000	Granted before formation of Forest Dept.	Estimated
North of Elmenteita	East Africa Syndicate	88,400	at £4 per acre = £353,600	Granted by Foreign Office	Estimated at one-sixth the total area of the grant of 490 square miles.
Kijabi	American Mission	600	at £8 per acre = £4,800	Granted by the late Commissioner	Area of forest estimated
Various small grants, viz:- M'Bagathi Kikuyu M'Bagathi Nairobi Naivasha	Mr. MacQueen Mr. MacAllister Scotch Mission Messrs Peak & Bull Mr. Patterson Mr. Grieve Mr. Oulton Mr. Baker Captain Fey	4,000	Say £8 as an average = £32,000	Granted before formation of Forest Dept.	Estimated approximately
		378,970	£1,742,324		

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The following Statement shows the present Organisation and Staff of the Forest Department.

Name of Official	Station	Duties.
D. E. Hutchins, Chief Conservator of Forests	Nairobi	In charge of Forest Department.
E. Battiscombe, Deputy Conservator of Forests	Kenia Nyeri	" " " Kenia, Aberdare, and Coast Forests.
G. S. Baker, Verderer	Nairobi	" " " Railway and Mau Forests.
Arthus G. Baker, Forest Surveyor; W. B. Jackson, Verderer; E. E. Hutchins, Verderer	In camp in the Forest, and at Nairobi during rains	" " " Forest Demarcations.
(1) Forester Minshall	Shimba Hills	" " " Coast forests South of Mombasa.
(2) Vacant		" " " Forests North of Mombasa.
(3) Forester Seed	"New" Forest Station	" " " Forests on Karura, Ruaraka etc. on Fort Hall road.
(4) " Sehof	Dagoretti	" " " Ngongo, Begazi and Dagoretti Forests.
(5) " Hindle	Lari	" " " Forests North and South of the railway from Lari.
(6) Vacant	Western Aberdare, near Busi River and projected road Naivasha to Nyeri	" " " Western Aberdare Forests. particularly fire protection

Name of Official	Station	Duties.
(7) Vacant	Nakuru	In charge of Pine Plantations to be formed on Menengai Mountain and Ironbark and Wattle Plantations near the railway.
(8) Forester Greetham	Londiani	" " " railway forests N.W. of Mau Summit as far as Teak and Eucalypt Plantation at Muheroni.
(9) Vacant	Chania	" " " Southern Aberdare Forests.
(10) Forester Waldegrave	Fort Hall (Chief Karuri)	" " " Central Aberdare Forests.
(11) Vacant	Nyeri	" " " Forests near Nyeri and of Deputy Conservator's office when absent on inspection.
(12) Forester Nielsen	Rocking Stone Pass	" " " Fire protection of Western Kenia Forests.
(13) " Webber	Castle Forest Station	" " South-eastern Kenia Forests, particularly the Camphor Forests.
(14) Vacant	Loldaiga Hills	" " " Fire protection of Loldaiga Forest and N.W. Kenia Forests.

Three Assistant Foresters (natives) acting as Assistants to the Coast Foresters.

Conservator's Office Staff. 1 Head Clerk. 1 Typist. 1 Accountant.

Forest Guards. Natives with pay ranging from Rs.10 to Rs.20 per mensem, distributed amongst the Forest Stations with an average of 5 Forest Guards to each white Forester.

S U M M A R Y.

1 Chief Conservator. 2 Divisional Forest Officers. 3 Demarcating Officers. 14 White Foresters. 3 Assistant Foresters - natives for Coast Forests, and 112 Native Guards. Three Clerks in Chief Conservator's office

REVENUE.

It will be seen from the following statement that the total forest revenue amounts to £12,915 2 6, being made up of:-

(1) Cash revenue collected by the Forest Department.

(2) Cash forest revenue collected by Customs and District Officers.

(3) Book revenue, viz: timber issued free (a) to Government Departments (b) to Settlers under Government Notice published in the Official Gazette No. 196 of January 1st. 1908.

Cash Revenue collected by the Forest Department.

	Rs.cts.
Poles 10' x 5"	1,030.03
" 15' x 6"	181.62
" 20' x 9"	251.87
Timber	2,591.94
Withies	41.15
Firewood 2 bullock cart loads	1,280.00
Firewood, single head loads	46.75
Bamboos	172.00
Monthly fuel tickets	3,383.00
Huts	58.00
Compensation for unauthorised cutting	2,176.44
Sale of seeds to the public	436.77
Sale of plants to the public	25.62
Sale of confiscated property	87
Sale of logs	30.00
Sale of litter	7.00
	11,756.15 = £783.14.9

Cash Revenue collected by Customs & District Officers.

Rents on various forest areas Lingham & Grogan etc.	9,680.51	£ 645. 7.4
Timber sales and royalties	1,140.96	£ 76. 1.3
Fuel sales and royalties	2,074.53	£ 138. 5.5
Miscellaneous, including Mangrove bark and Mangrove poles	17,444.15	£1162.16.10
Total Government	30,281.95	£2018.15.11

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Book Revenue.

Timber issued to various Government Departments.

Agricultural Department

	No.		Rs.cts.	
Poles 15' x 6"	20 }	at 30 cts.	130.50	
" 10' x 6"	435 }			
Withies	233 loads		13.98	
Timber	202 c.ft.@ 10 cts		20.20	
			164.68 -	£10.19. 6

Public Works Department

Poles 15' x 6"	372	113.40	
" 20' x 9"	29	14.50	
" 10' x 5"	584	47.60	
Fuel	210	210.00	
Timber	42 c.ft.	4.20	
		429.70 -	£26.12.11

Survey Department.

Poles 24' x 9"	10	5.00	
" 15' x 6"	65	19.50	
" 20' x 9"	4	2.00	
" 10' x 9"	10	5.00	
Withies	12 loads	.72	
		32.22 =	£ 2. 2.11½

Uganda Railway Department.

3,033,245 c.ft. stacked-7/10 solid or
2,123,271 c.ft.
2,123,271 c.ft. at 70 lbs. per c.ft.=
148,628,970 pounds or 74,314 tons
(of 2,000 lbs.)
74,314 tons @ Rs.3 per ton-Rs.222,942 - ~~£14,863. 0. 0~~
2 145628 9,908.10.8

Veterinary Department.

Poles 10' x 5"	728	109.20	
" 15' x 6"	44	13.20	
" 8' x 6"	36	10.80	
Withies	100 loads	6.00	
Timber	201 c.ft.	20.10	
		159.30 -	£10.12. 5

Labour Department

Poles 20' x 6"	3	1.50	
" 15' x 6"	30	9.00	
" 10' x 5"	30	4.50	
Withies	32 loads	1.92	
Huts	15	30.00	
Rs.		46.92 -	£3. 2. 7

Carried fwd [illegible]

		Rs. cts.	£
Brought forward.		149,450-82	= 9964 - 1 - 0½
Fencing Inspection.			
Poles 8' x 6"	26	7.80	
" 7' x 3"	160.	24.00	
" 5' x 6"	4,870	1,461.00	
Timber	4,800 c.ft.	480.00	
		1,972.80-	[illegible]
Settlers.	2,640 poles.	396.00-	26-8-1

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Total value of free timber issued.

Rs. 151,819.62. - £10,122.12.10.

Forest Expenditure (Classified).

	£
Chief Conservator's Salary	266, 13, 4
Deputy Conservator	352, 6, 8
Verderer	263, 10, 8
Salaries of Forest Surveyor and two Assistants	501, 8, 0
Foresters	904, 17,10
Forest Guards	483, 15, 6
Clerks	244, 16, 7
Orderlies	27, 12, 9
Survey expenses	122, 9, 9
Other charges	1,049, 3, 1
House and rate allowances	116, 8, 0
Transport (Exclusive of certain Railway warrants of Transport Dept. not notified to Forest Department	1,029, 10, 6
Labour	2,227, 14, 0
Travelling allowances	266, 9, 8
Chief Conservator's house	196, 4, 2
Foresters' cottages	795, 14, 1
	£9,454, 11, 7

In this expenditure the items "Foresters" and "Labour" are unduly small while transport is disproportionately large.

The forest expenditure authorised for the year amounted to £12,000, but of this amount the authority for £2,000 was given so late in the year that it could not be profitably spent, especially as, at that time, there was a dearth of labour both skilled and unskilled.

D. E. Hutchins
Chief Conservator of Forests

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Gn
36073/08
EAP

DRAFT

EAP No 583

18 Nov 08.

Gov
Sadler.

MINUTE. 14/11

Mr. Noall 17/11
Mr. Ellis. [initials] 17/11/08
Mr. Just.
Mr. Antrobus.
Mr. Cox.
Sir C. Lucas.
Sir F. Hopwood.
Col. Seely.
The Earl of Crewe.

Sir,

I have the honour to ackn the receipt of your despatch No 455 of the 9th of Sept, & to inform you that I have read with interest Mr Hutchins' report on the Forest Dept for the year ended the 31st of March last.

I shall be glad to receive 12 copies of the report when it is printed.